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EDITED BY

JOHN ROSE CORMACK, M.D., EDIN., F.R.S.E.,

LATELY PHYSICIAN TO THE ROYAL INFIRMARY OF EDINBURGH,
LECTURER ON FORENSIC MEDICINE, ETC.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Efficacy of Large Purgative Clysters in certain forms of obstinate Constipation of the Bowels,—together with a series of Experiments upon living and dead bodies, undertaken to determine the extent to which fluids may, per anum, be injected into the Intestines.* By ALFRED HALL, M.D. Edin., Member of the Royal College of Surgeons of England, &c., Glasgow.

(*Read before the Med.-Chir. Society of Glasgow, Tuesday, Oct.* 28, 1845.)

FOR many years, (indeed, since 1837,) I have been accustomed to administer, in certain cases of obstinate constipation, very large PURGATIVE CLYSTERS, with the view not only of emptying the rectum, but also of causing an evacuation of the contents of the large bowels, as far as the ileo-cœcal valve. Until the last six months, I was impressed with the belief, that injections were admitted, by the profession at large, as capable of being thus extensively and efficiently employed; since, however, the period just named, my opinion has been changed, in consequence of two of the most eminent surgeons of this city stating, at a large professional meeting, that they were fully convinced, injections per anum could not be made to pass through the sigmoid flexure of the colon; indeed, they even doubted if they could be made to traverse the intestine far, if at all, beyond the rectum. Many other professional friends of mine having subsequently stated to me their concurrence in these opinions, I resolved,—especially as the relation of some cases to the contrary, in which I was satisfied I had injected the whole of the large bowels, failed to change their views,—to commence a series of experiments, both upon the living and the dead, in order, if possible, to settle the disputed point, for I conceived it one of great practical bearing.

Before, however, I enter upon the relation of these experiments, I consider it proper to lay before the Society the particulars of two

cases of most obstinate constipation, in which unusually large purgative clysters were successfully administered.

CASE 1. The first case occurred to me when practising as a surgeon in England, as early as the year 1837. The particulars were briefly the following:—I was requested by the overseers of an extensive poor district (to which I was surgeon) to proceed with all speed to a village about four miles off, to operate upon a poor man who was represented to be suffering from strangulated hernia. I was accompanied by the medical man who, for nearly a fortnight, had had the charge of the case, but who seemed at this time very anxious to withdraw himself from any further responsibility concerning it. On arriving at the house, I was shown an emaciated, cadaverous-looking person, of about 60 years of age, whose bowels had been constipated for the last ten days, whose pulse was rapid, and who, for the last two days, had suffered from stercoraceous vomiting. Upon examining the abdomen, I found it much distended, with a general feeling of soreness, a tenderness on pressure, particularly so when made in the right iliac region, where especial fulness and hardness were perceptible. Great anxiety and general uneasiness were exhibited by the patient.

In the right groin, in the situation of the lower portion of the crural ring, a tumour was pointed out to me, which was considered to be a portion of the intestine strangulated. Upon examination, however, I was satisfied that it was nothing of the kind,—that, in fact, it was a tumour of a glandular nature; and upon further inquiry of the patient, I learnt that it had existed in its present form and position *for fully fourteen years*. Thus convinced of its non-hernial nature, and learning from the man that he had been for years occasionally troubled with colic arising from constipated bowels, I determined (considering his present symptoms were owing to a similar cause) upon administering, if possible, a large *purgative enema* of from two to three quarts. In this I succeeded; the man retained it for twenty minutes, at the end of which time the greater part of the fluid was voided, slightly tinged with feculent matter. About three hours afterwards, however, he had another evacuation, which nearly filled a chamber-pot with dark-coloured, most offensive, and nearly solid feces. The stool was shown to me the following morning, upon my second visit. I expected to have found him in a dying state, (for this satisfactory result of the enema had not occurred at the time I left him the previous evening), but, to my surprise, a marked improvement had taken place. The pulse, which before the operation of the clyster was so rapid and feeble as not to be counted, was now below a hundred, and possessed more strength; the vomiting had ceased; and the countenance had lost that peculiarly anxious, cadaverous look which it had when I first saw him. To conclude the history of the case in a few words: The man perfectly recovered, and for two years subsequently was in comparatively good health.

It was this case which ruled my procedure in all subsequent *obstinate cases of constipation not depending upon recognised strictures, strangulated herniæ, or abdominal tumours;* and I have reason to feel highly gratified with the successful issue of the practice.

Case 2. The next case which I shall relate occurred in a near relative of my own. Its favourable termination afforded me more heartfelt satisfaction than any circumstance which I can bring to mind. It was an instance of a most simple remedy restoring to health and comfort an extremely aged, but previously healthy, man, employed, too, after all the usual means of relief had failed. The particulars of the case I will now briefly detail. In the early part of last August, I was called suddenly to England to visit an aged relative, who for about a fortnight had been considered in the most imminent danger. The fact of my arrival had to be gradually communicated to him, for he was in too feeble a state to receive suddenly any exciting intelligence. I found him in much the same condition as I did the former patient: the countenance was sunken and emaciated, and the whole body greatly wasted. The stomach was excessively irritable, rejecting everything, whether food or medicine, almost as soon as swallowed; added to which, there was distressing and almost constant hiccup. The tongue was loaded with a dark-brown fur, and the pulse was feeble and frequent.

The bowels, I was informed, had not been properly opened for ten days, nevertheless, upon inspection of the abdomen, (which, before his illness, was that of a corpulent man,) we found that it had shrunk below the level of the superior spinous processes of the ilia; but upon carefully examining the regions of the cœcum and colon, I was satisfied, both from the feeling and the sound upon percussion, that they were more or less loaded with hard feces and accumulated secretions, particularly the cœcum and transverse colon. The medical man in attendance, (a most experienced surgeon,) and his assistant, concurred with me as to the seat and cause of the obstruction, but not as to the feasibility of either reaching or removing it by means of clysters. Ordinary-sized enemata, they said, though daily administered, had failed, after the first two days, in producing any relief, and those of the magnitude (from two to three quarts) which I proposed to give, could not be administered, or if administered, retained long enough to prove of any service. However, upon obtaining the consent of all parties to the step, I determined to undertake the operation, and, accordingly, I threw up, by Read's enema syringe, five pints of oleaginous gruel, having previously dissolved in it an ounce of sulphate of magnesia, and a table-spoonful of common table salt. The administration of this large quantity of fluid occupied *a period of twenty minutes;* for it is highly important, for reasons to be given, that the process should be conducted as slowly as possible. The patient, after the first two or three pints had passed, could trace, by his sensations, the progress of the fluid, his description of it accurately corresponding with

the course of the colon, even as far as the cœcum: the sense of distention was, at times, almost insupportable. I, however, prevailed upon him to retain the injection for nearly twenty minutes, in order that the contraction of the distended bowel might become more general, and the evacuation more complete. I need not dwell longer upon the case than to state, that dark, almost black, scybalous masses, highly offensive, and of the most diversified shape, sufficient to fill a pint measure, came away, affording marked relief in every respect to my patient, the vomiting and hiccup ceasing, and the pulse falling to the natural standard, followed by sound sleep, and the next morning, a strong desire for food, which he retained upon the stomach. On the second day from this, I gave another injection of like quantity and quality,—more blackish scybalæ were voided at the commencement of the stool, but towards its close, the discharge was about the consistence and the colour of cow's dung; from that time the patient rapidly improved, and now (October 28) the old gentleman (82 years of age last week) walks out every day for an hour, and enjoys his meals, taking, every night, at bed-time, 5 to 10 grains of the *pil. rhei co.*, which effects a daily action upon his bowels.

This case differed from the former in one or two points, *firstly*, In the absence of general abdominal distention or tenderness; and, *secondly*, In the matter vomited not having the true stercoraceous odour or appearance, for it resembled bile, which, having accumulated in the bowels from obstruction, had regurgitated into the stomach, and been thrown up, many pints of it being occasionally vomited in the course of twenty-four hours. Both cases may be considered to have been forms of "Ileus," arising from obstruction in the bowels by an accumulation of feces and morbid secretions.

Upon my return to Glasgow, I related this case to my kind and very able friend, Dr Lawrie, and it was through his instrumentality that I was enabled the same day to demonstrate (at the Royal Infirmary of this city) upon a dead body, (in the presence of Dr Lawrie and his house surgeon, Dr Lancy,) that I could *with facility* inject (with the aid of Read's enema syringe) not only *the whole of the large* bowels, but that the fluid would even pass the ileo-cœcal valve, for we discovered, upon subsequent examination, that it had traversed a *considerable portion* of the small intestine.

The patients whose cases I have described, had been under medical treatment for a considerable time (varying from ten days to a fortnight) before I was consulted, and had had administered to them almost all the usual purgative remedies recommended in such cases, including the ordinary form of clysters. When I saw them, however, the irritability of their stomachs was so great, that both medicines and food were vomited nearly as soon as swallowed. It was this condition of things which led me, as a last resource, to try the large purgative clysters.

I will now proceed briefly to detail the particulars of a few experiments upon living and dead bodies which I was permitted to undertake in the Infirmary of this city, through the kindness of Dr Lawrie and Dr Watson. In entering upon these experiments, I was influenced solely by the desire of satisfying some incredulous professional friends, not only of the possibility, but of the facility of injecting fluids throughout the *whole course of the large* bowels; and it was in consequence of the successful issue of the trials that I was requested to make them the subject of a communication to this Society.

THE FIRST EXPERIMENT was made upon a dead subject, in presence of Dr Lawrie and his house surgeon, Dr Lancy. In this case, I threw up, without any difficulty, by means of Read's enema syringe, five or six pints of thin gruel. Upon cutting through the abdominal parietes, and tracing the large intestines, we found them quite full of the fluid we had employed; indeed, it had even passed through the ileo-cœcal valve, but to what extent it had proceeded up the small intestines we did not think it, at the time, necessary to ascertain, our object having been to prove, that upon both the living and dead body we could, with perfect facility, inject fluids per anum through the whole of the large bowels. This experiment satisfactorily showed the practicability of the operation upon the dead body; and those which I am about to relate will not only afford additional proof upon this point, but also establish the feasibility of the operation upon the living patient.

THE SECOND EXPERIMENT was performed upon a man, suffering from stricture of the rectum. An elastic tube was passed through the stricture, and the injection commenced. Percussion of the course of the colon having been carefully performed previously, both by Dr Lawrie and myself, and the extremity of its transverse portion, as well as the descending, found empty, we threw up in this case about five pints of oleaginous gruel; and upon again percussing the abdomen, we found those parts which before the operation had given a clear sound, now afforded a dull one. A fair inference was drawn—that the fluid had passed into the transverse colon.

THE THIRD EXPERIMENT was also performed upon a stout fellow whom Dr Lawrie had cured of popliteal aneurism, by tying the femoral artery. The abdomen was carefully percussed by Dr Lancy and myself, and the cœcum, ascending, transverse, and descending colon as far as the commencement of the sigmoid flexure, found to give clear sounds. The man was then placed in the horizontal position, (as were the other cases) and upon the *left side*, and the injection of about three pints performed, when considerable resistance was offered to the passage of any more; we therefore desisted for a short time, and upon re-percussing the abdomen, we found the fluid had passed as far as the point where we conceived the junction of the transverse with the descending colon took place. I then suggested, that the man should alter his position to the right

side, to observe if the fluid would gravitate into the cœcum and ascending colon,—upon his doing so, percussion over these parts gave a dull sound, their distention also being distinctly evident both to sight and touch, whilst a clear sound was heard upon percussing the previously dull-sounding portion of the descending colon; three pints more of fluid were then thrown up, and in a few minutes afterwards, the man went to the water-closet twice; and upon his second return, percussion of the abdomen was again made, and the regions of the cœcum and colon, as far as the sigmoid flexure, were found to give a clear sound. This case was marked by an important practical point, viz. that the best position of the patient for the operation is lying upon the *right* side, not upon the *left* as in former cases and with the pelvis considerably raised.

THE FOURTH EXPERIMENT was an hospital patient, suffering from chlorosis; seven pints of oleaginous gruel with salt were injected, which were retained for 15 or 20 minutes; an evacuation loaded with feces, filling the pan of a night-chair, resulted; percussion was in this case also, carefully performed both before and after the injection, as well as after the evacuation. The result showed that the whole of the large bowels were filled with the fluid; indeed, I am strongly of opinion, that it even passed through the greater portion of the small intestines,—not only from the remarkably uniform distention of the abdomen, but also from the fact which was established by my fifth experiment, viz., that three pints of fluid are sufficient to distend the whole of the large bowels; whereas in this case we had injected seven pints, causing the woman to have the aspect of one in the ninth month of pregnancy, but which appearance after the evacuation referred to was no longer observable,—the abdomen regaining its former dimensions.

THE FIFTH EXPERIMENT was upon a dead subject,—a man; the parietes of the abdomen were opened by a crucial incision, and the course of the fluid through the bowels carefully watched. After three pints had been injected, the whole of the large bowels became distended, but this distention was observed gradually to diminish, the fluid having found its way into the peritoneal cavity; we inferred from this circumstance, that we had either ruptured the intestines by the operation, or, that perforation of these existed before death, (which last condition we conceived to be the case from the evidence of extensive peritonitis,) the fluid gradually passing through the opening. A most searching examination of the intestines was made, but no aperture could be found; at last I suggested that more fluid should be injected, and with as much force as the instrument would admit of. This plan succeeded, for we observed the fluid issuing in two streams from *minute openings* in the *vermiform appendix* of the cœcum,—a portion of the ileum, and the whole of the cœcum being removed, we discovered that their internal surface was extensively ulcerated,—the ulceration traversing the whole of the open tube of the vermiform process, and in the cen-

tre of two ulcers were seen the perforations which, no doubt, had led to the peritonitis, and through which the injected fluid made its escape. Dr Lancy witnessed this experiment, and the diseased intestine was shown to Dr Watson.

THE SIXTH EXPERIMENT was performed upon the dead body of a man at the Glasgow Infirmary, in the presence of my friend, Dr Markham; eight pints of water were thrown up without any difficulty, the fluid passing through the *whole course of the intestines*, and partially filling the stomach. A crucial incision through the abdominal parietes had been previously made, and the segments reflected, to enable us to watch the progress of the fluid, for its passage could be clearly distinguished through the transparent coats of the bowels.

In bringing before the Society the preceding cases and experiments, (all of which, without exception, were witnessed by other members of the profession,) illustrative of the efficacy of large injections, and of the facility of administering them, I wish it to be clearly understood, that I am not to be supposed as advancing or advocating any new views in medicine, as the practice I recommend, and anxiously desire to see more extensively employed, was in use as early as the fourth century; for Oribasius, who flourished at that time, speaks of a *large* clyster as amounting to three heminæ, or pints, a *small* one to one hemina, and a *moderate* one to two heminæ. Now, my fifth experiment clearly showed, that three pints of fluid are sufficient to distend the whole of the large bowels of a full-sized man. I therefore consider Oribasius was right in fixing this quantity for a large clyster, with which we evacuate the intestines as far as the ileo-cœcal valve.

Hippocrates, Galen, Celsus, Aëtius, and other ancient medical writers, speak of clysters in their works; but I cannot learn that they either mention the extent to which they may be injected, or define the quantities of fluid of which they should consist.

Many modern authors, (if we may judge from their writings,) seem not to be aware that the colon can be injected and relieved of its contents by clysters; for Dr Christison, in the late edition of his *Dispensatory*, in speaking of clysters, observes, "if it be intended to evacuate *the gut*, (by which he means, I presume, the rectum,) the quantity of the fluid should not be less than *sixteen fluid ounces, or a pint.*" Now, I am thoroughly convinced (and I trust the members of this Society also, after the relation of my experiments,) that such a quantity of fluid is scarcely more than sufficient to fill the rectum. Some of it might traverse a part of the sigmoid flexure; but the descending colon could not be reached, much less distended by it.

Again, Dr Burns, in the eighth edition of his able work upon midwifery, speaking of indurated feces accumulated in the rectum and colon, advises the frequent use of clysters, for the purpose of

emptying the rectum, but to evacuate the colon, he orders laxatives, as castor oil or sulphate of magnesia; further observing, to use his own words, "when the fæces are brought into the rectum, *clysters must be then employed*."

Dr Denman, in the fourth edition of his practical work upon midwifery, published in 1805, in describing the effects of accumulations of fæces in the colon and rectum, remarks, "that the complaint is frequently overlooked in practice; for, though the column of indurated fæces is sometimes enormous, a small quantity in a liquid state, escaping between the column of indurated fæces and the side of the intestine, may be daily discharged, so that no suspicion of the real nature of the case may be entertained, unless the stools be inspected, and the patient be examined *per anum*." This state is attended with violent pain, of a periodical nature, and if not relieved by timely and proper means, may end in sphacelus of the intestines.

"Purgative medicines rather increase this complaint, by impelling a greater quantity of fæces into the lower part of the intestinal canal, when they cannot be discharged. Suppositories and clysters, *at least in the way in which* they are commonly administered, cannot be relied on account of the greatness of the obstruction, to *the removal of which they are not equal*."

He then advises the fæces in the rectum to be broken down by manual assistance, or by some convenient instrument conducted into the anus, using *clysters to wash out the fragments*. This practice, I need scarcely observe, is the one usually followed in the present day.

Dr Anthony Todd Thomson, (*Elements of Materia Medica and Therapeutics*, 2nd edition,) in his remarks upon clysters, says, "with regard to the proper bulk of enemas for different ages, the *usual quantity* for an adult is a *pint of fluid*, that for an infant not more than three fluid ounces." The same writer, in the preceding page, observes, "much of the inefficacy of clysters, in many instances, arises from their not *reaching the obstructed part of the canal*, even when forcibly urged by the usual apparatus for exhibiting them; indeed, they *seldom pass far beyond the sigmoid flexure* of the colon." He subsequently, however, states, that "clysters are more effectually administered by means of the stomach-pump; by apportioning the force of which, the fluid may be conveyed to *any part of the intestinal canal*." If this is to be effected, I presume he means us to employ *more than a pint of fluid*, which, as I have stated, is the usual quantity ordered by him for an adult.

Some modern writers, (on the other hand,) bear evidence to the value of large enemata in feculent accumulations within the colon. For example, Dr Graves of Dublin, in his work on clinical medicine, relates an interesting case of a gentleman who was frequently subject to the consequences of a loaded state of the cœcum and colon, but who invariably found relief from large injections, admi-

nistered by means of Read's enema syringe. The sudden and dangerous colics to which this gentleman was subject were not understood until he happened to mention, that when a young man, he seldom went to stool more than once a-week. This led to the suspicion of an enlarged colon, and to the use of large injections.

Dr Marshall Hall, in his recent publication, called *Practical Observations and Suggestions in Medicine*, says, if we wish *to wash out the colon*, we should employ Read's syringe, and that *three pints* of warm water *will be sufficient*—his rule for the administration being, "as slow as possible, and as long as possible." "In this manner," says he, "the intestine is filled before it is distended, its peristaltic action is at length excited by the stimulus of that distention, and it contracts energetically in a mass, which, by its bulk and rapid flow, carries away the feculent matters mechanically."

It is but right to observe, that I did not see the work of Dr Marshall Hall, just referred to, until I had nearly completed the experiments which I have detailed to the Society. I was therefore much gratified to find that the *mode* of administering large injections which I had long practised, was that recommended by this highly talented and practical physician.

I differ, however, from Dr Marshall Hall in one very important point relative to large injections, viz. as to the *quality* of the fluid used. It will be recollected, that I employed *well-boiled* oatmeal gruel, with a certain admixture of *common salt and butter*, in the two cases which I have related to the Society; and I am still in the habit of preferring this to any other form of purgative clyster. My reasons for this preference are twofold: Firstly, because the ingredients can be procured in almost every establishment; but secondly, and more particularly, from the fact, that no other injection has, in my hands, answered so well as this. It possesses mucilaginous and lubricating properties which render it especially valuable in all forms of obstructed bowels, combined with a stimulating, solvent, and aperient action, (from the common salt it contains,) constituting it an excellent substitute for the bile, which, we are aware, cannot in these cases *pass into the seat* of the obstruction to stimulate by its presence the peristaltic action. We know that the bile possesses this stimulating property, for when the ductus choledochus is tied, constipation always ensues (see *Carpenter's Physiology*); and we have the assertion of Liebig (*Organic Chemistry*, p. 154), that "for the production of bile in the animal body, a certain quantity of soda is, in all circumstances, necessary; without the presence of a compound of sodium, no bile can be formed."

The form of injection I employ may, therefore, be said to have a double action—mechanical, and physiological; and for proof that it has such, I refer to the cases of ileus I have laid before the Society, particularly to the first, where it failed to act mechanically or by its bulk, but in three hours afterwards, through its saline qualities, it produced a most copious evacuation.

[illegible] that the preceding cases and experiments have satisfied the members of this Society of the [illegible] value of large injections, and of the facility of passing them through, in most cases, the whole of the large bowels. I am, however, strongly persuaded that they may be forced in the living body through the ileo-cæcal valve, traversing the greater part or the whole of the intestinal tube. In the sixth experiment, I demonstrated that this could be effected upon the dead body; and upon reference to the particulars of my fourth experiment, it will, I think, be admitted as having taken place in the living. The late Dr Gregory was of this opinion; for we find in the [illegible] paragraph of his work, *Conspectus Medicinæ Theoreticæ*, the following statement, which I give translated: "Sometimes such a quantity of water has been injected by means of a proper syringe, that it has not only filled the larger intestines, but having overcome the resistance arising from the interposed valve of the colon, it has entered the smaller intestines, ascending through it to the stomach, and been vomited."

In some, with inverted action, clysters have been vomited. In one of the numbers of the *Lancet* for the year 18[illegible], my friend Dr [illegible] has reported a case where an injection of castor-oil was given to a man, a portion of it being subsequently vomited; and a similar case occurred in the Glasgow Infirmary a short time since, a portion of a clyster containing turpentine having been ejected from the stomach. In such cases as these, if we may believe Sir Astley Cooper, there would be little difficulty in injecting the small intestines; for, he remarks in his lectures (*Lancet*, vol. ii.) "As soon as any portion of the intestines is strangulated, the *anti-peristaltic motion begins; the valve of the colon is of no use.*"

This disputed point, viz. the injection of the small intestines in the living body per anum, can only be set at rest by future experiments; and when once its feasibility is established, we shall be in possession of a most valuable remedy in cases of herniæ and intussusception.

In conclusion, I would observe, that in laying these cases and experiments before the Society, I have been actuated solely by the wish to bring into more general use this extended form of a most powerful remedial measure. To obtain its full benefit, however, I must insist upon the necessity of the operation being performed by the medical attendant himself, and in the slow, prolonged way which I have pointed out, (the guard of the clyster-pipe being pressed firmly against the anus to prevent regurgitation);—bearing in mind, that it should rather precede other remedies than follow them; recollecting also, that costiveness (more particularly in aged persons) has its seat nearly as often in the colon as in the rectum, but that clysters, properly given, prove as efficacious in the one case as in the other.

ARTICLE II.—*Remarks on Dr Wharrie's alleged Case of Infanticide.*

By D. R. RANKIN, Esq., Surgeon, Carluke.

UNDER all the circumstances, as detailed by Dr Wharrie, the case of infanticide (?), published in the MONTHLY JOURNAL for October 1845, does not appear to me to deserve the appellation. Evidence of design to commit the deed is nowhere apparent; and it is not difficult to imagine the total impossibility of the female to exert herself to save the child. The vessel on which the poor woman sat down "under the impression that she was about to have a motion in her bowels," seems to have been the only "suitable convenience in the apartment." It is not alleged that the "croak" and water had been provided for the purpose of destroying the child. The woman does not seem to have been possessed of a good character; and some cause certainly did exist for suspicion; but though twice a mother, and familiar, therefore, with the nature of labour pains, she still might have been mistaken as to the nature of her immediate call, and the "impression" which induced her to leave the bed, might have been real.

The following cases very fully illustrate the possibility of mistakes of the above nature occurring where no circumstance of a suspicious nature existed; and also of the occasional sudden and unexpected crisis in pregnant women, in different classes of society.

CASE 1. *Aug.* 25, 1832.—M. W., aged 22. A first labour. This woman has been progressing favourably without much distress; the head, at eight hours after the commencement of the pains, had fairly entered the pelvis, yet delay was anticipated, from the rigidity of the soft parts. The patient whispered to her attendant, who, before ministering to her wants, invited me, by a look, into an adjoining apartment, and I had not been absent above two or three minutes when I heard her screaming for me. The patient, on placing herself on a bed-room convenience, had become somewhat faint; and without evidence of pain, or other cause to suspect such an event, the child was born. The stifled cries of the infant attracting the notice of the female in attendance, she, in a panic, cried out. On entering the room, I found my patient certainly in a strange predicament. The child and placenta were both in the vessel. In this case there was no cause for suspicion. The child lived and lives. Now, I cannot believe this to be the only case of the kind that has occurred.

CASE 2. *Aug.* 18, 1838.—Mrs R., aged 25. A third pregnancy. The two previous labours of the lady were easy,—the first being of three, and the other of one and a half hour's duration. Judging from symptoms, she had begun to set things in order—had looked over the paraphernalia of the coming stranger—sent for her nurse, and the husband came to put me in "warning." Before, however,

he had entered upon his mission, a servant came in all haste demanding my attendance. The lady had gone to the water-closet—the membranes burst with a "frightful gush," as she expressed it, and she instantly threw herself forward into the passage. I reached her in less than five minutes, and found her lying where she had thrown herself down. The child was born, and was wailing lustily.

CASE 3. *Sept.* 19, 1844.—Mrs S., aged 21. A first pregnancy. After six hours' gentle labour, the patient was still—what is called—lingering. She sat rocking in a chair, and would not be advised to seek repose in bed. Vomiting and sickness came on, and I noticed the rupture of the membranes. She was instantly ordered to bed. Here she lay for a considerable time, suffering from sickness, without complaint or pain,—and as I stood ready to note her condition on the return of pain, she looked over her shoulder with a most bewildered expression of face, saying, "surely something has happened,—I feel a move-moving." I introduced my hand and found the child born. In this case the child was very small, weighing only four pounds two ounces, though firm and healthy. The peculiarity in this case is, that the child was born without effort or consciousness.

These cases occurred in a limited sphere of observation, and I have little doubt that very many such cases have been observed in the practice of accoucheurs. The medical jurist, standing, as he does, between the accuser and the accused, has often most difficult positions; but the merciful side of doubt must ever be chosen.

CARLISLE, Oct. 16, 1845.

PART SECOND.

REVIEWS.

Elements of Materia Medica and Therapeutics. *By* EDWARD BALLARD, M.D. Lond., and ALFRED GARROD, M.D. Lond. 8vo, pp. 447. London: 1845.

THIS is undoubtedly a carefully executed compilation, and may be recommended as a handy and correct book of reference. It is specially adapted for the wants of the student. In size, it very much resembles the admirable work of Dr Neligan, entitled, *Medicines, and their Uses*, which was noticed in our Number for May 1844, p. 391. It differs from that of Dr Neligan in containing more of the details of Natural History and Chemistry pertaining to the Materia Medica; but we are far from thinking that this difference constitutes a superiority, as from the narrow limits of the work, copiousness in these departments is only curtailing what is essentially practical.

[illegible]peutical Introduction, by Dr Ballard, is very instructively drawn

up, and though, of course, some of the views therein unfolded, may not meet with universal assent, yet, we believe, that no intelligent practitioner, after perusing it, will deem our commendation misplaced. The following extract is given as a specimen of this portion of the work.

"THE MODUS OPERANDI OF MEDICINAL AGENTS

may be discussed under three principal divisions. Some act distinctly in a mechanical manner, and some, as evidently, operate by the chemical influence which they have the power to exert. The action of fomentations and poultices presents an illustration of the first of these modes of operation; that of strong acids, alkalies, and caustic salts, examples of the second:—a third class differs from either of these in a very important point; for, while the action of the former is scarcely at all affected by the presence of the vital principle, these both take an active share in the transformations it brings about, and modify their ultimate result. They directly increase or diminish the energy of the vital functions, as displayed in the phenomena of sensation or motion, or else alter in some material point the formation and composition of the secretions eliminated from the blood. These two kinds of effect call for a brief separate consideration:—1st, The perception of a sensory impression and the origination of a motor influence, depend upon the mode in which the cerebro-spinal centres perform their allotted functions, and are accompanied by a transformation of their tissue. Medicines which influence either of these, therefore, might be supposed to act primarily on the nervous system, and to modify in some way the chemical metamorphoses which it undergoes. The active principles of *Opium*, *Nux Vomica*, *Cinchona Bark*, and *Ipecacuan*, for example, might be 'supposed to take a share in the formation of new, or the transformation of old brain and nervous matter.' When, therefore, we inquire how far these active principles, which diminish sensibility, produce tetanic spasms, increase muscular tone, or diminish tone and induce vomiting, are fitted by their composition to act in the manner indicated, the singular result announced by Professor Liebig is obtained, 'that the composition of the most active remedies, namely, the vegetable alkaloids, cannot be shown to be related to that of any constituent of the body, except only the substance of the nerves and brain.' They all contain a minute amount of nitrogen, very much less than is discovered in the compounds of *Proteine*, approaching, in this respect, the fats which contain none. 'If it must be admitted as an undeniable truth,' argues this distinguished authority, 'that the substance of the brain and nerves is produced from the elements of vegetable albumen, fibrine or caseine, either alone, or with the aid of the elements of non-azotized food, or of the fat formed from the latter; there is nothing absurd in the opinion, that other constituents of vegetables, intermediate in composition between the fat and the compounds of proteine, may be applied in the organism to the same purpose.'—(*Animal Chemistry.*

"In considering the mode in which the remedies of this class alter the quantity of a secretion, or modify its chemical composition, two principal circumstances must be kept in view. It must be recollected, that the secreting organs are merely the agents by which the material is separated from the blood; and the amount of the secretion will depend on the circulation through them, and the healthy state of their nervous supply. The separated matters themselves, however, do not originate here: they are derived from the transformations of tissue which are constantly proceeding, with greater or less rapidity, in the body at large. Medicines, therefore, which affect secretions, must do so in one of two ways: either they must act upon the nervous centres, increasing or diminishing their influence upon the organs, and modifying the circulation through them, or, in the words of the chemist before quoted, 'they must take a direct share in the change of matter in the body,' or 'exert an influence on the formation, or on the quality of a secretion by the addition of their elements.'"—(*Liebig, op. cit.*)

"STIMULANTS.

"*Stimulants*, when taken internally, produce an exaltation of one or more

of the vital functions. The medicines included under the term may, therefore, be naturally supposed to vary much in the manner of their operation, as well as in the systems which they severally affect. And such is really the case; the class is a very wide one, and comprehends remedies of almost every kind of specific operation. The reason of this, if carefully sought, will be found in the very flimsy foundation on which the therapeutical classification of drugs has been made to rest. There is but little doubt, that as all kinds of disordered conditions of the human frame are resolvable into excess or defect of some essential element of health, so every thing capable of restoring the balance of the system will, in time, come to be distributed under two great divisions; namely, those which increase defective action on the one hand, and diminish excessive action on the other. However, till our acquaintance with the physiological relation of the several animal functions is much more perfect than at present, we fear we must content ourselves with an incomplete arrangement, at the same time confessing our inability to confine individual medicines to their own distinct departments.

"The earliest effect of the internal administration of a stimulant is manifested upon the digestive system itself; its first operation appearing to be topically exerted upon the nerves and vessels of the parts with which it comes into immediate contact. A sensation of warmth or heat is thus commonly perceived in the mouth and throat, extending to the epigastrium, and not unfrequently accompanied by the expulsion of flatus by the mouth. The progress of digestion is accelerated, and the activity of the intestines sometimes increased. Thirst is a frequent consequence, accompanied or not with a dry or reddened tongue. Sooner or later, the circulation is affected, the pulse becomes more rapid, the animal temperature raised, the face may become flushed, and a sense of general warmth diffuses itself through the frame. Where the heart is palpitating with frequent but inefficient pulsations, its action may assume greater regularity, and be rendered more effectual in the uniform distribution of the blood. Connected with this, we may notice the operation of stimulants on the organs of secretion, especially the skin and kidneys. Many of the remedies classed under the head of diaphoretics or diuretics, are actually stimulant, not to these organs only, but also to others of similar office, and indeed to the system at large. *Ammonia* from among diaphoretics, and *Cantharides* or *Juniper* from among the diuretics, may be justly selected in illustration of this truth. The excitant action of stimulants upon the nervous system is most clearly seen, in the case of those phenomena which we are most accustomed to view as connected with its functional activity. The mind for the most part becomes exhilarated, its energies, if flagging, revived, the spirits elevated, and the temper more cheerful, these symptoms being often commensurate with the alteration in the force and frequency of the pulse.

"The *diffusible* stimulants, as they are termed, are those which chiefly manifest this extended operation; but there are others whose action is more or less entirely confined to special systems; and these may, by way of distinction, be designated as *specific* stimulants. The *turpentines*, *gum resins*, and *balsams*, for example, though increasing the general temperature of the body, as well as the force and velocity of the pulse, exert a specific operation upon the mucous membranes, especially those of the lungs and urinary canals; and it is this which constitutes their chief therapeutical value. Their remedial effects have been said to depend on a new action being set up in the mucous surface, incompatible with the co-existence of a morbid one; but if we might hazard another explanation, it would be, that they alter the nature of the secretions poured out, by the chemical influence which they exert in their own elimination. At all events, they universally diminish excessive secretion from the bronchial and genito-urinary membranes; though the power to do so is possessed by some in a much higher degree than by others; while the membrane influenced differs with the article selected for administration. We would adduce, in illustration, the action of *Copaiba* in the cure of Gonorrhœa, and that of *Benzoic acid* or the *balsams* in lessening the excessive expectoration of Chronic Bronchitis.

"But of all the remedies which can be denominated stimulant, *Strychnia* and *Brucia* are the most decidedly specific in their action; for while their excitant influence is most powerfully exerted upon the excito-motory function of the spinal cord, we are not aware of their manifesting any operation at all either upon the rapidity of the pulse, the energy of the mental functions, or the general temperature of the body. There are, doubtless, some who would look upon this as sufficient ground for denying them a place in the class of stimulants at all; but, so far from agreeing with them in this respect, we regard the alkaloids of *Nux Vomica* as presenting the very simplest type of an excitant drug; and we do not hesitate to express our deliberate conviction, that every stimulant which augments the activity of the general functions of the body, does so by the influence, primary or secondary, which it exerts upon the cerebro-spinal centres. We would even be disposed to go a step further, and to hope that the time is not far distant, when Tonics and some of the Diaphoretics, Purgatives, Diuretics and Emmenagogues will be removed from their present unnatural connexions, and put side by side with *Strychnia* in the class under our notice.

"The therapeutical employment of stimulants is governed by very simple and obvious indications. There are two classes of cases characterised by defective action in the vital functions, which call for their use; the one, where the departure from the healthy condition is merely temporary, the other, where symptoms are present which point out a loss of tone in the muscular system, and a deeply debilitated condition of the entire frame. Under the former head are included Syncope, and various local nervous affections, as headache, palpitations, &c.; for the relief of which, the diffusible stimulants, such as *ammonia, wine, camphor, &c.*, are particularly effectual. The latter head embraces the more severe derangements of the constitution, in which there is a permanent and decisive depression of vital energy, a condition which is observed in a most marked degree in the prevailing type of continued fever. Even in the course of inflammatory diseases, when the local affection is accompanied by typhoid fever and languor of the general circulation, or depends remotely on the influence of debilitating causes, it frequently becomes necessary, while combating the local complaint by topical depletion, to augment the general activity of the heart's action by the frequent administration of stimulant medicines. It is in such cases, where the circulation is depressed, the functions of the mind perverted, and the powers of life distinctly giving way, that the mere *name* of a disease should have no weight in determining the line of treatment which the judicious practitioner should pursue; and it is in these circumstances, that his superiority over the mere empiric is most clearly perceptible.

"We shall postpone the indications for the use of the turpentines, gum-resins and balsams, in diseased conditions of the mucous membranes, to the head of Expectorants and to the special drugs as they severally come under review. The employment of the specific stimulants of the spinal cord will be advantageously postponed in a similar manner." Pp. 5–10.

Some good new remedies, such as bebeerine, are omitted, which is certainly a defect; but the work, notwithstanding this and other slight faults, is a good one.

J. R. C.

Vocabulario Medico-Quirurgico ó Diccionario de Medicina y Cirugia, que comprende la Etimologia y Definicion de todos los Terminos usados en estas dos Ciencias, por los Autores antiguos y modernos. Por DON MANUEL HURTADO de Mendoza, &c. Quarto, pp. 752. Madrid, 1840.

THIS is indeed a most valuable and interesting work. We have risen from its perusal with a far more exalted opinion of the actual state of the medical sciences in the once proud and glorious, but now fallen and distracted land of its birth, than we had previously entertained. With the exception of its having only the Latin synonyme added to the leading Spanish term, in each arti-

cle, it more nearly resembles, in plan and execution, the lately-published *Pentaglot Dictionary* of Dr Shirley Palmer, than any lexicographical production which we have yet seen. To the student of Spanish medical literature, it will prove a treasure, and an auxiliary of inestimable value.

The following article, freely, but accurately, translated from the original, will afford a fair specimen of the style and character of Dr Hurtado's Dictionary:—

"ABDOMEN, s. m. (Anat.) A word purely Latin, formed of *omentum*, the fatty membrane which envelopes the intestines, and the verb, *abdo, is, ere*, to conceal. The *abdomen* of the Latins, *etron* of the Greeks, and *mirach* of the Arabians, is that part of the trunk which is situated below the thorax, and surmounts the lower limbs or extremities. It is bounded above by the diaphragm; below, by the pelvis; posteriorly, by the lumbar vertebræ; and, anteriorly and laterally, by various muscles, to which the term *abdominal* has consequently been applied."

We have long entertained a suspicion that the preceding derivation of the term *abdomen*, like that which simply refers to the verb *abdo*, is incorrect. In this opinion we are fully borne out by the erudite and profound German lexicographer, Kraus; who, in the second and third editions of his justly-celebrated work,[1] has traced it to an Hebrew origin, (*Ab*, pater, *domen*, stercoris.) Dr Turton had previously adopted the same view of the subject in his *Medical Glossary*;[2] but, strangely enough, while referring *abdomen* to the Arabic, he prints it at length in the Hebrew character. Greatly do we marvel that Dr Hurtado, with all the learning and industry exhibited in his work, should not have stumbled upon this curious and plausible piece of scientific etymology.

With all its excellencies, however, the character and value of Dr Hurtado's work are, we regret to add, grievously slurred and deteriorated by the negligent manner in which it has been printed. In the following short botanical article, accurately transcribed from page 11 of the original, no less than four or five typographical errors, and one scientific, or, more properly speaking, most unscientific, blunder, occur:—

"ACEBO, s. m. (*Mat. Med.*) *Ilex*, Nombre de un género de plantas de la *tetrandia tetraginia* (*Tetrandria, tetragynia*) de Linneo, del cual se han usado dos especies en medicina; 1ª *el acebo comun* (*Illex-Ilex-aquifolium*,) cuya corteza y raiz en cocimiento, pasan por espectorantes y diuréticas; 2ª *el acebo pequeno ó brusco picante* (*Bruscus aculcatus—Ruscus aculeatus*) cuya raiz que es tónica y diurética, forma una de las cinco raices aperitivas de los antiquos."

To the most unpractised eye, the several typographical mistakes contained in the preceding extract, will be at once apparent. But some of our younger botanical readers may require to be informed, or reminded, that the two plants here described by Dr Hurtado, as species of the same genus, are not even nearly allied. They, in fact, belong to two distinct genera and families, widely separated from each other both in the artificial and natural systems of botanical arrangement. The first is, as represented by our author, a species of genus *Ilex*, class *Tetrandria*, order *Tetragynia*, of Linnæus, and natural family *Rhamneæ* vel *Rhamnoides*, of Jussieu; the second, a species of *Ruscus*, *Monœcia*, *Monadelphia*, Linnæus; *Smilaceæ* of French, and *Asphodeleæ* of British botanists. The Spanish lexicographer,—himself, peradventure a sorry botanist,—has, we suspect, been betrayed into this otherwise inexplicable blunder by the perusal of certain French and German scientific Lexicons and Dictionaries, in which, under the article *Ruscus* or *Fragon*,[3] *R. aculcatus*, prickly butcher's-broom, is very vaguely and inaptly designated *le petit houx*, the lesser *Holly* of French botanists. Now, the proper botanical name of the plant, in the French language,

[1] *Kritisch-etymologisches medicinisches Lexicon.* Dritte Auflage, Art. *Abdomen.*

[2] *Medical Glossary.* Second Edition, Art. *Abdomen.*

[3] Nemnich, *Allgemeines Polyglotten-Lexicon der Naturgeschichte*, Art. *Ruscus:* Bégin, *Dictionnaire des Termes de Médecine, Chirurgie*, etc.; Béclard, *Nouveau Dictionnaire de Médecine, Chirurgie*, etc.; and Palmer, *Pentaglot Dictionary of Medicine*, etc., Art. *Fragon.*

is *le Fragon piqant.* The common practice of introducing into scientific writings the vulgar designations of animal, plant, or mineral, cannot, then, be too strongly reprehended. It is an indecorous departure from the lofty and rigorous precision which should invariably characterize the writings of scientific men; and can only serve to engender, as it has obviously done in the case before us, error and confusion. P.

On Scarlatina and its successful treatment, by the Acidum Aceticum Dilutum of the Pharmacopœia. By Isaac B. Brown. 12mo, pp. 66, London, 1846.

This sparcely printed and tiny tract, is apparently intended as a New Year's Present to the author's non-professional friends. We draw this inference from the date it bears, the elegance with which it is got up, and the following announcement contained in the preliminary remarks:—"I purposely avoid using unnecessarily technical or professional terms, because I wish this to be read by parents and heads of families, as well as by members of the medical profession."

We quite agree with Mr Brown in deprecating depletion in Scarlet Fever. It is, we believe with him, a remedy which ought rarely, if ever, to be employed. A patient affected with this disease we regard as one labouring under the effects of a certain specific poison, which will run a definite course, varying in severity, and in its issue, according to the dose of the poison which has been imbibed, the constitution of the patient, and the circumstances in which he is placed. If the case be a very mild one, recovery takes place, even without any treatment. In simple cases, we endeavour to secure good ventilation, and confine our active treatment to tepid sponging, the use of a muriatic acid, or other analogous gargle, a mild but sufficient purgative every 24 hours, and if there be any tendency to debility or malignancy, a little port-wine, quinine, or one of the mineral acids in small and often repeated doses. In children, who cannot use gargles, we clear the throat with an occasional emetic. Severer cases are managed upon the same general principles; the patient is, however, most anxiously watched, so that the various sudden accidents which sometimes cause death at various stages of the disease, may be promptly met,—such as threatened asphyxia, and rapid sinking from debility. As remedies said to have a special effect in counteracting the diseased state of the blood, we have used acetic acid, and the chlorinated solution of soda, termed Labaracque's liquor. This treatment is substantially what many would have recourse to; and is probably what Mr Brown would use, excepting that he would rely on the acetic acid as his sheet anchor. It is therefore evident, that there is nothing new in Mr Brown's method; for surely his eulogy of acetic acid, and his silence regarding the far more potent agent—the chlorinated solution of soda, does not justify his claim to be the promulgator of a novel and improved practice. Besides, not to mention other deficiencies, the author draws his conclusions from far too small a number of cases, to entitle them to any weight as generalizations.

With these remarks, we introduce the following extracts:—

"It must be observed, that in this disease, the mucous membranes are particularly affected; that is, the lining membrane of the nose, eyes, fauces, throat and entire intestinal canal, exhibiting the same character of redness as the skin; and this mucous affection is as much a peculiarity of the disease, as the affection of the lungs is of measles. It may be asked, 'Why is this disease so fatal in its effects?' In answering this question, I may be allowed to say that the disease is epidemic; that is, emanating from, and carried through, a peculiar state of the atmosphere, from place to place, affecting many persons at the same time; and it appears instantly to act upon the blood as a poison of a putrefactive character; and that the blood, after being so acted upon, possesses more serum and less fibrin: this is proved by many circumstances; as, for instance, if the nose or lips bleed, or a finger be cut during the fever, the blood is quite

watery and the purulent [illegible] does not stop bleeding, because there is not sufficient fibrin to form a plug [illegible]. If this state of blood continue, the whole body very soon becomes impregnated with a poor unhealthy supply, hence the [illegible] defective digestion and assimilation, and it is evident this state of the blood cannot long continue without producing the most [illegible] ravages upon the constitution; [illegible] and delirium, which [illegible] the state of things [illegible]. I believe [illegible] as far as I have [illegible] bleeding, [illegible] purgatives, and [illegible]: for if my view of the case be a correct one, it must be evident the abstraction of blood cannot be right, because it will produce more exhaustion and loss of vital power. [illegible] purgatives [illegible], because they irritate the [illegible] vascular condition of the mucous membrane, and frequently produce [illegible]. Some [illegible] only irritate the mucous membrane, [illegible] has a de[illegible] upon the blood: and emetics which have been strongly recommended by some authors, are, in my opinion, [illegible], from the [illegible] they produce. From these different remedies I except the [illegible], which is often very successful, and accords with my opinion as to the disease being one of debility. Now I believe the first thing to be considered is, How can the blood be altered or purified of its virulent poison, and how can it be replenished when so altered or purified:—Secondly, How can the vascularity of the mucous membrane be subdued or allayed:—And, thirdly, What can be done to arrest the ulceration or sloughing of the tonsils and fauces, which frequently is the direct cause of death by preventing free respiration.

"Now, to the first question. How can the blood be purified of its virulent poison?—By administering a medicine which is decidedly antiseptic, or a destroyer of putrefaction. Secondly, to the question; How can the vascularity of the mucous membrane be subdued or allayed?—By avoiding any irritant purgatives, and by administering that which will act as a febrifuge and an astringent of the blood-vessels at the same time. Thirdly, What can be done to arrest the sloughing or ulceration of the tonsils and fauces? Arrest the first commencement of the ulceration by direct applications to the entire surface of the parts.

"Now I believe, acetic acid (distilled vinegar) which is quickly taken up by the veins of the stomach, is the best remedy for these various forms of the disease. It is well known that acetic acid is a powerful antiseptic, a good styptic, and also a most refreshing febrifuge; it is also well known that it materially assists digestion; thus, it acts as a powerful auxiliary in assisting assimilation, and consequently a greater supply of chyle is obtained. Here then we have all we want, for destroying the poison of the blood, for allaying the vascular state of the mucous membrane, for preventing hemorrhage from the blood-vessels, astringing the tonsils and fauces, and for checking the febrile action and supplying fresh chyle to the blood. But it will be said, Surely you do not rely on acetic acid alone? I reply, certainly not; I use other remedies as *auxiliaries*; but my sheet-anchor is acetic acid, from the beginning to end of the treatment." Pp. 6—10.

The valuable Statistics of Treatment, (from Dr Williams,) contained in the following extract speak for themselves :—

"To strengthen my opinion as to the opinion of considering this fever one of debility and not inflammatory, and consequently not requiring bleeding, I may make an extract from a very excellent paper 'On the poison of Scarlatina,' by Dr R. Williams, in his '*Elements of Medicine*.' After alluding to the practice of bleeding and of abstaining from it, he says, 'If we compare them the result will stand thus :

"Of 121 treated at the Foundling Hospital in 1786 by bleeding	19	died.
" 60 treated in the London Fever Hospital in 1829 by do. .	10	„
181	29	

or nearly *one* in *six*.

"While of 200 treated by mineral acids and wine . . .	2	died.
„ 160 „ „ purgatives and emetics . . .	16	„
„ 50 „ „ ditto	3	„
„ 45 „ „ ditto	1	„
„ 100 „ by mineral acids and wine . . .	3	„
555	25	

or nearly *one* in *twenty-two*.

"It seems therefore proved that one in six died after bleeding, while one in twenty-two died after a milder, if not a directly opposite treatment; and the conclusion which inevitably follows is, that the chances of recovery are diminished by the practice of bleeding, in the ratio of nearly four to one, as compared with the chances supposing the patient not to have been bled. If we set out with this view, all the other parts of the treatment will appear simple and judicious."

It is not the doctrine, but the self-complacency of the author, that is objectionable. J. R. C.

Medical Topography and Statistics of the Presidency of Madras: compiled from the Records of the Medical Board Office. Published by order of Government. 2 vols. 8vo, pp. 528–553, with numerous Maps and Tables. Madras, 1844.

THIS is a work of great value, whether it be regarded merely in a scientific point of view, or with reference to the hygiène of the important Presidency of Madras. In studying the diseases of India it will be found a valuable mine of information to refer to. We trust that it is the first of many books of the same kind; for it is chiefly by collating carefully compiled works of this class, descriptive of the Medical Topography of different countries, that we can obtain comprehensive and just views of their diseases.

In the Prefatory Remarks by the Medical Board, we find the following notice of the origin of the volumes now before us :—

"The records of the Medical Board Office were known to contain a large and valuable collection of statistical information; but the various documents were so incomplete as to render it necessary to make a farther reference to the Medical Officers of the Establishment. Every medical officer throughout the country was, accordingly, required to furnish a report of the District, Station, or Cantonment in which he then served, or with any other with which he was acquainted. The additional documents thus procured were, however, still so defective that a series of complete reports by individual medical officers could not be selected for publication. The Medical Board, therefore, with a view to fulfil the wishes of Government, propose to compile from the whole of the records at their disposal, a general topographical and statistical account of each of the military divisions in this Presidency, to be comprised in ten numbers." . . . "The time of the Secretary to the Medical Board, on whom the duty of preparing the reports devolved, being much occupied with the ordinary business of his office, it became requisite to employ an assistant in arranging the work

for publication :—Dr Lorimer, Garrison-Assistant-Surgeon of Fort St George, was accordingly selected for that purpose; and it is but justice to state, that notwithstanding his other professional avocations, he has for the last three years zealously afforded his gratuitous aid to the Secretary: and the numerous tables of diseases already referred to were framed by Dr Lorimer, a labour in itself of no ordinary magnitude." Pp. 1, 2.

II. PRESIDENCY DIVISION.

TOWN OF MADRAS, &c.—From the 1st to the 11th page is occupied with a description of the neighbouring villages. The town of Madras is situate in "a perfectly flat, sandy plain, but little elevated above the sea, and presenting no natural eminences of any description." The nearest hills are the Mount, and Palaveram, distant 8 and 10 miles respectively, to the south-west, and the Pulicat hills distant from 25 to 30 miles in a northerly direction. Notwithstanding the low situation of Madras, and the close proximity of extensive tanks, which are dry during a portion of the year, as well as a bad system of street drainage, the town is stated to be upon the whole healthy. In the neighbourhood of the offensive drains, remittent fever is not unfrequent: occasionally, it is of a bad type. The principle on which the drains are constructed is bad, but might easily be improved; and in the mean time their condition might be rendered less obnoxious by causing a free flow through them of the excellent water with which the town is so abundantly supplied.

CLIMATE OF MADRAS.—" During the months of January and February, the weather at Madras is cool and pleasant; and this period is considered to be the most healthy season of the year. The mean temperature of these months is 76° F.; the wind blows steadily from N.E. and E., and the average fall of rain is 1 inch 25 cents. In March, April, and part of May, the south (or as it is called, 'the along-shore wind') prevails, and is reckoned very unwholesome, particularly to old residents, who generally suffer during this time of the year from rheumatic pains; the mean temperature of these months is 85°, and the average of rain 1 inch 85 cents. In the early part of May, very violent gales of wind have occasionally been experienced, accompanied with heavy falls of rain; about the middle of the month, the hot land-wind commences, and blows generallywith great violence from about midnight till 12 or 1 in the day, when it is succeeded by the sea-breeze, which at this season is very refreshing; the land-wind continues throughout June and July, the mean temperature of these months being 88°, and the average of rain 2 inches 20 cents. In the beginning of July there are generally heavy showers of rain, which diminish the heat of the land-wind; but it continues to blow during the month, though with less violence: mean temperature 85°, average fall of rain 3·37. In the month of August and September the weather becomes cloudy, close, and oppressive; the sea breeze being uncertain, and the winds generally light and variable, with frequent calms; heavy falls of rain, ushered in by thunder and lightning, also occur in these months, that the cholera has generally raged epidemically at Madras. About the beginning of October the N.E. monsoon commences, and continues through the months of November and December; in October heavy gales of wind are very frequently experienced: the weather is cool and damp, the mean temperature 80°, and the average of rain 30 inches.

AVERAGE MEDIUM TEMPERATURE THROUGHOUT THE YEAR, FOR 10 YEARS.

1829.	1830.	1831.	1832.	1833.	1834.	1835.	1436.	1837.	1838.
Fahrenheit.									
3	81	81¼	84	83	87	82	77½	82½	86¼

Hurricanes of frequent occurrence.—The coast of Coromandel having from

time to time been subject to hurricanes, or violent gales of wind, the most remarkable of which occurred at the following periods:—

	A. D.		A. D.
2d October . . .	1746.	24th October . . .	1818.
21st „	1763.	29th and 30th March .	1820.
5th „	1782.	6th December . . .	1827.
26th November . .	1782.	30th October . . .	1836.
10th and 11th December .	1807.	1st „	1837.
1st and 2d May . .	1811.	11th November . .	„

It is of importance to attend to the slight fluctuations which occur in the mercury in these latitudes, as indicated by the barometer, more particularly at certain seasons, as they have been known to foretel the approach of storms; and such was actually the case in the severe storm at Madras in October 1836.

In the morning of the 30th October of that year, the barometer was observed to fall, and become unsteady, and this being considered a certain indication of an approaching gale, due warning was accordingly given to the shipping to quit the roads, and all with one exception, having put to sea, escaped the danger of being driven on shore.

The following is a copy of the Meteorological Journal at the Madras Observatory, during this gale:—

		Barometer Inches.	
29th Oct. 1836,	10 o'clock, A.M.	30,050	. rain.
30th do. „	6 „ „	29,940	. brisk breeze.
„ do. „	7½ „ „	29,864	. strong wind at intervals.
„ do. „	12 „ noon.	29,707	. approaching to a gale.
„ do. „	1 o'clock P.M.	29,586	. brisk gale.
„ do. „	3 „ „	29,510	. at times violent gale.
„ do. „	4 „ „	29,360	. very violent gale.
„ do. „	5 „ „	29,150	. approaching to hurricane.
„ do. „	7 to 8 „ „	28,915	. violent hurricane.
„ do. „	11 „ „	29,650	. very strong wind.

N.B. This storm was accompanied by a very heavy and constant rain, ten inches having fallen during the 29th and 30th October." Pp. 14, 15.

Diseases.—" *Fever* of the intermittent and remittent types may be said to be endemic among the natives of Madras; neither of which, however, have prevailed to any extent during the last seventeen years. These fevers are attributed by the medical officer who has been in charge of the 'black town,' during the whole of that time, to the imperfect manner in which it is drained; the greatest number of cases have always been observed to occur (where the drainage is most stagnant) during the hot season of the year."

Lepra, supposed by the natives to be both contagious and hereditary, is rare *before*, and very common *after* puberty, in Hindoos and Mahomedans of both sexes.

Elephantiasis, the leprosy of the Arabians, is also endemic. It is seldom met with in those who are well fed and well clothed. The feet, legs, and scrotum, are the parts usually affected.

Guinea Worm has occurred "annually for the last six years in the villages of Chintadrapettah, Vepery, and Parambare; it was not seen in any of these places prior to that period, but the numbers affected have since been on the increase; it usually prevails in the months of February, March, April, May, and June. The water which is used by the inhabitants of these parts of the town both for drinking and for the purposes of ablution, is the same to which they have been accustomed for many years past. Guinea worm has been met with equally in Indo-Britons, and in the natives resident in these villages, but is more rarely seen in Europeans." P. 17.

Cholera is an annual and a fatal visitant. The percentage of mortality is greatest among the poor. This disease generally makes its appearance towards the end of the hot, and beginning of the wet season, continuing with more or

less severity during the months of August, September, and October, and in some years till January.

Small-pox occasionally prevails epidemically; but, notwithstanding the apathy of the natives, vaccination has of late been much extended, and the ravages of the diseases thereby greatly lessened.

Influenza occasionally visits Madras.

Diarrhœa and Dysentery are of frequent occurrence; the former appearing occasionally in an epidemic form, when preceding or following the appearance of cholera.

NATIVE TREATMENT OF DISEASE.—For *leprosy* the natives prescribe the Asiatic pill composed of arsenic, pepper, and the mudar root, *(aclepias gigantea.)*

In *fever*, mercury, arsenic, and some febrifuge barks are given; *croton-oil* is their principal purgative, being used by them in almost every disease. In *cholera*, the chief remedies are astringents, with stimulants and opium; a combination of pepper and spices has also long been used by native practitioners, and a pill of corrosive sublimate and common salt, forms another favourite remedy.

MADRAS NATIVE INFIRMARY.—This institution was established in 1799. From 1827 to 1838 inclusive—a period of twelve years—12,446 patients have been treated in this hospital, and the mortality has been in the same period, 3,344, or very nearly 27 per cent. on the number of admissions. It is important to observe that the year 1833 materially affects these averages; during 1833, which was a year of famine, no less than 5518 persons was admitted into the infirmary, and 1779 deaths took place. Excluding this period, the average annual admissions for eleven years have been 559; and the average annual number of deaths 141; the per centage of deaths on the number treated, being 23½.

A table is given exhibiting the number of admissions and deaths from each class, and more important species of disease, in each half year, for the above period. We have only room for three or four quotations from this table It appears that during the 12 years, out of 442 fever patients, (including mild influenza) 33 died; out of 135 cholera cases, 79 died: out of 428 cases of diarrhœa, 113 died; out of 23 cases of acute dysentery, 8 died; out of 98 cases of chronic dysentery, 33 died; out of the small number of 14 cases of phthisis pulmonalis, 8 only are said to have died; and out of 3,917 cases of atrophia, 1,816 died.

From the remarks appended to the table we extract the following sentences which will explain somewhat the great numbers of the cases of atrophia. "Of the 3,917—2,952 occurred in 1833, with 1,236 deaths, and were all in consequence of want. Many died on admission; others lived but a few hours, while the most of those who were rescued from a cruel fate, were saved with difficulty. In almost every case, the bowels were relaxed on admission, or became so after taking food. The treatment consisted in giving mild nutritious diet; rice congee, of a thick consistence, with a little ginger powder and salt, was that generally preferred by the patients; cordials with aromatic spirits of ammonia, and laudanum, or astringents, with chalk mixture, and laudanum: the doses were regulated according to the effect produced. In every instance where wine was given, it proved injurious," p. 25. We suspect that many cases of *unascertained chronic disease* have been termed *atrophia.*

MADRAS GENERAL HOSPITAL.—This is an institution for the reception of both European and native sick, whether belonging to the service or not. From the tabular statistics we extract a summary of four tables, giving respectively the number of admissions and deaths, from different diseases, among (1st,) The European troops, (2d,) The Civil Europeans, (3d,) The Native troops, (4th,) The Civil Natives, during ten years.

1st, AMONG THE EUROPEAN TROOPS.—*Febris ephemera*, admissions, 230, deaths, 0: *f. intermitt. quotid.*, admissions, 84, deaths, 6: *f. intermitt. tertian.*, admissions, 8, deaths, 0: *f. continua*, admissions, 71; deaths, 8: *cholera*, admissions, 41; deaths, 33: *diarrhœa*, admissions, 270, deaths, 10: *dysentery*, acute and chronic, admissions, 170, deaths, 9: *colic*, admissions, 37, deaths, 0: *obstipatio hemorrhoids, enteritis, peritonitis, gastritis, dyspepsia*, admissions, 411, deaths, 6: *hepatitis*, acute and chronic, admissions, 216, deaths, 16, *diseases of the*

lungs and heart, admissions, 190, deaths, 23: *diseases of the brain*,[1] admissions, 454, deaths, 26: *diseases of the eye*, admissions, 64, deaths, 0: *diseases of the skin*, admissions, 71, deaths, 1: *eruptive fevers*, viz., variola, varicella, rubeola, and erysipelas, admissions, 30, deaths, 3: *anasarca*, admissions, 23, deaths, 6: *ascites*, admissions, 4, deaths, 1: *rheumatism*, acute and chronic, admissions, 218, deaths, 7: *syphilis prim.*, admissions, 115, deaths, 3: *syphilis consec.*, admissions, 27, deaths, 1: *gonorrhœa*, admissions, 166, deaths, 0: *hernia humeralis*, admissions, 47, deaths, 0: *strictura urethræ*, admissions, 10, deaths, 1: *specific diseases* (including atrophia, lepra, dracunculus, scrofula, and scorbutus), admissions, 29, deaths, 5: *phlogosis*, admissions, 356, deaths, 3: *wounds and injuries*, admissions, 234; deaths, 3: other diseases, admissions, 236, deaths, 10.—TOTAL ADMISSIONS, 3,833.—TOTAL DEATHS, 181; thus giving an AVERAGE PERCENTAGE OF DEATHS to the sick, of 4.722.

2d. AMONG THE CIVIL EUROPEANS.—It is not necessary to enter minutely into this table, as the comparative results are substantially the same, though the mortality is greater. THE TOTAL ADMISSIONS were 1,903; *the total deaths* were 126; and the AVERAGE PERCENTAGE OF DEATHS to the sick, 6·621. In this table we have 3 cases of beriberi which recovered.

3d. AMONG THE NATIVE TROOPS.—TOTAL ADMISSIONS, 3366; TOTAL DEATHS, 147; *average mortality* per cent., 4·367.

4th. AMONG THE CIVIL NATIVES—TOTAL ADMISSIONS, 677; TOTAL DEATHS 75; AVERAGE MORTALITY per cent., 11.078. The greater mortality among the civil natives is attributed to their reluctance to enter the hospital, and the consequently advanced stage of disease before admission. In this table we have no cases of beriberi.

The following account of Beriberi will we trust prove interesting to all.

BERIBERI.—"The disease called BERIBERI, being endemic at the several stations on the coast, throughout the northern division, from the Kistnah river to the Chilka lake, a short account of it may appropriately be given in this place; and the following observations are taken from an unpublished essay on the disease, forwarded to the Medical Board in the year 1831.

"The word Beriberi is derived from the Hindoostanee name of a sheep (*b, here*), from a fanciful notion, that persons affected with the disease, walk like a particular species of that animal, *i. e.*, with a kind of jerking motion; but the name by which it is known to the Gentoos of the coast, *Ooboowaioo*, simply means, rheumatism, combined with dropsical swelling.

"This disease, though endemic in many situations, frequently appears also as an epidemic, after the setting in of the rains, or from July to the close of the year, when fevers, dysenteric complaints, and cholera, also break out to a greater or less extent, annually; and they would all seem to have a common origin, viz., malarious exhalation, though modified in the usual forms of the disease enumerated.

"The stations of Chicacole, Samulcottah, and Berhampore, which are low, damp, and more or less swampy, appear to suffer more than the other towns in the division, though none of the stations, whatever may be their position, are wholly exempt from it. And it is found in all situations more or less, and at all seasons of the year, and extends, it is said, to about 40 miles inland.

"Natives appear to suffer from beriberi more than Europeans, and the inhabitants of the coast more than those of inland situations; the sepoys, natives of the upper provinces of Bengal, frequently escaping altogether, whilst amongst the coast men it was prevailing extensively. Relapses are of very frequent occurrence, coming on usually at the close of the monsoon.

"Beriberi appears to be a disease of middle life, and instances of its occurrence under the age of 17 years, or above 50, are very rare, and no cases have

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[1] Including 296 cases of delirium tremens and ebrietas, in which were 14 deaths.

been seen in females, though doubtless, they must suffer from it as well as the other sex, though perhaps in a less degree.

"The disease occurs both in an acute and chronic form; the acute form of beriberi, being usually attended by fever, of an intermittent type, and of four or five days duration, whereas, the chronic form is more frequently the sequela of rheumatism or of fever, either of the intermittent or remittent form.

Acute form of beriberi.—"Beriberi of the acute form, whether preceded by an attack of fever, or suddenly appearing without premonitory symptoms, is characterised by swelling of the extremities, both upper and lower, but more particularly of the legs, which pit on pressure, with numbness of the integuments of the swollen parts, extending upwards; and there is frequently paralysis of the feet and legs, and of the hands and fore-arms, which rarely, however, extends to the trunk. The muscles of the limbs, to the patient's feelings, are tense, and there is an extreme sense of lassitude, and indisposition to use any exertion.

"The more urgent form of the disease, which frequently attacks persons of robust frame, and previously in the enjoyment of good health, is usually attended with extreme dyspnœa, and a feeling of anxiety and throbbing at the precordia; there is also great anxiety expressed by the countenance, the pulse is from 100 to 120, full and bounding, and it imparts a peculiar thrilling sensation to the finger, as does also the action of the heart, on the hand being placed on the chest; cases of this form of the disease usually terminate in sudden death, often occurring after slight exertion, from effusion into the pericardium, or into the cavity of the thorax; the urine is always high coloured and scanty in such cases.

"When not of so urgent a character as that just described, paralysis of the legs and arms begins to be manifest after a few days, the limbs lose their power, and the patient can neither carry his hands to his mouth, nor can he stand without support, if placed in the erect posture; and in making an endeavour to walk, the limbs, which yield to the weight of the body, and bend backwards, are raised with the peculiar jerk before alluded to.

"A patient in this state, if unsupported, instantly falls to the ground in a sitting posture, and however far the disease may have progressed, the paralysis never extends to the muscles of the trunk, and the sitting posture can consequently always be preserved; neither has the dropsical swelling been found to extend to the integuments of the trunk, or to terminate in ascites.

"Another, and frequently a distressing symptom, is pain in the muscles of the lower limbs, complained of generally as being most severe in the tendo Achillis; and though not often witnessed in native patients, European subjects suffer from constant and severe spasms of the limbs.

"The *post mortem* appearances have been found to be, slight effusion into the cavities of the chest, with œdema of the lungs throughout, the structure of the heart is found to be natural; the right side being filled with dark blood, the left empty; the liver engorged with dark blood, and in some cases great anæmia of the kidneys. Effusion of a ropy serum into the pericardium is also a common morbid result.

Chronic form of Beriberi.—"The chronic form of beriberi as before stated, is usually the sequela of rheumatism or fever, though it occasionally comes on insidiously. The most prominent symptom being partial paralysis of the extremities, both upper and lower, commencing in the hands and feet, and extending towards the trunk, which is succeeded by wasting of the solids, and ultimately by anasarcous swellings of the limbs, and effusion into the chest and pericardium. This form of the disease may exist for several months, and recovery in such cases is extremely slow, and where death follows, the unfortunate sufferer is usually reduced to an extreme state of emaciation and helplessness, the power of the limbs being completely lost.

"The various functions of the body continue to be performed regularly, though imperfectly, and with considerable loss of tone; the pulse is small and weak, ultimately becoming a mere thread, when felt at the wrist, and it often happens that the only complaint made by the unfortunate sufferer is of pain in

the lower extremities, the muscles of the calves of the legs and tendo Achillis, being the chief seat of the uneasiness.

"The spongy state of the gums, indicating a scorbutic condition of the system, which has been said by some to exist in this disease, has not been seen, though inquiry was particularly directed to that point; but there is no doubt that in many cases a cachectic state is present, which is followed by atrophy and extreme debility.

"Neither has the inflamed or congested state of the spinal canal noticed by Malcolmson[1] been witnessed, though the condition of the spine has been carefully examined, by means of pressure and percussion; and inquiry as to the existence of pain along the spine, has failed in eliciting any proof of the existence of irritation or inflammation of the spinal nerves.

Treatment.—"In the acute form of beriberi, as above described, the most active antiphlogistic treatment is often called for, at the commencement of an attack, and by which alone a fatal termination can be prevented. If a patient, therefore, who, after an illness of a day or two, perhaps only of a few hours duration, is seen to be suffering from urgent dyspnœa, with a feeling of anxiety at the precordia, having a full bounding or throbbing pulse, and whose face probably appears bloated or œdematous, from 12 to 15 ounces of blood should immediately be abstracted, and the bowels freely acted on by an active cathartic; ʒj of compound jalap powder, or calomel with jalap. After which calomel[2] with squills should be given and continued until the system is brought fully under the influence of mercury, when in most cases a decided improvement takes place. In natives it is rarely requisite to repeat the *V.S.*, if the first bleeding be sufficiently copious to relieve the oppressed condition of the circulating system. The bowels should be kept free by occasional aperients throughout the treatment, and to assist the diuretic action of the medicine, drinks, acidulated with the supertartrate of potash, may be allowed, and this plan of treatment must be persevered in, till the inordinate action of the heart and arteries be subdued, which will be found to succeed on the first appearance of the mercurial action being established in the system. Should the dropsical effusion at any time show a tendency to increase, a draught consisting of

Tincturæ digitali ℥x,
... scillæ ℥xx,
Spiritus ætheris nitrici ʒss,
Aquæ menthæ piperitæ ʒj,

may be given thrice in the day.

"Should the patient complain of spasms, or rheumatic pains in the limbs, or should the calomel act more on the bowels than is desirable, Dover's powder may be ordered at bedtime, or a small quantity of the extract of opium may be added to the pills. Frictions to the limbs, with stimulating embrocations, and foot baths, in which the root of the moringa tree[3] has been boiled, will be found to afford relief; and during convalescence, or where a tendency to febrile exacerbations occur periodically, much benefit will result from the use of the sulphate of quinine in small doses, or occasional antimonials, in addition to the other remedies employed.

"During convalescence, the greatest benefit will be found from the effect of change of climate, which should be resorted to in every case in which it may be practicable.

"The diet should be light and nutritious.

"In chronic beriberi, whether succeeding to other diseases, or appearing as a specific complaint, the symptoms are rarely of so urgent a character as to call for the use of the lancet, though, if the breathing be oppressed, and there is also much vascular excitement, the abstraction of a few ounces of blood will be found to afford decided relief.

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[1] Essays on Beriberi, 1835. P. 113.

[2] Calomel gr. ij. to iij. cum pulv. scillæ gr. ii. to iii., with aromatic confection, to be taken every fourth hour.

[3] Hyperanthara Moringa, an excellent substitute for the *Radix Armoraciæ*.

"The constitutional treatment should be commenced by an alterative course of the blue pill, combined with diuretics; the bowels, which are often torpid, should be kept free by some mild aperient, for which purpose rhubarb, in the well-known compound called 'Gregory's Powder,' answers well; it will, in cases of this nature, seldom, if ever, be requisite to push the mercury to the extent of causing salivation.

"Acting on theoretical views, leeches have frequently been applied over different parts of the spine, and blisters have been repeatedly placed over the same region, without, it is believed, any benefit resulting from these measures.

"The local means to be used are frictions to the limbs, with camphorated oil and turpentine, and the warm stimulating foot-baths before mentioned.

"The rheumatic symptoms also require attention, and benefit will in some cases be found to result from the use of the pulv. ipecac. comp., or compound guaiac electuary.

"The diet may be generous, light, and nutritious, and to those accustomed to stimulants, wine or spirits in limited quantity may be allowed, with any appropriate tonic during convalescence, the best of which is sulphate of quinine with sulphuric acid.

"The native remedies, *black oil* and *treeak farook*, having been employed extensively in the chronic form, and during convalescence from beriberi, or after the stage of excitement has been removed, and in many cases with considerable advantage, may here be briefly noticed.

"The oleum nigrum, a black empyreumatic oil, is obtained by distillation per descensum, by means of a strong fire, from a combination of spices, with the seeds of the malcungrunny and gum benzoin. It is given in doses of from 5, increased to 30 drops, 3 times during the day, and is usually taken by the natives made into a bolus with aromatic confection, or taken on a betel leaf; the diet observed by them during its use is entirely farinaceous, as wheaten bread or cakes, and made without salt. The action of the oil appears to be that of a stimulant; it is also diuretic, and produces a feeling of internal heat attended with high-coloured urine, and, in some cases, suffusion of the conjunctiva, but it has no apparent effect either on the bowels or skin.

"The treeak farook, a remedy said to be imported to this country from the shores of the Red Sea and Persian Gulf, is obtained in most bazars throughout India, but is supposed to be often spurious; it is said to consist of a farrago of various spices and stimulants, and is given combined with rhubarb in the proportion of about 1 part of treeak farook to 7 of rhubarb, made into an electuary or bolus with honey; the dose being the size of a nutmeg every morning. It usually acts as a purgative or laxative, in addition to which some patients complain of a feeling of internal heat in the chest and abdomen, and after continuing its use for 3 or 4 days, it often causes a good deal of irritability with increase of the pulse, and a feverish heat of skin. Two patients complained of its having caused them to pass bloody urine, this, however, occurred only once in each person, and the correctness of the statement could not be satisfactorily ascertained, and the appearance may have been owing to the effect of the rhubarb. It is usual with natives to take this medicine for 9 days, and then to omit it for the same length of time, and so continue it in successive alternations as long as necessary.

"The diet recommended by the natives was observed whilst using these remedies; and consisted of milk and farinaceous food, such as wheaten bread without salt, and abstinence from meat." Pp. 396–403, vol. ii.

COORG MARRIAGES.

"A very singular custom exists, which is a sort of community of wives among the brothers of a family. On the marriage of an elder brother, his wife is considered the property of all the others; and as the juniors successively take wives, they in turn become common to the rest of the brothers. Some curious particulars connected with this revolting custom, are detailed by Connor. Of its origin little is known; but it is said to have been owing to a comparative scarcity of women, in early times, and to have since become sanc-

tioned by custom: they appear to be getting ashamed of it, and it is accordingly wearing out. It may be mentioned, that the custom has tended very much to disseminate the venereal disease; the younger members of the family, who resort occasionally to public women, communicating the disease to the wives of their elder brothers, and thus in succession to the whole family. Until aware of this extraordinary custom, astonishment was excited at frequently finding elderly and respectable people affected with gonorrhœa and syphilis." P. 233, vol. ii.

We omit in the mean time any notice of the treatment, proposing to give a general view of that described in this and other parts of the work at the close of this analysis.

In describing the Madras or Presidency division, the other topics adverted to are the Medical School, Lunatic Asylum, Eye Infirmary, Male Orphan Asylum, Female Orphan Asylum, Prisons, Garrison of Fort St George, European Troops, &c.

The descriptions of the CENTRE DIVISION, the SOUTHERN DIVISION of MALABAR AND CANARA, are given on the same plan with the account of the Presidency. Along with certain appendices they form the remainder of the first volume.

The second volume contains an account of the CEDED DISTRICTS, Coorg, Hydrabad, &c. In next number we will go on with the statistical analysis, commencing at the Centre Division, where we have now stopped. This plan we prefer to giving in one number what to many would be too large a quantity of Indian matter.

(To be concluded in an early Number.)

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

EFFECTS OF OBLITERATING THE FALLOPIAN TUBE.

IN two female pigs subjected to experiment in the Veterinary College, the abdomen was opened, as in the common operation of spaying, and the horns of the uterus, together with the ovaria and Fallopian tubes, were freely exposed. In one case, a ligature was placed around the Fallopian tubes, close to the horns of the uterus; and in the other, a portion of each tube was removed. The operation was similar in effect in both—namely, disconnecting the uterus from the ovaria, the object in view being, to ascertain the result upon the desire for sexual intercourse, and the ability of the animal to propagate its species. The pigs were small when operated upon, and both did well, and grew to maturity without exhibiting any symptoms of disease. They were destroyed the day before yesterday, and we find in both instances the Fallopian tubes to be impervious. This state of parts seems not in the least degree to have lessened the desire for copulation, since when the animals arrived at puberty, the labia pudendi became inflamed, with other symptoms denoting œstrum, and the male was taken by both of them. A few weeks after, he was admitted a second time, and, on the animals evincing a desire for the male a third time, they were then slaughtered. In the ovaria, in each, the corpora lutea were distinct, being seemingly about to burst. In one, numerous hydatids were attached to the uterus, while, in the other, large sacs, containing a dark

matter, resembling coffee-grounds, were adherent to the ovaria. The parts, also, on cutting into them, appeared unusually vascular, but we must remember, that the animals were destroyed during the existence of sexual excitement. The result of these experiments would seem favourable to the idea, of the passage of the sperma up the Fallopian tubes, in order to impregnate the vesicle of the ovarium; and it certainly proves, that the obliteration of the tubes does not prevent desire, although it renders propagation impossible.—*Mr Spooner in Veterinary Transactions* for Nov., as quoted in *Lancet*, 20th Dec. 1844.

PRODUCTIVENESS AND UNPRODUCTIVENESS OF MARRIAGE, IN THE DEPARTMENT OF FINISTERRE. BY M. DUCHATELLIER.

The productiveness of some marriages, and the unproductiveness of others, the age and condition of the married pair, as well as the number of their children, is, as may be readily supposed, one of those important points in the laws of population, the study of which is surrounded with almost insurmountable difficulties.

The following paper contains the results of a long and somewhat delicate examination of the subject.

From 1129 marriages, the married pairs being of all ages, there were found 5,811 children,—of which alive, 3,463; of which dead, 2,348.[1] The whole giving 5·13 children for each marriage; whilst the work of M. Dufau, based on the last census of the population, only gives 4·24 children per marriage. Does this difference in the figures arise from M. Dufau having spread the number of children over a greater number of marriages? Or did he make deduction of all unprolific marriages, which have not been included in our calculations?

Looking at the produce of marriages in town and country, we find the result in the following towns to be:

Quimper, (population 12,000), 1,087 births for 271 marriages at all ages.
Pont-Labbé (population 3,000), 957 births for 162 marriages.
Audierne (population 2000), 885 births for 161 marriages.

Yielding—

For Quimper, .	4·011	children per marriage.
For Pont-Labbé,	6·424	ditto.
For Audierne, .	5·497	ditto.

But the rate of mortality as regards these groups is very different; thus we find that,

For Quimper, the living were to the dead as 29–10, or 3 to 1.
For Pont-Labbé, as 36–27, or 4 to 3.
For Audierne, as 33–21, or 8 to 5.

Let us now apply these data to the country; as our observations were spread over a whole country indiscriminately, we do not specify parishes. From 368 marriages which came under observation, there were 6,799 births, or 4·888 per marriage.

The rate of mortality among these children was in the proportion of 5 deaths to 7 living, or 26–28.

Let us now call attention to the fact, that contrary to the opinion of certain political economists, these observations of ours would give for productive marriages alone, excluding cases of sterility, a ratio per marriage,

In the towns, of	5·311.
In the country, one only, of .	4·888.

But Quimper, notwithstanding its population of 10 or 12,000 souls, is below the rural average; whilst the two small towns of Pont-Labbé and Audierne very much exceed it; if we take the results obtained from the ordinary census of the

[1] It is to be regretted the author has not stated *the time after birth*, at which he has calculated the relative numbers of dead and living.

population, these would lead us to believe that the lowest average actually occurs in towns with a large or medium population; and that the balance rate of production, instead of being in favour of the country, is, on the contrary, in favour of small towns, where, if we may so speak, the population is new, and where, by means of industrial resources, more readily developed than elsewhere, it rapidly advances to something like wealth and easy circumstances.

The destruction caused by death, appears only to restore that equilibrium which it seems to be the province of want and poverty to overturn; thus, although the deaths among the total number of children in a town are only as 1 to 3; yet, in the poorer classes of that same town, the proportion is as 1 to 4; that is as 2·938 to 2·970:—a terrible law, which in its ultimate analysis still leaves the balance of production in favour of the rich and easy classes, who are, in appearance, the least productive.

But we must now return to our own facts and details.

Respective ages of the Married Pairs.—Out of 968 marriages observed by us, there were 163 in which the age of the woman exceeded that of the man. The following are the localities and conditions under which they occurred.

At Quimper, no distinction being made as regards fortune or class, there were in 271 marriages, 40 in which the woman was older than the man, or 44 per cent.

In the country, on the other hand, out of 535 marriages, there were 100 in which the woman was older than the husband, or 19 per cent.

But, if we make a distinction as regards the town, between the two classes of rich and poor, then we find that of 162 marriages of the latter class the percentage of women older than their husbands, is 18 instead of 14, the ratio of all classes put together; whence we may conclude, that this annually diminishes in proportion as the population is elevated by means of employment and instruction.

Let us now turn to the effects upon society of marriages contracted between parties, in which the age of the woman exceeds that of the man.

Comparative productiveness of rich and poor.— The age of the woman greater than that of the man.—At Quimper the number of children to women older than their husbands, was found, without distinction of fortune or class, to be 4·375 per marriage. In women taken from the poorest class, they were 5·875.

In the rural parishes, on the other hand, it was found, that out of 68 marriages, in which the age of the woman exceeded that of the husband, there were 331 children, or 4·868 per marriage. From this it appears, there is almost no difference between the rate of production in this class, and that in marriages of all kinds.

May we not infer, however, that as marriages of all kinds throughout the country only give a ratio for the towns of 4·011 children, that the difference of age on the side of the woman has little, if any, influence on the greater or less productiveness of the marriage; and that even in towns where this circumstance has a marked influence on the rate of production, it is probably to be ascribed to the fact, that marriages of this nature generally call forth, at an earlier period, in the man, a strict attention to those duties and engagements which he feels incumbent on him from the love of family.

Productiveness according to the age which the woman has attained.—Let us take first those marriages where the woman has attained the age of 50, an age at which production generally ceases; we find that from 368 marriages of this class, there were 2,208 children; or per marriage, 6·516 children. On classifying these marriages according to the condition of the married pair, we find that from 90 marriages in the indigent class, there were 350 children, or per marriage, 6·111. Without distinction of condition, there were, from 132 marriages, 848 children, or per marriage, 6·424. Lastly, in the agricultural class we find, that 146 marriages yielded 1000 children, or per marriage, 7·041. Whence we may conclude, that a woman who has passed all her life in the country, is incontestibly more productive than one who has passed it in the town; but, as we have previously stated, the general rule is, that marriage in the country is less productive than in the town, and for the reason, that, in the

former the middle classes have not such a high status as in the latter, a fact which is confirmed by the recent census of the population.

Taking next those marriages in which the age of the woman varies from 45 to 50, we find that, from 188 marriages, there were 1.356 children, or per marriage, 7·202 children; but with this distinction, that in this category women from the indigent class in towns had, per marriage, 7·360; whilst in the others comprehended under it, those belonging to the rural population only had 6·750. But taking the age of 45, excepting a few only, as the ordinary limit of fecundity in this class, we find that the general mean, from 556 marriages where the female had attained that age, there were 6·859 children per marriage. And that of these 556 women there were 46 who had had 12 children or more, 40 who had had from 10 to 11, 108 who had had from 8 to 9, and 52 who had had less than 7. So that out of 556 we may reckon 246, or nearly the half, as having passed the general mean, fixed as at 6·859 children. On proceeding still farther we find that, from 212 marriages, in which the woman had attained the age of 40 to 45, there were 1,286, or per marriage, 6·076 children; but that, in the town population, out of 162 marriages, there were 648, or per marriage, 6·353 children; whilst in the country 110 marriages only yielded 638 children, or per marriage, 5·800 children. In women from 35 to 40 we find, from 125 marriages, 664 children, or per marriage, 5·228 children. That the mean of 76 marriages in the town gave 5·355 children; and that the mean of 51 marriages in the country gave 5·044 children. In women from 30 to 35 the ratio for 171 marriages was 690 children, or per marriage, 4·035 children. The mean of 126 marriages in the town was 4·151 children; and of 45 marriages in the country, 3·711 children. Finally, in women between the age of 25, 81 marriages yielded 150 children, or per marriage 1·851 children. The mean of 71 of these in the town was, 1·831 children, and 10 marriages in the country, 2·000 children.

Marriages which were either barren, or unproductive for a certain period.—On turning to those marriages which were either productive or non-productive, we find that out of 1,382 such which came under our notice, 34 were either altogether barren, or unproductive for a time. Classifying them according to the extent of its duration, we have the following result:—10 continued unproductive from 3 to 7 years; 12 continued unproductive from 10 to 12 years; 4 continued unproductive for 18 years; 8 continued unproductive for more than 21 years.

Productiveness of women according to their age.—In regard to the age up to which a woman may bear children, we found that, out of 150 marriages in the country which came under our notice, there were 71 in which the woman was beyond the age of 46, and had borne children; that 22 women, or 1 in 8, were beyond the age of 45, and 3 beyond the age of 50. We have now only further to remark, as has been indeed already stated, that those marriages, irrespective of the condition of the parties, in which the age of the woman is greater than that of the man, are not in general opposed to production, but that in towns, this circumstance rather appears to be favourable to it.

Respective ages of husband and wife in those marriages found to be most productive.—Having paid particular attention to the respective ages of husband and wife in those marriages which were most productive, and having formed a special category of such as gave ten children at least, we found the following to be the result:—Out of 51 marriages of this class, the mean difference of age between husband and wife was only 2⅛ years; and further, that out of these 51 there were 12 in which the age of the woman exceeded that of the man by the mean term of 3 years; in 12 others there was only a difference of 2 years between the parties; and lastly, in 27 the age of the man exceeded that of the woman by the mean term of 5 or 6 years. The conclusion, therefore, is evident, that in all ordinary conditions, marriage is more likely to prove productive, the nearer the ages of the two parties approach to similarity.—*Annales d'Hygiène*, October 1845.

PRACTICE OF MEDICINE AND PATHOLOGY.

Case of Aneurism of the Ascending Aorta opening into the Vena Cava Superior. By J. Gossy.

When we consider the intimate and extensive relations existing between the arch of the aorta, the vena cava superior, and the innominata of the left side, as well as the frequency of aneurism in that portion of the aorta, we should be led to believe that the occurrence of varicose aneurism at that spot would not be unfrequent. This, however, is not the case; many examples of aneurism of the aorta bursting into the pulmonary artery, trachea, pericardium, &c., are recorded, but cases of perforation of the vena cava superior are so rare, that we had almost believed the case, the particulars of which we are about to relate, was *unique*. On examining further, however, we found a very similar case detailed by Mr Thurnam, in the *Med. Chir. Trans. of London*.[1] Mr T. has collected and analysed nearly all the known cases of varicose aneurism of the aorta.

From the extreme rarity of such cases, we shall give the details of the following at some length.

M., a woman aged 45, admitted into hospital on 27th January 1845. Has never had children, and up to the age of 30 enjoyed robust health. Declares that she never suffered from articular pains during any period of her life.

For the last fourteen years she has suffered from palpitation of the heart, and a slight degree of oppression. These symptoms appeared suddenly, and at first caused little uneasiness, but by degrees they assumed a more severe character; and at a later period, which cannot be accurately determined, the palpitation was at times painful, and had its seat towards the upper part of the sternum. From that period these various symptoms continued, but the patient was able to work, and never suffered from œdema either of the arms, feet, or face. Her appetite continued good, and she rather gained flesh than lost it. On the 18th January, after working as usual, and taking her supper with appetite, she retired to bed at her usual hour. On waking in the morning, she felt giddy, and her face was somewhat swollen, and of a violet colour, as also the right arm. She immediately went to a neighbour, alone and on foot, and whilst there, two hours after waking, became so giddy as to fall to the ground, where she lay for some minutes insensible. A few hours afterwards she was bled from the arm, but it afforded no relief. In the evening her face was enormously swollen; as were also the upper extremities, but the right more than the left; a disagreeable rushing noise was likewise experienced through the whole head, more especially in the region of the right temple. The tumefaction still continuing to increase, she was brought to the hospital on the 27th, nine days after the appearance of the latter symptoms. On the evening of her admission she was bled from the arm, but with no greater relief than on the former occasion. Shortly after her admission she was seized with epistaxis, which ceased spontaneously, and never returned.

On the morning of the 28th, the horizontal posture could not be maintained, her intelligence was entire, memory good, but easily fatigued, strength little affected. The great tumefaction of the face, neck, and superior extremities, contrasted strongly with the condition of the inferior parts of the body, which was perfectly natural; the face was enormously swollen and tense, of a deep violet colour; pressure with the finger scarcely left a mark. The lips and ears were blue and thickened; eyelids slightly swollen; and numerous veins were visible on the forehead. Frequent attacks of giddiness occurred, especially on a change of posture; there was besides a painful feeling of tension through the whole head, accompanied with a continual and disagreeable rushing noise, more especially in the right temple and ear, but no deafness. The neck was also of a deep vio-

[1] Vol. xxiii. 1840.

let colour, and much swelled. The swelling extended over the superior part of the chest, so as completely to efface the clavicles, and fill up the hollows below and behind them. The external jugular veins were the only ones perceptible in the neck, they were by no means prominent, and no reflux was apparent in them. Lastly, the superior extremities, through their whole extent, were œdematous, and more marked in the *right* than in the *left*. They were also of a violet colour, benumbed, heavy, and cold; no veins were perceptible on their surface; a disagreeable feeling of tingling was experienced in the hands.

The chest, large, and well formed anteriorly, exhibited neither tumour nor appreciable projection. At each contraction of the heart there was a manifest shock over its surface, without any marked elevation, or vibratory thrill in any point. There was a dull sound over the precordial region to a considerable extent, but its limits were not accurately ascertained; the apex of the heart was felt beating on a level with the seventh rib, its rhythm was perfectly regular, and its impulse moderate. The first sound was replaced, or rather marked, by a strong blowing rasping sound, of such length as nearly to occupy the whole of the short pause; the second sound was natural, but only heard clearly at the base of the heart, near the third rib; ten lines lower down it was obscured by the rasping sound, and only heard with difficulty. External to the apex of the heart, and near a line drawn vertically from the axilla, not only could the second sound be heard, but also the first; it was easily distinguished from the rasping sound, which was distant, and only appeared to *coincide* with it, without replacing it.

Under the left clavicle the abnormal sound was feeble and distant; but over the whole superior part of the sternum, it was intense, gradually increasing as the stethoscope was moved upwards, till it attained its maximum at the internal extremity of the right clavicle. At this point, the seat of the troublesome pulsations, there was dullness on percussion to the extent of 15 lines square; but no projection or vibratory tremor could be perceived; the normal sound was there of a superficial character, not continuous, somewhat rough, and more intense and prolonged than anywhere else; as at other parts it coincided with the systole of the ventricle.

The rasping sound was distinctly heard over the whole superior part of the chest, posteriorly and at the sides; its maximum of intensity was in the right infra-spinal fossa, close to the vertebræ; lastly, there was a well marked thrill behind the right clavicle at its middle, and along the course of the vessels of the neck of the same side, as far as the angle of the jaw. Below that point it completely ceased, and was not perceptible in the external jugular vein. This thrill was of a prolonged character, but not continuous; it was propagated from below upwards, and coincided with the arterial diastole: at the time of its occurrence, a vessel was distinctly felt behind the clavicle enlarging, and though considerably distended, still preserving a remarkable degree of pliancy. On a level with the tremor, and during its continuance, a blowing sound without the rasping character was heard; it was loud, very much prolonged, but not continuous, and had no musical character. There was no trace of tremor on the *left* side of the neck; all that could be heard was a blowing sound very distant and feeble.

The pulse was regular, 96, small and feeble at the wrists, but beating harmoniously and with equal strength on both sides; the same was the case with the femoral arteries. Voice natural, cough dry, and not frequent, respiration slightly accelerated; dyspnœa, but not severe, and not occurring in paroxysms, only increased after speaking, or change of posture. Under the clavicles the respiration was fine and vesicular, but without râle; on the right side, posteriorly and inferiorly, there was a dull sound, to the extent of four or five fingers' breadth: over that portion the respiration was feeble or altogether wanting, and there was evident ægophony. Percussion yielded a clear sound over the rest of the back and sides, respiration was vesicular and somewhat feeble everywhere, but no râle or bronchophony could be heard. The respiratory murmur was almost completely obscured, at the infra-spinal fossa, by the rasping sound, which was heard more distinctly there than at any other part of the back.

The tongue was clean and moist, but of a slightly violet colour; deglutition easy; bowels slow.

The patient was regularly examined twice every day, from the date of her admission till death, but not *the slightest variation* in the signs furnished by auscultation could ever be detected.

On the evening of the 28th there was great uneasiness and anxiety; the face and neck were much in the same condition as in the morning; but the extremities were somewhat larger. Pulse small, regular, 104, to 112.

29th. Had some broken sleep; less uneasiness; suffers greatly from distention and rushing noise through the head. Was bled from the right arm; the blood flowed in a very small stream, and was of a dark colour. It afforded no relief,—not even momentary.

At the morning visit on the 30th, she was found to have been in a comatose state for some hours, but with no tracheal râle; the superior extremities were still large, cold, and violet coloured, as well as the face and neck; the veins of the forehead and temples were more apparent than on the previous evening; urine and stools were passed involuntarily; the pulse was imperceptible at the wrist. A bleeding was ordered immediately, and as the blood only flowed in drops from the arm, one of the frontal veins was opened, from which the blood flowed abundantly in an incomplete jet, but with well marked jerks, synchronous with the pulse; from the very first the blood was of a clear red colour, and exhibited a strong contrast to the dark colour of that which oozed from the opening in the arm. Immediately afterwards the face became less tense, and diminished in size, and a rosy tint replaced the violet colour of the cheeks; the coma was also less profound; the patient, however, never recovered her consciousness, and died at two o'clock.

Dissection Forty-three Hours after Death.

External appearance. General but slight stiffening; no traces of decomposition; superior extremities as during life; face considerably less swollen; the cheeks still retained the rosy tint they had acquired a short time before death; veins of forehead sunk; no traces of infiltration in the lower extremities.

Head.—Scalp of natural thickness, contained little blood; a small quantity of dark fluid blood was found in the sinus of the *dura mater*, which, as well as the arachnoid and pia mater, were healthy. The latter was thin and pale, its vessels slightly injected. The *convolutions* of the brain were firm, rather small, and of a pale grey colour; internally the two substances of the *brain* were every where healthy, *very pale* in colour, and without red points; there was a slight but uniform yellow tint, over the whole white substance. About a table-spoonful of clear colourless serum was found in each of the lateral ventricles; the septum was entire, and the tela and plexus choroides of a pale colour. The *cerebellum and medulla oblongata* were healthy and free from *sanguineous congestion*. A small portion in the centre of one of the branches of the arbor vitæ, of the right side was found softened, and of a deep yellow colour.

Spine not opened.

Chest.—In the *pericardium* there was found about an ounce of limpid citrine-coloured serum. The heart was large, but the increase in volume being equal throughout its various parts, it retained its natural form; its tissue was red and firm, and the only part of its surface covered with a thin layer of fat was the right ventricle. On measuring it, it was discovered that there was not only considerable increase in the size of its four cavities, but that the latter were also hypertrophied.[1] The hypertrophy was more marked in the ventricles than au-

[1] Ventricles exteriorly.
- Height anteriorly, from the origin of the aorta to the apex, 0.115
- Height posteriorly, from the transverse sulcus to the apex, 0.095
- Circumference of the ventricles at their base, . . 0.325

Left ventricle.
- Maximum thickness of the parietes at 3 cent. from the base, 0.019
- Internal circumference at the base, ... 0.135
- Height of the cavity from the free edge of the aortic valves to the apex. 0.085

ricles; in the *right* ventricle it affected more especially the columnæ carneæ; in the *left* the parietes properly so called. The two *auriculo-ventricular* orifices, as also those of the aorta and pulmonary artery, were perfectly healthy, but somewhat large. All the valves, without exception, were sufficient, thin, transparent, and pliable. The ductus arteriosus, and Eustachian valve were found closed, and the orifices of the pulmonary veins, and the vena cava perfectly free. The lining membrane of the ventricles was thin, transparent, and smooth, in the auricles it was white and opaque, and somewhat thickened. There was found in the latter a considerable quantity of blood, both in a fluid state, and in the shape of inconsistent clots which did not adhere; the left ventricle was completely empty.

The coronary arteries and veins were healthy, and nearly of the natural size. A thin black clot was found in the pulmonary artery, which was very slightly enlarged, its circumference being 0m. 072.

The arch of the aorta, from its origin to the giving off of the left subclavian, was considerably dilated, it had a shrunk uneven appearance on its convex edge, where an aneurism was discovered, which we shall immediately describe. On examining it interiorly it was found to be nearly empty, and of a yellow colour; its aspect was remarkable for its inequality, owing to the existence of numerous superficial depressions which were separated from each other by small crusts of a yellow colour, and by no means prominent; five or six large, but superficial depressions were also discovered, which corresponded to the inequalities observed externally, the parietes of the artery in the centre of these were thin, nearly transparent, and only of the thickness of two-thirds of a millimetre. At this portion the middle coat was also thin; in the other parts of the arch it was likewise thin, the external coats alone remaining, but the thickness of the parietes was variable, from the deposition of a yellow friable matter between the two internal coats. Two osseous plates were also discovered. Its interior below the left subclavian presented nothing remarkable, with the exception of some spots and slightly projecting yellow plates, they decreased in number towards the bifurcation.

The innominata, subclavian, and common carotid arteries of both sides were of the natural size, and the parietes healthy. The aneurismal tumour, of the shape and size of a hen's egg, was situate on the convex edge of the ascending portion of the arch of the aorta, below the arteria innominata, and consequently anterior to its origin. It was attached to the aorta by a species of neck very slightly contracted, and having its seat at one side of the tumour; it measured 55 millim. in its largest diameter, the vertical, and 40 millim. only in all other directions. Covered in part by a fold of the right mediastinum, it projected into the right pleura, and depressed the superior lobe of the lung without adhering to it. It was separated anteriorly from the superior edge of the sternum, and the cartilages of the second and third ribs on the right side, and by a thin layer of yellowish adipose tissue. Posteriorly it adhered closely to the vena cava descendens. Lastly, the trunk of the left subclavian vein passed over its superior extremity, and separated it from the arteria innominata. The trachea, the right bronchus, and the pneumogastric nerve, were at some distance from the tumour; the right phrenic nerve adhered closely to its external surface, and passed over it, but was in no way altered. The internal surface of the sac was smooth, of a rose colour superiorly, and of a deep red inferiorly, apparently by the result of imbibition. There was found in it but a small quantity of blood, either fluid, or in the shape of inconsistent non-fibrinous clots. The sac had

Right ventricle,	Maximum thickness at 3 cent. from the base,		0.004[1]
	Internal circumference at the base,		0.182
Septum.	Maximum thickness of the middle portion,		0.020
Circumference of the Orifices.	Arterial.	aorta on a level with the free edge of the valves,	0.085
		pulmonic, ditto ditto	0.072
	Auriculo-ventricular.	left on a level with the fixed edge of the valve,	0.100
		right ditto ditto	0.131

[1] Exclusive of the columnæ carneæ.

two openings,—the one very large, scarcely less than the largest circumference of the sac itself, communicated with the aorta near the origin of the innominata; it was of an irregular oval shape, and round its edge there was a smooth pliable fold, very much resembling the cutaneous fold of the helix. The second opening was situate towards the upper part of the posterior portion of the sac, and perforated the thin pliable septum formed by the adhesion of the walls of the sac with those of the vena cava superior. The perforation opened into the vein, a little below the junction of the venæ innominatæ; it was gaping, and of an irregular lozenge shape; its edge was surrounded with a very fine lace-work of small rose-coloured projections; its axis lay from above downwards. No erosion or change of colour could be discovered, either in the vein or in the sac, in the neighbourhood of the perforation. The parietes of the sac were composed of the internal membrane, which adhered closely to a thin pliable layer of condensed cellular tissue; more anteriorly and outwardly they were strengthened by a prolongation from the fibrous portion of the pericardium and the mediastinal pleura, which were separated by a thin layer of fat. The middle coat of the aorta terminated abruptly at the neck of the sac; but it was only after minute dissection that it was ascertained that the internal membrane of the sac was not actually, but apparently, a continuation of that of the aorta.

The vena cava superior contained merely a black clot of little consistence, and not adhering. At the origin of the vena azygos its diameter was 55 millim. whereas, in the neighbourhood of the perforation, it was only 26 millim.; its internal surface was every where smooth and pale. The trunk of the vena innominata, the subclavian, and internal jugular vein of the right side, were all much dilated, and exhibited a slight degree of thickening, which was rendered more obvious on comparing them with those of the opposite side, which did not deviate from the natural state. The dilated veins, with the exception of the innominata, were smooth and pale internally; the internal surface of the latter appeared as if scattered over with brilliant and transparent grains of fine sand, which adhered to it; its colour was natural.

The deep and superficial veins of the superior extremities were natural. In the vena cava inferior there was found a considerable quantity of black fluid blood. It was otherwise healthy, as well as the veins of the inferior extremities.

Respiratory Organs.—Nearly a pound of limpid citrine-coloured serum was found in the right pleura, and about half as much in the left. The lungs were free from adhesions, anteriorly pliable, and of a greyish colour, posteriorly infiltrated with a limpid serum, scarcely sanguinolent, and which flowed freely when the substance was cut into. There was neither sanguineous effusion, tubercles, nor pneumonia.

Abdomen.—Some clear serum was found in the cavity of the peritoneum. The stomach was large; its mucous membrane was smooth, thin, and reddish; it was somewhat soft near the pylorus, more so at the middle portions, and towards the great cul de sac it had degenerated into a kind of pulp. The liver was large, and its tissue soft and congested. Gall-bladder filled with brown thick bile.

In conclusion, from what was observed in his own case, as well as in those of Mr Thurnam, the author conceives that the principal circumstances denoting a varicose communication between the aorta and vena cava superior, are the following:

1*st*, Considerable œdema, exclusively confined to the superior extremities, neck, and face, occurring suddenly, and accompanied with an intense violet colour of the integuments, numbness and decrease of temperature. These latter symptoms are not dependent on the mixture of the two kinds of blood, but are to be regarded as the result of venous stagnation, and one of them, the violet colour, is not without some degree of value in a diagnostic point of view.

2*dly*, A well-marked blowing sound, having its maximum of intensity at the superior part of the right side of the sternum; in one of the cases, instead of this, there was a noisy murmur, with vibrating thrill; in another, the thrill was wanting, and the anormal sound was very much prolonged, but not continuous; the latter characteristic appeared owing to loss of elasticity in the parietes of the aorta.

3dly, In one of the patients, there was considerable reflux, synchronous with the pulse into the large veins of the neck, accompanied with an intense blowing sound and marked thrill. It was only observed on the right side, and this was afterwards explained by a peculiar disposition of the varicose opening, which could not have been foreseen; the hypertrophy of the large veins in which it was manifest, appeared to be the result of the distention they had undergone.

4thly, In the head, a continued and painful noise, vertige, feeling of confusion, slight delirium, and coma in the last stage. The head was examined in one of the patients only, and contrary to all expectation, no appreciable trace of sanguineous congestion was found.

5thly, In two of the patients, notwithstanding there was in one of them effusion into both pleuræ, the dyspnœa was always moderate; there was also slight hemorrhage from various passages.

6thly, Sudden and simultaneous appearance of nearly all the symptoms, which rapidly acquire their maximum of intensity. No relief from bleeding in one case,—death ensuing in from eleven days to two months after the occurrence of the perforation. —*Archives Générales*, Sept. 1845.

FUNCTION OF THE PAPILLARY MUSCLES OF THE HEART. BY DR SKODA.

Dr Skoda, in a note to his original and excellent work on auscultation and percussion, (Vienna, 1839,) whence the following paper is drawn, remarks—"A view similar to mine, respecting the function of the papillary muscles, has been already published by Professor Weber, (*Hildebrand's Anatomy*, vol. iii. p. 137. Brunswick, 1831.) Of this, however, I became only lately aware; and as I had met with no attempt to explain their use in any physiological work, I published my view in the *Austrian Medical Journal*, vol. xiii. art. 2, supposing that to have been its first appearance in print."

"Laennec," says Skoda, "conceived the connection between the papillary muscles and the valves to be of such a nature, that the contraction of the former must open the latter. This mistaken opinion, consequently, led to the erroneous conclusion, that the papillary fibres did not contract simultaneously with the other fibres of the ventricles, but during the ventricular diastole, in order by opening the valves to furnish a passage for the blood in the ventricles. Bouillaud, on the other hand, thinks it quite evident that the valves are closed by these muscles.

No degree of strength, by which the papillary muscles, and, consequently, the tendinous cords arising from them, can be drawn in the direction in which they lie in the heart, will either close the valves or diminish the size of their openings. Hence their contraction cannot close the valves. It has also not been observed that the blood passes with increased difficulty from the auricles into the ventricles, in cases where these muscles are found to be flaccid. The opinions of Laennec and Bouillaud respecting their functions are both erroneous; and as the valves cannot be closed by the contraction of the papillary muscles, there remains only one way in which they can, viz. by the pressure of the blood against them. The cords passing from the muscles to the valves are evidently for the purpose of steadying, and preventing the passage of the latter backwards; for were the free edges of the mitral and tricuspid valves not held by the tendinous cord, the valves must necessarily be driven, during the systole of the ventricles, by the stream of blood, partly into the auricles, and partly against the mouths of the arteries, so as completely to prevent their closing.

Of such importance to the functions of the valves is the peculiar disposition of the cords upon them, that were this otherwise, the regurgitation of the blood into the auricles, during the systole of the ventricles, could not be prevented. Notwithstanding this, an exact description of this distribution of the cords in the mitral and tricuspid valves is nowhere to be found; and even Bouillaud, who has made the heart so much his study, does not seem to have appreciated this distribution, or known its object.

Several strong cords run from each papillary muscle, to be inserted into the ventricular surface of the valve, from its centre to the angle which it forms with

the side of the ventricle. From about the middle of these cords, and from the papillary muscles, there arises a set of weaker ones, which are inserted nearer the free edge of the valve. These again furnish a fixed point for others still more slender, which are inserted nearer to, or into the free edge of the valve. To the auricular surface of the valve there are no cords attached.

If the papillary muscles be drawn upon in the direction in which they lie in the heart, the stronger cords which arise directly from them will alone be made tense; the weaker ones, which arise from the stronger, and are inserted nearer to, or into the free edge of the valve, remain flaccid, even when the greatest force is used, consequently the free edge of the valve can never be rendered tense by drawing on the papillary muscles; that portion which lies between their junction with the ventricular wall, and the point into which the cords arising from the papillary muscles are inserted, will alone be expanded. The rest of the valve, viz. the portion between the free edge and the centre, will remain flaccid.

If pressure in the direction of the auricle be made on any point in this flaccid part of one of the mitral or tricuspid valves, so that the cords inserted into it shall be rendered tense, a number of pouches will be observed in the part; and if the pressure be applied to the whole of the valves, the surface facing the auricle will not be found even, but composed of pouches, which begin at the free edge of the valve, and extend to its centre, or even beyond; this peculiarity of the surface evidently depends on the manner in which the tendinous cords are distributed.

These pouches represent small crescentic valves, a large number of which form the mitral and tricuspid valves, which are held in the proper direction by the tendinous cords. If the flaccid part of one of the valves be blown in the direction of the auricle, it becomes expanded like a sail, and the pouches over the whole circumference of the free edges are seen at once. The same may be observed by pouring water against the surface of the valve.

When the blood is pressed backwards towards the auricles during the systole of the ventricles, it is necessarily caught in the small semilunar pouches of the mitral and tricuspid valves, and forces the flaccid portions of these valves as far in the direction of the auricles as the length of the tendinous cords will allow. The blood, by thus expanding the valves, shuts the way into the auricles against itself, that is, as long as the valves are held by the tendinous cords in such a direction, as, when expanded, to completely close the passage. Hence, the tendinous cords of the valves would not answer their end, were they attached indifferently to any part of the ventricular walls, or were they not of a particular length.

The width of the ventricles is greater at the commencement of their systole than at its termination, and the points of attachment of the papillary muscles in the walls of the heart approach in proportion as the ventricles contract nearer to the fixed points of the mitral and tricuspid valves. If the tendinous cords to effect the closing of the valves require to be of a certain length, the object of the papillary muscles is very evident.

Supposing them to arise immediately from the walls of the heart, and to be of exactly the proper length at the commencement of the ventricular systole, they must become too long during its progress. If, on the other hand, they were only long enough to hold the valves in a proper direction at the end of the systole, they must prevent the diastole of the ventricles. As a change in the length of the tendinous cord is impossible, the object of their connection with muscles, viz. by their shortening and lengthening, to keep the valves constantly in the proper position, is obvious. In proportion as the origins of the papillary muscles approach the fixed points during the ventricular systole, these muscles become shortened, and the tendinous cords arising from them would, provided the blood did not press against them, remain in the same state of tenseness in which they were at the beginning of the ventricular systole, and would also retain the same degree during the diastole, because the papillary muscles lengthen as the walls of the heart recede from each other.

The correctness of the above view is further confirmed by the circumstance of that portion of the tricuspid valve, which is attached to the septum, not re-

ceiving its cords from papillary muscles, but directly from the wall of the cavity. The points of attachment of those cords on the septum, approach the fixed point very little, if at all, during the systole of the ventricles, and recede as little during the diastole, a tendinous cord is consequently here quite sufficient to fix the valve, no change in its length being required.

According to all that has been said, the action of the mitral and tricuspid valves may be described as follows:—During the contraction of the ventricle, the passage of the valves into the auricles, and against the mouths of the arteries, is prevented by the shortening of the papillary muscles. The papillary muscles, and the cords arising from them, at the same time approach each other, the surface of the valves where the cords are inserted becomes wrinkled, and the auriculo-ventricular passages are made narrower.

The remaining portion of the passages is closed by that portion of the valve which is not drawn upon by the papillary muscles. This portion of the valve is blown up like a sail by the pressure of the blood, the single points in the free edges of the valves come alternately in contact with those of the opposite valves, and partly from the support which they yield each other, but principally from that derived from the cords, their free edges are prevented from being turned back. As the delicate cords which go to the free edges of the valves, arise from the stronger ones, which have their origin in the papillary muscles, the larger cords are drawn closer together, and in a curved direction, by the smaller ones, when the latter become tightened by the pressure of the blood on the free edges of the valves.

With the ventricular diastole the papillary muscles lengthen, and separate from each other. Were the valves not held in a proper direction by the tendinous cords, they would be driven by the blood in its passages out of the auricles against the sides of the ventricles, and partly across the mouths of the arteries. The tendinous cords arising from the papillary muscles do not relax during the diastole, for if they did, the valves could not in the beginning of the systole possess the direction required for their immediate closing, a large quantity of blood would every time regurgitate from the ventricles into the auricles, and the valves would frequently require to be drawn into the proper direction for opposing the regurgitation of the blood, by the contraction of the papillary muscles.

In order that the mitral and tricuspid valves may perfectly perform their function, their free edges must exhibit the above-mentioned pouches, and the tendinous cords and papillary muscles must possess a length in proportion to the capacity of the ventricles. If the structure of the valves be other than normal, they are either not in condition to prevent the return of the blood into the auricles during the ventricular systole, or they are insufficient, or they offer hindrances to the passage of the blood from the auricles into the ventricles during the systole of the latter.

Insufficiency takes place in thickening and shortening of the free edges of the valves, when the free edges grow together with the tendinous cords, which are inserted into the middles of the valves, by which the pouches become obliterated in shortening, lengthening, or tearing of the tendinous cords, in excrescences, deposition of coagulated blood, &c.; at the edges of the valves, and in growing together of the valves with the sides of the ventricles, the blood is hindered in its passage into the ventricles by considerable excrescences, coagula of blood, chalky concretions, &c., on the auricular surfaces of the valves, or by a growing together of the tendinous cords, or of these with the free edges of the valves, which prevents a separation of the valves from each other.

Action of the semilunar valves.—The semilunar valves in the aorta and pulmonary artery, are pressed during the systole of the ventricles, by the blood which is forced into the arteries against the sides of the latter, and during the diastole they are expanded by the return of the blood which is pressed by the elasticity of the arteries as well against the ventricles as in every other direction.

From excrescences, chalky concretions, &c., which develope themselves on the valves of the aorta, or from a growing of those valves together, they sometimes become immoveable, do not admit of being pressed against the sides of the

artery, and prevent the passage of the blood into it. If the free edges of these valves be shortened, turned back, or covered with excrescences, or if the valves be partly separated from their function with the mouth of the artery, or have apertures in them, they are no longer in condition to prevent the regurgitation of the blood, and it returns during the diastole of the ventricles, from the aorta into the left ventricle.

It is very easy to determine in the dead body whether the valves of the aorta had perfectly closed during life or not. If in the normal condition of the valves, water be poured into the aorta, it will not pass into the left ventricle, but will remain in the artery, because the valves close and hinder it, but if the valves be insufficient, it will sink into the ventricle.

This test cannot be applied in the dead body to the mitral and tricuspid valves. If a ventricle be filled with water, the mouths of the arteries closed, and pressure made on the ventricle, the mitral or tricuspid valve will be expanded, but the passage of the water will not be completely hindered, even although the valve be perfectly normal. The reason of this is obviously that the contraction of the ventricles on all sides, cannot be imitated. Thence it can only be determined whether these valves had closed during life or not, by examination of their form, of the tendinous cords, and of the papillary muscles, and by remarking the presence or absence of those changes, which insufficiency of the valves usually produces in the auricles.—*British American Journal*, No. 3.

Function of the Muscular Pillars of the Auriculo-Ventricular Valves of the Heart. By Dr Spittal, Edinburgh.

Views similar to those contained in the above extract have been published by Dr Spittal long ago, in refutation of Dr David Williams' views of the second sound of the heart, which he (Dr W.) attributed chiefly to theflapping of the auriculo-ventricular valves against the walls of the ventricles at the moment of the dilatation of the latter; and at which time Dr W. argued, the papillary muscles, from having been much extended, suddenly contracted, and forcibly opened the valves. (*Edinburgh Medical and Surgical Journal*, 1829.) "There is no reason to suppose," remarks Dr S. "that the columnæ carneæ become lengthened during the contraction of the ventricles, or that they act separately from the other fibres of the heart; on the contrary, from the latest observations of anatomists, these appear to be merely continuations of the external fibres of the heart, which we are sure contract during the systole of the ventricles; consequently there is every reason to suppose, that the columnæ also contract at the same time. The contraction of the muscular pillars of the valves—which are the only parts of the columnæ of importance in this question—in consequence of these being much shorter than the external fibres, will be much less than that of the latter, and probably not sufficient to neutralize the effect produced by them, which is in part that of drawing the heart in a mass towards its base. The pillars of the valves, then, forming a part of the general mass, will, during the contraction of the external and other fibres, be approximated to the base of the organ. By their own contraction, however, they will, at the same time, be drawn in an opposite direction; but as their contraction, compared with that of the more external fibres, will be much less, so, after all, the pillars of the valves may be actually brought nearer to the base of the heart; not lengthened, according to Dr Williams, but really shortened, and in a state of contraction, necessary for preventing the valves from being pushed into the auricles, during the contraction of the ventricles." . . . . "Dr Williams, as already mentioned, is of opinion, that the columnæ carneæ, by their contraction, open the valves. The reverse, and more correct, is the opinion of most physiologists, namely, that they, by their contraction, close the valves. We are not sure, however, that this is quite the correct explanation, when the structure of the pillars of the valves is taken into account. Each pillar is found to divide generally into two diverging papillæ; by the con-

traction of which these will be brought close to each other, being united at the base, and the contraction taking place in a line from the apex to the base of junction; consequently, the valves, through the medium of the cordæ tendineæ, will be approximated; but it does not appear that by this they will be entirely closed, for the columnar extremities of the cordæ tendineæ cannot be brought close to each other, in consequence of the lateral rounded projection of the pillars of the valves themselves, from which it is probable that these valves never can be completely closed by this cause; and we believe that the pressure of the blood, which acts alone upon the sigmoid valves, also performs a similar function to a certain extent, in the closing of the mitral and tricuspid valves; and the comparatively loose and floating edges of these valves, between the attachments of the cordæ, may be the parts principally acted upon." Pp. 113–116.—*Spittal on Auscultation*, Edinburgh, 1830.

SURGERY.

Polypi of the Female Urethra. By M. H. Bavoux.

Little attention has been paid to the subject of polypi in the female urethra; many individual cases of this affection are no doubt to be found scattered through the various journals, but nowhere have they been collected together as a whole, so as to present anything like a complete history of the disease. It has been the object of the author to supply this desideratum. His paper was suggested by some cases observed at the venereal hospital of Strasbourg.

The urethra in the female is a canal in which both a mucous and a vascular structure are found, and it is this peculiarity which gives to the polypi occurring in it, an individual character. They possess, at the same time, a mucous and a vascular structure, and these two characteristic elements are never observed increasing independently of each other. On the contrary, these small bodies are constantly seen to originate from hypertrophy of the mucous membrane, into which numerous vessels, from the subjacent erectile tissue are prolonged, so that of all the species of polypi described by authors, those which, in a descriptive point of view, approach nearest to these tumours of the urethra are, without doubt, the fungoid species; with this distinction, however, that these polypi rarely, and as it were exceptionally, degenerate.

Polypi of the urethra very rarely occur before the age of puberty, and appear to have for their cause a too great stimulus of the genital organs. Thus the affection is more frequently met with in prostitutes than in other females. Schutzemberger has seen them occur after blenorrhagia; but, of course, frequent coitus or masturbation may act in the same manner.

The polypi sometimes project beyond the orifice of the urethra, and lie between the large labia; they are sometimes retained within the interior of the canal; and hence, the division into *external* and *internal* polypi.

External Polypi are of much more frequent occurrence than the latter, and generally originate from the posterior wall of the canal, near the meatus urinarius, a circumstance which did not escape the observation of Boyer. At other times, however, they originate higher up, and thus remain concealed for a longer or shorter period, till by their increase in size, or the elongation of their pedicle, they at length protrude. Their size is seldom considerable; it varies from that of a currant to that of a large cherry, and rarely exceeds that of the latter. The pedicle is in general large as compared with the size of the polypus, and decreases in size as the latter enlarges. Their shape at the commencement is very generally that of a cone; at a later period, from the increase of growth being irregular at various points, they assume a lobulated appearance. Their surface is most generally of a bright red colour; at other times, it is somewhat pale, and at others of a deep red: sometimes they are entirely covered

with a thin smooth epithelium; at others, this is wanting, and then they exhibit a villous fungoid aspect, similar to that of a wound in a state of suppuration. In this latter case, the tumour bleeds more easily when touched, is more painful, and smarts from contact with the urine. In general, polypi of the urethra cause no pain; in some cases, however, a sensation of burning, or even of extreme pain, is produced after walking, coitus, or the passage of the urine; the pain may extend to the fundus of the bladder, rectum, or uterus, so as to lead to a suspicion of disease in the latter. They are sometimes the cause of hematuria, and very often of slight hemorrhage after coitus. In some circumstances there is over-excitement of the genital organs; but there is rarely any difficulty in passing urine, and still more rarely incontinence of urine, even in those cases where the urethra is so much dilated as to permit the entrance of the finger. At first, their growth is pretty rapid, but after attaining the size of a bean or a cherry, it becomes slower, or they remain altogether stationary. In one case in which the author saw the tumour developed, as it were, under his eyes, its commencement was marked by the rise of groups of vascular granulations on the lower wall of the meatus; these granulations soon became united at their base; the interstices which existed between them were filled up, and thus a polypus of the size of a pea was formed, with a tolerably large pedicle; it was excised by means of a pair of scissors. In general, polypi of the urethra are not a serious affection, and may continue for an indefinite period. Spalderer, according to M. Gerdy, saw one evacuated with the urine. M Tanchou, on the other hand, regards it as a disease very difficult to be rooted out in adult females; but it is probable, that the cases witnessed by M. T. were not cases of true polypus of the urethra.

Internal polypi seldom occasion any well-marked symptom which may lead to the suspicion of their existence; after attaining a certain size they make their appearance externally, and then come under the description of those we have just given.

The author has traced, with great care, the differential diagnosis between polypus of the urethra, and some other affections for which it may be mistaken. The absence of accurate diagnosis is of little importance, as far as regards distinguishing it from hernia or hypertrophy, either of the mucous membrane or its folds; but the case is very different as regards introversion of the fundus of the bladder, or venereal vegetations. Introversion of the fundus of the bladder is characterised by the presence of a soft reducible tumour, of the size of a nut, and of a bright red colour; it is accompanied with severe pain and dysuria, which disappear after the introduction of a sound into the urethra. Polypi, on the other hand, are soft, indolent, irreducible tumours, which occasion no inconvenience in the excretion of the urine, and offer no obstacle to the introduction of the catheter into the urethra. An error in diagnosis between these two affections is easily committed, and if not avoided, would lead to danger; more especially if excision of the tumour were attempted; but an error scarcely less unfortunate, is that of mistaking polypi for venereal vegetations, not only because it throws suspicion on an otherwise innocent person, but also as subjecting her to a course of general treatment not altogether void of danger. An attentive examination of the tumour ought to remove all doubt. How indeed can a solitary, pediculated tumour, of a redder colour than the membrane, but having its consistence, bleeding easily, with a regular or a lobulated surface, of a smooth or shreddy character, but always soft, be confounded with those small, hard, unequal projections of the size of a pin's head or a hemp seed, or with red granular excrescences, or, finally, with those small flattened prolongations of the mucous membrane of the vulva, with irregular edges?

Treatment.—The author has never seen any good result from topical applications, (acetate of lead for instance), or repeated cauterizations. Pressure, by means of conical bougies introduced into the urethra, as advised by Madame Boivin, has likewise appeared to him of little benefit. Removal of the tumour, either by scissors or ligature, is the only treatment he has found to be efficacious. In a case still under treatment, the tumour separated four days after the application of the ligature. Excision is more expeditious and less painful.

It may be performed with a pair of curved scissors, the tumour having been previously seized with a pair of forceps, or a thread passed through its pedicle, so as to drag it outside the canal. In cases of internal polypus, the canal must be previously dilated, or an incision made through its walls, as performed by Varner, ere its excision can be attempted. As a matter of prudence, the point of attachment of the pedicle ought to be cauterized, in order to prevent any tendency to reproduction.— *Thèses de Strasburg*, No. 129, as quoted in *Archives Générales*, Sept. 1845.

Case of Tumour of the Diploe, in consequence of a Blow; Death after Ligature of the Common Carotid Artery. By M. Louis Bos.

A girl, aged 17, of good constitution, twenty months before her admission into the Hôtel Dieu of Lyons, received a blow with a stick on the anterior and lateral side of the head. Six or seven days afterwards, when combing her hair, she experienced pain in the part which had been struck. The pain continued to increase, and a slight, ill-defined swelling made its appearance, which augmented rapidly in size. By lotions and other treatment, its progress was for some time checked, and the pain was relieved; the symptoms, however, soon assumed their previous intensity; the patient could no longer pursue her avocation, and entered the hospital on 3d August 1844. On examination, a large tumour was discovered occupying the anterior and lateral portion of the cranium; it invaded the orbital, frontal, and right temporal regions. Four projections were discovered on its surface, one of which was anterior and orbital, the other lateral and temporal; the third superior and frontal; and the fourth, the smallest, was situate posteriorly over a portion corresponding to the fronto-parietal suture. The horizontal and vertical diameter of the tumour was 17 centimetres, and 15 when measured obliquely, from above downwards, from before backwards, and from within outwards. There was no discoloration of the skin. When handled, there was much less resistance to the touch, than would have been experienced from an exostosis or a schirrus, and considerably more than if it had been owing to a cyst. The sensation of resistance was unequal over various parts of the tumour; thus, in those portions corresponding to the above-mentioned projections, an obscure sense of fluctuation was perceived, and between the compressible portions, and separating them, species of bony bridges were evident. From this disposition of the parts, it appeared as if there were cavities having an oblique direction and unequal edges. The bones appeared to be everywhere thin; in some points, a species of crepitation was perceived; in others, a sensation as of handling dry parchment. Pulsations synchronous with those of the pulse, but of a peculiar nature, were perceived in those points where the bones were thin; thus, at the superior part of the tumour, there was merely a slight elevation, evidently communicated to it by the expansive movement of the brain. The pulsations over the temporal region were only observed in the course of the temporal artery, which appeared somewhat larger than usual; pressure over the tumour produced no diminution in its size, very little pain, and no cerebral symptoms. The right superior eyelid was enormously distended, and of a brownish colour; vision on that side was entirely lost, the globe of the eye being so much protruded forwards and inwards, that it rested on the side of the nose, which it completely covered. The cornea was dry, whitish, and rugous, and sunk in the conjunctiva, which was swollen, injected, lustrous, and of a brilliant red. The inferior eyelid was completely covered by the mucous membrane, which projected so far beyond it as to reach the upper lip. The external angle of the orbit was pushed outwards and forwards in such a way as to efface the angle formed by the union of the temple and orbit. From the rapid progress the tumour was making, it was evident that something must be done; and the question was, ought the tumour itself to be directly attacked, or ought an endeavour to be made to check its progress by a method which should withdraw from it the elements of its nutrition? M. Petrequin having resolved on the latter, the common carotid was tied on the 21st October. The operation was simple, and its immediate effects highly

satisfactory; the patient experienced little pain, became somewhat pale, and complained of coldness of the lower extremities; no bad symptom, properly speaking, ensued. On the 28th the wound had a good appearance, and the suppuration from it was laudable; the pain in the tumour had ceased, and its size had considerably decreased: the mucous membrane of the eye was also less distended, and had assumed a wrinkled appearance, and the ball itself was less prominent. Two days afterwards, in consequence of mental distress, the symptoms became aggravated. The wound assumed an unhealthy aspect, speech became difficult, and a new series of symptoms presented themselves; the tumour became the seat of violent inflammation, accompanied with pain, tension, and lividity; there were at the same time marked symptoms of general constitutional disturbance. In the course of a few days there was distinct fluctuation in the anterior part of the tumour below the eyelid, and there escaped from it a large quantity of pus, through an opening which had occurred naturally, and also through a small one made with a bistoury. This evacuation of pus brought no relief; shiverings ensued, with bilious vomiting, colliquative diarrhœa, and slow fever. On the 28th November there was copious hemorrhage from the wound, which reduced the patient to the last degree. Death took place on 6th December.

Dissection.—The head and tumour were considerably diminished. Immediately above the eye there was a large deep opening, at the bottom of which were seen matters in a state of putrefaction, fragments of bone, and projections under the skin. The latter was detached to a great extent, upwards and inwards from the root of the nose, and eye-brow of the opposite side, as far as the fronto-parietal suture; downwards and inwards the detachment was produced by a large collection of pus, which had dissected the soft parts as far as the posterior branch of the lower jaw. The bone was everywhere the seat of necrosis; the whole superior and anterior portion of the tumour was destroyed by suppuration; there remained only a few fibrous partitions; the brain was visible through an opening, of about a centimetre in diameter, at the lower and inner part; the tumour still retained its original form in the temporal fossa; its size was that of a large fist, and its only covering was the crotaphyte, (temporal muscle) which was pale, thin, and atrophied. The osseous substance had undergone decided absorption; the external table was reduced to the thickness of a sheet of writing paper; in some places it was wanting, and was replaced by a resisting fibrous membrane, distinct from the pericranium. The zygomatic arch was destroyed. The interior of the tumour was divided by fibrous partitions in various ways, and on these, in some points, arterial branches were seen ramifying: the spaces between them were filled with a fatty, or rather oily matter, which very much resembled the white of egg. The cavity of the orbit was the seat of many changes; one portion of its parietes was thrown outwards, another directly forwards; there was a mere vestige of the upper wall, which was so much pressed downwards as to lie nearly in the same line with the inferior edge of the orbit. All the constituent parts of the eye itself had undergone various changes. There was a large deposit of pus in the anterior portion of the left lobe of the brain, whilst in the right lobe there was a mere superficial suppuration. There was no depression in the brain corresponding to the seat of the tumour: it did not visibly project into the anterior, but the middle sulcus of the right side was twice as deep as that of the left. The dura mater was healthy, and adhered by its external surface to the periphery of the tumour, by means of membranous filaments. The common carotid was obliterated above and below the ligature; a large opening was discovered about a centimetre above the origin of the superior thyroid artery, by means of which the artery communicated with a large cavity filled with pus and coagulated blood, which extended towards the base of the cranium as far as the carotid canal. The pneumo-gastric and superior cervical ganglion lay bathed in the midst of this mass. The pus had also insinuated itself along the proper sheath of the artery, to the superior part of the thorax. All the other organs were healthy.—*Journal de la Société de Médecine Pratique de Montpellier*, as quoted in *Archives Générales*, September 1845.

SPERMATIC DISCHARGES. BY BENJAMIN PHILLIPS, F.R.S.

Of 109 cases, 84 were under 22 years of age; 97 admitted that they had practised masturbation to a greater or less extent, and they referred their present distress to that practice. Every one, however, stoutly asserted that the habit had been discontinued—by some for a few months, by others for years—but in many cases, I thought I saw reasons to doubt the correctness of this assertion. In two of the older cases, I am of opinion, that irritation within the rectum was the exciting cause; in two instances abuse of sexual intercourse; in one, probably in two, stricture of the urethra; in four, the irritation consequent upon congenital phymosis. In the remaining cases, I have no doubt that masturbation was practised, though it was strenuously denied.

In 38 cases, the patients were submitted to active treatment: caustic was applied upon the urethra. In 71 instances, no medical treatment seemed to be necessary, except for the purpose of exercising some moral influence over the patients, and to gain time. They were advised in many instances to use a mixture of the tinct. ferri sesqui-chloridi, and tinct. lyttæ. In cases where the patient was reasonable, I tried to convince him that it was unnecessary to employ any medical treatment.

Such is a statement of the general features of those 109 cases. I will now proceed to offer some remarks upon the ordinary characters presented in the cases which have come under my observation.

Of the patients under 20, a considerable majority deny that they have had sexual intercourse, but their minds have evidently dwelt much on sexual matters. They complain of occasional emissions during the night, of which they are usually conscious for the most part; they occur during lascivious dreams, and in most cases not oftener, on an average, than once in from four to seven days. In a great many cases, however, there is another symptom which they conceive to be much more serious—the escape of a drop or two of a viscid transparent fluid with the last drops of urine, either when simply emptying the bladder, or when at stool. This kind of loss very commonly produces severe mental depression, often amounting to absolute hypochondriacism. In most cases the patients' minds are alive to all the dreadful consequences of these symptoms, for they have usually devoured the contents of books written by the inventors of quack medicines for the cure of sexual debility, who gain a disgraceful livelihood by pandering to the fears and fancies of young lads who suffer from these affections; and in most cases no reasoning will convince the sufferer that his worst fears will not be realized. In these cases I have occasionally submitted them to treatment, more with the view to act upon their moral than their physical nature.

In this class of cases, the instances are few, in which, if the practice of masturbation be discontinued, and the mind can be directed to other objects, all inconvenience is not soon dissipated. The difficulty I have experienced is to make the patient think so.

The way in which I explain this kind of discharge, is as follows:—A large number of lads, soon after puberty, inflame their minds by reading lascivious books, from which they derive images of sexual pleasures. A great many are early taught the practice of masturbation. Under both circumstances, the gratification derived by contemplating the image, on the one hand, and the physical excitement on the other, keeps up a constant irritation. The testicles, instead of enjoying moderate rest, are incessantly stimulated by the dream at night, the mental or physical stimulus during the day; the secretion is constant, the seminal vesicles are distended, and unless the ejaculation takes place with sufficient frequency to relieve them, the fluid must escape by some other means; and the pressure upon them during the efforts at stool, or in making water squeezes out a certain quantity of the fluid by which they are distended, and it usually escapes with the last drop of urine. At one time I doubted whether this fluid were spermatic, it is usually so smooth, transparent, and homogeneous; but if it be examined under the microscope, spermatozoa can usually

be observed in it. To cure this symptom, all that is necessary is to keep the testicle quiet, by substituting new images for the prurient fancies which have occupied the mind, and to empty the vesicles occasionally by sexual intercourse: and for this class of cases I think marriage is the best cure. It is true, it is not easy generally to make the persons who thus suffer think so; they believe that their sexual power is destroyed, and that intercourse must be impossible—that their impotence is complete; but spite of such impressions, I have never hesitated in such a case to recommend marriage as a cure.

It is astonishing, in these cases, how powerful is the influence of the mind in destroying the virile power. I was consulted by a man upwards of 40 years of age, who was at the time apparently in the best health, but who for twenty years had scarcely had an erection during perfect consciousness, though the sexual organs were perfectly well developed and natural. His own account was, that there was no want of erection before 20. To some extent he had practised masturbation, and emissions during lascivious dreams were not unfrequent. At that time he read Sauvages, where he found a passage containing, as he conceived, a statement that discharges occurring as his did, lead to impotency: from that hour he has been practically impotent.

[Mr Phillips' experience in this disease appears to have been very extensive: and we quite agree with him in his conclusions. All the patients of this kind we have met with have been timid hypochondriacs,—the easy victims of the host of quacks who live by advertising obscenity. The disease having invariably yielded to simple means, we cannot join in the gloomy view which some writers take of it.]

FORENSIC MEDICINE.

Medico-Legal Reports.—No. II.—On Rape.

I. DEFINITION AND MEANING OF THE TERM.

Rape, in the present legal acceptation of the term, is the *carnal knowledge of a woman against her will.*

The term, however, strictly interpreted, implies forcible abduction, being merely a translation of the Latin word *raptus*, which in the Roman law signified *carrying away.* Indeed, in some of our own older law treatises, we find "*rapt*" and "*ravishment*" applied indiscriminately to the simple carrying away of the person, male or female.

The definition of rape, given in the Regiam Majestatem, is as follows:—"*Raptus est crimen quod aliqua mulier viro imponit quæ proponit se a viro vi compressam contra pacem Domini Regis.*" [*Lib.* 4, *cap.* 8] Though there is nothing in this description to suggest, that abduction is necessary to constitute the crime, such an idea became entertained by Scottish lawyers at a later period, tending greatly to obscure their writings on this subject; and, as happened in several instances, to perplex the courts, and defeat the ends of justice. Thus, in the reports of many trials, we find abduction libelled. When *Potts* was tried by the Circuit Court of Justiciary at Dumfries, in 1748, for a rape, Mr Miller, (afterwards Lord President,) argued that *stuprum violentum sine raptu*, —the having carnal connection with a woman forcibly and against her will, there being no *raptus* or abduction,—was not capital! Lords Milton and Minto, before whom the case was tried, very properly repelled the objection, and the prisoner was convicted, condemned, and executed. The particulars of this case sufficiently show, how much the rule attempted to be set up by the prisoner's counsel would militate against justice. The crime was committed in jail, by two prisoners, upon a married woman, when in bed with her husband, who was forcibly held by the one, till his wife was ravished by the other.

In the annotations upon the passage just quoted from the REGIAM MAJESTATEM, reference is made to the Norman law. We read,—"*Raptus, in jure Normanico, dicitur depucillement;*" but this limitation of the crime to the deflowering of virgins has not existed in our laws, though the term deflowering is always to be found along with others in the older indictments. In them, we generally find the words "the violent forcing, abusing the body, and deflowering:" afterwards, the terms employed were, "the ravishing and forcibly lying with," or the having "carnal dealing with a woman against her will." At present, the law both of Scotland and England, as interpreted by many decisions, considers carnal knowledge of a woman, without her will, as rape, be the violated individual, wife or maid, virtuous and of good repute, or a prostitute.

Some most important questions have arisen as to what constitutes carnal knowledge of a woman; and also as to the circumstances which render carnal knowledge, when proved, a rape in the eye of the law.

WHAT CONSTITUTES CARNAL KNOWLEDGE OF A FEMALE?—In connection with this question, we are called on to notice the following topics:—

1. *Proof of emission is not necessary.*
2. *Degree of penetration, which must be proved.*

Then, as regards THE CIRCUMSTANCES IN WHICH THE CARNAL KNOWLEDGE HAS TAKEN PLACE, we have to consider:

1. *Insensibility on the part of the woman from drugs or disease.*
2. *Legal inability to consent from other causes.*
3. *Age and character of the female.*
4. *The place and general circumstances in which the carnal knowledge is said to have taken place.*

II. WHAT CONSTITUTES CARNAL KNOWLEDGE OF A FEMALE?

1. *Proof of Emission is unnecessary.*—Till recently there was some doubt as to what was to be held as constituting carnal knowledge; by some it being maintained, that *emission*, as well as *penetration*, was necessary, to bring the offence within the range of capital punishment. By the Act 9 Geo. IV. c. 31, sect. 18, emission is declared not to be essential to rape. This new statute was very requisite; for Lord Coke held that emission was an essential part of the crime, and a similar opinion was more recently sanctioned by a majority of the Twelve Judges. A more reprehensible doctrine can hardly be imagined. For our own part, we would suspect the veracity of the woman who would swear to emission. No female, though accustomed to intercourse, if resisting, could be expected to be cognisant of this; and assuredly, no honest maiden could understand the question.

In Scotland the proof of emission never seems, by our best authorities, to have been deemed needful; and there is certainly no case in which opinions have been given, similar to those delivered by the English judges. Some doubt on the subject, however, prevailed; but this has fortunately been set at rest, by a decision given by the whole Justiciary Court in the case of *Archibald Robertson*. This very important case was tried by the Circuit Court of Justiciary, at Glasgow, in January 1836. It was certified to the High Court, for the decision of all the Judges, in consequence of the jury having returned the following special verdict:—"The jury unanimously find that the pannel had carnal connection as libelled, with Christian Wright, forcibly and against her will, by penetration of her private parts; but find that it is not proved, that actual emission followed penetration; and in respect of the pannel's former insanity and imbecility of mind, recommend him to mercy." Lords Mackenzie and Medwyn, the Judges who sat at Glasgow, certified this verdict to the High Court, "to consider whether any or what punishment should follow thereon;" and the question was fully and ably debated at Edinburgh, on the 16th February immediately following.

The counsel for the pannel argued thus:—"The libel contained no alternative charge of attempt: the question therefore arises, do the facts found proven, amount

to the crime of rape? He maintained that they did not; and that emission was a necessary part of that crime." The advocate-depute, Mr Handyside, in his reply, made the following remark, which, besides being excellent common sense, has been found to be equally good law.—" The definition," says he, " of rape, by Mr Hume, (vol. i. p. 301,) is the knowledge of a woman's person forcibly and against her will." What then constitutes knowledge of her person forcibly? Is it not the violent invasion of her person—interference with her will—such connection as ought to be voluntary on both sides, but which is forced on hers!" The Judges delivered their opinions at some length; and " found, that the verdict returned against the pannel establishes the crime of rape, as libelled against him."—1 *Swinton*, p. 93.

This decision has fixed the law to be the same in Scotland, that special statute has made it in England; and in none of our courts will the proof of emission be henceforth considered indispensable to establish a charge of rape.

It appears then, that both in England and Scotland, the proof of seminal emission is not necessary to establish the crime of rape.

The proof of seminal emission may, however, constitute an important circumstance in the chain of evidence; as it did, for example, in the case of *John Hamilton*, to be afterwards quoted.

2. *Degree of penetration which must be proved.*—The next question which suggests itself for consideration is,—To what extent is it necessary to prove penetration?

In England, it seems sufficient to prove, that there has been penetration—the extent of that penetration being immaterial. The decisions, however, upon this point are not harmonious. In the case of *Rex* v. *Russen*, (I. East, P. C. 438, 439,) penetration which had not ruptured the hymen was declared, in 1777, by Mr Justice Ashurst, to be sufficient evidence of carnal knowledge; but in 1832, Baron Gurney laid down the opposite doctrine, maintaining that there was no rape in law, unless this membrane had been ruptured, (*Rex* v. *Gammon*, 5 C. and P. 321.) A more preposterous and dangerous dogma was never delivered from the bench. On the one hand, the absence of the hymen does not proclaim that the female has had even any degree of sexual intercourse. It may have been, and indeed often is destroyed, by ulcerative action accompanying a catarrhal affection of the mucous membrane of the genital organs.[1] The first eruption of the menses, the introduction of foreign bodies through wantonness, as well as the accidental application of force in various ways, may also induce a similar state of the parts. On the other hand, so far from an unbroken hymen being a sure sign of virginity, numerous cases might be cited, where it remained entire up to the moment of parturition; and there are actually instances where it was not destroyed by delivery. We are inclined to hope, that by the light of such facts, the rule of Baron Gurney will be set aside in future decisions.

The question of penetration has specially engaged the attention of the Court of Justiciary—the supreme criminal tribunal of Scotland. Lord Moncrieff, in delivering his opinion in the case of *Robertson* already cited, says, " In the cases which I have tried, I have generally told the jury that there was no necessity to have proof of more, than that the man accomplished the dishonour of the woman by violence. I suppose, therefore, that the verdict here means some-

[1] These purulent discharges frequently occur in scrofulous children, from very slight causes; and sometimes also in others of less irritable temperament, when suffering from teething, intestinal worms, and after certain articles of food or medicine. This has been stated by men of the best authority, such as Astley Cooper, Hamilton, and Underwood, and is familiar to all who have had experience in the diseases of children. Girls of from one to four or five years old (especially such as are tainted with scrofula,) are troubled with pain and itching in the genitals, proceeding commonly from intestinal irritation in connection with teething."—Dr CORMACK in " Observations on Gonorrhœa and Syphilis, with reference to Forensic Medicine and Therapeutics," MONTHLY JOURNAL, vol. for 1844, p. 761.

thing more than that emission was not specifically proved. But, even if the jury were of opinion that it was clearly established that there was no *emissio*, I think the crime is completed by full *penetratio*." Lord Moncrieff seems to say that full penetration is essential to the constitution of the complete crime of rape. But is the dishonour of the woman one whit less perfect, the crime against God and society in the least degree less heinous, because there has not been "full penetration"? If the penetration be not full, it is assuredly not from a want of criminality, but from a want of power in the man sufficiently to restrain the resistance offered, and an inability on his part to overcome certain physical obstructions.

In the case of *Macrae*, [MONTHLY JOURNAL, Feb. 1841, p. 138,] tried and convicted in Edinburgh on the 8th January 1841, by the High Court of Justiciary, it was contended by the prisoner's counsel, that the evidence of rape was incomplete; that, in the case of girls, where there was no evidence of *emission*, there must be proof of full and complete penetration; that the account of the girl was confused and unsatisfactory as to this point; that the injury described was probably caused accidentally by the finger; and that, even admitting that it was produced by the penis, there was no sufficient evidence to show that it had penetrated beyond the vulva into the canal of the vagina. Lord Meadowbank charged the jury to the effect, that the evidence of the prisoner's guilt was complete; that scientific and anatomical distinctions as to where the vagina commenced were worthless in a charge of rape; and that, by the law of Scotland, it was enough *if the woman's body were entered*. In such a case as this, where there was no evidence of emission, and where the girl was young, he did not seem to consider it necessary to show to what extent penetration of the parts had taken place—whether it had gone past the hymen, into what was anatomically called the hymen, or even as far only as to touch the hymen."

It is to be hoped that this enlightened view of this question will regulate the practice for the future, not only in the criminal courts of Scotland, but also in those of England. It would be truly deplorable were the ravishment of a maiden to pass with less punishment, because the ruffian had not succeeded in depriving her of what some ignorantly imagine to be the physical token of virginity. Upon the whole, then, we would say, that neither in England nor in Scotland will proof of "full" penetration be henceforth called for; but that it will be sufficient to show, that there has been, to some extent, an entry of the woman's body.

III. THE CIRCUMSTANCES IN WHICH THE CARNAL KNOWLEDGE HAS TAKEN PLACE.

1. *Insensibility on the part of the woman from drugs or disease.*—A woman accustomed to sexual intercourse may be violated during a state of inebriety, narcotism, coma, or profound sleep; and upon recovery, may either have no recollection or a very imperfect remembrance of what had taken place. If we except profound sleep, virgins may also be ravished when in these conditions, without any consciousness of what was being done. In them, however, local pain and bruising will probably remain to throw some light on the occurrence. Pregnancy may follow connection, though the woman be insensible during the act.

By a recent judgment in the case of *Regina* v. *Camplin*, of all the English Judges except Park, B. and Maule, J. it has been decided by a majority, that *if a man make a woman quite drunk, and then violate her, he is guilty of rape, though the jury find that he administered the liquor for the purpose of exciting her only, and not with the intention of rendering her insensible, and of then having sexual connection with her.*

The prisoner, *Camplin*, was tried at the Central Criminal Court, before Mr Baron Park, (March 7, 1845,) on an indictment for rape, committed on the person of a girl thirteen years old. The evidence was, that the prisoner made her quite drunk, and whilst she was insensible, violated her. The jury found that the prisoner gave the liquor to the girl for the purpose of exciting her, and not with the intention of rendering her insensible, and of then having connection

with her. The prisoner's counsel objected, maintaining that the crime of rape was not proved; and, in consequence, the disputed point was reserved for the opinion of the Judges.

Ballantine, for the prisoner, contended that, in order to constitute the offence of rape, there must be an actual resistance on the part of the person ravished, and that the form of indictment containing the words "violently and against the will of," proved that necessity; but, further, that in the present case, according to the finding of the jury, there was neither force nor fraud. It was an improper thing to give the girl liquor; but the jury had negatived an intention to commit a rape. All the evidence went to show that if the man had any intention at all, it was to induce the woman to consent; and the learned judge distinctly put to the jury the two questions, whether the prisoner gave her the liquor intending to have connection with her by force, or only for the purpose of exciting her. Authorities referred to: 1. Hawk, 41, s. 6; *R.* v. *Jackson* (R. and R. 487); *R.* v. *Saunders* (8 C. and P. 265); *R.* v. *Williams* (ibid. 268); *R.* v. *Stanton* (1 Car. and K. 415).

Upon consideration, the judges held the conviction right. (*Law Times*, June 28th 1845: also 1 Car. and K. 746.)

2. *Legal inability to consent from other causes.*—As idiots cannot legally consent, sexual intercourse with them will probably be held as constituting rape; but we cannot refer to any decisions elucidating this point. Likewise, for the same cause, in an infant in England, (9 Geo. IV. c. 31, and 5 Victoria, c. 56[1]) under ten years of age, and in Scotland under twelve, the crime becomes rape, even when there is no evidence of violence having been used.

3. *Age and character of the female.*—Carnal knowledge of any woman forcibly is rape, even though she be a prostitute. In the case of concubines, harlots, and others of dubious fame, it would be always extremely difficult to convince a jury that the connection was forcible. It would be quite competent to prove the abandoned character of the woman. In such cases, by having, in the libel or indictment, an alternative charge of assault or rape, the prosecutor, after expiscating the facts, may determine at the trial which of the issues he is to send to the jury. In this free country, no one is *infra legis observantiam*; and upon this broad constitutional principle, it would be as incompetent as it would be unjust, to declare, that a rape could not be committed on a harlot; for it may be quite possible that she had, previous, to the connection, which, in virtue of her resistance became rape, entered upon a career of chastity. The abandoned character of the woman, then, is simply *material for the jury*.

4. *The place and general circumstances in which the carnal knowledge is said to have tnken place*, may be matters of great importance. For example, if it is alleged that the offence was committed in a house of bad fame, it would be necessary to inquire whether the woman went there voluntarily, and knowing the nature of the place. Or, again, if it is said to have been perpetrated in any place where cries or efforts at resistance could not have been heard, it may be necessary to show how the parties came there together.

IV. MEDICAL EXAMINATION OF THE FEMALE.

(*To be continued.*)

J. R. C.

[1] The first of these statutes assigns a different punishment from death to the offender in the case of a girl above ten and under twelve years; the latter abolished the punishment of death in all cases of rape, or of the carnal knowledge and abuse of any girl under ten.

CASE OF ASPHYXIA IN TWO INDIVIDUALS, FROM THE SLOW COMBUSTION OF WOODEN JOISTS. BY MM. BAYARD AND TARDIEU.

The particular circumstances under which the following case of asphyxia in two persons, at one and the same time, occurred, render it one of peculiar interest. Cases of accidental asphyxia, the result of vapour disengaged from carbonised beams of wood, are somewhat rare. M. Devergie has cited a few cases in which this accident occurred from the vicious construction of stoves, in which their pipes were placed so near the beams as to occasion the gradual carbonisation of the latter. Ollivier, (D'Angers,) has also related a remarkable case of asphyxia in two persons at the same time, from the vapour of coke.

The case, the details of which we are about to relate, strikingly demonstrates the necessity of precaution in the construction of dwelling-houses, and how needful are the most simple rules of hygiène.

The Drictons, husband and wife, were proprietors of a large wine establishment at Courtille. The apartments they occupied consisted of two small rooms, which had originally formed part of a large hall, but which was now divided into several compartments; on one side a passage had been retained, and to the right of this and opening from it, there were four small rooms, of equal size and parallel with each other; at the end of the passage and fronting it, was another small room, which, from its position, stood at right angles with the other four. The first of these rooms was occupied by the father of Dricton, an old man of 69, and by his son, aged 7. The second was the sleeping-room of the two Drictons. These two rooms communicated with each other by a tightly-fitting door, which was always kept closed during the night. The third was occupied by a boy in the service of Dricton; and the fourth by a woman who kept a confectionary shop in the house; and, lastly, the room at the end of the passage was the habitation of a lad in the service of the confectioner. All these rooms, from their having been formerly in one, had a common floor, tiled round the edge, but having a wooden centre. We shall immediately give a more particular detail of the construction of the room occupied by Dricton and his wife.

During the whole of the day on the 23d and 24th July, the room at the end of the passage, usually occupied by the journeyman confectioner, was made use of as a workshop for the preparation of a large quantity of confections. For this purpose a fire had been lighted in a chimney built of mason-work, and situate in the wall to the left. Shortly after the commencement of these operations, a strong smell of smoke was felt in the adjoining rooms, and more especially in that of the Drictons. The husband had even complained of being annoyed by it during the nights of the 23d and 24th; and in order to give free issue to the smoke, the windows were left open during the whole of the latter day. After finishing the confections, the fire was completely extinguished, but notwithstanding, a well-marked smell of burning wood was perceptible during the whole of the night. Not being able to satisfy himself whence the smoke originated, Dricton at last supposed it was possible it found its entrance through his own chimney, and, for the purpose of preventing its access, shut the latter up.

On that day Dricton had been at Paris, where he had dined. On his return he was much fatigued, and went early to bed. His wife joined him about midnight. His father recollects perfectly of having heard them talk together for a short while. Next morning, contrary to their usual custom, they had not made their appearance at half past seven. One of their boys, who slept near them, and who himself felt somewhat indisposed on rising, uneasy at their absence, hastened to their room, where he found them both extended lifeless on the bed. The body of the woman was much higher than that of her husband, which was inclined towards the edge of the bed. She was lying over him, and appeared as if she had been struggling to throw herself outside the alcove. She still exhibited some signs of life, and an attempt was made to bleed her, but all means were unavailing; both had fallen victims. This sudden death, which no one attributed to suicide, appeared inexplicable. Rumours of poisoning began to be spread abroad, in consequence of which the procureur du roi ordered an inspec-

tion of the body to be made. In the meantime, however, a series of well-directed inquiries soon discovered the true cause of this distressing event. In the room occupied by the unhappy couple, some degree of smoke was discovered; slight, it is true, but of a suffocating nature, and evident to all those who entered it. But as there was no appearance of a fire, either in that room or the adjoining ones, and as those who had passed the night in the latter, more especially the grandfather and son of Dricton, had absolutely suffered no inconvenience whatever, all idea of attributing the deaths to the action of this deleterious smoke was given up; but the commissioner of police continuing his researches, and guided by the smell of smoke, which increased in intensity as he approached the passage, at last reached the room at the end of the latter, in which the preparation of confections had taken place. His attention was immediately directed to the chimney in which the fire had been, but which was now extinguished; and he soon became aware that there was a slight escape of smoke from under a plate of iron, still warm, which formed the hearth. On lifting the plate, it was discovered that the whole house was in danger of being set on fire. Five of the joists sustaining the floor were nearly consumed. It now became apparent that the smoke gradually developed by this slow combustion, had found its way, without obstacle, along and underneath the floor common to all the rooms.

It now remains to be explained how those sleeping in the other rooms escaped, more especially the journeyman confectioner, whose bed was close by the chimney itself, whilst the Drictons, sleeping in a room at eight metres distance from the chimney, were the only victims. There were several causes which led to this result.

The room of the Drictons, small and low in the ceiling, was lighted by two windows of unequal size, rather small, and looking to the boulevard. It had only one door, which opened into the room occupied by the grandfather and child. To the left, on entering, there was a small chimney *à la Prussienne*, which could be almost hermetically closed when desired. The bed was placed in an alcove, separated from the passage by a mere lath and plaster partition. At the side next the window, it was paved to a small extent with tiles; the rest of the floor was of wood. *Several of the planks were observed to be separated at various points to a considerable extent; and more especially, at a small distance from the foot of the bed, one crevice was discovered* 15 centimetres long and 9 broad. It was now easy to comprehend how things had occurred. This opening in the floor, which brought the room of Dricton into direct communication with the common space existing underneath the floor of all the rooms, was the only one that could be discovered. The temperature of the room was also higher than that of any of the others, so that a draught being thus created, the smoke was drawn into it to the exclusion of these.

During the first night, no bad effects were produced; and this may be attributed to the chimney having been left open, and affording a free passage to the smoke. But the next night the unhappy idea occurred to Dricton to close the chimney; and thus, all issue to the deleterious gases being prevented, he and his wife fell victims to their deplorable want of foresight. No chink or opening of any importance existed in the floors of any of the other rooms.

At the request of the procureur, I examined the bodies, and the following is an extract from the report.

Autopsy of the man.—Age 45. Well marked post mortem stiffening; a general rosy tint was diffused over the neck, chest, and extremities; the face was pale; no external lesions. No froth was found in the trachea, but its lining membrane was of a well marked brick-red colour; the lungs were engorged, but exhibited no sub-pleural ecchymotic spots. The heart was dilated, and contained fluid blood, which readily escaped; there was no clot.

The stomach was distended, but there was no gas; its contents were merely a spoonful of fluid; the intestines were nearly empty. (He had taken an injection before going to bed.)

Conclusions.—1*st*, Death was the result of asphyxia; 2*d*, This asphyxia was produced by carbonic acid gas, originating from the combustion of the joists un-

derneath the floor, at a certain distance from the room of Dricton, to which it found access through a crevice in the floor of the latter.

Autopsy of the woman.—Age, 37. Post mortem stiffness to a tolerable degree; a rosy tint, of a less marked character than in the former case, was diffused over the superior part of the thighs, neck, and posterior portion of the extremities; there were neither contusions nor external lesions. There was a small quantity of froth in the trachea, but its lining membrane did not exhibit the brick-red colour observed in that of the man. There was a small quantity of serum in the cavities of the pleuræ, pericardium, and peritoneum; the lungs were engorged, but to a less degree than in the former case; and numerous ecchymotic spots were found beneath the pleura, on the inferior lobe of the left lung. In the right auricle and ventricle, there were *large clots, extending a far way into the vessels, and more especially into the vena cava inferior;* some of these were partly pale, and partly converted into fibrine. The stomach contained about 120 grammes of fluid, but no soluble matters. The uterus was empty.

Conclusions.—1*st*, Death ensued from asphyxia; 2*d*, This asphyxia was produced by the same causes as in the former case, but its progress was slower, owing to her shorter residence in the chamber, and the more elevated position in which she was found; 3*d*, Her death had ensued several hours after that of her husband; and, from the state of the lungs, it is evident she had made violent efforts to respire, and to overcome the asphyxia which threatened her.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 938 of December Number.)

SESSION XXV.

SECOND MEETING.—*Wednesday, 3d December* 1845.—Dr GAIRDNER, P., in the Chair.

EXCISION OF THE CERVIX UTERI. BY PROFESSOR SIMPSON.—Dr Simpson read a communication on excision of the cervix uteri. Out of eight cases in which he had performed this operation, in three the amputated vaginal portion of the cervix was the seat of carcinomatous disease. He detailed the particulars of these three cases. In one, (a case of cauliflower excrescence), the patient has remained perfectly well ever since the date of the operation in 1840, and in the interval, has borne and nursed three healthy children. In a second patient, whose health and strength were greatly reduced, the excised part presented a tumour having all the microscopic and other characters of Muller's *carcinoma fasciculatum.* It is now upwards of two years since the operation, and the patient continues to enjoy the best of health. In the third case, the diseased cervix presented a well marked specimen of Muller's *carcinoma reticulare.* The patient remained well for eight months, but the disease then recurred and proved fatal fourteen months after the operation. Dr Simpson concluded by offering some remarks on the best mode of performing the operation, and the cases suitable for it.

OBSERVATIONS ON OVARIAN DROPSY.—*Dr Bennett* read a paper so entitled. From several cases of this disease, which he had observed, followed by careful post-mortem examinations, he endeavoured to show, that the fluid so frequently found in the cavity of the peritoneum, was secreted from the interior of the tumour, in the following manner:—The cystic tumour of the ovary, at an early period of its development, was crowded with secondary cysts. These become expanded, and at length burst into each other, so that, at an advanced period it consists of only a few, or even one large cyst. In some rare cases, the external wall of the tumour contracts adhesions to the peritoneum throughout, of which a case was given. In the generality of cases, however, ulceration takes place in the walls of the cyst, and the fluid secreted, passes through the opening so made, into the cavity of the abdomen, and there accumulates.

The structure of these cystic tumours is composed, first, of a dense fibrous envelope; secondly, of numerous secondary cysts, varying in size. They are all richly furnished with blood-vessels, and are lined internally with a distinct layer of epithelial cells. These cells, as the cysts expand and burst, escape through the ulcerated openings of the fluid. They constitute the flocculi, seen in the viscid fluid after tapping; are easily distinguished from the known structure of lymph, and their detection is, in the author's opinion, capable of being made diagnostic in certain cases.

Dr Bennett farther thought, that the uterine sound of Dr Simpson greatly facilitated the diagnosis of ovarian, and uterine tumours.

The author then read a case in which, at his request, Dr Handyside had performed ovariotomy, both ovaries were removed. It terminated fatally on the 70th day. [We will endeavour to obtain a detailed report of this case for next number.]

Dr Cormack hoped that although it was considerably past the usual hour of adjournment, the Society would not allow the interesting paper of Dr Bennett to pass without there being elicited some conversation regarding the operation of Ovariotomy. He therefore moved that a meeting be held within fourteen days, at which the subject should take precedence of other public business.

Dr Andrew seconded this motion, which (after some observations from different members, as to its propriety), was unanimously agreed to.

NEW MEMBERS.—Dr Cumming, 3 Elder Street, and Dr Irving, Royal Lunatic Asylum, were admitted ordinary members.

ELECTION OF OFFICE-BEARERS.—The following gentlemen were elected office-bearers for the ensuing year:—*President:* John Gairdner, M.D. *Vice-Presidents:* Robert Hamilton, M.D.; W. Beilby, M.D.; W. P. Alison, M.D. *Councillors:* James Syme, Esq.; Robert Christison, M.D.; Alexander Cockburn, Esq.; John Goodsir, Esq.; A. Peddie, M.D.; W. M'Kinnon, M.D.; Allen Thomson, M.D.; James Duncan, M.D. *Treasurer:* Robert Omond, M.D. *Secretaries* Douglas Maclagan, M.D.; J. H. Bennett, M.D.

THIRD MEETING.—*Wednesday, 17th December* 1845.—DR GAIRDNER, P., in the Chair.

The President, after some general remarks, called on Dr Cormack.

Dr Cormack said that his object in proposing an adjournment was, that he might hear *others* speak. He had no expectation of being called upon thus formally. However, he was not unwilling to mention in a few sentences, the grounds upon which he thought that it was proper to elicit a free and full expression of professional sentiment on Ovariotomy. He would deprecate, as much as any member, the converting of the Medico-Chirurgical Society of Edinburgh into a Debating Club: if by that term was meant an arena for mere dispute, in which Victory rather than Truth was the object. He did think, however, that the subject of ovariotomy had of late excited so much discussion in medical

circles, both here and elsewhere, it would be important, that other, and perhaps corrective opinions, should go forth along with those of Dr Bennett. As that gentleman was unfortunately absent from indisposition, he (Dr C.) would not venture to quote from, or comment upon his paper: he had no detailed report of it in his hands; and as there were others in the room fully conversant with it, he would, therefore, with reference to it only say, that nothing had fallen from Dr Bennett to change his (Dr C.'s) previously formed conviction, that the great surgeons of the day rightly denounce ovariotomy as an operation which is almost in every case *unwarrantable*.

What is the nature of the facts at present before the profession? Do they sanction the operation?

Up to May 1845, there were published 89 cases in which the abdomen was laid open for the removal of diseased ovaria; but then, of this grand total, *there were 14 cases in which the operation was abandoned, after the woman was opened!* However, let it be granted for the sake of argument, that the whole 89 were real cases of ovariotomy. It will be found that of these there were 55 recoveries, and 34 deaths, from the immediate or recent consequences of the operation. This statistical result viewed by itself, and unaccompanied by any explanation, is not necessarily adverse to ovariotomy; but certainly it is not favourable. At this point, an inquiry suggests itself. Did the ovarian diseases, for which these operations were performed, endanger life? Perhaps in a few of the cases they did; but it cannot be denied, that ovarian tumours, in the vast majority of cases, so far from being of a mortal tendency, are only unsightly encumbrances. Then, again, how long did the 55 women who recovered, survive the operation? Have we their histories down to 20 or 30 months after the operation? We have not; and, therefore, for a special reason, which does not apply to other capital operations, the present statistics of ovariotomy are comparatively valueless.

In such an operation as ovariotomy, *the very reparative process* becomes an imminent and inevitable source of peril; and had, Dr C. believed, in cases, the latter history of which is only known by rumour, been the ultimate cause of death. To repair the extensive cutting of the ovariotomist, nature must pour forth in abundance coagulable lymph; and every one knows, that in all situations in which lymph is thrown out, it exerts its inherent tendency to the most powerful contraction. Illustrations suggest themselves in abundance. If we have a large burn in the anterior surface of the neck, or in the bend of arm, does not the healing process, in the one case drag down the head to the sternum, and, in the other, baffle the skill of the surgeon, by obstinately flexing the forearm upon the arm? The changes which the contraction of lymph gives rise to within the body are as striking as upon its surface. A fatal ileus may, from the operation of this cause, follow peritonitis at a long interval; and, in the same way, atrophy of a portion of lung from compression is a common sequel of pleurisy: again, in intra-uterine inflammation, we have, originating in the same cause, amputation of the limbs of the fœtus, and many other lesions. The statistics of ovariotomy, then, are evidently imperfect, until we obtain detailed histories of the patients, not for weeks, but for many months, perhaps for years, after the operation.

Admitting the full value of the uterine sound, and all the other recent improvements in the diagnosis of uterine and ovarian disease, Dr C. would, still ask the question at practical men, Is not the diagnosis beset with almost insuperable difficulty? Can the attachments of the ovarian tumour, when such tumour has been ascertained to exist—can the attachments in any one case *be certainly made out?* In 14 of the 89 cases referred to, the operation was suspended from the scalpel disclosing the non-existence of any ovarian tumour, or that the attachments of the tumour could not be touched!

Dr C. concluded by stating that the substance of his objections might be thus stated:—

No. 1. The difficulty of diagnosis.
— 2. The non-fatal character of ovarian tumours.
— 3. The immense and inevitable dangers of the reparative process.

Dr Handyside said, that, in the divided state of opinion existing, (as the President had remarked), among surgeons, relative to the propriety of undertaking the operation of ovariotomy, the profession naturally looked to him as responsible for the step taken in the case narrated at the last meeting of the Society; and would, of course, expect from him a full statement of the reasons that had led him to perform that operation.

Dr Handyside remarked, that the only justification and full warrant for such surgical operations as involve imminent peril and hazard, (such as lithotomy, the ligature of a large artery, the operation for hernia, amputation through the thigh, ovariotomy, &c.,) is acknowledged to rest on this ground, that *their performance is essential to the preservation of the patient's life.* Thus, he showed that his patient had been much reduced by repeated tappings, the last three of which were found to be necessary during the very limited space of about four weeks; and that his was not a case similar to those described by Martineau, Portal, and others, which amply attest the protracted duration of life in association even with this stage of the affection. But, he added, there are other important conditions which must coexist with the above requirement in order to warrant the step of a capital operation, as that of ovariotomy. These he stated to be, *secondly,—the establishing a clear diagnosis,* in a proposed case of ovariotomy, so as to determine accurately that the tumour is not malignant or of solid consistence, that it presents no serious adhesions, and that the uterus is not involved. *Thirdly,* that *there is no hope of a palliative cure, or of a spontaneous declension in the severity of the urgent symptoms. Fourthly,* that *there is no co-existent disease* or condition of the system such as contraindicates capital operations in general. *Fifthly,* that the patient and her relatives, on being made acquainted with the danger attending the operation, express their urgent request for its performance. *Sixthly,* as to the *statistics* of the operation, (here Dr Handyside quoted the tables given by adverse reviewers in the *Edinburgh Medical and Surgical Journal* for 1843, and in this Journal for 1845.) Although these are *by no means unfavourable* as an argument for its performance, still he would not make use of them as such, for these reasons: First, that many cases in which the operation had been most recklessly and unjustifiably performed are included in these tables, which have thus perverted the statistical results, and made the operation appear in a less favourable light; and, Secondly, because surgical statistics in general stand broadly forth against the performance of many universally recognised capital operations, (and here Dr Handyside adverted to the statistics of some of the larger amputations, &c.)

Dr Handyside observed, that he is no advocate for the operation in cases such as those in which it has been generally had recourse to, for that he, like many other surgeons, had been previously prejudiced against and averse from the operation, (which aversion was in no degree lessened by the circumstance, that some Edinburgh surgeons had previously refrained from undertaking the operation in the present case); but, that, after a careful examination of the subject, he was forced to the conclusion, that it is the duty of the surgeon, *in certain rare cases,* to recommend and to practise the operation, and the case submitted to his care appeared to him to be one of those. This view he adopted only after having availed himself of the assistance of those of his professional brethren versant in obstetric diagnosis, who concluded, along with himself, that the tumour was non-adherent throughout; that it was attached only by an elongated pedicle, the broad ligament; that the uterus and peritoneum generally were healthy; and that the fluid in the abdomen was either the result of the irritation of the peritoneum from the presence of the tumour, or the produce of the tumour itself.

He stated, that such cases differed from those which generally came within the province of the surgeon, as, in arriving at a decision as to the propriety of the operation, he thus manifestly required the co-operation of a skilful obstetrician, and hence a probable reason for the unfavourable reception that the operation had met with from the majority of operating surgeons—the tendency to which has been in no way lessened by the undeniable circumstance, that

really little or no surgical skill is required for its accomplishment, and, consequently, that no credit for anatomical knowledge, or surgical dexterity, can accrue to the operator,—for he stated it as his opinion, that the operation required less of these qualifications than even the common operation of amputation through the leg.

He added that, while a diagnosis in most other cases requiring surgical operation could generally be at once and easily made by the surgeon himself, much care, and repeated examination of the patient, would be required in cases submitted to him for ovariotomy, as in the present case, in which he had not decided on the operation until he had made repeated examinations of the patient, both before and after, as well as during the last tapping. In this way, with the valuable aid of Dr Simpson, a diagnosis was formed, which has been amply verified.

Lastly, Dr Handyside again protested against the indiscriminate performance of the operation, and stated, that in such rare cases as the present, *but in such only*, he was quite ready to repeat it.

Professor Simpson stated, that he believed ovariotomy quite unjustifiable in some of the cases in which it had been had recourse to, but in a few rare instances, like that of Dr Bennett's patient, quite as justifiable as most of the operations performed in surgery for chronic affections. It appeared to him that two circumstances prevented ovariotomy from obtaining a fair consideration, and fair trial, especially with professed surgeons. *First*, the diagnosis and the operation were, under the existing divisions and arrangements of practice, undertaken by two different sets of practitioners—the former by the obstetric physician, and the latter by the operating surgeon. It was, perhaps, the only capital operation in which the surgeon was now required to proceed upon the diagnostic knowledge of another party; and no one was to be blamed if he felt a natural repugnance to incur so serious a responsibility on such grounds. *Secondly*, Surgeons, as a class, still confessedly allowed themselves to be greatly bound and swayed by the trammels of authority, and the mere fact that some of the highest names in surgery had once declared (with or without due investigation) against ovariotomy, is with most others an ample and satisfactory reason for totally rejecting the operation. In the same way, but in an opposite direction, the leading authorities in the surgical world having agreed to consider ligature of the *arteria innominata* as a legitimate operation, it has now been repeatedly performed. But what has been the result? Why, the vessel has been tied some twelve times, according to Mr Phillips,—it might be oftener, or it might not be so often—but, at all events, *as often* as the operation had been performed, it had proved fatal; and yet, because it had been decreed proper and justifiable by authority, we find it in the very last text-books on surgery still commented on as such, whilst ovariotomy, proving fatal in one out of every two or three cases, was loudly denounced as improper and unjustifiable. In the important department of surgery, such inconsistency would doubtlessly betimes become rectified—when (as had been long the case in medicine and midwifery), the dogmatism of mere facts and experience came to be more respected, than the dogmatism of mere opinion and authority.

The diseased condition of the ovary, to which the operation of ovariotomy was particularly applicable, if applicable at all, was, in Dr S.'s opinion, that form of ovarian dropsy which was by far the most frequent of all, and consisted in multilocular cystic degeneration of the organ—the gelatiniform, or areolar cancer of some authors. All other forms of ovarian dropsy (as they were called) were rare in comparison to this; and to it all remarks, in such a discussion as this, principally or entirely applied. In most instances—in nine cases out of ten,—this species of ovarian dropsy pursued, he believed, a regular progress onward, towards greater or less enlargement, insufferable distention, more or less repeated palliative tappings, frequently disintegration of the morbid structure, local irritation, constitutional exhaustion and death. Generally, it took a series of years to run its course, but sometimes it passed through its phases and progress more rapidly. We want a sufficient body of well observed facts to know the average duration and simple natural history of this, as of many other diseases. Some authorities averred that the disease occasionally went on for 20, 30, 40, or 50 years. Dr S.

doubted entirely the truth of such alleged cases, and believed that abdominal tumours, with this history, were not affections of the ovary at all, (certainly not its cystic multilocular disease), but fibrous tumours of the uterus, which were often exceedingly chronic in their progress, and, as Dr S. had repeatedly seen, were very frequently mistaken for the ovarian affection under dispute. Again it had been as strongly averred that cases of multilocular dropsy of the ovary had been absorbed and cured. He equally and entirely doubted the validity of this observation. Errors in diagnosis would, he believed, account readily for all such therapeutical incredibilities. He had seen hysterical tympanitic distention of a portion of bowel, and collections of fæces mistaken for ovarian tumours; and these were certainly quite curable. He had, in several instances, seen also ovarian dropsy very perfectly simulated in form, figure, situation, &c. by large chronic inflammatory effusions in the cellular tissue of the pelvis and broad ligament, always commencing with and accompanied by inflammatory phenomena, and these, like similar inflammatory effusions elsewhere, were always more or less completely amenable to medical treatment. But he had no belief whatever that iodine, or mercury, or muriate of lime, or aqua potassæ, or diuretics, or deobstruents, or aught else, were capable of absorbing and removing the complicated structure and contents of a multilocular cystic tumour of the ovary. He would almost as soon believe that the head could be absorbed and removed by medicine. When the disease was accompanied with much local vascular action and congestion, the occasional loss of blood was certainly sometimes beneficial. But in the general run of cases of this malady, he had long come to the conclusion that we did all that was possible with medicine, when we kept the individual functions of the economy as near as possible to their individual standards of health. Break down the activity and vigour of the system by mercury or other debilitating medicines, and then the ovarian disease only too often progressed with double strides.

Seeing medicine was of so little direct use—what measures had surgery to propose? The cystic structure of the tumour had been tapped and injected in imitation of the treatment of hydrocele,—setons had been passed into it, and through it,—incisions had been made into its walls, &c., &c.; but all such operations were now, he believed, abandoned by general consent, as useless in their effects, and far too often fatal in their practice to admit at all of repetition. In fact two measures only were at the present day applied to the surgical treatment of the disease, namely, 1. Tapping; and, 2. Total extirpation. The first of these operations—tapping, was professedly adopted merely as a palliative measure—for the present relief of the patient—not for the cure of the disease. In a very few instances the tumour appears to become bound down by adhesions after tapping, and no reaccumulation takes place; but these cases are so very rare that in practising the operation we scarcely even venture to reckon upon the possibility of this occurrence. In some cases where the tumour is very large, but the cells small, and containing gelatinniform matter, tapping is of no use, and cannot in any degree evacuate or diminish its contents. Fortunately for the success of this operative procedure, the anterior and superior cell or series of cells were generally large, and dilated more than the others, in consequence of least resistance being opposed to their growth and distension in this direction. And tapping, when adopted, though a palliative measure only, was by no means so free from danger, as some practitioners think, and some writers would seem to allege. We had as yet no sufficient collection of data to shew its actual results. But Mr Southam had commenced the inquiry, by tabulating the results of twenty cases of the operation. Fifteen of these cases had been recorded by Drs Bright and Barlow, without apparently any view to such an investigation, and hence afforded the more valuable and unprejudiced evidence. Four of the 20 patients, or one in five, died of the effects of the first tapping; four patients died of inflammation within a few days after the operation; three more died in one month; in all, fourteen died within 9 months after the first tapping. Of the remaining six, two died in eighteen months, and four lived from periods varying from four to nine years.

Paracentesis, whilst thus merely a means of palliation, was still a proceeding

in which no inconsiderable amount of danger appeared to be incurred. Ovariotomy, on the other hand, was an operation which, if successful, was professedly a means for the perfect and radical *cure* of the disease. But it was undoubtedly a most serious and dangerous operation, and therefore was it warrantable or unwarrantable, when judged of by the *principles* applied by surgeons to the determination of the propriety of other capital operations in chronic diseases? Let us consider ovariotomy and the objections to it in this point of view; for by such a comparative test will the propriety or the impropriety of the operation be best ascertained and determined. The principal objections which have been urged against it are as follows:

1. *It is an operation accompanied with great danger and mortality.*—All parties are ready to admit fully of this point. But it is by no means a matter decisive, as some think, of the impropriety of the operation. At all events, if ovariotomy is to be condemned and suppressed on this count, several of the legitimatized capital operations in surgery must be equally, or still more strongly, condemned on exactly the same charge, for it is in reality not more fatal than many of these operations, and even not so fatal as some of them. On this subject (the mortality accompanying capital operations in general), very erroneous views seem to be entertained by many members of the profession. The statement of a few simple statistical facts will serve to prove the position assumed, and may, perhaps, surprise those who have not directed particular attention to the subject. Dr Churchill, Mr Phillips, Dr Atlee, and Dr Cormack (see his Journal for May last), had each calculated the mortality in ovariotomy, from the cases on record, and came to nearly the same conclusion. Dr Simpson took Dr Cormack's results as being those of a writer against the operation, and hence his tables could not be suspected of any unfair leaning towards ovariotomy.

Out of 89 cases in which ovariotomy had been either performed or attempted, 34 sunk, or nearly 4 in every 10 patients died, and 6 recovered.

Out of 65 cases, collected by Dr Cormack, in which the operation had been perfected, 25 died, or between 3 and 4 out of every 10 patients were lost, and 6 or 7 recovered.

Now Malgaigne has shown, that out of 852 amputations of the extremities of all kinds (including those of the fingers and toes), which were performed in the Parisian hospitals from 1836 to 1841, 332 died, or about 4 out of every 10 proved fatal.

Among these, out of 201 amputations of the thigh, 126 died, or 6 in every 10.
... ... 192 ... leg, 106 died, or 5½ ... 10.
... ... 91 ... arm, 41 died, or 4½ ... 10.

Of the amputations of the thigh, in 46 cases the operation was performed for severe injury of the limb: of these 34 died, or more than 7 out of every 10.

When we looked to the results of amputation nearer home, the results were not much more encouraging. In the Glasgow Infirmary, from 1795 to 1840, Dr Lawrie has shown that out of 276 amputations performed, 101 proved fatal, or nearly 4 in 10 died.

Among these, out of 128 amputations of thigh, 46 died, or 3⅗ in every 10.
... ... 62 ... leg, 30 died, or 5 ... 10.
... ... 53 ... arm, 21 died, or 4⅕ ... 10.

In the Edinburgh Infirmary, during the four years commencing July 1839, there occurred 72 amputations of the thigh, leg, shoulder-joint, arm, and forearm. Of the 72 patients, 37 recovered and 35 died,—or nearly 5 in every 10. Of these amputations, 18 were primary. Out of 4 primary amputations of the leg, one patient recovered and 3 died. Out of 4 similar amputations at the shoulder-joint, 1 recovered, and 3 died. There was one primary amputation of the arm; the patient died. There were eight primary amputations of the thigh; all the eight patients died. (See Dr Peacock's official reports.)

Mr Phillips has collected the histories of 171 cases in which the larger arteries of the body were tied: of these 57 died; or about 3⅓ in every 10. Dr Inman has collected 199 cases of these operations; 66 died, or about 3⅓ in every 10. Out of 40 cases of ligature of the subclavian artery which he has tabulated, 18 proved fatal, or nearly 5 in every 10 died.

In his work on hernia, Sir A. Cooper records 36 deaths among 77 operations for that disease, or nearly 5 in every 10 died. Dr Inman has collated 545 cases of operation for hernia; 260 proved fatal, or nearly 5 in every 10 of the patients died.

In the earlier years of life lithotomy is comparatively a safe and legitimate operation, and few die. But it is quite different when the operation is submitted to at 40 years of age, and upwards. At and above this term of life, Dr Willis has shown, from numerous statistical returns, that from 2 to 5 out of every 10 operated upon die.

Even what we deem slighter operations, are sometimes attended in the absolute by no inconsiderable danger to life. Out of 95 cases of excision of the mamma, referred to in Dr Cormack's Journal for February 1843,—20 died, or 2 in every 10. In how many cases of the remaining 75 would the disease return and ultimately destroy the patient?

Ovariotomy then is fatal in the proportion of about 35 or 40 in every 100 operated upon; but in most capital operations we singly have as high or even a higher mortality than 35 or 40 per cent. Amputation of the thigh is higher; ligature of the subclavian, for aneurism, is higher; tying the innominata is fatal in every case; the operation for hernia has a higher mortality; lithotomy is as fatal in most hands after the middle life; even amputation of the leg below the knee is scarcely more safe, or at all events as many, or more, die after amputation of the leg, in the hospital practice of Paris and Glasgow, as die after ovariotomy.

It had been foolishly objected to in the statistics of ovariotomy, that we did not know all the unsuccessful cases. Dr S. believed that the ascertained statistics regarding it were as full and complete as the statistics regarding any other capital operation. It was too serious and too startling an operation for any cases of it to remain easily hid. On the other hand, it could be readily shown that the statistics of our major surgical operations were not always reported in the most faithful manner, and so as to give the most accurate results. Malgaigne candidly confesses as much in regard to the elaborate statistics which he has collected of various surgical operations from different hospitals.

The existing results regarding ovariotomy would, we believe, be on all hands allowed to demonstrate one point, namely, that exposure of the cavity of the peritoneum was not so dangerous a proceeding as was formerly dreamed of by pathologists. Surgeons have exposed it often in hernial operations, and even left ligatures upon its omental vessels when necessary, and not unfrequently with impunity. In 1842–43, a portion of the omentum was removed in six operations for hernia at St George's Hospital, London. "In some of the cases, two ligatures, each embracing one-half of the omental mass were applied; in the other cases, ligatures were applied to all the bleeding vessels." Five of the six patients recovered. One died comatose, a few hours after the operation, from disease of the brain. (Hewett in Medico-Chirurgical Transactions, vol. 27.) But still, it must be confessed, extreme dread of all such abdominal surgery was, and probably is, the prevailing idea. The comparative success of the Cæsarean section in the hands of Continental accoucheurs, might almost have taught us a different lesson, the peritoneal cavity in that operation being of necessity freely opened up; and we may daily see the same done upon the females of some of our domestic animals, with remarkable impunity, in the coarse operation of spaying.

2. *The ultimate results of cases of ovariotomy were alleged to be unknown and unfavourable.* It was urged that the reports of cases had been published with too great haste, and before the final effects could be known months and years afterwards. Great weight had been attached to this argument in the question of ovariotomy. But it probably would be found to tell against other capital operations with much more truth and effect than against ovariotomy. In how few instances were the published reports of capital surgical operations carried beyond a few weeks? And what a large proportion did die within a short period after escaping from the more immediate consequences of the operation for aneurism, or stone and cancer, and amputation, and that with very broken and imperfect health

too, during the interval. The primary history of cases of these operations was given—not yet, their ultimate history. Dr Simpson, at the same time adduced various facts, to shew that as far as regarded ovariotomy, the allegation did not in reality hold good. The process of reparation after ovariotomy is, say some, too great to be accomplished with health and safety. Theory may argue so—but facts here give a direct and practical denial to theory, by demonstrating the reverse to be true. In one of the first cases operated on (Emiliani's in 1816, the patient has since become the mother of five living children,—an ample proof of the completeness of the cure. Dr Simpson read a note from Dr Clay of Manchester, stating the present condition in (14th December 1845) of the patient that he had operated upont wo or three years back. His first patient, operated on 12th September 1842, 'continues quite well, and follows her household duties with ease and comfort.' A patient subjected to ovariotomy on the 25th September 1842, 'is at this time perfectly well, and capable of greater exertion than most women of her age, viz. 60.' Regarding a third patient operated upon in November 1842, Dr Clay states 'I saw this case a few days ago on account of a polypus of the nose—in every other respect she is quite well.' A patient operated upon in August 1843, 'is at this time perfectly well, saw her a few days ago.' Dr Clay operated on two cases in October 1843, 'the first remains at this time quite well,'—the second reports herself 'in better health now than in any part of her former life.' A case was operated upon in November 1843, 'I have,' says (Dr Clay) 'seen this woman frequently of late whilst attending other branches of the family; she is quite well;' and so on with regard to some others.

3. *It was argued that the extirpation of the affected ovary would not necessarily effect a perfect cure of the disease, or secure the patient against its return.* This certainly holds true of the diseases for which several of the major operations in surgery were performed, but as certainly it did not hold true of multilocular dropsy of the ovary. The surgeon amputates a limb, or excises a tumour for some form of carcinomatous disease, hazarding more or less the life of his patient for the temporary removal of a diseased action which is almost perfectly certain to recur. He ties the subcavian for aneurism—but is it not a disease which is very liable to co-exist in different vessels at the same time, or to form consecutively in different parts—and if the patient escapes the great and immediate dangers of the operation, has he any surety against its reappearance elsewhere? You amputate the thigh to get rid of a scrofulous or tubercular knee-joint. But in how many cases is local tubercular disease the mere result of a general diathesis, that ere long will betray itself in some other part or organ. Dr Simpson thought it a point of the highest practical moment to consider that, on the contrary, the pathological nature of multilocular disease of the ovary was such that it had no tendency to recur after its complete removal. From the character of its morbid structure, and its clinical history, it was certain that it presented no liability to spring up again, like malignant or tubercular disease, in the same locality—or in distant and in different organs of the body. The other ovary might be partially affected, and if so, might require removal along with the first—a step which at the time would probably not add much to the absolute danger of the operation—seeing the abdomen was once opened. Do not surgeons operate for popliteal aneurism, when it is present in both limbs, even with the additional chances of an analogous diseased condition of the vessels existing internally. Probably it will be found that a surgeon would more rarely require to repeat ovariotomy, in consequence of the remaining ovary subsequently becoming diseased, when he now requires to repeat lithotomy, in consequence of a second or a third stone forming after a time in the bladder.

4. *Ovarian disease (it is averred) does not produce such dangerous and urgent symptoms as to demand an operation.* Dr Simpson said that he had already adverted sufficiently to the dangerous and ultimately fatal tendency of the common multilocular dropsy of the ovary. He had at present charge of one case, where an enormous ovarian tumour produced occasional intense suffering, in the form of severe abdominal pains and spasms resembling the agonies of labour. In many cases where it had reached a large size, it more or less incapacitated the patient,

by its simple weight and volume, from following the ordinary duties belonging to her station; and, if poor, threw her upon the bounty and charity of others. In most it was, after a time, liable to be attended with local attacks of irritation and inflammation, fever, &c., or produced dyspnœa, difficult progression, &c. He doubted if, in many cases operated upon, of aneurism or necrosis, or ulcers, &c., supposed to demand amputation, &c. &c. &c., the suffering or the incapacity from the duties of life, were greater than in a large proportion of ovarian cases. But, argue the surgeons, *we* operate early in aneurisms, &c., because they continue to increase; the same is true of ovarian tumours; because the aneurismal swelling is, after a time, liable to affect the structure of neighbouring parts, and render late operative interference less successful,—the same is true of ovarian tumours; because with the aneurismal disease the constitution will sympathise and become debilitated,—the same is true of the ovarian tumour; because the aneurism may burst and endanger life,—the same is true of ovarian tumours. Dr Simpson had seen one burst into the peritoneum, and prove fatal; its parietes were deeply ulcerated internally at several parts, and at last had given way. Any argument urging haste in the one case, would, he feared, equally apply to the other. On the contrary, would proper palliative treatment applied to local aneurisms not stay their progress, and make them as chronic, if not more so, in their course, than multilocular tumours! Mr Fergusson states that he has watched one case of axillary aneurism "for several years" without it increasing. And aneurisms sometimes are, at last, spontaneously cured, much oftener, Dr. S. believed, than ovarian dropsies. Take another case that happened in the hospital practice this morning. A man applies with stricture, and symptoms of stricture only. On passing a small sound, a stone is struck in the bladder, and the patient is forthwith advised to submit his life to all the perils and consequences of lithotomy, though he has no suffering traceable to the calculus. Would it be justifiable to advise a patient with an ovarian dropsy, giving her no trouble, to submit in the same way to ovariotomy? He most assuredly thought it would be utterly unwarrantable. And the palliative treatment for urinary deposits and calculus was now far more advanced than the palliative treatment of ovarian dropsy. A calculus of this kind would not likely increase so rapidly as to destroy the patient in five or ten years. An ovarian tumour very likely would do so. Did we not sometimes see surgeons amputate the limb, when it was merely the seat of simple and benign, but untractable ulceration? And ulceration might be a very serious inconvenience to a labouring man; but here we have a dangerous and often fatal operation performed for a disease which was not fatal nor dangerous in its own character, and easily admitted of palliative treatment. It appeared to Dr Simpson, that the question of *when* we should conscientiously deem ourselves entitled to practise ovariotomy, or any other capital operation for a chronic disease, was one that had hitherto received no sufficient attention. It was a question that probably must always be decided much upon the merits of each individual case, and in regard to which different minds may come to opposite and yet conscientious conclusions. It always embraced a difficult moral and professional problem, in cases where the required operation was, as in ovariotomy, ligature of the larger vessels, amputation, lithotomy, &c. directly and immediately dangerous to the life of our patient. It resolved itself in such a case into a question of this kind: Am I entitled to subject my fellow-being to the imminent and immediate chance of death, for the problematical and prospective chance of his future improved health and prolonged life? In calculating what *amount* of danger of present death ought to be incurred for the hazard of future good, many secondary elements necessarily entered into the problem; such as the existing chance of palliating the disease and prolonging life with certainty for months or years, the extent of suffering the probability of the affection recurring, or already existing elsewhere, &c. &c., In such a computation, the ideal glory of a successful operative result has probably been too often allowed to dazzle the calm judgment of both the operator and his patient.

5. It has often been argued against ovariotomy that the operation, when begun, could not sometimes be completed from adhesions, &c.; or no tumour

could be found. These circumstances were the results of imperfect diagnosis; and Dr S. adverted to the occasional difficulties connected with the discrimination of ovarian tumours, and admitted them to their full extent. He explained that he could scarcely conceive the repetition of some of these errors if due caution were adopted. If other means failed, an exploring needle would always certify the presence of a tumor, and its structure or nature; the uterine sound would shew if the tumour were situated in the uterus or ovary, &c. The great and ruling difficulty at this moment was assuredly that of discovering the existence or not of adhesions of the tumour by false membranes, their extent, &c. If this point could by any measures be cleared up, it would remove one of the great, perhaps the greatest, existing objection to ovariotomy. Nor was it totally hopeless. One of the most sure and solid advances made by modern pathology was our gradual but great improvement in the physical diagnosis of the diseased states of different organs. Probably the next marked step in this path would be the detection of some measure or measures for improving our knowledge of the physical diagnosis of diseases of the abdominal viscera. It was not more extravagant to expect this, than thirty years ago it would have been extravagant to expect all the vast aid and certainty which we now derive from auscultation in the physical diagnosis of diseases of the chest; and he believed some important steps had been already made regarding the detection of ovarian adhesions by Dr Frederick Bird of London, and others. Dr Bennett's contribution under this head was of the highest pathological and practical value. As soon as the ovarian tumour in Fleming's case was exposed, it was evident to all who had taken an interest in the question, that the accompanying ascitic effusion oozed by apertures from the interior of the ovarian tumour, and was a secondary result. But if, as Dr Bennett would, he doubted not, be able ultimately to shew, it was possible to distinguish by microscopic characters between the fluid of common ascites and the fluid of ascites thrown into the peritoneum through ulcerated apertures in the walls of an ovarian tumour, it would clear up various points in a set of cases formerly surrounded with perplexing difficulties. It would enable us to detect the pathological cause and source of the great ascitic collections sometimes attendant upon comparatively small ovarian tumours,—cases with this complication (that is, ovarian tumours with apertures allowing their secretions to pass into the general peritoneal cavity) evidently in general ran a very rapid and fatal course, the peritoneal tappings becoming more and more frequent, and more and more exhausting; and were evidently, of all cases, those most surely justifying the adoption of extirpation; and besides, in these very cases, it was generally ascertainable whether there were adhesions or not, for the tumor was surrounded by a fluid medium, and hence admitted more easily of this point of diagnosis being made out by its mobility in that medium. Probably it was, on the other hand, unjustifiable in our present state of knowledge to operate where there were many adhesions, or any great want of certainty about their existence and extent.

But, admitting to their fullest extent the occasional difficulties which have been found to beset the diagnosis of ovarian tumours for operation, do we not meet with occasional difficulties of exactly the same kind in other surgical operations, and which do not yet deter surgeons from interfering? Is the trephine never used without detecting any effused blood, or pus, or depressed and fractured fragments of bone? In tying the carotid and subclavian and iliac arteries for aneurism, it has now repeatedly happened that all the great dangers of these operations had been submitted to most uselessly, the disease, during the operation or after death, being found not to be aneurismal at all, and hence not at all curable by such a procedure. Has not the uterus, and the mamma, and the testicle, &c., been sometimes found to be the seat of simple inflammatory and curable effusion, after all the usual operative measures for the removal of supposed malignant tumours from these localities had been commenced, or even completed. Dr S. had seen amputation of the thigh performed by a celebrated surgeon for supposed scrofulous disease of the knee-joint, and where on examining afterwards the amputated limb, no traces of such a disease could be found. In some cases of hernia, is it not occasionally found impossible, as in some cases

of ovariotomy, to finish the operation and return the bowel in consequence of extensive morbid adhesions or other causes? Is not the stone sometimes found encysted in lithotomy, and for that or other causes its removal rendered impossible after the bladder is cut into? Is the operation for the removal of an incarcerated piece of necrosed bone not sometimes found impossible after it is begun? Grave errors have been committed in diagnosis in ovariotomy cases, but he doubted if as grave errors were not as frequently committed in some other recognized capital operations. A much greater amount of caution was undoubtedly requisite on this head.

In summing up his statement, Dr Simpson allowed that ovariotomy was a most serious and dangerous operation; but at the same time he maintained, that surgeons in declaiming against it had used a series of arguments, all, or almost all, of which would equally, and some of them still more strongly, apply against those capital operations for chronic maladies regarding the propriety of which they did not affect to entertain one single doubt, and which they every day performed without the slightest scruple. For his part, however, he entirely doubted whether surgeons should resort to many of these operations, under the circumstances in which they often adopted them. He doubted whether, for example, they should at once subject a man to all the immediate and fearful perils of lithotomy and lithotrity, because he had a stone in the bladder which gave him little or no uneasiness, and which might allow him, under proper medicine and treatment, to live and perform the duties of life for a long series of years. He doubted whether, in a case of axillary, or carotid, or popliteal aneurism, slowly increasing, or not increasing at all, having some small chance of spontaneous cure, and having no inconsiderable chance of being followed or accompanied with the same disease in other parts of the arterial system, all the dangers of the ligature of the vessel nearer the heart, should be at once recklessly encountered. He doubted whether, in malignant or carcinomatous disease of the fore-arm or leg, amputation of the arm or thigh should be at once resorted to, with the hazard of death in a few hours or days in one out of every two operations, and the almost perfect certainty of the same morbid action reappearing sooner or later in the stump, or in some other part, if the patient did happen to survive. And, on the same principle, he doubted whether ovariotomy had not been employed in some cases under perfectly unjustifiable conditions, when the health and life of the patient were not immediately threatened by the stage and progress of the malady, and when the evils of the disease were as yet prospective rather than real. But if the health of the patient were becoming rapidly undermined by the disease,—if the progress showed that ere long it would inevitably prove fatal,—if the question were thus reduced to one of certain and not distant death from the course of the malady, or *possibly* an entire escape from the affection, with prolonged life and health from the operation,—and if, in addition, the ascertained or apparent freedom of the tumour from adhesions and other circumstances were such as to present no counterindication,—then Dr Simpson believed that ovariotomy might be undertaken under conditions far more justifiable and legitimate than the surgeon could possibly urge in favour of some of his stone, and aneurism, and other capital operations for pathological lesions of a similarly chronic character and course.

Lastly, Dr Simpson stated, that if betimes ovariotomy came to be a recognised surgical operation, as fit and proper in such cases of ovarian disease as he adverted to, or in others, he had no doubt the steps of the operation would meet with improvements. Such improvements were almost always wrought out by experience. How different is amputation now, from what it was formerly with the hot iron, or boiling pitch, to seal up the cut vessels. How comparatively safe and simple is the tying of an artery now from what it was half a century ago, with its flat double ligatures, and ligatures of reserve, &c. One great source of danger was the irritation and injury inflicted on the intestinal canal and peritoneum from the strong ligature which was required for the stalk of the tumour being passed through the abdominal cavity, and out at the external wound; remaining there for days or weeks, and keeping a portion of the wound in the abdomen necessarily open by its presence, and, consequently, so far

still more hazarding the occurrence of peritonitis. Probably it might be possible to devise some other measures of securing the large vessels, principally veins, be it remarked, of the pedicle, and thus save the several dangers arising, (1st), From leaving the ligature to irritate there; (2d), From the ligature, by its constriction of the stalk, producing strangulation; and (3d), From its producing phlebitis. And if the ligature still continues to be employed, it would, Dr Simpson believed, be found a great improvement, as had been suggested to him by his excellent friend and assistant, Dr Keith, to pass it down, perforate the very thin layer of serous and mucous membranes, dividing the utero-rectal reflection of the peritoneum from the vagina, and bring it out along the vaginal canal. Dr Simpson knew that on the dead subject this could be done with the greatest facility. It would have several advantages. It would enable the surgeon to close at once the whole length of the incision in the abdominal parietes, the sides of the vaginal canal, being in contact, would act as a valve sufficient to prevent that dangerous access and egress of air to and from the peritoneum under strong respiration, vomiting, &c., which had sometimes occurred through the aperture kept open by the ligature, in the old form of operating; the ligature would not pass through the same extent of the peritoneal cavity, and would scarcely, if at all, touch or irritate the folds of the intestinal canal; if the uterus happened to be placed backward upon the rectum, the ligature applied to the posterior surface of its broad ligament would be included and imbedded in a cavity almost divided and separated from the general cavity of the peritoneum; and where the process of reparation and adhesion might often go on without fatally extending upwards into the general peritoneal sac. Farther, the cases already published recounted some errors which the experience derived from them showed might be avoided in future,—such as taking great care to close, as accurately as possible, the peritoneal side of the wound, to prevent strangulation of a fold of intestine in its edges, adopting precautions with the same view of not allowing a similar effect from the free part of the ligature; not allowing the bladder to become much distended, lest it drag the uterus, or disturb the reparative process; or excite inflammation by moving the ligatures or inflamed structures, &c.

Dr Spittal agreed with the previous speakers as to the great importance of *minute and correct diagnosis;* not only as to the character and connection of the tumour, but in regard to all the other organs of the body. It appeared to Dr Spittal that this point had by no means been carefully attended to. Several cases with serious co-existing disease having been operated upon, by the fatal issue of which the general mortality has been considerably augmented. In illustration of the occasional great carelessness of diagnosis, Dr Spittal alluded to a case which occurred several years ago, in which *pregnancy, near to the full period, had been mistaken for ovarian disease;* and in which the operation of passing a seton through the supposed morbid growth, *was only averted* by the *timely efforts of nature.* Had the simple and *infallible test of auscultation* been used in this case, *could such an error have occurred?*

Dr Spittal called the attention of the Society to Dr Norris' table of cases, in which the *subclavian artery had been tied.*[1] These amounted to 69, of which 56 were cases of *aneurism; 9 wounds of the axillary artery, or secondary hæmorrhage; 1 rupture of the axillary artery, on an attempt to reduce a dislocation; and 3 for diseases supposed to be aneurism.* Of the whole, 36 recovered, and 33 died, or 1 in $2\frac{1}{11}$. But, if the 10 cases of injury of the arteries, or of secondary hœmorrhage be excluded, as admitting neither of choice nor delay, 59 cases remain, of which 32 recovered, and 27 died, or 1 in $2\frac{5}{37}$; an amount of mortality still considerably greater than that of ovariotomy.

As to *error in diagnosis;* of 101 cases of abdominal section for ovarian, and some few uterine tumours, collected by Dr Atlees,[2] in 6 *no tumour existed,* or 1 in $16\frac{2}{3}$. While of the 59 cases operated on for aneurism, in 3 *no aneurism existed;*

[1] Cases from all sources from 1800 to 1844, American Journ. of Med. Science, July 1845.

[2] Ibid. 1844.

and in 2 the tumour was *mistaken for abscess, and punctured;* together 5, or 1 in 11¼. So that *error in diagnosis* has hitherto been *less in ovarian and uterine tumours operated upon*, than in *aneurism* for which the subclavian has been tied. Dr Spittal thought, that the reason why so much prejudice continued to exist against the removal of ovarian tumours was very much in consequence of the unjustly severe animadversions of certain eminent surgical authorities, who have, at the same time, somewhat underrated the sufferings attendant upon the disease in question; and who, nevertheless, consider and practise, as perfectly legitimate, the ligature of some of the great arteries for the cure of a disease which is not known to abridge life in a more rapid degree, in general, than ovarian disease, and which is frequently under the control of *less severe measures*, and sometimes *spontaneously curable.*

Mr Spence said, that whilst he was happy to find from Professor Simpson's observations that so much unanimity existed among the members of the surgical department of the profession, he could not allow the deduction which Dr Simpson drew from that, viz. that those who had declined to perform the operation had been influenced principally by views of the senior members of the profession. As one of those who had declined operating in the case alluded to, he (Mr Spence) might state, that he had given it long and full consideration before refusing to operate, and he would briefly mention the circumstances which had led him to conclusions unfavourable to the operation. These were, *first*, The difficulty, and in many cases the impossibility of forming a correct diagnosis in these cases, and as a proof of this he would instance a case in which he had made a *post-mortem* examination in the presence of Dr Thatcher and others, when the ovarian tumour was found perfectly free from adhesion, and otherwise favourably situated for removal, but in which was found a soft fungoid mass of a thin flattened form on the parietal peritoneum, extending from the pubes to the umbilicus, the existence of which could never have been ascertained by manipulation, however carefully or skilfully conducted; *2dly*, The immediate dangers of the operation, which is stated to have proved fatal in several cases, either from fatal syncope during the operation, or hemorrhage, occurring within a few hours afterwards; fatal sinking from the shock of the operation, &c.; *3dly*, The secondary dangers—of peritonitis, the extensive suppuration which must ensue, and be kept up by the presence of the ligatures through the pedicle, and the great constitutional irritation produced by the slough of the pedicle; and, *lastly*, The very reparative process (supposing other dangers overcome) had always appeared to him as eminently fraught with danger, owing to the consolidation and contraction of the parts within the pelvis consequent upon cicatrization involving the intestine, and so giving rise to fatal ileus. Such were the grounds on which he had decided against the propriety of operating, and as to the cures stated from the cases which he had read, the date after the operation at which cases were reported as successful was too short, taking the last-mentioned circumstance of danger into consideration, to be allowed as evidence of complete cure, or as counterbalancing the great risks of the operation. True, Professor Simpson had mentioned to-night the successful results of some of Dr Clay's cases, and given their history long after the operation, but even this proof of these few cases was not published till now, and of course, surgeons could decide only by the evidence before them.

If surgeons, without reasoning from great general principles, long recognized as the results of experience, were at once to adopt every new operation or method of treatment, in consequence of statements of some successful cases, where were we to draw the line of demarcation between the rational practice of our profession and empiricism! He could not agree with Dr Simpson that the operations—ligature of the innominata or trepanning for effused blood were now recognized as regular and justifiable operations by surgeons generally.

Dr S. had said that surgeons objecting to operation in ovarian disease, on the plea of it not being a rapidly fatal disease, were yet ready enough to operate in cases of aneurism, which was a disease which might continue long without being fatal, and might even become spontaneously cured. Surely Dr S. must have forgotten how rare spontaneous cure of aneurism was. He (Mr S.) thought

that in such cases the surgeon was not only warranted, but bound to urge the operation (an operation not dangerous in itself,) as, if delayed, risk of extension of the diseased state of the vessel, of suppuration within the sac, and gangrene of the extremity, would be much increased; and, indeed, such delay on the part of either surgeons or patients, might account for the unfortunate results which had been referred to by Professor Simpson and Dr Spittal.

Professor Simpson made some additional observations in reply to Mr Spence's remarks. According to Mr Spence, trephining for the discovery of effused blood, and tying the arteria innominata, were not now looked upon by surgeons as justifiable operations. Probably, the Society would allow that the lately published text-books by Professors Fergusson and Syme, were fair standards of the existing state of British Surgery. Now, Mr Fergusson, not only in his work, advises trepanning for effused blood, but even speaks of cutting through the dura mater in search of it. Mr Syme, in treating of the ligature of the innominata, states that it is a *dangerous* operation, but he does not give the most remote hint as to its being regarded by him or others, as an *unjustifiable one*; and, on the contrary, he describes the steps of the operation, and suggests means for rendering it safer. Mr Spence had alluded to the spontaneous cure of aneurism, and thought Dr Simpson wrong in his ideas about its frequency. Dr S. did not know of any data calculated to show how often, or how seldom, the spontaneous cure of a *local circumscribed aneurism*—such as surgeons operated for—might be expected; but of 8 or 10 cases, of popliteal aneurism, seen in the hospital within the last 8 or 10 years, nature set up inflammatory action in the sac or vessel, or both, and cured one case (a patient of Dr Cunningham, late of Kirkaldy, now of Davidson's Mains), before art had an opportunity of interfering. At all events, Dr S. felt assured, that if local external aneurism were treated by common palliative measures, their spontaneous cure would be found not to be so rare as the spontaneous cure of ovarian dropsy; and he feared that all Mr Spence's arguments for early operation in the one case, most unwittingly applied with similar appropriateness to the other. And when, in aneurisms, art substituted her surgery for that of nature, the operation was certainly by no means so safe as Mr Spence seemed to believe. Tying the subclavian for axillary aneurism, was fatal in about 1 out of every 2 operated upon. Nor was ligature even of the crural artery for popliteal aneurism, an operation of such facility and safety as some surgeons seemed to believe. In the first number of Dr Cormack's Journal, eleven cases of ligature of the crural artery for popliteal aneurism, are adverted to, as having, within a limited period, occurred in Edinburgh. It is well known, that in five of these eleven cases, the operation was followed, sooner or later, by a fatal result.

Dr Cormack remarked that he was not responsible for any surgical statistics, or for any statements published in his Journal, excepting those which appeared *anonymously*, or with the *express sanction of his own name*. A periodical could no more vouch for the authenticity of the cases contributed to it by authors who furnished their names, than could this Society be held responsible for the truth of what was said or read before it.

Dr Douglas Maclagan said that he would refrain from giving any opinion regarding the value of Ovariotomy statistics, as at present before the profession. He rose simply to state a fact which was important—that the great mortality which had occurred after amputation in the Royal Infirmary, during the period embraced in Dr Peacock's statistics, was owing to the then prevalence of hospital gangrene.

Professor Simpson.—Hospital gangrene surely did not prevail during the whole period?

Dr D. Maclagan.—During the greater part of it.

Dr Watson begged to state, that of the first 15 amputations he had in the Royal Infirmary, he only lost one.

Professor Simpson said, that was very creditable to the skill of Dr Watson, but we all know that there is such a thing as a run of lucky cases, and it is quite possible that in Dr Watson's next 15 amputations, there may be 14 deaths. It

is only from a large number of facts that generalizations can be legitimately deduced.

A short desultory conversation now ensued regarding the accuracy of certain statistical statements which had been made, in which Professor Simpson, Dr Spittal, Mr Spence, and Dr Cormack took part. The Society then adjourned at a late hour.

[It is to be regretted that none of the teachers of surgery, or surgeons to the Infirmary, favoured the Society with their opinions upon ovariotomy, excepting Dr Handyside and Mr Spence, who were personally concerned in the case reported by Dr Bennett.]

EDITORIAL CORRESPONDENCE.

THE CHAIR OF CLINICAL SURGERY.

Mr Syme to the Editor of the Monthly Journal, &c.

Sir,—Having happened to notice in a weekly medical journal an old calumny respecting my appointment to the chair of Clinical Surgery, revived in very offensive terms by Dr Lewins of Tiverton, formerly of Leith, I deemed it proper to send a statement in reply to the *Medical Gazette*, as a respectable medium of communication. At the same time, I wrote to Mr Liston, authorising him to see this statement, with the view of suppressing any part of it that might be disagreeable to him, provided the imputation of having obtained my appointment by dishonourable means were effectually silenced. To this offer Mr Liston replied:—

Dear Syme,—It so happens that I do not know the editor; and if I did, I would not interfere with your lucubrations. How was it, if not by purchase, that you obtained the chair of Clinical Surgery?

Faithfully,

Nov. 8, 1845. (Signed) Robert Liston.

The statement, therefore, appeared as follows, without any alteration:—

To the Editor of the Medical Gazette.

Sir,—Not being in the habit of reading the *Medical Times*, I only to-day happened to notice the following passage in that paper, published on the 23d of August last: "Too true it is that, as has been said by O. P. Q. in reference to the appointment of professors in general, there were circumstances connected with the nomination to the chair Mr Syme occupies calculated not only to wither the young and ardent mind, but to annihilate the hopes, and to sicken the hearts, of some who had long laboured in the field of medical science. The late Mr Russell, who had filled the chair of Clinical Surgery for thirty years, was allowed to dispose of it! He made it a matter of 'attorneyship;' and, after much wretched intriguing, on his part at least, Mr Syme paid the price demanded—report said, an exorbitant one. Such was the inglorious manner he got possession of his chair. The transaction referred to was, doubtless, a very disreputable one, and discreditable to all concerned, but especially to the late Professor, and to those who dispensed the Crown patronage in Scotland at the period to which I allude (1833.) The plain and unvarnished state of the case is this: a rich old man (an octogenarian, or nearly so), in whom the maxims of philosophy did not moderate an insatiable desire of additional wealth, was permitted, if not coaxed, to make merchandise of a medical chair then in the gift of the Crown! He virtually 'put it up' for sale, and 'knocked it down' to the highest bidder. And to that disgraceful transaction those who were

delegated with the honourable trust of filling the *Regius chairs* in the Scotch Universities were parties—parties that cruelly disappointed the cherished hopes of at least one admirably qualified aspirant to the chair in question."—So far as this statement concerns myself, I should not think it required any attention; but as it throws an aspersion upon the conduct of a gentleman who is the brightest living ornament of his country, and who has ever been distinguished, above all things, by his high feeling of honour in the discharge of public duty—I mean Lord Jeffrey, who, as Lord Advocate, represented the Government in Scotland at the time of my appointment to the chair of Clinical Surgery, and through whose recommendation I received my commission from the Crown—I beg you will have the goodness to reprint in your journal an extract from the 'Refutation of some mis-statements respecting the University of Edinburgh,' which was published in 1834.

"The only other mis-statements that require to be noticed are those respecting the chair of Clinical Surgery, the appointment to which that took place, on the resignation of the former Professor, might have been expected to be peculiarly agreeable to the private lecturers, who insist so much upon the strength of claims resting on experience and success in teaching. The present Professor was a private lecturer for more than ten years, during which he taught anatomy, surgery, and clinical surgery. It is well known that his surgical class progressively increased until the institution of a chair of systematic surgery in the University, and had exceeded the number of 250, which was more than double that of any other lecturer on the same subject in Edinburgh. How far he succeeded in regard to clinical surgery appears from the last report of the Edinburgh Surgical Hospital, in which it is stated, that during the four years that institution existed, he contributed to its support L.1800, the chief part of which, it may be presumed, was derived from the fees of pupils attending his clinical lectures on the cases of the patients. The claims just mentioned are so strong that they have never been questioned; but it has nevertheless been complained that this appointment was 'the most complete of all jobs,' on the grounds that the chair 'was allowed to be sold to the present Professor; and that, as if to enable him to pay the price of the purchased chair (either two or three hundred pounds a-year), attendance on the new Professor's prelections was at once rendered imperative on students,' while the merits of a certain '*master* surgeon' were overlooked, 'he having refused to pay the bribe.' The best reply to this statement will be a simple relation of the transaction referred to.

"The former professor, Mr Russell, has stated, that towards the end of the year 1831, an offer was made to him on the part of Mr Liston of L.300 a-year, on condition of resigning in his favour, and that he afterwards had several meetings with him (Mr Liston), when they 'talked over the proposal, and the mode of carrying it into execution.' The Professor then communicated the proposal to his professional adviser, who informed him 'that no *private* agreement of the kind could be made, as there was an Act of Parliament voiding any appointment made on a resignation of office, if the terms on which the resignation was made were not specially set forth in the new commission.' 'All idea of *a private agreement* was therefore abandoned.' Thereafter (in October 1832) the Professor gave in a petition to government, praying to be allowed to resign, his successor being bound to pay him L.300 a-year during his life, in consideration of his having established the class, having taught it for forty-six years, and his being in the eightieth year of his age. As soon as he had done this, he showed Mr Liston a copy of the petition, and acquainted some other gentlemen who might be supposed to have views to the chair, with the vacancy that was likely to take place, and the terms on which, in that event, it would be supplied.

"Having been thus fully informed as to the state of the affair, Mr Liston forwarded an application to Lord Melbourne, and addressed a letter to the Lord Advocate in recommendation of his claims. His Lordship, in reply, to prevent the possibility of any misapprehension on the subject, explained that there would not be a vacancy 'unless the present incumbent is allowed to retain a share of the emoluments, not, of course, by any private arrangement with the

successor, but by open stipulation in the appointment.' This letter was dated in November 1832; the appointment did not take place until March 1833; and Mr Liston (although in full knowledge of the terms on which alone the office could be obtained) did not withdraw his application to Lord Melbourne until the commission of the new Professor arrived in Edinburgh. So much for the alleged purchase of the chair of Clinical Surgery. It may next be inquired how far it is true that the class was made imperative to enable the present Professor to complete the engagement to his predecessor.

"The Report of the University Commissioners recommended that attendance on clinical surgery should be imperative on candidates for the degree; and the former Professor repeatedly brought the propriety of making this addition to the curriculum under the consideration of the Senatus Academicus. In the year 1825, clinical surgery was constituted one of the optional classes, and application was afterwards made by the late Professor to the Patrons of the University, for its being rendered fully imperative. This application was remitted to the Senatus, who reported, so lately as November 1832, that they did not think it could be expediently granted, on account of the defective provision in regard to cases for the subject of lecture possessed by the Professor, who, having no patients in the Infirmary under his own charge, lectured on the cases treated by other surgeons. The present Professor having been provided with wards in the Surgical Hospital of the Royal Infirmary, the Senatus Academicus, at the recommendation of the medical faculty, unanimously added clinical surgery to the list of imperative classes."

The writer in the *Medical Times* further remarks, "The act deprecated, in regard to the appointment of a Professor to the chair of Clinical Surgery in the University of Edinburgh, I say again was a disgraceful one, and its consummation a reproach to those who were entrusted with the responsible duty of superintending the appointment of Professors to Regius chairs. There is, however, good reason to suppose that it will be long ere such chicanery be again practised in the disposal of a Professorship at Edinburgh or elsewhere in the Queen of England's dominions."

Now, in recent as well as former times, the Patrons have, on various occasions, appointed Professors under arrangements precisely similar to the one here denounced as standing alone in the history of the University. Since my own appointment the chairs of Logic, Practice of Physic, Institutes of Medicine, General Pathology, and Chemistry, have been vacated by the respective occupants on condition of receiving from their successors allowances of from L.100 to L.300 a-year. Notwithstanding these encumbrances there have been contests by candidates of acknowledged excellence, and those who proved successful were never, so far as I know, charged with obtaining their preferment by "purchase" or "chicanery." I am, Sir, your most obedient servant,

JAMES SYME,
Professor of Clinical Surgery
in the University of Edinburgh.

CHARLOTTE SQUARE, 29th October 1845.

(FROM THE LANCET.)

To the Editor of the Lancet.

SIR,—You will oblige me much by giving insertion to the following note, which I have considered necessary to send to the *Medical Gazette*, in answer to a statement inserted in the number of that Journal for the 21st instant.—I am, Sir, your obedient servant,

ROBERT LISTON.

CLIFFORD STREET, Nov. 21, 1845.

To the Editor of the Medical Gazette.

SIR,—I beg to say that the statement made by the late Professor Russell of Edinburgh, and republished in your last Number, by Professor Syme, that an offer to purchase the Chair of Clinical Surgery was made on my part, is utterly false.

The assertion was contradicted by me in the public journals of the period, and Mr Syme knows that to be the case.—I am, Sir, your obedient servant,

CLIFFORD STREET, Nov. 21, 1845. ROBERT LISTON.

In reply to this rude attack upon Mr Russell's veracity, I addressed the following letter, with a correspondence that had taken place at the time, between Mr Russell and Mr Liston on the subject, to the Editor of the *Medical Gazette*, who declined to admit it. The *Lancet also*, though it had published Mr Liston's assertion of his own accuracy, as superior to that of Mr Russell's, has not inserted the correspondence, which was requisite to show how far the statements impugned admitted of being set aside by a simple denial.

Mr Syme to the Editor of the Medical Gazette.

SIR,—The last appointment to the chair of Clinical Surgery excited more than usual interest, on account of the effect anticipated from it, not only in regard to the individual who might be chosen as professor, but also upon the prosperity of the medical school. The original incumbent having no patients under his own charge in the Royal Infirmary, lectured upon the cases of the different ordinary surgeons who were successively appointed for the established period of limited service; and, consequently, gave his instructions more in a systematic than clinical form. But it was understood that the new professor would have wards assigned to his department, and that he should thus not only be enabled to give a more efficient course, but also possess the unprecedented position in the hospital of a permanently acting surgeon. It is, therefore, not surprising that my election occasioned disappointment in other quarters, and that this feeling led to acrimonious remarks. But nearly thirteen years having elapsed, and the animosities so excited having subsided into quiet, it is certainly vexatious that the meddling interference of a restless spirit should have raked up the expiring embers of this ancient feud, and again fanned them into a flame. It was quite impossible for me to remain silent—and I trust that what has been said will protect me for the future from hearing any more as to the "purchase" of the clinical chair. I should now gladly take leave of the subject; but as Mr Liston has considered it necessary to deny the accuracy of Mr Russell's statement in regard to a minor point, not at all affecting me, and entirely relating to his own share of the transaction in question, I must, in justice to the memory of a distinguished member of the profession, beg that you will insert the following correspondence, upon which I would merely remark, that in the choice between conflicting testimony, proceeding from sources estimated of equal value, it is usual to prefer what is *positive*, to that which is only *negative*.—I am, Sir, yours,

JAMES SYME.

MR RUSSELL TO MR LISTON.

EDINBURGH, 5th April 1833.

SIR,—I was surprised to see it stated in a letter from you to Sir James Gibson Craig, that you had never authorised any person to say that you had been willing to pay me L.300 a-year on your being named my successor.

Towards the end of the year 1831, Sir Robert Liston came to me at the Infirmary, and said that he had come, at your desire, to ask if I would resign my Professorship in your favour. I had never before thought of doing so; but I said, that, on proper terms, I would be inclined to resign. Sir Robert mentioned L.300 a-year for my life, to which I agreed. I afterwards had several meetings with you, when we talked over the proposal, and the mode of carrying it into execution. You never gave the most remote hint that you disapproved of the terms Sir Robert Liston had proposed. On the contrary, the whole tenor of what passed was a complete approbation of them.

I then communicated the proposal to my professional adviser, Sir James Gibson Craig, who informed me that no private agreement of the kind could be made, as there was an Act of Parliament, voiding my appointment made on a resignation of office, if the terms on which the resignation was made were not specially set forth in the new commission. All idea of a private agreement was therefore abandoned.

I then wished to have you appointed my assistant and successor, but this could not be accomplished.

Thereafter I gave in a petition, praying to be allowed to resign, my successor being bound to pay me L.300 a-year during my life, in consideration of my having established the class,—having taught it for forty-six years, and my being in the 80th year of my age. As soon as I gave in the petition, I showed you a copy of it, when you said, very vaguely, you did not recollect the terms on which it had been proposed that I should resign.

You admit that you know that Sir Robert Liston was in "communication with me on the subject of my retiring from the Professorship;" but you are silent as to the terms of the communication.

I should wish you to be specific on this point. Did you expect that I was to resign in your favour the salary of L.100 a-year, and the perquisites of the class, of which I was in the full possession, without any consideration?—I am, Sir, your most obedient servant, JAMES RUSSELL.

R. LISTON, Esq.

MR LISTON TO MR RUSSELL.

99, GEORGE STREET, April 5, 1833.

SIR,—The statement contained in my letter to Sir James Gibson Craig is literally correct. Unfortunately, Sir Robert Liston is, as you know, not in a situation to be referred to in any matter of business, otherwise he must have been able to contradict the extraordinary allegation that he had ever communicated to you, under my authority or with my knowledge, that I was willing to make you an allowance of L.300 a-year. I observe you do not say that I ever directly made any such statement to you, myself; and it is not true that you ever mentioned to me that Sir Robert had done so on my behalf, or that any such proposal was the subject of conversation between us. I am in no way responsible for any erroneous inference which you may have drawn, or for the expectations formed by you.

I know nothing of the commnnications you may have made to Sir James Gibson Craig, and I am much surprised at the remark, that all idea of a private agreement was abandoned, because it was necessary to set forth the terms of that agreement in the new commission; seeing that in consequence of the arrangement which has now been concluded with Mr Syme, the appointment has taken place under a commission; setting forth, as I understand, an arrangement of precisely the same import.

I never before heard of your wish to have me appointed your assistant and successor, and I know no reason why this could not have been accomplished, had the desire been mutually entertained.

I remember that you showed me the petition to which you refer, and I must take the liberty of reminding you, that both on that occasion, and on another soon after, I most distinctly stated to you, that I would not accede to the terms proposed, nor to any terms whatever, without the sanction of the Managers of the Royal Infirmary.—I am, Sir, your obedient servant,

(Signed) ROBERT LISTON.

JAMES RUSSELL, Esq.

MR RUSSELL TO MR LISTON.

EDINBURGH, 6th April 1833.

SIR,—I have received your letter of yesterday, in which you take no notice of my request that you would explicitly state the terms of the communication which you authorised Sir Robert Liston to make to me; although, from what you say in it, I must conclude that you would not have objected to the terms, had you received the *sanction of the Managers of the Royal Infirmary*.

I am very unwilling to continue a correspondence which must be disagreeable to you as well as to me; but I must say, that I cannot be mistaken as to what passed both with Sir Robert Liston and yourself. How can it be supposed, that, if the proposal had not been made by Sir Robert, and agreed to by you, I should have gone to Sir James Gibson Craig, to consult him as to what was necessary to be done for securing my interest?

You seem to insinuate that I made a private agreement with Mr Syme. I made no agreement with him of any kind. I gave in my resignation under the condition of my successor, whoever he might be, (Mr Syme was never named in it,) paying me L.300 a-year for my life. The Lord Advocate made you aware, by his letter, that there would be no vacancy, except on the condition of my receiving a certain annual sum, and that he had forwarded an application by Mr Syme for the office. You and, I believe, another, also applied; and, after the fullest consideration of the claims of all, his Majesty was advised to appoint Mr Syme. I in no way recommended Mr Syme, and for his appointment I can neither be praised nor blamed.—Sir, your obedient Servant,

(Signed) JAMES RUSSELL.

I understand you have said that your desire was to put an end to the professorship altogether. How can you reconcile this with your anxious exertions to secure it for yourself?

ROBERT LISTON, Esq.

Mr LISTON to Mr RUSSELL.

99, GEORGE STREET, April 6, 1833.

SIR,—I am surprised that you persist in a correspondence which, I think, was originally uncalled for on your part.

I beg to repeat, that I never authorised Sir Robert Liston to make any offer to you of the description to which alone the communications betwixt Sir James Gibson Craig and me relate, nor do I believe that Sir Robert ever made any proposal of the nature referred to.

I decline entering into any argument on the subject, but I cannot allow the inference which you have been pleased to draw, from what I stated as to the managers of the Royal Infirmary, to pass unnoticed. I know that the inference is unfounded, and I am confident that these highly respectable gentlemen never would have given their sanction to an arrangement so injurious to the interests of the public and the Medical School of Edinburgh, however profitable to you individually.

I feel convinced, that no candid person can come to the conclusion, that the present appointment has been carried through, after fair and open competition. The statement in the newspapers, which led to this unpleasant altercation, was obviously intended to induce the public to believe that this had been the case; but, as I have already shown, that, in so far as I am concerned, that statement was entirely false, I beg you may understand the correspondence to be now closed on my part.—I am, Sir, your obedient Servant,

(Signed) ROBERT LISTON.

JAMES RUSSELL, Esq.

I abstain from any comment upon these letters; and leave the reader to determine, whether the discrepancies of their statements should be attributed to groundless fabrications without any semblance of object, by a shrewd old man of proverbial accuracy and caution—or to the hazy recollection of a disappointed candidate—who found the charge he had attempted to fasten on his successful rival, recoil upon himself; but I may remark, that at the time of the transaction in question, between Mr Russell and Mr Liston, they were in daily communication at the Royal Infirmary, where they lectured together, and divided the fees of their courses; while I taught clinical surgery, in my own hospital of Minto House, in opposition to them, and had not had any communication with Mr Russell directly or indirectly for several years.—I am, Sir, yours,

JAMES SYME.

CHARLOTTE SQUARE, 20th Nov. 1845.

LETTERS FROM DR WILLIAM ROBERTSON.

EDINBURGH, 28 ALBANY STREET, December 5, 1845.

SIR,—A footnote in the last number of your Medical Journal refers to me as "the youngest member, it is said, in the College of Physicians." The above statement is untrue, and is a repetition of one which appeared in another Journal *anonymously*. I question whether either justice or good taste has been shown in reprinting it, and request that you will have this contradiction of it inserted in your next number.—I am, Sir, your most obedient servant,

WILLIAM ROBERTSON, M.D.

Dr CORMACK, 131 Princes Street.

EDINBURGH, 28 ALBANY STREET, 8th December 1845.

SIR,—In the note which I addressed to you on the 5th December, in quoting your words, (which I did from memory) I have erroneously substituted the word "member" for "man."

I am, however, happy to think, that I have not misunderstood your meaning, and that after the above verbal alteration what I have written requires no correction.—I am, Sir, your obedient servant, WILLIAM ROBERTSON.

Dr CORMACK, 131 Princes Street.

[Our words referred to what "*was said*:"—and, to what *may be said*, until Dr Robertson gives a distinct answer to such an interrogatory as is contained in Gen. xlvii. 8.

Dr R. has erred, we think, in thrusting himself into the breach between the College of Physicians and the Managers of the Infirmary, inasmuch as we neither censured his conduct in reference to the election, nor in any way detracted from his merits. The responsibility—and it is heavy—rests entirely upon the Managers, of having neglected the claims which other candidates possessed, independently of mere seniority. On the ground of service to the hospital, and of scientific eminence, some of these claims were, as is well known, very strong and peculiar.

If Dr Robertson, or any one desires to defend the Managers of the Infirmary, our pages will be freely opened to them: and whenever any of the reforms, at present under discussion at the board, are carried out, we will joyfully record them. We can say, in all truth, that the Infirmary has our hearty good wishes.]

SMITH'S MINOR SURGERY.—LETTER FROM THE AUTHOR.

To Dr CORMACK. PHILADELPHIA, Sept. 20th, 1845.

DEAR SIR,—The LONDON AND EDINBURGH MEDICAL JOURNAL, in noticing "Smith's Minor Surgery," in two numbers, which we have only just seen, charges it as an impertinent and audacious plagiarism of "Cutler on Bandaging." It is not our custom to notice ordinary criticism in any way, except so far as to profit by whatever in it is just; but the present article contains a charge, which, in justice to ourselves, we here call your attention to.

In the preface to the book, the author says, "he does not expect to be able to offer anything *new* or *original* on a subject which has so long engaged more or less of the attention of every one, but hopes to afford a concise and methodical system, &c., and that in doing this, he has drawn freely on the works of Velpeau, Gerdy, Mayor, and others, &c. &c.

That any one acquainted with the literature of his profession should expect a work on bandaging of the present day to be original, is preposterous, especially after a disclaimer like that in the preface. That Dr Cutler himself never pretended to originality, is evident from his book; and nothing but entire ignorance of French authors could induce any one to claim it for him, when, out of 78 illustrations, more than 60 are copied from Thillage, Gerdy, Velpeau, and Mayor: when nearly every heading has a French synonyme attached to it, and when a large portion of the text is but an imperfect and mutilated translation

of the same and other authors. In proof of this, we would refer you to the works of Hippocrates, Celsus, Louis, Heister, Petit, Ledran, Dessault, Boyer, Bourgery, &c. &c., and the works before mentioned, especially Gerdy. But to save time, and in imitation of the writer of the review, we offer some parallel passages from Gerdy, Thillage, and Cutler. "La charpie est un assemblage de filaments retirés du linge qu'on a effilé . . deux espèces de charpie, la charpie brute, et la charpie rapée." (Gerdy.)

"Charpie is a name given by the French to a collection of filaments separated from morsels of old linen rag. It is divided into two kinds; the charpie brute, and the charpie rapée." (Cutler.)

Gerdy says, in regard to bandaging, "Prenne le cylindre de la main droite, son chef initial avec la pouce et l'index de la gauche appliques ce chef par sa face externe sur un despoints de la circonference de la partie, qui doit recevoir la bande, fixez l'y-momentanement avec les doigts de la main gauche," &c. &c.[1]

Cutler says, in applying the roller, "take the cylindrical part of it in the right hand, and hold the initial end between the thumb and finger of the left, then applying the external face of the latter upon some point of the circumference of the part, and retaining there for an instant under pressure of the fingers of the same hand," &c. &c.

Had we space, we could offer many other quotations to show the source of Cutler's book, but deem this sufficient, as we hope the writer will read some of our authors as before quoted, for himself, especially, in reference to the Triangular Bandage of the Head—the Morricle—the Spica—the Suspensory of the Breast—of the Testicles—the Body Bandage, &c. &c., before he believes that any one can now claim originality on this subject. Cutler's book was a good compilation, but mainly defective in the omission of the minute details of the authors from whom he "culled his treasures." When an edition was printed here, this was felt; and, on its exhaustion, the publishers proposed the compilation of a similar work, in which this defect could be changed, and the additions made, of such means of treatment as were generally employed in the United States, together with as much on minor surgery as was deemed desirable.

This gave rise to Smith's *Minor Surgery*, in which, owing to increased size, a considerable part of the *operations* were excluded, so that the latter portion of the work as originally proposed, remained imperfect, and, consequently, its title improper. To save expense, it was also specified, that as many as possible of the cuts of Cutler should be used, and this was so openly done that no claim could have been advanced to ownership, had such a base idea occurred to us. But as before stated, Cutler had no title to what he used, for one of the parts selected by the writer, viz., Jörg's apparatus, is figured and described in "Cooper's First Series," which the reviewer ought to have known, even if ignorant of French authors. That Cutler was not named as a source, was, 1st, Because the enumeration of every source of information would have been impossible, much having been obtained in ordinary medical education; 2d, Because he was not *original*, and, consequently, his authors were referred to rather than himself; 3d, Because he was not quoted from in proportion to original matter, more than the numerous and very worthy class of *others* in which he was placed; a class that embraced the names of Physick, Barton, Gibson, Dorsey, M. R. Smith, R. Coates, Randolph, Morris, &c. &c.

We are fully aware that American writers are but little thought of by our "transatlantic brethren," though our blow-pipes, steam-engines, and innumerable scientific articles have been adopted by them without any credit being given to the source. We think, therefore, that they should not complain, if, following their example, we take what is good from them in return, especially when it is borrowed from others. If the writer could show us an original idea that we have taken from Cutler, we would most willingly plead guilty to his charge; but at present we declare our entire innocence of having done so, either in intention or deed. The defects of the copyright are the result of political and not professional feeling, and it behoves medical journalists to recollect this ere

[1] We print the French exactly from the MS.

they blame the profession for the sins of the public. We have thus (very imperfectly from the medium of communication) endeavoured to give you a correct view of the case here stated, relying upon your sense of justice, for such notice of this communication, as you may deem most likely to clear the character of the work which claims our paternity.

In the second edition, now about publishing, we shall make such changes as will put it on our original plan, and obviate the possibility of a misconception of our intention in regard to Cutler's book, taking good care that a copy shall reach your reviewer, if only to invite his criticism, which, when just is always welcome to his (ignorantly?) misrepresented author, HENRY H. SMITH.

No. 117 SOUTH 9TH STREET, PHILADELPHIA.

[We will review this letter along with the promised second edition.]

DR SIMPSON'S UTERINE SOUND.

To DR CORMACK.

ST JOHN'S, NEW BRUNSWICK, 12th Nov. 1845.

SIR,—The drawing of Dr Simpson's Uterine Sound, promised in your journal for 1843, pages 703 and 1122, has never yet appeared. Will you not give us a sketch of it in your next journal!—I am, &c., A SUBSCRIBER.

[A Subscriber should have paid the postage. Dr Simpson has not given us a drawing.]

DR SIMPSON'S UNFINISHED PAPER ON PLACENTA PRÆVIA.

To DR CORMACK.

DUBLIN, 4 HANOVER ST. WEST, 27th Nov. 1845.

SIR,—In your number for March of the current year, there is an article on "Placenta Prævia," by Dr Simpson, which was to be continued. May I beg to know if it will be continued? and if so, when?—Yours very truly,

P. F. RACHY.

VARIETIES.

OBSCENE MOCK MEDICAL PUBLICATIONS.—(*From the Dublin Medical Press, 24th December*, 1845.)—The following apology or defence has been transmitted to the editor of the *Lancet* by one of the "Silent Friend," "Manly Vigour," and "Self-Preservation" fraternity, in consequence of an exposure in the *Lancet*, of the system pursued by this class of worthy gentlemen:—

"*To the Editor of the Lancet.*

"SIR,—My attention having been directed to an article in your publication of the 22d November, wherein a series of gross misrepresentations, (to use the mildest term), affecting my name, character, and qualifications, are most seriously involved, I appeal to your sense of justice, to permit me the benefit of replying to those false accusations.

"Your correspondent, or contributor, thinks proper to state, that none of the parties named in his review, (and mine appears prominently amongst them), with the exception of Drs Mason and Dawson, were in any way legally qualified to practise; that the names were assumed; that they were not to be found in the lists of either College or Hall; that they never had the advantages of a professional education, and were guilty of practices which are a disgrace to the profession.

"Now, Sir, as no distinction is made, I am bound to presume, as I am classed amongst the rest, that the same accusations are intended against me, and in reply most emphatically declare, that as far as I am concerned, they are a tissue of malicious falsehoods from beginning to end; for had your reviewer done me the justice of inspecting the lists of licentiates of the Hall, he would have found

that I qualified for practice by becoming a licentiate on the 11th of April, 1833. Secondly, that my name is not an assumed one, for I am well known to the majority of the physicians and surgeons of the London Hospital, having been partly educated there, and am also an honorary member of the Medical Society of that institution, and have been engaged in practice for upwards of twelve years. It appears that the branch of practice which I have thought proper to select is a source of peculiar annoyance to your reviewer; and as to the charges he makes against me in that respect, and also with my general conduct to my patients, I can only repeat, that they are base falsehoods.

"I cannot exactly comprehend, whether the article altogether is a mere contribution, or an editorial comment; if it is the former, I think that it is the duty of every public journalist to ascertain that the allegations contained in any article that may be forwarded to him are founded in truth, before he permits them to have insertion in his pages; and, secondly, that such communications ought not to be received from an anonymous correspondent. This is only fair and reasonable. I cannot for a moment suppose that the review in question emanated from you, for your having done me the honour of considering an article I sent you on 'Bleeding in the Cold Stage of Intermittent Fever,' worthy of insertion in the *Lancet* of May 31st, 1834, page 357, seems to preclude the possibility of such an inference.—I am, Sir, yours respectfully,

"SAMUEL LA'MERT."

Seeing the above, we were anxious to obtain a sight of the advertisement-book of this legally-qualified licentiate of the Hall, who is "well known to the majority of the physicians and surgeons of the London Hospital;" and although not illustrated with the usual obscene prints, it is as disgustingly indelicate, and as great an outrage on common decency, as any one of these vile productions. The title is, "La'mert on Self-Preservation," and consists of 132 pages of the vilest trumpery declamation in praise of virtue, and in condemnation of vice; interlarded with pious ejaculations and exhortations, which, in such a place, and mixed up with such abominations, are most scandalous. The anatomical details and physiological phenomena, dressed up for the comprehension of uninformed persons, are of the most offensive description, and the statements of symptoms and histories of cases given in letters professing to come from patients, are most disgusting. The reader is told how in "the act of copulation, the vagina closes tightly on the penis," with other particulars equally edifying; and the desponding patient tells in italics, how "he could not cause his penis to acquire a sufficient degree of firmness to effect penetration." We are really ashamed to repeat these odious statements, even in a medical journal, but we do so, in order to afford our readers positive proof of the detestable tendency of these publications, in order that they may set the people on their guard against them, and against the authors of them. The object of the production is to work on the fears of the timorous, and to lead feeble-minded persons to believe that whatever complaints they may have, arise from some disease of the generative organs. With this view, all kind and variety of symptoms, trivial ailments, and disagreeable sensations, are enumerated as consequences of this, and no weak person can take up the book without finding his own disease in it. The medical treatment in this "popular essay" is disposed of in about half a dozen lines, the "author" very cogently suggesting, that "the interest of the general reader is best consulted by referring him directly, and at once, not to books, which could only confuse a mind ignorant of anatomical matters, *but to that practitioner who has made sexual diseases his exclusive study;*" and having previously observed that, "the common medical attendant, never consulted, and very wisely so, is just as ignorant of the extent and prevalency of these pernicious practices as he is of the best mode for their detection and cure." Yet with all this before the eyes of the medical profession, this man has the temerity, or rather the impudence, to complain, in a letter to the editor of a medical journal, that he was charged with being "guilty of practices which are a disgrace to the profession." The following suggestion teaches us that no resource is left untried to secure the dissemination of this poison. "In conclusion, I beg to suggest a practical extension of the benefits I have endea-

voured to inculcate. It will be acceptable, if the reader who has attentively, and I hope usefully, perused these pages, will forward, *with as much privacy as may be, under envelope*, anonymously or otherwise, this little work to such of his friends or acquaintance, who, as he may have good reason either to know or suspect, have been the secret victims of the baneful habit I have described." The following expression of gratitude, addressed to the proprietors of newspapers, must be most gratifying to the gentlemen of the fourth estate, who patronize such conservators of public health and public morals. "Mr La'mert has to acknowledge the *friendly spirit* of the directors of public journals, fully aware that unless his book were evidently the result of much laborious research, and based upon the lasting and secure foundations of science, the commendations of so independent and fearless a body of critics could in no wise be expected." At the end of all this, we have the "testimonials" of the "author," including one from Dr Billing of the London Hospital, declaring that Mr Samuel La'mert is "an excellent medical practitioner;" from Dr Davies of the same hospital, stating that he "considered him, from the extent of his professional acquirements, highly qualified for the appointment of superintendent, or medical officer to any public institution;" and from Mr Scott, surgeon to the same hospital, "bearing testimony" to his "professional acquirements, and to his thorough competency to act as surgeon." Should not this teach medical men a little more caution in placing their names and characters at the disposal of every one who chooses to apply to them, regardless of the consequences to themselves and the profession to which they belong, from association in the public papers with persons who resort to such arts as those we have been commenting on. We have to ask pardon for devoting so much of our space to this matter, but we have done so because an opportunity was afforded us of laying before our readers a description of a *species* of a *genus* of the medical order, drawn by the individual himself, and thus enabling every man to administer an antidote to the poison disseminated by the class to which he belongs.—*Dublin Med. Press.*

Medical Students—Horse Guards—and Tobacco Smoking.—Our readers may perhaps think the following a hoax, or a paragraph from *Punch*, so little are we now-a-days in the habit of considering such things objectionable. It is, however, a genuine and authentic document, elicited by the unfortunate occurrence in the 4th Regiment of Light Dragoons. We reprint it here, because we consider that the disapprobation of horse-play and smoking here expressed by high authority is as applicable to medical students as it is to junior officers, and especially to those destined for the army or navy:—

"General Order.

"Horse Guards, Nov. 28, 1845.

"The Commander-in Chief having considered it his duty to order a Court of Inquiry to assemble, in order to inquire into the transaction which occurred in the 4th Dragoons, on the 28th of September last, desires that the report of the Court may be published in the general orders of the army.

"He entreats the commanding officers of regiments to draw the attention of the officers under their command, respectively, to the evil consequences resulting from the practice of gymnastic exercises after the mess dinner.

"The mess dinner of the officers of a regiment cannot be deemed a private convivial meeting, considering the interest which has been manifested by the public authorities in promoting its comfort and respectability; and considering that it is not unusually attended by officers and private gentlemen of character, and respectable on account of their rank and station (whether professional or social) or age, it is desirable, that conduct or practices should be avoided, in which men of that description cannot take part, and that nothing should pass which is otherwise than usual in the societies of persons of that description; and, indeed, that at all times, and under all circumstances, gymnastic exercises, wrestling and boxing by officers, and *such practices of youths in colleges and schools*, rather than of men entrusted with the command of soldiers by commission of their Sovereign, should be discontinued, excepting strictly in private; and that no officer or gentleman should ever think of raising his hand against another.

"The Commander-in-Chief has been informed that the practice of SMOKING, by the use of pipes, cigars, or cheroots, has become prevalent among the officers of the army, *which is not only in itself a species of intoxication occasioned by the fumes of tobacco, but undoubtedly occasions drinking and tippling by those who acquire the habit;* and he entreats officers commanding regiments to prevent smoking in the mess-rooms of their several regiments, and in the adjoining apartments, and to *discourage the practice among the officers of junior rank* in their regiments.

"Lieutenant Kirwin is released from his arrest, and is to return to the performance of his duty.

"By command of Field Marshal the Duke of Wellington, Commander-in-Chief. "JOHN MACDONALD, Adjutant-General."

That "youths" in colleges and schools should be permitted to amuse themselves by wrestling, boxing, and other trials of strength, at proper times and in proper places, we admit; but that young men embarked in the study of such a profession as medicine, should be so permitted, we deny; and above all things we object to the toleration of any such practices in places of medical education. The great difficulty which the young man has to encounter at the commencement of his professional career is his youth, and if he prolongs this juvenile period by continuing to play the boy, he postpones his period of manhood, and with it the rewards which belong to it. The practitioner on whose heels he is about to tread will be glad enough to see him amuse himself in this way, and the sober young man who accompanies him will be equally rejoiced to see him leave the way free for him to advance. The penniless medical scamp, whose services as a jackal or touter are to be purchased by a cigar and tumbler, calls the junior "jib and greenhorn," as he calls the senior "fogie and dotard," while he canvasses patients for his despicable patron; and if a handle be afforded for such insinuations, the effect is certain. We therefore use the above document to set medical students on their guard against their worst enemies. With respect to tobacco-smoking, we rejoice to see it denounced by such high authority; at all events, as a practice to be indulged in by juniors, it richly deserves to be discouraged; older men, who have unfortunately created for themselves this necessary of life, must be indulged, but young men endeavouring to acquire the appetite should, if possible, be restrained. The practice was introduced among the medical students of Dublin by persons who, unable to learn any thing at home, went to Germany to bring back a smattering, and with it brought back this filthy practice. "It causes," as the Commander-in-Chief says, "a species of intoxication, occasioning drinking and tippling," and is totally unsuited to the medical practitioner, whose mind should always be preserved in a state of activity instead of artificial torpor. We ourselves recollect the time when no *gentleman* in Ireland ever thought of such a thing as smoking tobacco; and to say the truth, it is not an accomplishment exclusively displayed by *gentlemen* at present who are engaged in the acquisition of medical knowledge." —*Dublin Medical Press*, Dec. 3.

CONFESSIONS OF A DOCTRESS:—Lately, Mr Bedford held an adjourned inquest at the Plough, Carey Street, Lincoln's Inn Fields, on the body of Mary Hoskins, a married woman. The jury returned a verdict of "natural death." Elizabeth Burnett examined—I live in Russel Court, Drury Lane, and am a doctress and a botanist. I attended deceased for the last twelve months for a cancer. I administered to her sweet herbs, knotted marjoram, hyssop, thyme, sweet marjoram, herbagrass, and things of that 'sre sort. The Coroner.—What do you receive for your attendance, my good woman? The Doctress.—It depends; sometimes sixpence, sometimes a shilling, according to circumstances. The Coroner.—Then you have no fixed charge? The Doctress.—Sartainly, tenpence is my reglars; my reglar fee, I means. The Coroner.—I think you should be cautious about prescribing and demanding a regular fee; you may run foul both of Newgate and the Apothecaries' Hall. The Doctress.—I should not like to do that, for the one place is as bad as t'other. A Juror.—Then you mean to say your medicine is sweet and pleasant, like wine? Doctress.—I do,

Sir. The Juror.—Then, my dear, you shall always prescribe for me. One of the medical gentleman present asked what sort of cancer it was! The Doctress.—It was a stone cancer, Sir. The Medical Gentleman.—You mean to tell us you use nothing from the chemist? The Doctress.—Forbid I should use anything from them poison shops! I never uses no kind of medical medicines. My remedies be sweet and simple ones. A Juror.—Does your medicine contain any portion of Holloway's ointment? The Doctress.—No, Sir, I gets all my things in Clare market, without the trouble of going to Holloway or Hornsey for them. I repeats I uses no medicines whatsomever, only my own sweets and simples, and herbs. A Juror.—Madam, will you oblige us with your card? The Doctress.—Sir, I tell you again, I'm a doctress, and give my patients no cards, nothing but sweets and simples. The jury said they were quite satisfied, and recorded the verdict we have given above. We understand that the doctress is not a solitary specimen of the species, that they abound in the metropolis, and make a good living by their sweets and simples.—*Globe.*

Royal Free Hospital.—During the last week an inquiry took place before Mr Wakley, relative to the death of a young female who had come up from the country, in the last stage of phthisis, in order that she might obtain admission into the "Royal Free Hospital." The verdict of the jury will sufficiently express the result of the inquiry. It was to the effect, that the deceased woman had died from pulmonary consumption at a public tavern, after having, with a companion, been refused admission to the wards of the Royal Free Hospital: and the foreman added, that "in returning this verdict, they could not refrain from expressing their astonishment and regret at hearing it proved in evidence, that the deceased woman, and the companion who had travelled with her on the preceding night from Windsor in a state of extreme destitution and disease, were denied admission to the wards of the said hospital, when it was proved that immediately after that refusal, three women labouring under a foul disease, that was not dangerous and urgent, sent from the City of London Union, were received into the hospital for medical treatment.

We should not have noticed the subject, but that we believe the public to be under a complete mistake in supposing that phthisical as well as other cases are more freely received into this Institution than elsewhere. The Royal Free Hospital has deservedly brought upon itself the censure implied in the verdict of the jury. Its advertisements, containing frequent appeals to public charity, would lead to the supposition, that it was the only hospital in London where the poor can obtain admission without a Governor's order; and the assumption of the title "*Free*" is itself an unjust insinuation against the other large charitable institutions of the metropolis, that their doors are closed against poor and needy applicants. We believe that provided a case be worthy of admission, the formality of an order throws no obstacle to the reception of a patient into these institutions, although he may be poor, friendless, and destitute.—*Medical Gazette*, Nov. 28, 1845.

Detection of Arsenic in a Mineral Spring in Africa.—In 1839, M. Tripier, a pharmacien in the French army which took Constantine, published in the *Journal de Pharmacie* an account of the waters of Hammammescoutine (or the Accursed Baths), situated near the ancient city of Ouelma. M. Tripier then stated, that these waters contain arsenic, but as that substance had never before been found in mineral springs, his analysis was much controverted. Recently, however, some specimens brought to Paris have been examined by M. O. Henry, and M. Tripier's statements fully substantiated. M. E. Boudet, who sent home the specimens (which were duly sealed, &c., at the springs, in the presence of credible witnesses), informs us, that the waters in question have a temperature of above 200° F., and flowing to the surface of the soil, leave there a calcareous deposit, which, accumulating, forms pyramids of fifteen, twenty, and even twenty-five feet high.

M. Henry concludes the paper from which these particulars are extracted, as follows:—

"The principle which these waters dissolve, doubtless in the soil which they

traverse, must be in the state of arsenite with a calcareous or barytic base. The proportion found in them is very minute, and does not seem capable of producing any injurious effect on the health of men, or of the inferior animals, for the natives of the country bathe in the water in question, cook their victuals with it, and drink it with impunity, whilst, despite its highest temperature, *even fish are found to live in it.* Although these facts dispel the idea of any poisonous qualities in these interesting waters, it is not the less highly curious to meet with a fact which is unique in the history of mineral springs, and to prove the presence of an arsenite amongst the mineral constituents of thermal waters. The honour of the discovery belongs entirely to M. Tripier; we are satisfied with reproducing the fact, and establishing it by fresh proofs."—*Journal de Pharmacie et de Chimie.*

MEDICAL REFORM.—We understand, upon what we consider to be undoubted authority, that Sir James Graham *is not to bring forward his Fourth Bill.* It is to be decently and quietly interred with its three elder brothers. This is no surprise to us. These repeated failures have arisen from no want of zeal on the part of the Minister, but must be entirely ascribed to the intrigues and counter-intrigues of rival corporations. The first step to a proper measure of Medical Reform, will be the assembling of a great Medical Congress, such as was recently held in France. There, all would meet as brethren, or at least as equals; and every point in which difference of opinion existed would be freely and fully discussed. The sentiments of the majority of the profession could thus easily be ascertained and embodied in a memorial to the Government. Such a document would form a sure and safe basis for a Medical Reform Bill. The *ex parte* statements of the different colleges, corporations, and self-elected committees, are individually bad; but fortunately from their incompatibility with one another, must ever be as harmless, as hitherto they have proved.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—At the Annual Election Meeting, the College chose by vote the following Council or Electors, as they are termed:—Dr Beilby, Dr Craigie, Dr Christison, Dr Renton, Dr Thatcher, Dr Fairbairn, and Dr Ransford. By these gentlemen Dr Beilby was placed in the chair; and by them also the various other offices were filled up. It is not generally known that the charter does not allow the College to appoint its own officers. It is to be hoped, when the promised new charter is granted, this absurd arrangement will be superseded. In the present case, the re-appointment of Dr Beilby would have been made unanimously by the College, had the right been vested in them, as was sufficiently evident by the fact, that every vote was given for him as an Elector. It has happened, however, and it may happen again, that the chosen of the Electors may not be the chosen of the College.—*From a Correspondent.*

TO CORRESPONDENTS.

COMMUNICATIONS in our next, from PROFESSOR SYME, and DR SPENCER THOMSON. A variety of papers which have been received within the last few days have not yet been perused by the Editor in consequence of his indisposition, but the authors will be communicated with by private letter, with as little delay as possible.—Dr WILLIAMSON's letter will appear.

OVARIOTOMY.—We will attend to the suggestion of our correspondent who asks for a Third Article on this subject. It is likely that we will give one during the year. In the mean time, the discussion at the Edinburgh Medico-Chirurgical Society (reported so fully in this number) must suffice.

NOTICE BY THE PUBLISHERS.

The PUBLISHERS respectfully intimate that in future all REPRINTS from this Journal must be at the sole expense of Contributors; and the amount, (which will be duly notified on application,) must also be prepaid.

SUTHERLAND & KNOX.

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OF

MEDICAL SCIENCE.

No. LXII.—FEBRUARY 1846.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Surgical Cases and Observations.* By JAMES SYME, Esq., Professor of Clinical Surgery in the University of Edinburgh.

NO. XXXIII.—POPLITEAL ANEURISM.

ARCHIBALD SINCLAIR, aged 32, a baker, was admitted into the hospital on the 10th of September last, for an aneurism of the left popliteal artery. It appeared by his account to have existed about five months, but had become seriously troublesome during the last few weeks. No cause could be assigned for the disease, except over-exertion in walking with a heavy weight of bread upon his head. The tumour occupied the hollow of the ham, and could be emptied by compression of the artery on the fore part of the thigh. Upon comparing the limbs, a small pulsating swelling was discovered in the right knee, which seemed to show that the disease was beginning there also.

Notwithstanding the unfavourable condition of the vessel inferred from this circumstance, I resolved to tie the artery; and did so in the usual way on the 17th. Considerable difficulty was experienced in passing a needle round the vessel, in consequence of its unusually firm adhesion to the sheath; and when the thread was tied, I felt the inner coats yield to a greater extent than upon any former occasion. But notwithstanding the evidence thus afforded of preternatural thickening, and morbid alteration in other respects, every thing went on well. The patient experienced no local uneasiness or constitutional disturbance; the wound healed by the first intention so completely, that the lint applied to it never required to be changed; the tumour soon disappeared; the ligature separated on the twenty-first day; and the patient was dismissed on the 8th of October.

He was readmitted upon the 14th of November, desirous of being relieved from the aneurism of the right ham, which had pro-

gressively increased during his former residence in the hospital, and since he left it, so as to interfere with the use of the limb, by causing painful sensations. I performed the operation upon the 26th, and encountered still more difficulty in detaching the artery from its connections than had been met with formerly. At length the ligature was passed quite satisfactorily, and not expecting any farther trouble, I proceeded to tie it; but in doing so experienced a sensation—also perceived by Dr Duncan, who assisted me—as if the vessel had given way entirely, while a stream of arterial blood that suddenly filled the wound confirmed the suspicion of its having done so. Pressure being made in the groin, I detached the artery higher up, and passed the aneurism needle with the view of applying another ligature with less force. But as the instrument, when withdrawn, was followed by an appearance of dark-coloured blood, which excited a fear that the femoral vein might have been wounded, I determined not to tie the thread, and took it out, intending to employ pressure for restraining any hemorrhage that might present itself. By the time that this was done, however, not the slightest oozing, either arterial or venous, remained, and I therefore dressed the wound as usual. Every thing afterwards proceeded favourably. The ligature was withdrawn upon the 29th of December, and the patient is now able to leave the house.

In the event of encountering a difficulty similar to that which was presented by this case, I should be prepared to meet it, through means of a small blunt hook, so fashioned as to embrace the artery, and hold it aside, while, the edges of the aperture in the sheath being separated by catch forceps inserted into them, the point of a narrow knife might sufficiently detach the firm connections of the vessel.

In this case I tied the femoral artery for the *fifteenth* time without ever experiencing the slightest unpleasant symptom from the operation. Much blame has been imputed to me for not adopting the lately revived method of compression instead of the ligature for effecting obliteration of the vessel; and I have not escaped the charge of "ignorance" for stating that what is called the new plan was long ago rejected after many careful trials in practice. I believe that if popliteal aneurism is more frequently cured by pressure applied on the artery now than formerly, it is only because the attempts to accomplish this have in a corresponding degree become more numerous—and I know that failures still occur in circumstances where the result cannot be attributed to any want of skill or care. The surgeon of a large hospital lately told me that in sanguine expectation of success he had persevered for a month in compressing the vessel, and then yielded to the pressing instances of his patient for its ligature. I do not presume to blame any one for preferring pressure to tying the artery, and merely claim for myself, with all others who deem the operation, if carefully

executed, a less irksome, tedious, and not less safe mode of relief—the privilege of employing it without incurring censure.

NO. XXXIV.—URINARY CALCULUS IN THE FEMALE.

Mrs Weir, aged 75, was admitted into the Minto House private hospital on the 1st of November last, suffering from urinary irritation, which had existed more or less for 20 years. Upon examination the sound was felt to grate upon a hard substance in passing along the urethra, and a swelling of stony firmness was found pressing down the vagina where it lay under this canal. Concluding from these circumstances that a concretion occupied the urethra, I dilated its orifice by incision of the mucous membrane merely, and then readily introducing my finger was surprised to find the passage free. Suspecting that the stone might have escaped backwards into the bladder, I felt for the tumour in the vagina, and finding it still the same, concluded that the stone must lie in a cavity between the urethra and vagina. I therefore carefully examined the former of these passages by passing my finger along its lower surface, and then detected a rough point of the calculus through a small aperture. By inserting a blunt-pointed curved bistoury into this opening, I divided the parietes of the canal, first forward and then backwards, so as to lay it open through the whole extent from its orifice to the bladder without at all injuring the vagina, and then extracted an oval calculus, measuring an inch and a quarter in length. The patient required to have her water drawn off for two days; but after this suffered no inconvenience from the operation, and went home on the 15th.

I think this case worthy of mention as being new to me, and as showing the possibility of removing a calculus from the situation occupied without cutting the vagina.

NO. XXXV.—ENCYSTED TUMOUR OF THE LABIUM.

Mary Donaldson, aged 35, was admitted on the 24th of November last. The left labium was occupied by a large tumour which presented the characters of a hernia in regard to consistence and the effect of pressure, which, when applied with moderate force, made the external swelling disappear. The patient stated her complaint to be a rupture, and attributed it to a fall she had suffered about four years before.

Upon careful examination I found that the tumour extended for some distance inwards by the side of the vagina, but did not communicate with the pelvis, and, therefore, concluded that it was merely a cyst, with fluid or semifluid contents, which admitted of removal. On the 27th, having placed the patient upon her back with the knees drawn up, I cut cautiously through the thin distended integument of the labium, and then readily detached all the projecting or external part of the bag. But when I proceeded with the dissection of the deeper part, it was found necessary to divide adhesions of considerable firmness and extent, which had been con-

tracted with the neighbouring parts. At length the tumour was completely removed, and proved to be a cyst the size of a goose egg, containing a semifluid matter like thin putty. She suffered no troublesome symptom from the operation, and was dismissed on the 25th of December.

I once removed a cyst the size of a pigeon's egg from the prepuce of the clitoris, but never before met with an encysted tumour of the labium.

NO. XXXVI.—ENCYSTED OR RATHER CYSTIC TUMOUR OF THE NECK.

William Aitchison, aged 47, from the neighbourhood of Falkirk, was admitted on the 4th of August last with the view of obtaining relief from a very large tumour of the neck. It extended from the right mastoid process forwards and downwards fully two inches below the clavicle, and seemed to consist of a thick cyst containing fluid. The patient stated that it had been first noticed when he was about nine years of age, and that it had gradually increased without inducing him to apply for surgical assistance, until thirteen years ago, when he entered the Glasgow Infirmary, where he was advised against any operation on account of the connections, which it was thought would render an attempt to effect removal very dangerous. Since that time the tumour had doubled its volume, and latterly became so troublesome by pressing upon the organ of the throat, that he was ready to suffer whatever I chose to advise.

Having satisfied myself, in the first place, that the tumour was a cyst, and that although it lay under the platysma myoides, the principal part of its extent was not more deeply seated than the sterno-mastoid, I concluded that the remaining portion which lay under and behind the ear did not extend beyond the reach of a careful dissection, and therefore undertook the removal, though not without anxiety, on account of the size of the tumour, and its long duration of *forty* years.

On the 7th, having made a free longitudinal incision through the skin and superficial muscle, I found no difficulty in detaching the tumour throughout the lower two-thirds of its extent; but in ascending towards the origin of the sterno-mastoid, it became gradually imbedded in the muscle, and at length shot out a twisted horn-like process that very nearly reached the bone. Having carefully separated this part from the parotid gland and tendinous fibres with which it was intimately connected, I completed the operation.

The tumour, when bisected, was seen to consist of one very large cyst, and two or three small cells at the upper part, where the parietes, becoming gradually thicker, at last composed a solid mass, from which the horn-like process proceeded.

Part of the thin skin sloughed, and the sore for some time showed a tendency to unhealthy action; but on the 10th of September was

so nearly healed, that the patient was allowed to go home, with the prospect of being soon quite well.

NO. XXXVII.—SINUSES DEPENDING UPON EXFOLIATION OF THE PELVIS.

Nearly twenty years ago I communicated, through the medium of the *Edin. Med. and Surgical Journal*, some observations on "Exfoliation from the bones of the pelvis, as causing the obstinacy of sinuses in this situation." From the facts then related, it appeared that, in consequence of excessive muscular exertion, or external violence, exfoliation of the ischium and pubis, at the parts of these bones where the extensor and adductor muscles of the thigh are attached, might be induced, and that the dead portion, from being imprisoned by the dense textures surrounding it, might maintain a discharge of matter for an indefinite length of time. In one case it had done so for six years; and, in another, for five, with so much exhaustion of the patients, as not only to render them unable for exertion, but to threaten their existence with a speedy termination. As removal of the exfoliation in these circumstances was found to afford complete relief, I endeavoured to render the diagnosis between such cases and those of caries in the lower part of the spine, the pelvis, or the hip-joint, with which they are apt to be confounded, more careful, by showing that diseases, admitting of easy remedy, might be regarded as incurable, and that by very simple means patients, apparently on the brink of the grave, might be restored to health. Since the period of that publication, many cases confirmatory of these observations have come under my notice, and been employed for impressing upon the gentlemen attending my lectures the importance of discriminating curable from incurable sinuses of the pelvis. But as this subject has not been noticed for a long while in any of my hospital reports, the following instances of the disease may be now related.

John Robertson, aged 30, son of a farmer in Perthshire, was admitted on the 13th of December last, in apparently the most hopeless state of exhaustion from the profuse discharge of matter, through small openings at the lower part of the belly, and upper part of the thigh. He presented, in a remarkable degree, the aspect of *tabes dorsalis* in its advanced stage, being extremely emaciated, and having the peculiar pallor of countenance which results from long-continued suppuration. His clothes were saturated with matter, and the stench attending him was more offensive than can well be imagined.

He stated that, sixteen months before, while in perfectly good health, he had been employed for three days in loading carts with sand, and afterwards felt severe pain in the thighs, chiefly on the inner side; that, in the course of two months, there gradually appeared, a little below the left groin, a swelling, which, at the end of two months longer, gradually opened, and discharged a large quantity of matter; that the other openings over the region of the

bladder had been formed subsequently; that he had in vain applied to a variety of practitioners for relief; and finally, that he had come to Edinburgh with hardly any expectation of benefit.

Finding that there was no difference, either real or apparent, in the length of his limbs, and that there was no sign of disease in the hip-joint or spine, I suspected that an exfoliation at the origin of the adductors or flexors of the thigh was the source of the discharge; and upon inserting a probe into the opening left by the abscess, distinctly felt a portion of dead bone. I dilated the sinus by incision upwards sufficiently to admit my finger, and then ascertaining that the exfoliation lay in a cavity formed by very dense texture, partly by cutting with a blunt-pointed curved bistoury, partly by stretching with my finger, obtained sufficient space to extract two pieces of dead bone, one an inch, the other an inch and half in length, with about half of these extents in breadth. They consisted of spongy or cancellated osseous texture; and one of them appeared to have formed part of the tuberosity of the ischium. I then carefully examined the cavity, and could not discover any more dead or even denuded bone. The patient suffered little during the operation, and nothing after it. He noticed almost directly a diminution of the discharge, which in the course of a few days became so scanty as to occasion no inconvenience. His strength daily increased; and there being now merely a slight oozing from the apertures, while he feels, to use his own expression, "as well as ever," he purposes to return home in a few days. Had the distance been less, or the season more favourable, he might have done so sooner, though four weeks have not yet elapsed since the exfoliations were removed.

Alexander Paterson, aged 18, from Alloa, was admitted on the 20th of January last, suffering from stricture of the urethra. It was stated that, eight months before, he had been bruised by a very heavy piece of iron machinery which fell upon the pelvis. Extravasation of urine and extensive sloughing of the perineum followed, with the separation of a piece of bone at the end of a month. The sore then gradually healed, but with increasing difficulty of micturition, which at length nearly ceased through the proper outlet, and was effected chiefly by an orifice in the perineum. This opening was situated on the right side, near the hip, in the centre of a large and very firm cicatrix, resulting from the loss of substance that had taken place in the first instance.

I found a very tight stricture at the bulb; but having succeeded in passing a small bougie through it, carried on the dilatation without entering the bladder, as there was a large cavity behind the contracted part that rendered farther progress of the instrument uncertain. Being able at length to introduce a moderate-sized bougie, I carried it on into the bladder, and in doing so encountered a hard substance, not giving the clear ring of stony matter, and

which, therefore, I concluded to be a piece of bone. On the 5th of February, having passed a small grooved staff into the bladder, I made a free incision on the left side of the perineum, the sinus that opened on the right side being so long and tortuous, that a probe could not be conveyed through it to the object of removal. Inserting my finger through the dense and thickened textures, I felt a piece of bone lying in a cavity of cartilaginous firmness, and having dilated the aperture sufficiently, extracted two exfoliations, which together measured two inches in length, and one in breadth. They seemed to have formed part of the symphysis pubis.

After the operation, the patient confessed that he had suffered the greatest distress in attempting to make water, but concealed it, from fear of what might be considered necessary to afford him relief. He felt perfectly easy after the exfoliations were removed, and was dismissed on the 10th of March.

NO. XXXVIII.—BURSAL SWELLING OF THE WRIST AND PALM OF THE HAND.

In the number of this Journal for October 1844, I suggested a mode of treating that troublesome disease which depends upon thickening, with effusion, complicated by the presence of cartilaginous-looking moveable bodies, into the cavity of the bursal sheath accompanying the flexor tendons of the fingers, from the wrist into the palm of the hand. I stated that all the means previously employed had been found extremely tedious and uncertain in producing any beneficial effect. Blisters, punctures, sutures, and caustic were particularly mentioned as having proved unsatisfactory in their application for this purpose, and I might have added injections of iodine, which, though lately vaunted as a novel and expedient remedy, is neither the one or the other, but rather less safe, though not more useful, than the other methods of treatment for which I proposed a substitute. This was to make a free incision into the swelling, so as to divide the *annular ligament*, the stricture caused by which seemed to me the obstacle most probably concerned in giving rise to the obstinacy that distinguishes the disease in question from affections of all the other bursal structures.

The young woman whose case was related as a successful result of this operation recovered completely in the course of three or four weeks, and experienced no future trouble. My colleague, Dr Duncan, repeated the operation, with an equally satisfactory result; and I have operated upon two other cases in the hospital, with the effect of completely removing the disease, without producing any unpleasant symptoms. Should the thickening of the bursa be very great, and slow to subside during cicatrization of the sore, a blister may be applied occasionally until the cure is accomplished. And I now feel warranted to expect, that a complaint not merely productive of annoyance, but so serious as to render the hand affected entirely useless,—which has been regarded as nearly incurable,—

may be remedied with certainty, in a short period of time, by means so simple as an incision in the right place.

ARTICLE II.—*On the Curative Powers of Castor-Oil in affections of the Mucous Membranes of the Bowels. Also, Remarks upon some peculiarities in the Therapeutical Action of Croton-Oil.* By SPENCER THOMSON, M.D., Burton-on-Trent.

I. CASTOR-OIL.

ALTHOUGH CASTOR-OIL alone, in the form of emulsion, or variously combined, is commonly employed in the treatment of diarrhœa, dysentery, and other forms of intestinal derangement, I am not aware that its really specific power of curing, *unassisted*, most forms of irritation, subacute inflammation, or ulceration of the mucous lining of the bowels, has ever been prominently brought forward.

I do not think there are many cases of infantile or aphthous diarrhœa which may not be cured by it alone. I now allude to the disease as it occurs during the first year of life, especially among children improperly fed, commencing with sickness, and frequent, griped evacuations, varying in colour from greenish-yellow to dark grass-green,—these becoming more liquid, and more or less mixed with slimy or gelatinous mucus, streaked with blood, or even at last with a predominance of blood, each evacuation accompanied with pain and tenesmus, the mouth dry and aphthous, the anus inflamed, the belly tumid and painful, the child becoming more and more feverish, emaciated, and somnolent. In most cases presenting the above symptoms, indicative, according to their severity of irritation, subacute inflammation, or ulceration, I believe the emulsion of castor-oil with yolk of egg, combined or not with very gentle opiates, will be found sufficient to effect a cure. It is not, of course, here meant that the diet is to be left unregulated, or that assistance is never to be derived from the warm-bath, liniments to the belly, or occasional doses of mild mercurials; but these, especially the latter, are only to be regarded as accessories. No mercurial so quickly changes the character of the evacuation as the emulsion, which only requires to be steadily persevered in. The following is the form in which I generally prescribe it for infants:—For an infant of from two to four months old: R. *Ol. ricini*, ʒi—ʒiss, *Vitelli ovi semis.*, *Aq. aneth. feniculi*, āā ʒi. *Ft. emuls. Sumat coch. parv. bis die.*

To the above, from two to six drops of laudanum may be added or not; but, of course, this as well as the size and frequency of the dose, must vary with the case. The mixture is generally taken readily, and even liked.

The same preparation is equally useful in that form of intestinal affection which is met with in children of from one to nine years of age, identical with the infantile type cited above, but presenting slightly varied symptoms, such as the tendency of the evacuations

to become watery, brown, black, and very offensive; the picking of the lips, nose, &c. In a case of this nature which lately came under my care, the patient, a boy aged 3 years, lay almost insensible and somnolent. The evacuations, resembling black dirty water, and very offensive, were passed eight or ten times in the twelve hours. Other symptoms of subacute inflammation of the mucous membrane were also present. After the first dose of simple emulsion, there was no motion for thirty-six hours, all the other symptoms becoming ameliorated. The case is now progressing favourably. The following will still more fully illustrate the subject:—

November 7, 1844. —— Miles, aged 2 years: hair and eyes dark. About three months ago, she began to decline in health, and ten weeks since was seized with vomiting and diarrhœa. The latter has continued ever since, though palliated at times by medicines. From a stout healthy child, she has become extremely emaciated. Pulse 100; tongue morbidly red; appetite and thirst variable; skin dry; sleep restless. Bowels relaxed many times in the day: prolapsus with each motion. Evacuations thin, varying from green to brown, with much gelatinous mucus. The urine was very yellow. The abdomen was not large, and was soft. Ordered farinaceous milk diet, with isinglass, the annexed preparation of castor-oil, and a stimulant liniment to the belly.—R. *Ol. ricin.* ʒiii; *vitell. ovi, aq. distill.* āā. ʒiss. *Ft. Emulsio. Adde ol. cassiæ, gt. v; Tinct. opii, gt. x; coch. parv. ii ter die.*

Under the above treatment the child rapidly improved. The bowels became perfectly regular in the course of nine days, acting once in twenty-four hours, the motions being healthy and consistent; there was still occasionally prolapsus; the pulse diminished in frequency; and the patient gained flesh.

Nov. 18. Continues improving; still weak, and appetite indifferent; rests well; no thirst. To take the emulsion night and morning.—R. *Ferr. ammon. tart. gr. vi; aq.* ʒiss. *Solve. Sumat. coch. parv. ij bis die.*

Diet unchanged.

Under the iron the appetite improved greatly, the prolapsus entirely ceased, and strength and flesh were gained. By the 25th the emulsion was discontinued, and *tinct. ferr. mur. gtt. v bis die* substituted for the other preparation of iron.

Dec. 20. The patient is perfectly well and strong.

Lastly, in the diarrhœa and dysenteric affections of adults, the same form of medicine will nearly always effect a cure; it is especially useful in the diarrhœa of typhus, with symptoms of iliac ulceration. In a recent case of subacute hepatitis, in which exhausting diarrhœa was present, accompanied by painfully excoriated tongue, and great abdominal tenderness, I am convinced the patient was preserved solely by the continued use of the emulsion.

The medicinal action of the oil is certainly much modified by its union with the yolk of egg, for the same dose which would act well

as an aperient alone, when thus combined, will scarcely act at all. The preparation generally agrees well with the stomach; but in some cases of irritability of that organ, or where active bilious cholera exists with frequent vomiting, it is well to delay its administration until the stomach is tranquillized by effervescing salines, hydrocyanic acid, or other usual remedies.

The above valuable properties presented to us by the Ricinus Communis in its well-known oil, appear also to belong to other species of the euphorbiaceæ. Dr Ainslie, in his *Materia Medica of India*, says, that the leaves and seeds of the euphorbia thymifolia are given in worm cases, and in certain bowel affections of children; also, that the fresh juice of euphorbia pilulifera is useful in aphthous affections. The croton eleuteria or cascarilla has also been used successfully by Dr Underwood in the latter stage of dysentery and diarrhœa, particularly when occurring after measles, and in the gangrenous thrush peculiar to children.[1]

II. CROTON-OIL.

There are one or two peculiarities in the therapeutical action of another valuable product of the euphorbiaceæ,—the oil of the Croton Tiglium,—which I have observed, but never seen mentioned. Children are comparatively much less sensible to its purgative powers than adults. I have frequently found the dose which would purge an adult freely, act no more than as a laxative upon a child. In one case of acute hydrocephalus, which recovered after the occurrence of convulsions, strabismus, and persistent contraction of the extremities, three or four drops of powerful oil in twenty-four hours procured only the necessary evacuations. The patient was a child of three years of age.

The action of croton oil as an external irritant is also peculiar. I have been surprised to find that the same liniment, which on the mother produced a full pustular eruption, when rubbed upon the chest of her child, produced little more than slight redness, or small papular elevations. The form of liniment generally used by me is the following:—R. *Ol. croton. tiglii, liq. ammon. fort., aq. distill.* ʒi. *Ft. linimentum.*

It produces pustules in most skins, in from twenty to thirty hours. The only inconvenience attending its use is the production in some habits of an eruption all over the body, resembling eczema rubrum, accompanied with swelling of the face and eyelids. The latter effects I have seen produced, even on persons who merely stood by during the friction with the simple oil. One species of plant, lapium ancuparium, belonging to the euphorbiaceæ, appears capable of producing analogous effects, even by its exhalations whilst growing. Dr Lindley, in his *Natural System*, art. Euphorbiaceæ, quotes the case of a gardener, who, from the above cause, became affected with swelling and "erysipelatous phlegmasia" of the nostrils.

BURTON-ON-TRENT, December 20, 1845.

[1] Thomson's Materia Med., p. 314, art. *Croton Oil.*

ARTICLE III.—*Black Phthisis, or Ulceration induced by Carbonaceous Accumulation in the Lungs of Coal Miners.* By ARCHIBALD MAKELLAR, M.D., Fellow of the Royal College of Physicians of Edinburgh.

(*Continued from page 844 of the November Number.*[1])

IN reviewing the morbid appearances in the cases detailed in my last paper, (number for November 1845, p. 818,) it will be observed, that in the majority of them, the left lung exhibited the greater amount of diseased structure. This fact is particularly interesting, as in *tubercular* phthisis, a similar predominance of disease is found on the left side.

In almost all the cases, there was found very extensive effusion into the serous cavities, and particularly into those of the pleura and pericardium. Both pleuræ were much thickened, and all the marks of a long standing pleuritic and pericardial inflammatory action were seen. The substance of the heart, in all the cases, was soft and attenuated; the right auricle and ventricle were dilated; and there was thickening of several of the valves. The liver and spleen were usually large and congested. In all the cases, as the disease advanced, the pulse came down to a very unfrequent and thready beat. From the great extent of the venous congestion, the disease often assumed the aspect of asphyxia; and in some instances the colour of the patients resembled that of persons labouring under cyanosis.

The lividity of countenance, and the other concomitant symptoms, which presented themselves, gave decided indications of the morbid effects of this extraneous body. It requires little explanation to show how such a diseased state of the pulmonary organs, as has been described, should produce such results, by impeding the necessary chemical change of the blood. Imperfect oxygenation of the blood, consequent on the altered pulmonary structure, must cause a general depression of all the vital organs. The excess of excrementitious matter in the circulation, must produce effusion of serum into the various cavities, and also into the cellular structure; and the appearances exhibited on the surface of the brain and its membranes, afford a full explanation of the sluggish inanimate condition of all the sufferers towards the close of their existence.

From the cases above reported, it must be evident, that black phthisis is the result of foreign matter inhaled and retained within the pulmonary structure.

It is a melancholy fact connected with mining occupations in the locality described, that few or none who engage in it, escape this remarkable disease. I have never known one collier in many hundreds, who, even in his usual health, was not, as he expressed it,

[1] The first of Dr MAKELLAR's papers appeared at page 645, and the second at page 818 of the volume for 1845.

more or less "touched in his breathing;" and after much experience in auscultation in such pulmonary affections, I am the more convinced that the dyspnœa from which they suffer, arises from impaction of the minute bronchial ramifications induced during their labour below ground, surrounded by an impure atmosphere. The East Lothian colliers, of all miners throughout the kingdom, are certainly most subject to this disease; and those at Pencaitland are so to a fearful extent. In the late inquiry for the Parliamentary report, such has been manifestly brought out, and I am quite able to corroborate the conclusions at which the commissioners have arrived. It has been supposed by many that this carbonaceous affection was caused by inhalation of coal-dust. Now, when it can be proved, that there is as much coal-dust at one coal-work as at another, the question comes to be, why should colliers, labouring at one coal-work, be subject to the disease; while those engaged at another, escape? For instance, there is as much coal-dust at Penston and Huntlaw, where there has never been black spit, as there is at Pencaitland, Preston-Hall, and Blindwells. I conclude, therefore, that this cannot be the cause, otherwise they should all be liable to the disease. Again, those who labour as coal-bankers at the mouth of the shaft, are obliged to inhale much coal-dust in shovelling and arranging the coal received from the pit, and have the sputum tinged to a certain extent by it—which resumes its natural appearance when the collier leaves the labour producing it. They are not subject to the miners' cough, nor is there carbonaceous infiltration found in the lungs of such labourers after death. The females and boys, when, as formerly, both were allowed to labour, could not fail to inhale much of the coal-dust in which they were generally enveloped in their daily occupation; but no carbonaceous deposit has ever been found in the pulmonary tissue of either the one or the other. There are very interesting facts connected with the history of this disease, showing the length of time which the carbon can be retained, brought out by two cases on record, the one published as formerly mentioned by Dr James Gregory, in the *Edinburgh Med. and Surg. Journal* for 1831, denominated, "Spurious Melanosis;" the other, a case published by Dr William Thomson, (*Medico-Chirurgical Transactions of London* for 1837), and which was reported to him by Dr Simpson, now Professor of Midwifery in Edinburgh.

Dr Gregory's case is that of John Hogg, who had been in the army for more than twenty years, had seen much service as a soldier in America and the West Indies, and had served in Spain during the Peninsular war. On his return to his native country, he was engaged for a short time before his death as a collier at Dalkeith. I understand, upon inquiry, from those who were connected with Hogg, that he wrought in early life as a miner at Pencaitland coal-work, and was obliged, though a young man, to relinquish such employment on account of a chest affection, and exchange the pick

for the musket. From the history of this case, and from the character of his occupation in early life, I apprehend that the carbonaceous deposit took place when he was first labouring as a miner at Pencaitland; and that he carried the foreign body in his lungs, throughout his campaigns.

The case reported to Dr Thomson by Dr Simpson is that of a George Hogg, who lived at Collinshiel, near Bathgate. In early life, this man laboured at Pencaitland coal-work, where the greater number of the cases now under consideration occurred; and it is stated as a certainty, that he contracted the black phthisis while occupied in that district; for I find from those who knew him at an early period, that his breathing was much affected while at Pencaitland, and he was long supposed by his fellow-miners to have imbibed the disease,—indeed he removed from Pencaitland on account of it. The two Hoggs were relatives, and natives of East Lothian.

It is evident, from several of the cases, that it is no uncommon feature of this affection for the carbon to remain concealed in the pulmonary tissue for very many years; and as both the Hoggs were miners at Pencaitland, I have not the smallest doubt that it was then and there that the disease had its origin; for I have never known a collier who was a stone-miner who did not ultimately die of the carbonaceous infiltration.

Apart from colliers and coal-mines, as a proof that carbonaceous particles floating in the atmosphere are inhaled and lodged in the bronchial ramifications, I may state the following circumstance, which came under my own observation several years ago. After a gale of wind, which had continued for more than a week, off the coast of America, in the July of 1832, I was applied to for advice by several of the seamen, on account of a tickling cough, followed by a peculiarly dark blue expectoration, which I was told was almost general amongst the crew. I was certainly at a loss, and put to my shifts, to render a reason; but, upon investigating the matter further, I found that, during the gale, the chimney of the cook's apartment in the *'tween-decks* was rendered inefficient, whereby the sleeping-berths were constantly filled with smoke. I found almost all the seamen, to the number of nearly a hundred, suffering considerably from cough, and expectorating an inky-coloured phlegm, which continued more or less for about a fortnight. I ordered soothing expectorants, and the dark sputa were profusely voided, and ultimately disappeared; but whether any of the carbon had made a permanent lodgment in the pulmonary tissue, is what I have never been able to ascertain. I am now convinced, in recalling this occurrence, that whatever be the situation, should carbon be floating in the air, it can be conveyed into the air-cells; and had these seamen been longer subjected to this foul atmosphere, a permanent lodgment of the carbon would undoubtedly have been the consequence, and the disease now under our consideration to a certainty produced. I further remember a case of partially carbonized

lungs in a person who had lived for a length of time in a smoky and confined room in Glasgow. The patient died of dropsy, consequent, no doubt, on the pulmonary affection; and on examining the chest, the upper lobe of both lungs, and the bronchial glands contained black matter, similar in appearance to that found in the colliers.

While engaged in committing these remarks to paper, I have been led in my investigations to compare the various kinds of labour carried on in coal-pits with the under-ground operations of many of the railways now in progress throughout the kingdom; and being convinced of the very injurious effects produced upon miners while prosecuting these operations in confined situations where gunpowder is used, I shall be much surprised if the same results do not follow the hazardous undertakings connected with railway tunnelling, where gunpowder is had recourse to, and in the course of years find in our public hospitals cases of carbonaceous lung arising from this cause.[1]

It is no uncommon occurrence, in examining the pulmonary structure of those who have resided in large and smoky towns, to find both the substance of the lungs and bronchial glands containing black matter; and this is the case especially with persons who, in such situations, have passed the prime of life. But few, though not living in crowded towns, have not, at some period of their life, come in contact with smoke, and been obliged to breathe it, minutely combined with the air. It is not, therefore, to be supposed improbable, that a portion of the infinitely small particles, thus suspended in the atmosphere, should effect a settlement in the more minute air-cells, and in course of time, be conveyed to the interlobular cellular tissue by the process of absorption, and thence to the bronchial glands. There are several cases on record, from amongst iron-moulders,[2] where the pulmonary structure has been found heavily charged with carbonaceous matter, from the inhalation of the charcoal used in their processes, and where, during life, there was a free black expectoration.[3]

There is, then, little doubt that the bronchial glands, from their appearance in miners, moulders, and others, are the recipients of

[1] Several of the Pencaitland colliers are at present engaged in the tunnelling operations near to Edinburgh, connected with the North British Railway.

[2] Dr Hamilton's of Falkirk paper in the Edin. Med. and Surgical Journal, Vol. xlii.

[3] I have very lately, through the kindness of Mr Girdwood, surgeon at Falkirk, had an opportunity of examining two or three iron-moulders in that district. Both from the nature of the employment in those iron works, and the character which the pulmonary affection exhibits, the fact of inhalation is fully established. The moulder is at a certain stage of his labour enveloped in a cloud of finely-ground charcoal, a portion of which cannot fail to find its way to the lungs in breathing. He is subject to tickling cough, and as the disease advances, the respiratory sounds, which indicate considerable bronchial irritation, present themselves, and ultimately become dull, and in some parts obscure.

Of the several cases which I saw with Mr Girdwood, one, who has not been labouring for some years as a moulder, occasionally expectorated black matter, and in the other two, there was general dullness of both lungs; and, I doubt not, impaction.

a portion of impurities which have been carried into the pulmonary structure by inhalation, and also those left after the process of oxygenation of the blood; and when it is fully ascertained, from the character of the atmosphere in the coal mine, that deleterious matter in this form must be conveyed to the air-cells during respiration, there is little difficulty in coming to the conclusion, that the black fluid found to such an extent in these glands in the collier and moulder, is similar to, and a part of, that discovered infiltrated into the substance of the lungs. If we trace the black matter in the lymphatic vessels, (which has been done), from the pulmonary organs to the bronchial, mediastinal, and thoracic glands, and from thence to the thoracic duct, we cannot but admit, that it does find its way into the venous system, and thereby contaminates the vital current.[1]

Dr Pearson of London, in his very valuable paper, published in the Philosophical Transactions of 1813, on the coaly matter in the bronchial glands, was convinced beyond a doubt, that it was of foreign origin, and possessed the properties of carbon conveyed into the lungs from without. He, at that period, was not in possession of such facts as have been recently elicited on the subject of deleterious inhalation; but the very interesting materials which he brought to bear on his argument, have, I think, most satisfactorily proved the assertion which he makes, that "the lymphatics of the lungs absorb a variety of substances, especially this coaly matter, which they convey to the bronchial glands, and thus render them of a black or dark-blue colour." "The texture and proportion of the tinging matter of the glands was," he says, "different in different subjects, whether the lungs to which they belonged were in a healthy or diseased condition. In persons, from about 18 to 20 years of age, some of the bronchial glands contained no tinging black matter at all, but were of a reddish colour; others were streaked or partially black. Again, he says, "I think the charcoal in the pulmonary organs is introduced with the air in breathing. In the air it is suspended in invisible small particles, derived from the burning of coal, wood, and other inflammable materials in common life. It is admitted that the oxygen of atmospherical air passes through the pulmonary air-vesicles or cells into the system of blood-vessels, and it is not improbable, that through the same channel various matters contained in the air may be introduced. But it is highly reasonable to suppose, that the particles of charcoal should be retained in the minutest ramifications of the air-tubes, or even in the air-vesicles under various circumstances, to produce the coloured appearances on the surface, and in the substance of the lungs, as above described."

[1] It has not been in my power hitherto to procure a satisfactory chemical analysis of the black matter, but through the kind assistance of Dr Douglas Maclagan, who has undertaken to conduct the process, I expect very soon to be able to lay it before the profession.

"When I compare the black lines and black net-like figures, many of them pentagonal, on the surface of the lungs, with the plates of the lymphatic vessels by Cruikshank, Mascagni, and Fyffe, I found an exact resemblance."

Dr Pearson, after various chemical experiments upon the bronchial glands with caustic potash, muriatic and nitric acid, says, "I conceive I am entitled to declare the black matter obtained from the bronchial glands, and from the lungs, to be animal charcoal in the uncombined state, *i. e.* not existing as a constituent ingredient of organized animal solids or fluids." Dr Graham of London, in his paper on this subject, recorded in the 42d vol. of the *Edinburgh Medical and Surgical Journal*, gives the following opinion, as the result of a series of investigations, with the view of determining the nature of the disease in question. He says, I have had several opportunities of substantiating the carbonaceous matter in a state of extraordinary accumulation in black lungs supplied by my medical friends." The black powder, as derived from the lungs, (after an analysis,) is unquestionably charcoal, and the gaseous products from heated air, result from a little water and nitric acid being retained persistently by the charcoal, notwithstanding the repeated washing, but which re-acting on the charcoal at a high temperature, coming off in a state of decomposition." In regard to another analysis of a lung, he says, "The carbonaceous matter of the lung cannot therefore be supposed to be coal, altered by the different chemical processes to which it has been submitted in separating it from the animal matter. The carbonaceous matter of this lung, appears rather to be lamp black."

From the whole results, I am disposed to draw the following conclusions:—

1*st*, The black matter found in the lungs is not a secretion, but comes from without. The *pigmentum nigrum* of the ox I find to lose its colour entirely, and to leave only a quantity of white flocks, when rubbed in a mortar with chlorine water. Sepia, which is a preparation of the dark-coloured liquor of the cuttle fish, was also bleached by chlorine, but the black matter of the lungs was not destroyed or bleached in the slightest degree by chlorine, it even survived unimpaired the destruction of the lungs by putrefaction in air.

2*d*, This foreign matter probably varies in composition in different lungs, but in the cases actually examined, it seems to be little else than lamp black or soot.

It does not appear, as far as I can ascertain, that any of the Continental physiologists are familiar with the disease now under our consideration. Several of them, both ancient and modern, discovered black matter in the pulmonary tissues, but not connected with nor exhibiting the black phthisis. It is therefore unnecessary to refer to them in general.

The following foreign authors entertain various opinions in regard to the dark appearances in the pulmonary tissue:—

Bichat supposes the black matter in the lungs "to be owing to small bronchial glands extending along the surface of the pleura." Breschet believes that it is formed by the blood exhaled into the cellular tissue, stating that its chemical composition leads him to that conclusion. Trousseau says that it is produced by a misdirection of the natural pigments of the body, resulting from age, climate, or disease. Andral says, that the black appearances are the result of secretion, and that it is more manifest as the individual advances in life. Heasinger's opinion is, that it is analogous to pigment, and therefore he agrees with Trousseau. Lænnec was doubtful as to the real origin of black pulmonary matter. He makes a distinction between melanotic and pulmonary matter. He found that the melanotic matter was composed almost entirely of albumen, while the black pulmonary matter found in the bronchial glands contains a great quantity of carbon and hydrogen, and also that these colouring matters have other distinguishing characters. The melanotic matter is easily effaced by washing, while the other is removed with difficulty. Laennec further says, that he suspected that this pulmonary matter might arise, at least in part, from the smoke of lamps, and other combustible bodies which are used for heat and light; for some old men are to be met with whose lungs contain very little black matter, and whose bronchial glands are but partially tinged with this colour; and it has struck him that he observed this amongst villagers who had never been accustomed to watch.[1]

Mons. Guillot, physician to the hospital for the aged at Paris, has undertaken a series of researches in regard to the black matter found in the lungs of old men of very considerable age. These investigations are published in the January, February, and March numbers of the *Archives Générales de Médecine*.[2] It is his belief that death in such cases is owing, in all appearance, more or less to a suppression of the circulation of air and blood by the black substance. His impression is, "that the carbon is not procured from without, but naturally deposited, as life advances, in the substance of the respiratory organs; and that this deposit of carbon causes death, by rendering the lungs irrespirable, while, at the same time, it has much influence in modifying the progress of *tubercular* disease; so that, if the tubercular affection was not cured, its progress was so far checked, that life has been very long preserved." The black matter envelopes completely both the pulmonary tubercles which have undergone a transformation, and the caverns which no longer contain tuberculous matter. He, while regarding these as the results of black matter in the lungs, throws no light on the cause of the deposit of the particles of carbon within the lungs.

Dr William Craig of Glasgow, in a letter to Mr Graham of

[1] I found little or no black matter in the lungs of farm servants, who are much in the open air.

[2] *Vide* MONTHLY JOURNAL for 1845, p. 702.

London, published in the 42d vol. of the *Medical and Surgical Journal of Edinburgh*, states most interesting facts connected with this subject, particularly in regard to black matter found in the pulmonary structure of old people, which deserve considerable attention. He says—"I found that a black discoloration of the lungs was by no means a rare occurrence amongst those old people; and that it was impossible in many instances to decide, whether the black colour was owing to an increase of what is called the healthy black matter,—to a morbid secretion, or to a foreign substance being imbedded with the atmospheric air. After examining a considerable number of lungs, and finding that the division of the black matter into three kinds was not founded upon observation, and that the descriptions of them given by the best authorities were insufficient to enable us to distinguish them from one another, I begin to think, that in every instance in which black matter is found in the lungs, it ought to be considered morbid. If we examine the lungs at different stages of life, we find as a general rule that the quantity of black matter increases with age. In young children we find no traces of it, the lungs being of a reddish colour. At the age of ten years the black matter makes its appearance in the outer surface of the lungs, and in the interlobular spaces. At the age of thirty or forty, the lung presents a greyish or mottled appearance, and the bronchial glands contain more or less black matter. Between the age of seventy and a hundred, the lungs are generally infiltrated with fluid black matter, which can be expressed from the cut surfaces, and stain the hands black."

"There are many circumstances which favour the accumulation of this black matter in the lungs; for instance, long-continued living in a smoky atmosphere, like that of this city, the inhalation of coal-dust, as in the case of colliers, or of charcoal-powder, as in the case of iron-founders. There can be no doubt that we inhale foreign substances along with the atmospheric air.

"We find the mucus which has remained in the nostrils for some time to be of a dark colour, and if we examine it with a microscope, we find, that this is owing to the presence of small particles of dust or other foreign substances, which the air may have accidentally contained. The mucus first coughed up from the lungs in the morning, is of a dark colour from the same cause, and the facts now maintained prove, that foreign substances suspended in minute particles in the atmosphere, may be inhaled into the lungs. I believe in all the extreme cases which have occurred in colliers and moulders, that there must have existed some previous disease of the lungs which prevented the foreign matter from being thrown off." "According to the views which we have taken of the subject, there are only two ways by which black matters may be deposited in the lungs; first, by a morbid secretion; second, by a foreign substance inhaled with the atmosphere. The former is a rare disease, while the latter is very common. I am inclined to think that the true

melanosis generally occurs in the form of rounded tumours, which, when cut in two, present a uniform black colour without any trace of air-cells, while in the spurious melanosis the deposition is general, and black matter flows freely out when the cut surfaces are pressed. At first the lung is crepitous, and swims in water; but as the black matter increases, it becomes solid, and, as in the case of colliers who die of this disease, resembles a piece of wet peat in point of consistence. It is only in the cases of colliers, moulders, or others who inhale great quantities of black matter, that the lungs are rendered perfectly solid."

There is an exceedingly interesting and valuable paper, written by Dr Brockmann of Clausthal, upon the pulmonary diseases of a certain class of German miners,—supposed to be in the Hartz mountains,—in *Neumeister's Repertorium* for December 1844, an abridged translation of which is to be found in the September number of this Journal.

It is very evident that the disease there considered is produced by carbonaceous inhalation, and resembles in all its features the black phthisis so general amongst the colliers in Haddingtonshire. The morbid appearances described by Dr Brockmann are very similar to the first and second division of that disease, presenting a very general carbonaceous infiltration of the pulmonary tissues; but in none of the stages are there to be found the extensive excavations discovered in the lungs of the coal-miner. Dr Brockmann makes three divisions of the morbid appearances, "The essential (wesentliche), accidental (zufällige), and secondary. The first shows an entirely black (pechschwärze) colour of the lungs through its whole substance, enclosing not only the air, blood, and lymph vessels, but also the connecting cellular tissue, the nervous substance, pleuræ pulmonalis, and bronchial glands." In such a state, it is usual for the lung to remain perfectly normal, and to exhibit the greatest varieties.

"The accidental (zufallige) is evidently the disease in a more advanced form, corresponding in a great measure with the second stage of the morbid action, found in the pulmonary organ of the collier. It is to be regretted that no accurate description is given either of the character of the mine, or the nature of the employment in which the miners are engaged, whether they be coal, silver, or lead mines, and if they are in the habit of burning coarse lintseed oil.

There is a very striking similarity between what Dr Brockmann calls the secondary anatomical changes, and many of those exhibited in the collier; first, membranes; second, collections of fluid into the pleuræ and pericardium; third, the softened heart, and very general emaciation; fourth, the extensive venous congestion, with thick black blood.

The liver is described by Dr Brockmann as being small:—in the collier it is usually puffy, and much congested.

The symptoms do almost in all points accord with those presented in the collier, as will appear from the following quotation, from p. 698–699 of this Journal for 1845. "In the first stage, there is no local, functional, or general feature by which we can ascertain that the disease has commenced; probability is all we can reach. In the second stage, the disease is more obvious. And, first, there is a change in the expression of countenance; to a fine blooming appearance, which perhaps the patient previously had, there has succeeded a dark yellowish cast,—a change which gradually spreads over the whole body. For some time the patient may have remarked a gradual loss of strength, and now he complains of want of appetite and disordered digestion, and more particularly of shooting pains in the back and muscles of the chest. Cough likewise supervenes, which may either be quite dry, or at most accompanied with a little pure mucus. There is also a greater or less degree of oppression, accompanied with palpitation of heart, not only after a severe fit of coughing, but after every exertion of the lungs. As yet no local deviation from the normal condition is seen on examination of the chest by percussion or auscultation." "The disease meanwhile passes into the third stage. The features of the patient now become more and more changed and deteriorated, and betray a deep melancholy. The colour of the face, which had been hitherto of an earthly hue, becomes blackish, as also the cornea, whereby the eye loses its lustre. The appearance of the patient becomes still more frightful from the great loss of flesh, and the dark skin hanging loose on his bones. The fat not only seems to have disappeared, but the muscular substance also—the whole frame being shrivelled. The patient complains of increasing weakness, diminished appetite, flying pains often concentrated at the pit of the stomach; and coughs much. The expectoration is for the most part difficult, and consists of masses of mucus, either greyish, or tending to a black colour. A black streak is frequently observed running through the whitish mucus; one half of it may be white, the other black, or occasional black points may be observed throughout the mass, and sometimes, though rarely, blood. Dyspnœa is usually connected with the cough. It now begins to tell upon the patient, and is so characteristic, that the disease has been named asthma metallicum. The disturbance of the digestive organs increases the disease,—the appetite is entirely lost,—the tongue is covered with a white fur—there is an oppression at the stomach after a full meal—frequent eructations, and a tendency to constipation. The distress of the patient becomes increased in consequence of the shooting pains in the muscular system." "In the fourth and last stage, all the external appearances indicate the near approach of dissolution,—the face and members become bloated, and the feet greatly swollen." "The dyspnœa meanwhile, from effusion into the chest and pericardium, becomes so severe, that the patient cannot maintain the horizontal position, the expectoration becomes copious, consisting of a black inky (dinten-

schwarze), or ash-coloured fluid, sometimes of mere masses of mucus streaked with black." "The disease is never accompanied with colliquative sweats or diarrhœa."

I am sorry to find that there is no allusion whatever to the state of the pulse. Dr Brockmann, in his remarks on the essential nature of this pulmonary disease of miners, brought under his notice, seems to entertain the impression that along with the inhaled carbon, resulting from the combustion of gunpowder, there is also an organic pigment-deposit present in the pulmonary tissue, which he supposes must have been formed in the lungs.

I have long entertained the belief, which I have stated in another part of this essay, that if the carbon is once conveyed into, and established in the parenchyma of the lungs, that organ commences the formation of carbon; thus increasing the amount originally deposited. Dr Brockmann sets forth, as grounds for this view, that "if the parenchyma of the lungs were filled with carbonaceous dust, their specific gravity ought to be increased; but this is not the case. A completely melanosed lung swims in water, both as a whole and when cut into parts." It is very evident from these remarks, that the author has not seen the disease as it is exhibited in the third division of morbid action in the collier, otherwise he would have both observed the lungs considerably augmented in weight, and also so densely impacted from the accumulation of carbon, as wholly to sink in water. See for instance case No. 2, where the lungs weighed about six pounds, and parts of the cellular tissue were so indurated, as to be cut with difficulty. In this case, the patient did not expectorate.

Dr Brockmann, as he advances, puts a question here, which more fully shows that the disease under his consideration was of a mild character compared with that under our notice. "If, says he, "pulmonary melanosis arise entirely from inhalation of carbonaceous dust, why is it not observed in other workmen, who are as much, and even more, exposed to its influence, as for instance, smelters, or moulders, and colliers?" He says, further, "were the carbon inhaled in quantity sufficient to explain the black colour of the lungs, it ought also, from its mechanical irritation, to produce inflammation in the delicate mucous membrane of the organ, but there are no symptoms of this during life, nor any traces of it after death." An answer to these remarks will be most satisfactorily given by a reference to the published cases, where the disease is principally found amongst colliers and moulders, and where the pulmonary organs, particularly in the former, are found to undergo most fearful disorganization from the presence of carbon. It is very remarkable, that the author of these exceedingly interesting observations should never have found excavations of the parenchyma, when it is so general as the result of the same disease in this country, particularly in the locality to which I refer. Not knowing

the character of the mine, it is impossible to judge; but I am disposed to conclude that there cannot be the same quantity of carbon floating in the atmosphere breathed by the German miner, —the disease resembles very much that milder form found in the iron moulder.

With regard to the carbonaceous state of the blood, I am sorry that I have not yet completed my investigations on that subject. It is still my belief that the carbon being once inhaled, there is an affinity found for that in the circulating fluid, and from its not being consumed, owing to a deficiency of oxygen, there is a progressive increase going on. I am very much gratified to find that Dr Brockmann entertains a somewhat similar opinion in respect to the state of the blood.

The effects of such a morbid structure upon the collier population in general is very marked. Previous to the late legislative act, the tender youth of both sexes were at an early age consigned to the coal pit, and obliged to labour beyond their feeble strength, in circumstances ill adapted to their years. Such early bodily exhaustion soon produced in them a pallid countenance, soft and relaxed muscular fibre, and predisposed much to disease as they advanced in life. The miner on this account was generally from his youth, thin; in fact, you never see a fat and healthy-looking collier, and, according to the advance of pulmonary disease, with them, so is the progress of emaciation. Such a state of body may well be looked for in miners, labouring as they do, from ten to twelve hours in the twenty-four under ground, breathing a heated and impure atmosphere, which with difficulty sustains life, and which is demonstrably calculated, from its deleterious qualities, to induce serious disease. The effects manifest in the parent descend, and visible in the youngest children; they are squalid and wretched-looking,—and how can such offspring be otherwise? They are exceedingly subject to all children's diseases, and peculiarly predisposed to pulmonary irritation of one kind or other.

With regard to medical treatment, little can be done after the disease has passed its first stage. Early removal from the occupation, and proper attention to nutrition, alone seem to hold out the hope of prolonging the life of the patient; but if there be carbon lodged in the pulmonary tissues, there is a certainty of its sooner or later proving fatal. Attention to the state of the digestive organs, and using every means to remove the dyspeptic symptoms, which are prominently present throughout the various stages of this disease, are indispensably requisite; and, as to nutrition, the nature of the diet should be as generous as possible. Anodynes and expectorants are the only remedies which seem at all efficacious in allaying irritation.

With a view to remove urgent symptoms, venesection has repeatedly been had recourse to, but in almost all instances I would

say, with decidedly bad effects. Blood-letting does harm, producing general debility and rapid sinking.[1]

With regard to the prevention of this disease, ventilation, as has been stated, is very much neglected in the pits now under consideration, where the various cases have occurred; and to that neglect I ascribe the prevalence of the malady. In those pits referred to, the workable apartments are so confined, and become after a time so destitute of oxygen, as, along with the smoke from lamps and gunpowder, to render the air unfit for healthy respiration. The only effectual remedy is a free admission of pure air, so applied as to remove the confined smoke. This remark both applies to coal and stone-mining. The introduction of some other mode of lighting such pits than by oil is required. I know several coal-pits where there is no carbonaceous disease, nor was it ever known; and on examination I find that there is and ever has been in them a free circulation of air. For example, the Penston coal-work, which joins Pencaitland, has ever been free from this disease; but many of the Penston colliers, on coming to work at Pencaitland, have been seized with, and died shortly after, of the black spit: for instance, G. case No. 5, and D. case No. 8, are such.

How this is to be accomplished, is for the scientific man to say. With all due deference, I may be allowed to suggest various modes which might be adopted to free the underground atmosphere of the noxious ingredients. Could fresh air not be forced down by the power of the steam-engine, which is at every coal-pit? Could extensive fanners not be erected and propelled by the same machinery?[2] I am much surprised that no attempt has been made to light these pits with portable gas insome way or other. As far as I can understand, such an application of it would not be difficult. A small gas meter could be erected, and the necessary apparatus procured at little expense, and by such means, I would suppose, it could be carried to any part of the mines, which are not extensive.

Many proprietors may grudge the expense involved in such improvements, and thus prove a barrier to these necessary alterations; but I would ask any candid and generous mind, what is expense when the object in view is the removal of a disease to which many human beings fall a sacrifice?[3]

It must appear to every one that these collier diseases are crying evils, the preventive of which is based, as will be seen, on thorough ventilation; and in order to protect the miner, there should be a vigilant attention paid to the economy of underground works. No one need be surprised at the result of such a noxious atmosphere; and it becomes a duty with the government to protect

[1] At any time when these colliers required venesection, particularly towards the last stage of the disease, the blood appeared peculiarly dark and treacle-like.

[2] Could oxygen not be prepared and forced down?

[3] I am happy to find that the attention of the noble proprietor of the Newbattle coal works is now directed to this subject.

these poor people by laws, and to adopt those measures which are best calculated to preserve their health; and should there arise difficulties of an insurmountable character in the ventilation of these pits, why continue the mining operation in such situations at such a sacrifice of human life?[1]

In the course of my investigations in regard to pulmonary carbonaceous infiltration, I was led to consider the circumstances of those engaged in other occupations than coal-mining. Any one who has carefully examined the structure of the human bronchial glands, at different epochs of life, must have been struck with their appearance in those who, from their vocation, are compelled to breathe a sooty atmosphere, or who have lived in ill ventllated dwellings.

I am convinced, from the results of my recent investigations, that the bronchial glands in such persons invariably contain carbonaceous matter which has been inhaled at some period of life. Having long entertained the belief that the lungs of chimney sweeps, for example, would, in all probability, be found to contain carbon, within the last few months two cases, of an exceedingly interesting character, connected with the present inquiry, have presented themselves,—the one pulmonary disease, evidently resulting from the bronchial and lymphatic glands being impacted with inhaled carbon derived from soot,—the melanosis occurring in a young person. Though the two diseases differ materially, they have often been confounded with each other and assigned to the same cause. My object in here reporting a case of stratiform melanosis, in connection with a disease having an external origin, is to afford an illustration of the fact, that all black deposits found in the system are not carbon. There exists a marked chemical distinction between the melanotic and the carbonaceous matter; and the anatomical situation of the two is also different.

CASE.—A chimney sweep, aged 50, of the name of Campbell, residing at Stockbridge. The short history of his case I procured from his friends, as I did not see him during his illness. He had been a soldier in early life, and had seen much foreign service. After he relinquished the army, he became a chimney sweep, in which

[1] I cannot pass from this subject without an observation on the beneficial results which have been the consequence of Lord Ashley's valuable colliery Act. The female labourers, and particularly the unmarried, have improved not only in their appearance, but also in general physical development, since they have abandoned the unhealthy labour of the coal-mine. They are no longer the squalid, filthy, and ill-favoured race they formerly were. There is now exhibited on the face of the collier girl the bloom of health and cheerfulness; and when we descend to their domestic economy, there is observed a comfort in the management of their households, which formerly did not exist. Their children are now particularly cared for, both in health and when suffering from disease; and we must regard this early watching as an important step to the removal of that predisposition to pulmonary irritation, so general in the collier community.

capacity he was constantly engaged for nearly twenty years. He had had, for a considerable time, a troublesome cough with tough expectoration. He experienced a difficulty of breathing in making any exertion, and he had considerable œdema of the limbs. From these symptoms he believed that he was subject to *asthma*. He had only been confined to bed for two days previous to his death.

Post-mortem Appearances.—The body exhibited extensive anasarca; the thorax was well arched; the cartilages of the ribs were ossified. On removing the anterior part of the chest, the pleuræ were found to adhere strongly, and appeared rough and puckered from extensive exudation of a brown colour, which extended very generally over the serous membranes. Both cavities contained nearly three gallons of light brown fluid. The pericardium was considerably distended with a straw-coloured fluid, and several flakes of lymph floated throughout the effusion. Both auricles of the heart were enlarged, and distended with exceedingly dark blood. The walls of both ventricles were much thickened. The valvular structure of the auricles was congested and granular. The lungs were removed from the chest with difficulty, owing to the very general pleuritic adhesions. Both exhibited extensive emphysema. In dividing the lungs, and tracing the bronchial ramifications, each lobe was found to contain clusters of enlarged and indurated bronchial glands, impacted with thick black matter; and prosecuting the investigations, the minute lymphatic glands were observed clustered in a similar manner, and containing black fluid. In the substance of the upper lobe of both lungs, the bronchial glands were of a bright black colour; they were particularly large, and so numerous as to press considerably upon and obstruct several of the bronchial tubes. In fact the upper lobe of both lungs exhibited the plum-pudding structure. At the bifurcation and back part of the trachea, the bronchial glands were numerous, and of a deep black colour. A considerable mass of the glandular structure was removed for chemical and microscopic examination.

The second case was that of a boy aged six years, who was under treatment for an affection of the heart and kidneys, and who died apparently from disease of these organs. He was, during his whole life, of a relaxed and weakly constitution, exceedingly sallow in the complexion, with a very deep blue tint of the sclerotic coat of the eye. In the course of the post-mortem examination, there was discovered, in the lower and lateral part of the right pleura, a cyst containing about an ounce of semifluid melanotic matter; and also the morbid secretion presented the stratified appearance described by Dr Carswell in his article upon Melanosis, extending over the inferior half of the costal pleura and the corresponding part of the diaphragm. It formed a distinct layer on the surface of the serous membrane, resembling ink or blacking, and could with difficulty be removed. The black deposit resembled much in appearance the foreign matter found in the pulmonary organs of the coal-miner,

and therefore was submitted, as well as the bronchial glands in the other case, to chemical analysis, with the view of ascertaining if there existed any analogy in the component parts of each.

Dr Douglas Maclagan submitted both these substances to the action of concentrated nitric acid, and the results were, that the glandular structure of the chimney sweep contained a very large proportion of carbon, while of the contents of the melanotic cyst, the same process did not leave a vestige of colouring matter,—evidently proving the distinction which exists between these two dark deposits, and making it sufficiently obvious, that melanotic matter is composed of the constituent elements of the blood, and has its origin within the body. There cannot remain a doubt as to the nature of the chimney sweeper's case; for, from the knowledge which we have of his occupation, and from the chemical properties manifest after investigation, I think I am entitled to declare the black matter obtained from the bronchial glands to be carbon inhaled with the air during his labour, and not existing as a constituent ingredient of organized solids or fluids.

NORTHUMBERLAND STREET, EDINBURGH,
January 1846.

ARTICLE IV.—*Case of Ulceration and Perforation of the Stomach.*

By SAMUEL LAWRENCE, Esq., Surgeon, Montrose.

ON the afternoon of October 15, 1844, I was called to visit Elizabeth T., aged 17, full-grown and robust-looking, but of rather flabby fibre. She was a worker at the steam-power looms.

I found her labouring under acute pain in the left hypochondrium, which was increased by pressure on the region, and by taking a full inspiration. The skin was hot; the pulse 112, and rather full; the bowels were confined. It was stated that she had been complaining for five or six weeks of dull pain in the region of the stomach, aggravated by external pressure and a full meal; but which did not prevent her from continuing at her employment. Yesterday, at 5 P.M., she first felt the acute pain now complained of. It persisted during the night and this morning; but so far remitted in the early part of the day, as to enable her to sit up and sew. About mid-day it became worse, and continued to increase in severity till the time I was sent for. Two doses of salts had been taken, at the instance of her relatives, after the seizure. I opened a vein, and abstracted about six ounces of blood, which produced a slight degree of faintness. A sinapism was placed over the seat of the pain, and a calomel and jalap purgative was administered.—10 P.M. The pain is more acute and more diffused,—extending over the greater part of the abdomen. The breathing is more oppressed. The pulse is 120, and not so full. The countenance is rather anx-

ious. The medicine was rejected, and a good deal of dark-looking fluid was vomited soon after. A blister was applied over the left hypochondrium, hot fomentations to the bowels, &c.—16*th*. I was summoned suddenly this morning, shortly after four o'clock, and found the pulse gone at the wrist, the extremities turning cold, respiration exceedingly embarrassed, and the countenance expressive of great suffering. She was conscious, and able to speak, but with great difficulty. The pain had greatly increased in intensity, and the abdomen was considerably tumefied. I hastily administered some spirits in hot water, which produced for a few minutes some alleviation of the suffering; but the distressing symptoms soon recurred in all their intensity, and death closed the scene in about twenty minutes from the time of my entering the house.

Sectio Cadaveris.—With the kind assistance of Dr Ross, an inspection of the body was made twelve hours after death. *External appearance.*—Very considerable tumefaction of the abdomen, but no discoloration. On cutting through the abdominal parietes, they were found perfectly healthy-looking. The first puncture of the peritoneal sac gave vent to a considerable quantity of noxious gas, and on enlarging the opening a large quantity of turbid serum and grumous-looking fluid, amounting to about two Scotch pints, was found effused among the contents of the abdomen. The peritoneal covering of the bowels presented throughout a preternatural vascularity, and here and there a greyish slaty-looking aspect. There were neither purulent effusion, nor adhesions among the convolutions, nor any spot on these that seemed to have been more especially the seat of morbid action. The omentum was found abnormally thickened and vascular.

On examining the stomach, a circular perforation, of the size of a fourpenny piece, was discovered on its anterior and upper aspect, almost in the line of its lesser curvature, and near to the cardiac orifice. On slitting open the organ, its coats, for a considerable way around the ulcerated opening, were found fully three-eighths of an inch in thickness, and the villous tissue highly vascular. The size of the ulcer was much larger in the mucous than in the muscular or peritoneal coats, thus giving it a conical form,—its base directed inward, and its apex outward. In the cavity of the stomach was a considerable quantity of the same dark, grumous-looking fluid, which was found effused among the viscera.

Remarks.—Although this case may not be regarded as possessing any special features of novelty, it is a very good illustrative instance of the formidable class to which it belongs. The appearances revealed by inspection of the body were amply sufficient to satisfy both attendant and relatives, that at the time the patient was visited, no treatment could possibly have availed to arrest the onward and rapid progress of the case to the fatal issue. Two practical lessons seem deducible from it.

First, The necessity of meeting with early and efficient treatment

all affections of the stomach and intestines marked by indications of irritation or slow inflammatory action of the mucous membrane. The numerical proportion which cases of ulceration of the stomach, ending in perforation, bear to those of simple irritation or chronic inflammation, is no doubt small; but since it cannot with certainty be predicated of any individual case of the latter character, that, if left to itself, it may not gradually advance to ulceration and terminate in perforation, practitioners have in this a sufficient reason for watching with vigilance, and treating with care, all such cases in their early stage. Whether the case now detailed would have yielded to timely treatment, may be regarded as matter of conjecture; but judging from its similarity in its incipient state (so far as the reports of relatives could be relied on) to numerous cases of gastric irritation, which have come under my care during the last three or four years, it is my firm conviction that its unfortunate issue might have been prevented. Among the females engaged at the public factories of this town, chronic and subacute affections of the gastric mucous membrane are of extreme frequency,—very amenable to treatment when submitted to early, but ofttimes severe and obstinate when neglected. I have found vesication over the epigastrium, occasionally cupping, and a combination of magnesia, extract of hyosciamus, and hydrocyanic acid in water, given internally, along with attention to diet, avail for the cure of every case which has come under my care. As the subject of the foregoing account was one of the class of operatives referred to, and as her early symptoms bore so close a resemblance to affections of daily occurrence among them removable by proper treatment, I repeat, it seems a fair inference that the timely employment of proper remedial measures would have arrested diseased action at its outset, and saved life.

Secondly, The great propriety of a cautious opinion in every case of peritonitis, even should the symptoms, in themselves considered, not augur danger. When it is borne in mind, that any such attack, for which medical aid is summoned, may by *possibility* be of a secondary character, dependent on perforation of the stomach or intestines, the justice of the remark will be at once apparent. When, from the previous history of the case, the *possibility* (always existing) of such causation passes into *probability*, in however low a degree, the practitioner will be consulting his own character, and after peace of mind, in delivering an extremely guarded prognosis. When I first saw my patient, no one of the symptoms, nor all combined, foreshadowed the sad result. On my second visit, although struck with the character of increased aggravation which the case had assumed, and impressed with the conviction that it had become one of much danger, (of which I fully warned the friends,) yet I candidly acknowledge, that the true *origo mali* did not even then suggest itself to my mind. On the next and last visit, when my patient was rapidly sinking, no other plausible explication was left me of the fearfully rapid arrival of the fatal crisis, than the idea of

perforation,—afterwards so satisfactorily corroborated by inspection of the body.

MONTROSE, 23d December 1845.

ARTICLE V.—*Case of Compound Fracture of the Skull; Separation of Coronal Suture; Hemorrhage from Arteria Meningea Media; Extensive Exfoliation of both Tables: Recovery.* By ALEXANDER KING, M.D., Member of the Faculty of Physicians and Surgeons, Glasgow.

JAMES BENNET, aged 34, a coach-driver, was thrown from the driver's seat of a minibus, on the evening of the 12th of November 1844. The manner in which the accident occurred, or the part of the body which came in contact with the ground, cannot be ascertained: but it is known that he rose immediately, led his horse to the stable—a distance of fully 150 yards—undid the harness, and put up the horse and the machine in the usual way. He felt somewhat fatigued by this exertion, but was able shortly afterwards to walk to his house, a distance of a mile and a-half, without assistance. I saw him on his arrival, about midnight; he had perfect possession of his faculties, but had an expression of countenance which led to the suspicion that he had been recently indulging freely in the use of ardent spirits, and he admitted that such had been the case. His pulse was 80, of moderate strength; the pupils were active, and of natural dimensions. On the left side of the head, and about an inch above the left ear, there was a wound two inches in length, and the bone was exposed to the extent of half-an-inch, and seen to be fractured. The wound was filled with particles of sand, which were also so incorporated with the surrounding cellular tissue, that they could only be very partially removed by washing. There was a small flesh wound above the left eye-brow, and the whole head was somewhat swollen and tender on pressure. He complained of pain around, and inability to move, the right shoulder-joint; but there was no displacement or swelling.—*Fomentations to be applied to both wounds. To have a solution of sulphate of magnesia, with tartar emetic.*

14*th*. The fomentations have been kept constantly applied; and they have removed all the particles of sand from the wounds. The fracture is seen to traverse the left parietal bone from before backwards, and its margins are separated to the extent of the eighth of an inch, the superior being considerably above the level of the inferior, exposing part of the dura mater. The head and face are very much swollen, and he is unable to raise his eyelids. His mental powers are entire; the pulse is about 90, of moderate strength; the pupils are natural; the tongue is clean and moist. His bowels have been freely opened by the medicine.—*The wound,*

which is suppurating freely, to be dressed with simple ointment. Nauseating doses of tartar emetic are to be continued.

16*th.* The wounds have a healthy aspect; but the margins of the fractured bone are farther separated, and the dura mater is exposed to a much greater extent. Two branches of the *arteria meningea media* are seen ramifying on this membrane, and pulsating forcibly; the largest, apparently a main trunk, is extremely thin, and has more of the appearance of a vein than an artery. The swelling of the head and face has increased. There is no change in other respects.

17*th.* On visiting the patient this forenoon about eleven o'clock, I found him slightly delirious; the pulse 105, full; the face flushed, and the temporal arteries beating forcibly; the surface of the body was hot and dry. Indistinct fluctuation being perceptible over the upper part of the occipital protuberance, an opening was made, but only a small quantity of grumous blood escaped. The antimonial mixture, which had been omitted in consequence of the nausea, was ordered to be resumed; and a student was directed to visit him about two o'clock, and bleed him, if the present symptoms persisted. About 1 o'clock I was sent for hurriedly, and found the pillows and bed-clothes saturated with blood; on removing the dressings, the largest branch of the *a. m. m.*, referred to in yesterday's report, was found to have given way, and to be discharging blood *per saltem*. The hemorrhage was easily arrested by the pressure of a finger, and afterwards by the application of a compress and bandage. The pulse was 120, and very feeble; the countenance was pale, and the surface of the body cold.—*To have wine ad libitum.*

19*th.* Since he rallied from the effects of the hemorrhage on the 17th, he has been perfectly collected; the pulse averaging about 90, and the surface of the body being moist, and of natural temperature. He complained to-day of deep-seated pain in the lower part of the right temporal region; and an incision to the depth of the bone gave exit to some purulent matter mixed with blood. The bowels are regular.

23*d.* He has been slightly delirious since yesterday, and now imagines himself engaged in carousing with his companions, and driving his horses; but when spoken to in a loud tone of voice, or shaken, he gives distinct and coherent answers to a few questions. The pulse is 110, feeble; the face is flushed; the tongue is dry at the margins, and moist in the centre. Both the original wounds, and the opening made on the 19th, are freely discharging healthy pus. Openings have been made over the parietal protuberance of the left side, and above and somewhat anterior to the largest of the original wounds, both of which gave vent to some bloody pus. On dressing the wound, the branches of the *a. m. m.* are still seen pulsating, and a small coagulum covers the opening from which the hemorrhage took place on the 17th. At the bottom of the wound there is a movement synchronous with the pulsations of the arterial

system, so that the heart's action can be calculated as distinctly by the movements of the dura mater, as by the pulsations of the radial artery.—*Twelve leeches to be applied to the temples, and to have one and a-half grains of calomel with Dover's powder every fourth hour.*

24*th.* The leech bites bled freely, and he was somewhat better afterwards. This morning it was discovered that hemorrhage had occurred during the night, and when seen at nine A.M., blood was still oozing from the vessel referred to in the report of the 17th. The artery was cut across with the point of a lancet at the injured part, and shortly afterwards the bleeding ceased. He continues slightly delirious; the pulse is 125, very feeble; the countenance pale; the tongue dry.—*The calomel and Dover's powder to be omitted. To have wine ad libitum.*

27*th.* Since the date of the last report he has been generally delirious, but he has always been capable of being roused for a short time to give distinct answers. He is more collected to-day, but he seems to have a very imperfect recollection of all that has happened him since the accident. The smallest of the two original wounds is nearly healed, the largest is discharging pus freely, and its margins are much swollen, and cover nearly all the exposed bone and dura mater. The two openings last made are very copiously discharging ill formed pus mixed with blood. The pulse continues very feeble, notwithstanding the free use of wine; the countenance is pale; the pupils are natural; the tongue is red and dry; the bowels were moved to-day.

1*st December.* Since the 27th ult., he has been generally sensible, except when engaged too long in conversation. The margins of the wound cover the injured bone completely; but when they are raised with a probe the fractured pieces of bone are seen overlapping each other behind, and separated to a considerable extent in front, exposing the dura mater, but no vessels are now seen on its surface. Two of the openings continue to discharge matter freely; the swelling of the head and face is decreasing. The pulse is 100, and improved in strength; the tongue is moist; and he is able to take a little nourishment. Bowels rather costive.—*To have castor oil.*

15*th.* He has had complete and constant possession of his mental powers since the 10th, but there has been no other change worthy of notice since the date of the last report. The wounds are discharging copiously, and the integuments are undermined to such an extent, that a probe introduced into the original wound, over the left ear, can be readily brought out at the opening made over the right temple on the 19th November. The probe can also be carried backwards to the left parietal protuberance; to the superior portion of the occipital protuberance; to the right parietal protuberance; so as to form a semicircle, and from these points forwards, with a little management of the point of the instrument, to the opening over the right temple. Over the whole of this extensive surface

the bone is felt denuded of the periosteum, and at the junction of the frontal with the parietal bones a very considerable inequality of surface is detected;—the parietal bones being separated from, and raised above the level of, the frontal bone. The pus does not escape freely enough on the right side, and a counter opening is required over the anterior and inferior angle of the right parietal bone. The pulse is 110, of moderate strength; the tongue is clean; his appetite tolerably good. The bowels are open.

5th January 1845. Since the last report his general health has been steadily improving, and it is now very good. The openings have extended considerably, and the condition of the bone is better seen than at any previous period. The junction of the parietal with the frontal bones at the coronal suture is torn asunder, and the serrated margins of these bones are seen fully a quarter of an inch apart. The frontal bone retains its natural level, but the parietal is raised to the extent of nearly a quarter of an inch. The discharge is very profuse, but it is becoming more healthy in quality. Healthy granulations are springing up from all the wounds, and for some time careful attempts have been made to guide them under the denuded, and apparently dead bone, so as to protect the dura mater. These attempts have been so successful at the site of the original wound, that the upper margin of the fractured bone alone is visible, and at the lower part, the membrane is covered with granulations as far as the probe can reach. The pulse is 120, of tolerable strength; the tongue is clean; the appetite is good; the bowels are regular.

26*th*. The discharge continues very abundant, and granulations are extending underneath the bone in all directions over the dura mater. At the site of the original wound the exposed bone is moveable; and a probe introduced underneath the other portions at the centre of the head and opposite temple, discovers considerable comminution. He has been able to take food and wine freely, but notwithstanding, he has been lately losing strength, probably in consequence of the very profuse discharge. The portion of the integument separating the original wound from the opening immediately above it, was divided with a bistoury, and after the bleeding was restrained by pressure, an attempt was made to remove a piece of bone, but it was found to adhere so very firmly, that it was judged prudent to desist, in case of injuring the subjacent dura mater.—*The wounds to be dressed partly with plaster and partly with simple ointment.*

6*th February*. The discharge continues very profuse, and its smell has become very offensive. The granulations are everywhere abundant, and extend underneath and partly overlap the denuded portions of bone. By means of bullet forceps, the piece of bone which was attempted to be removed on the 26th January was taken away without difficulty, and apparently without subjecting the patient to much suffering. The dura mater is completely covered with gra-

nulations. The piece of bone removed consists of both tables, is nearly square, and measures two inches by two inches.[1] The opening in the cranium, the margins of which are very well defined, is fully half an inch larger than the bone removed, probably in consequence of the action of the absorbents previous to the removal of the bone. The pulse is 120, of good strength; the tongue is clean; and the bowels are regular.

9th. No unfavourable symptoms followed the removal of the bone on the 6th, and the discharge from the situation whence it was taken is greatly diminished. A portion of the frontal bone, which originally articulated with the piece of the parietal bone already removed, was this day taken away with forceps; when the surface of the dura mater was found covered with granulations. This piece of bone consists of both tables, and measures nearly two inches by two inches. The pulse is 115, of good strength; the tongue is clean; and the bowels are regular.

15th. The opening in the cranium on the left side, from which the two pieces of bone have been removed, measures fully five inches in length, and its breadth, anteriorly and posteriorly, is fully two inches; but the space is much less in the centre. The movements of the brain are very well seen through this opening; the granulations being alternately elevated and depressed, affording a correct idea of the state of both the circulation and respiration. When he coughs, the wound is raised above the level of the surrounding integuments, and becomes firm and tense. Loose bone is felt with the probe anterior to the portion last removed; but being unwilling to interfere with the integuments on the centre of the head, which appear to support to a considerable extent the exposed surface, it was judged more prudent to remove some of the loose pieces at the opposite temple. The two wounds on that side were therefore converted into one, and portions of the frontal and parietal bones, measuring, when placed in their natural position, two by two and a-half inches, removed without difficulty. The dura mater beneath was found completely covered with granulations.

27th. His general health has improved very much since the removal of the bones; but he is still unable to raise himself in bed. The wounds are contracting, and the granulations becoming firmer, so that the pulsation of the cerebral vessels is less evident. The discharge is now chiefly from the centre of the head, where bare bone is felt underneath a thin and narrow slip of integument, which was divided with a bistoury, and a piece of bone removed, measuring one by three-fourths of an inch. This portion is found to be composed of the anterior and central portions of both parietal bones, united by the sagittal suture.

23d March. The discharge is now very trifling, and he has gained strength considerably; but when he attempts to raise his head from

[1] On its inner surface the indentations of the branches of the *a. m. m.* are very well marked; one of them seems to have been nearly completely encased in bone.

the pillow, he feels giddy. Cicatrization is proceeding rapidly, and the dimensions of the various openings appear greatly diminished. Bare bone has been felt for the last two days in the centre of the head; and the remaining portion of integument in this situation has now been cut across, and two fragments of bone, the size of field beans, and a thin scale an inch in length, removed.

13th May. Since the date of the last report, he has gained strength very rapidly, and is now able to take exercise in the open air. His mental and corporeal powers are in every respect as perfect as previous to the accident. The openings in the cranium are much diminished, partly from condensation of the pericranium and integument, and also, apparently, from the deposition of new bone.

3d January 1846. He has been regularly following his ordinary occupation of a coach-driver since June, and is now as stout, and in every respect as able a man, as previous to the accident. The opening from temple to temple is now so very much diminished, partly by the consolidation of the soft parts, and likewise, I think, by the formation of new bone, that one can hardly believe that the preparations taken therefrom ever formed part of the cranium. A very great change in this respect has taken place since I submitted the patient and preparations to the inspection of the members of the Medico-Chirurgical Society in May last.

REMARKS.

Perhaps no class of injuries present a greater variety of immediate and ultimate consequences, than those implicating the head. The force necessary to occasion comminution of the cranium, so extensive as in the case before us, must have been very great; and it is surprising the brain escaped with such impunity. The concussion must have been extremely slight. He rose immediately, and took charge of his horse; and both he and the party within the vehicle considered the accident of a trifling description. The precise condition of the bones could not have been ascertained at an early period of the case, without resorting to unjustifiable violence; but it became evident during the progress of the treatment, that the frontal and both of the parietal bones had been extensively fractured, from *temple to temple*, and that there had also been disjunction of the coronal suture *to the extent of four-fifths of its whole length*, and very considerable displacement of the parietal portion. Separation of sutures is a much rarer accident than fractures, and can only be produced by very great violence. Indeed, it is asserted by perhaps the best authority on injuries of the head, that "it cannot happen except in those who are not much advanced in life, and in whom the sutures are not completely consolidated."[1] In this instance, the patient had arrived at a period of life at which the process of ossification is completed; and the preparations show that

[1] Sir B. Brodie, in Med.-Chirurg. Transactions, vol. xiv. p. 332.

there had been no original defect of the suture, the serrated margins of both bones being long and powerful.

Another interesting complication in the present case, is occurrence of profuse hemorrhage from a branch of the middle meningeal artery. Shortly after the accident, two branches of the vessel became exposed by the separation of the margins of the fractured bone. The larger of the two was thin and diaphanous at one point, but resisted the force of the circulation till the fifth day, when the vessels of the head generally exhibited increased force and activity. General bleeding should perhaps have been instantly resorted to; but, attributing part of the disturbance to the neglect of the medicine, and other irregularities, and being anxious to husband the strength of the patient to combat the wasting discharges which it was evident must take place, a brief delay was judged prudent. In the mean time, the vessel gave way, and more blood was lost than was desirable. The bleeding was easily arrested; but the subsequent debility was somewhat alarming. The recurrence of the hemorrhage on the twelfth day induced me to cut across the vessel, and shortly afterwards both branches became overlapped by granulations.

Active treatment or interference were uncalled for at any period in the progress of the case. Care was taken to give exit to the collections of matter which formed so speedily under the tendon of the occipito-frontalis muscle, and likewise to prevent accumulations by counter openings. The extensive nature of the injuries accounts, in my opinion, for the mild character of the symptoms,—the disjunction of the suture and the extensive comminution admitting of very considerable congestion of the cerebral vessels, without the functions of the brain being thereby disturbed. The separation between the margins of the bones was ascertained by actual measurement to vary according to the state of the circulation and respiration; and had the brain been confined within its natural limits, the symptoms must have been on many occasions much more active. The delirium which existed between the 24th November and the 10th December, arose, in all probability, from the extensive suppuration going on over the surface of the skull;—at this period, the integuments covering nearly the whole of both parietal bones, and part of the frontal and occipital being completely undermined.

Some of the pieces of bone could have been removed shortly after the accident without much difficulty; and some of my friends who kindly visited the case recommended this course of procedure. But taking into consideration the fatality which attends the operation of trephine, (apparently, in many instances, from the mere exposure of the dura mater,) and the risk of injuring or lacerating the membranes, it was judged more prudent to leave the separation to be effected chiefly by nature.

I am strongly impressed with the belief that much mischief arises from too early interference in cases of injuries of the

head. When comminution of bone is ascertained to exist, with or without symptoms of compression, operative procedure is too generally resorted to. The mere existence of comminution without symptoms of compression rarely warrants, in my opinion, any active procedure; and even in cases where unequivocal symptoms of compression do co-exist, the removal of the fragments will rarely do much good, as they seldom owe their existence to the state of the bone, but to the injury the brain has sustained, or to effusion of blood. It is true, that the fragments must give rise to more or less irritation; but if pus is allowed to escape freely as soon as formed, there is less risk of serious consequences resulting to the brain and meninges, than when the pieces have been torn from the dura mater, and the surface of that membrane left exposed. Experience of diseased conditions of the cranial bones from venereal and other chronic affections, fosters the belief that there is not great danger of extension of the diseased action to the meninges, large patches of bone being gradually absorbed or discharged without the functions of the brain being in any manner disturbed.

As soon as granulations commenced to spring up around the margins of the various openings, they were carefully guided under the edges of the separating bone; and they soon served to cover the dura mater completely, so as to prevent any protrusion, and also assisted materially in destroying the attachments of the dead and exfoliating bone with that membrane.

Since my attendance on the preceding case, I have had an opportunity of examining another instance of disjunction of suture, through the kindness of Mr Cunninghame of Calton, and Mr Young of Bridgeton. Their patient, a boy, while engaged in cleaning part of a self-acting spinning-jenny, became entangled amongst the machinery. An upright plate of iron, with a sharpened edge, penetrated one of the parietal bones near its temporal fossa—tilted it upwards, and detached it from its fellow without destroying the serrated margins of the suture. The boy was carried home with a crucial-shaped scalp-wound, beneath which no bone could be discovered. Shortly afterwards, a piece of bone, fully two inches square, was found at the place where the accident occurred, completely denuded of its periosteum, as if macerated for demonstration. The boy had not a bad symptom. A report of the case could not fail to be read with interest.

37 BATH STREET, GLASGOW,
12th January 1846.

ARTICLE VI.—*Cases immediately Fatal, produced by Blows on the Head with the Fist.* By J. B. WHARRIE, M.D., Hamilton.

THE effects which follow a knock-down blow with the fist are in general so trifling, that it may be interesting, in a medico-legal point of view, to add to the list of cases already on record the following, which have fallen under my observation, and been attended with immediately fatal results. So much does the opinion prevail with the public, of the non-fatality of such a mode of assault, that Dr Watson, in his *Medico-Legal Treatise on Homicide*, observes:—"In trials for homicide, doubts have been entertained as to the *possibility* of a blow with the fist having the power to occasion a *mortal* injury upon the head." This doubt is certainly surprising, considering the frequency of death from the effects of blows on the head during pugilistic engagements. An instance of this kind lately occurred in a battle betwixt two soldiers in Glasgow.[1]

CASE 1. Two carters quarrelled when at work; one of them struck the other a blow with his fist behind the ear, when he fell, and immediately expired. A warrant was granted by the Sheriff to inspect the body, which we did twenty-four hours after death. The only external mark of violence observed was a small scratch behind the left ear, from which a little blood had exuded. When the skull-cap was removed, we found a considerable extravasation of blood, extending over the upper surface of the brain, and entering betwixt some of its convolutions; there was a little within the ventricles, and at the base of the brain and top of the medulla oblongata. All the other viscera were natural.

The prisoner was tried at Glasgow Circuit Court, pleaded guilty to the charge of culpable homicide, and was sentenced to three months' imprisonment.

CASE 2. A collier at one of the villages in this neighbourhood, when off work, quarrelled with a stranger passing; from words blows followed, and by the effects of one of these, he was knocked down, and was carried home dead; in the mean time, the unknown assailant made his escape, and was never captured. I was appointed by the Sheriff to make a *post-mortem* inspection of the body, and on examining it externally, found the skin slightly scratched over the following parts—the right cheek bone, the nose, the tip of right shoulder, and over the left collar bone; above the left ear there was a very slight wound of the scalp. On opening the cranium, the vessels on the surface of the brain, and those entering into its convolutions, were observed to be in a very gorged state. In each lateral ventricle there was a quantity of effused blood, and extravasation had taken place at the base of the brain to a large extent,

[1] Vide MONTHLY JOURNAL for 1842, where the Trial of Robert Porteous is reported, and remarked on by the Editor.

from rupture of the right lateral sinus. The contents of all the other cavities of the body were in a perfectly natural state.

CASE 3. In the following instance, although the injury was not immediately fatal, yet, from the short time the patient survived, it may not improperly be introduced into the same class. The history of it is shortly this:—A person returning home about ten o'clock at night with his wife and another female under his protection, was met on the street by a drunken man, who was insolent, attempted to catch hold of the females, and when they ran off, he came towards their protector in a boxing attitude; he was immediately knocked down by a blow with the fist over the nose. I was sent for, and found him supported in a sitting posture on the street. He was bleeding freely from the nose, and some had come from a small bruised wound over the occiput; he was faintish, and appeared insensible, which I attributed in part to the effects of intoxication. His home was about a mile and a half distant, but he was removed there in a carriage. He became gradually worse, and died within twenty-four hours from the receipt of the blow. There was a *post-mortem* inspection of the body ordered by the Sheriff, and the following appearances observed: Externally, there was a small contused wound, extending about half an inch down the centre of the nose, but the nasal bones were uninjured. The skin around the eyes was discoloured, and the nostrils were marked with blood,—all probably from the effects of the same blow which produced the cut on the nose. On the occiput, towards the left side, there was a small contused wound; on the scalp being dissected off from this part, there was discovered a quantity of extravasated blood, covering a space of four or five inches square. On the skull-cap being sawn through and removed, there was seen a fissure of the occipital bone (corresponding with the extravasation underneath the scalp), which extended four inches upward from near the base of the skull, and was crossed about the middle by another fissure running towards the left temporal bone, with a smaller fracture lower down, nearer the foramen magnum; but there was not the slightest depression. At the site of these injuries, underneath the dura mater, there was fully an ounce of extravasated blood; and over the right hemisphere of the brain, (particularly opposite the temple and ear), there was a quantity of extravasated blood, which was estimated to amount to fully 3 oz. All the other cavities of the body were opened, but nothing unnatural was discovered.

The opinion formed from the inspection was, that he had received a blow on the nose, occasioning a severe fall on the back of head, so as to occasion fracture of the occipital bone, and extravasation of blood within the skull.

The case was fully investigated; and the great provocation which the assailant received was reported to the Crown counsel, by whom no proceedings were instituted against him.

Injuries of this description, proving immediately fatal, seem generally to be occasioned by extravasation of blood within the skull; and in some cases, when the person falls upon a hard body, it is accompanied with fracture of the bones. It may also be remembered, that frequently, only very trifling marks of external violence are present on the body, so that in some of these instances, it has been attempted to explain the cause of death, by referring it to an apoplectic seizure. But why have recourse to a hypothetical explanation, when proof sufficient is afforded, to account for the appearances observed on dissection having been caused by external violence?

HAMILTON, January 1846.

PART SECOND.

REVIEWS.

Description and Physiological Anatomy of the Brain, Spinal Cord, and Ganglions. By ROBERT BENTLEY TODD, M.D., F.R.S., Professor of Physiology in King's College, London. 12mo, pp. 284. London: 1845.

THIS work is a reprint of the article "Nervous Centres," in the *Cyclopædia of Anatomy and Physiology*,—with several additions, and some alterations, suggested by a reperusal as it again passed through the press. Its importance and value must be already well known to the subscribers to the *Cyclopædia*, but to those who have not patronised that work, or have been led to withdraw their support in consequence of the vexatious delay in its publication, it is only necessary to state, that this volume contains the most recent information on the anatomy and physiology of the nervous system. It evinces great research, and, at the same time, considerable originality. In the anatomical portion, the author has relied chiefly on his own dissections; and the descriptions are the same as he has been in the habit of giving for many years in his lectures. He has abstained as much as possible from fine physiological discussions; while, at the same time, he has attempted to make the anatomy of the brain as physiological and practical as the nature of the subject would admit. Such a volume must be acceptable to every individual who wishes to keep pace with the progress of his profession, and who has not the leisure or an opportunity of referring to the various original sources of information. The book is not well calculated, from the very nature of its contents, for analysis, and we must therefore close this brief notice, by recommending it strongly to our readers.

For the benefit of those who may not be acquainted with Dr Todd's writings, we append part of his remarks on the CIRCULATION WITHIN THE CRANIUM, as a fair specimen of his style.

"The four great channels of sanguineous supply to the brain are continued up straight from the aorta itself, or from an early stage of the subclavian. The columns of blood contained in them are propelled very directly towards the base of the brain, through wide canals. Were such columns to strike directly upon the base of the brain, there can be no doubt it would suffer materially. Considerable protection, however, is afforded to the brain; first, by the blood ascending against gravity, during at least a great portion of life; secondly,

by a tortuous arrangement of both carotids and vertebrals before they enter the cranial cavity; the carotid being curved like the letter S in and above the carotid canal, and the vertebral being slightly bent between the atlas and axis, then taking a horizontal sweep above the atlas, and after it has pierced the occipito-atlantal ligament, inclining obliquely upwards and inwards; thirdly, by the breaking up of the carotids into three branches; by the inclined position of the vertebrals, and by their junction into a single vessel, which takes a course obliquely upwards, and afterwards subdivides into smaller branches. Such arrangements most effectually break the force of the two columns, and, as it were, scatter it in different directions.

"A further conservative provision is found in the manner in which the blood-vessels penetrate the brain. The larger arterial branches run in sulci between convolutions, or at the base of the brain; smaller branches come off from them, and ramify on the pia mater, breaking up into extremely fine terminal arteries, which penetrate the brain; or these latter vessels spring directly from the larger branches, and enter the cerebral substance. As a general rule, no vessel penetrates the cortical layer of the brain, which, in point of size, is more than two removes from the capillaries; and, whenever any vessel of greater size does pierce the cerebral substance, it is at a place where the fibrous matter is external, and that part is perforated by foramina for the transmission of the vessels. Such places are the locus perforatus, the interpeduncular space, &c. The capillaries of the cerebral substance are easily seen to possess an independent diaphanous wall, with cell-nuclei disposed at intervals. The smaller arteries and veins can also be admirably studied in the pia mater of the brain.

"The venous blood is collected into small veins, which are formed in the pia mater at various parts of the surface, and in the interior of the brain. The superficial veins open by short trunks into veins of the dura mater, or into the neighbouring sinuses; the superior longitudinal, the lateral, and the straight sinuses receiving the greatest number. Those from the interior form two trunks—*venæ magnæ Galeni*, which pass out from the ventricles between the layers of the velum interpositum. The cerebral veins are devoid of valves.

"We remark here, that the venous blood of the brain is returned to the centre of the circulation through the same channel as that of the dura mater, of the cranial bones, and of the eyeball: the internal jugular veins are the channel towards which the venous blood of the cranium tends. An obstacle, therefore, in both or either of these vessels must affect the entire venous system of the brain, or at least that of the corresponding hemisphere. A ligature tied tightly round the neck impedes the circulation, and may cause congestion of the brain. The bodies of criminals who have died by hanging exhibit great venous congestion, both of the walls and the contents of the cranium, in consequence of the strong compression to which the veins have been submitted.

"We have seen that, when the blood of one carotid artery is cut off, the parts usually supplied by it are apt to become exsangueous and softened; and this is more especially the case if the vertebral be stopped up, or the circulation in it impeded. And it has been remarked, that these effects will follow the application of a ligature to either common carotid artery.

"Notwithstanding these facts, a doctrine has received very general assent, and the support of men of high reputation, which affirms that the absolute quantity of blood in the brain cannot vary, because that organ is incompressible, and is enclosed in a spheroidal case of bone, by which it is completely exempted from the pressure of the atmosphere.

"The cranium, however, although spheroidal, is not a perfectly solid case, but is perforated by very numerous foramina, both external and internal, by which large venous canals in the diploe of the bones communicate with the circulation of the integuments of the head, as well as with that of the brain; so that the one cannot be materially affected without the other suffering likewise. And as the circulation in the integuments is not removed from atmospheric pressure, neither can that which is so closely connected and continuous with it be said to be free from the same influence. Still it must be admitted, that the deep position of the central vessels, and the complicated series of channels through

which they communicate with the superficial ones, protect them in some degree from the pressure of the air, and render them less amenable to its influence than the vascular system of the surface.

"If it were essential to the integrity of the brain that the fluid in its blood-vessels should be protected from atmospheric pressure (as the advocates of this doctrine would have us to believe), a breach in the cranial wall would necessarily lead to the most injurious consequences; yet, how frequently has the surgeon removed a large piece of the cranium by the trephine without any untoward result! Some years ago I watched for several weeks a case in which nearly the whole of the upper part of the cranium had been removed by a process of necrosis, exposing a very large surface to the immediate pressure of the atmosphere; yet in this case no disturbance of the cerebral circulation existed. In the large and open fontanelles of infants, we have a state analogous to that which art or disease produces in the adult: yet the vast majority of infants are free from cerebral disease for the whole period during which their crania remain incomplete; and in infinitely the greatest number of cases in which children suffer from cerebral disease, the primary source of irritation is in some distant organ, and not in the brain itself.

"It cannot be said that the brain is incompressible. That only is incompressible, the particles of which will not admit of being more closely packed together under the influence of pressure. That the brain is not a substance of this kind is proved by the fact that, while it is always undergoing a certain degree of pressure as essential to the integrity of its functions, a slight increase of that pressure is sufficient to produce such an amount of physical change in it as at once to interfere with its healthy action. Too much blood distributed among its elements, and too much serum effused upon its surface, are equally capable of producing such an effect.

"Majendie's experiments, described at a preceding page, show that the brain and spinal cord are surrounded by fluid, the pressure of which must antagonise that which is exerted through the blood-vessels. The removal of this fluid disturbs the functions of these centres, apparently by allowing the vessels to become too full. The pressure exerted by the former may be called the fluid pressure from without the brain; that by the blood, the pressure from within. As long as these two are balanced, the brain enjoys a healthy state of function, supposing its texture to be normal. If either prevail, more or less of disturbance will ensue. Their relative quantities, if not in just proportion, will bear an inverse ratio to each other. If there be much blood, the surrounding fluid will be totally, or in a great measure, deficient; if the brain be anæmic, the quantity of surrounding fluid will be large.

"The existence of these two antagonizing forces may be taken as an indication that either of them may prevail; and, therefore, from the presence of the cerebro-spinal fluid, we may infer that the actual quantity of circulating blood in the brain is liable to variation.

"The cerebro-spinal fluid is a valuable regulator of vascular fulness within the cranium, and a protector of the brain against too much pressure from within. So long as it exists in normal quantity it resists the entrance of more than a certain proportion of blood into the vessels. Under the influence of an unusual force of the heart an undue quantity of blood may be forced into the brain, the effects of which will be, first, the displacement of a part or of the whole surrounding fluid; and, secondly, the compression of the brain.

"When the brain receives too little blood, the requisite degree of pressure will be maintained, and the healthy cerebral action preserved, if the surrounding fluid do not increase too rapidly. But if the brain be deprived of its due proportion of blood by some sudden depression of the heart's power, there is neither time nor source for the pouring out of new fluid, and a state of syncope or of delirium will ensue. Such seems to be the explanation of those cases of delirium which succeed to hemorrhages, large bleedings, or the sudden lighting up of inflammation in the pericardium, or within the heart, or in some other organ of great importance to life. In nearly all these cases, however, it is important to notice that the blood is more or less damaged in quality, deficient in some of

its staminal principles, or charged with some morbid matter; and this vitiated state of the vital fluid has no doubt a considerable share in the production of the morbid phenomena." Pp. 244—249.

The text is illustrated by numerous wood-cuts. K.

First Steps to Anatomy. By JAMES L. DRUMMOND, M.D., Professor of Anatomy and Physiology in the Royal Belfast Institution. 12mo, pp. 201. Plates. London: 1845.

IN the Belfast Institution it is customary to appropriate the first lectures of the course to an explanation of the general component materials of the animal body. The Professor has been induced to publish his introductory discourses, for the benefit of students who are dilatory in joining the class. We profess no sympathy for those who do not think fit to join, heart and hand, with their teacher at the starting point. No book will make up for the loss they must necessarily sustain. At the termination of the course, they can have but a vague and imperfect notion of the science; and, besides, they are teaching themselves habits altogether incompatible with the successful exercise of the medical profession; for to a surety, no other calling demands greater punctuality, to ensure even an average degree of success.

But to return to the *First Steps to Anatomy.* The volume differs in no respect from many works on popular anatomy already in circulation, and seems infinitely better suited to the tastes and acquirements of the members of a mechanic's class, than for young men prosecuting the study of anatomy with the view to the profession of medicine. The author's style is by no means peculiarly well calculated for a successful popular exposition of scientific knowledge. In this respect, his work is infinitely inferior to the well-known productions of Drs Southwood Smith, and Andrew Combe. K.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

CASE OF PNEUMONIA TREATED WITH LARGE DOSES OF TARTAR-EMETIC—CURE.

A woman, aged nearly 60, was admitted into hospital with all the signs of pneumonia in the second stage, extending over nearly the whole of the left side. The disease had existed for four days, and she had been bled previous to admission. On examination, the patient appeared so sunk, and the pulse was so small, that no further depletion could be thought of. We omit the description of the symptoms, which may easily be gathered from the preceding diagnosis. M. Guérard prescribed twelve grains of tartar-emetic, in two basons of tisane, (one half in each bason,) and the whole to be taken during the course of the day.

The same prescription was repeated for seven or eight days in succession, the patient tolerating it completely. The day after the first dose she was better, and the improvement continued till there was complete convalescence, on the eighth day from her admission. Her health is now perfectly re-established, without her having lost a drop of blood while under M. G.'s care.

This method of treating pneumonia is very common in the wards of M. G., more especially in patients somewhat advanced in years, and whom he does not in general bleed, the hyposthenic remedy alone being sufficient to ensure the cure of the disease. M. Guérard is convinced this patient would have sunk had this remedy not been employed. The case was indeed of a serious description; the pneumonia had reached the second stage, and the patient was advanced in years. The effects resulting from the administration of dynamic remedies are either matter of astonishment to those not in the habit of using them, or they are altogether called in doubt. Nothing, however, is more common in the Italian hospitals, than those kind of cures, accomplished without the loss of a single drop of blood. The treatment, nevertheless, is generally of a mixed character, that is to say, bleeding is combined with the use of tartar-emetic, in doses as large as the system will admit, and cherry-laurel water. Great experience, however, is necessary in watching the effects of these remedies.—*Annales de Thérapeutique*, December 1845.

Internal Use of Cantharides in Pneumonia. By Dr Mendini.

The author does not give this remedy as a certain specific in Pneumonia, nor as applicable to all the varieties of the disease, nor as capable of taking the place of all other therapeutic agents. On the contrary, he distinctly warns us, that the administration of cantharides does not supersede the necessity of bleeding. In some of his patients, he had had recourse to bleeding four, six, and even ten times. He also observes, that cantharides only succeeds, when the affection is of a decidedly inflammatory character, the constitution plethoric, and the general reaction well-marked. In cases where the case is complicated with gastro-enteritis, or marked susceptibility of the primæ viæ, the remedy is contra-indicated.

In what particular way does cantharides act in pneumonia? Dr Mendini believes its action to be absolutely the same with that of tartar-emetic; that is to say, it depresses and moderates the circulation. He does not hesitate to state, that the power of antimony in this respect is even less marked than that of cantharides. "I have often," he says, "been obliged to suspend the use of cantharides, owing to its hyposthenic effect proving too powerful; at times, indeed, I have been obliged to combat this effect by means of stimuli, such as laudanum combined with the tincture of canella. But I have rarely been obliged to have recourse to similar precautions when using the tartar-emetic.

Dr Mendini has now tried cantharides in seventy cases of pneumonia, and that in a country where the inflammatory element is in such activity, as to render repeated bleedings necessary to overcome the disease. In not one of the cases did the peculiar effect of cantharides on the urinary organs prevent the continuance of the remedy. The pain and heat experienced by the patient at first in the genitals, disappeared in the course of forty-eight hours, and priapism never lasted longer than the third or fourth day. The author never witnessed these symptoms continue, in any of his patients, beyond the period first stated, although the ordinary dose of the remedy was continued. He generally found it of advantage, he says, for the first few days, to assure the patients that the inconveniences they suffered in the region of the pelvis, were the mere effects of the disease, which, descending, was taking leave of the body in that way! The following is the general mode in which Dr Mendini administered the remedy:—

Take of whole cantharides from twelve to eighteen grains; boil in half a pound of water, so as to make an infusion; to which add a pound of almond emulsion, and half a pound of mucilage.

This is to be taken at intervals in the course of twenty-four hours.

However great may be the confidence which both the name of the author, and the utter want of any thing exaggerative in his statements, inspire us with, we very much doubt, if many practitioners will follow in his steps, in the treatment of a disease against which we already have a sufficiency of means, as certain as they are inoffensive. Even that which appears to Dr Mendini an argument in favour of the remedy,—viz. that its too great efficacity will cause it to be proscribed,—only inspires us with mistrust. We only add, and we do so most emphatically, if any one feels inclined to hazard this treatment, he must,—unless under a heavy responsibility,—commence with doses much smaller than those indicated by the author, and he must attentively watch the development of any symptoms in the genito-urinary organs.—*Annali Universali di Medicina*, as quoted in *Gazette Médicale*, January 1846.

Pneumonia and Chlorosis.

The subject of this case is a woman, aged 23, a sempstress by trade, emaciated, and of a chlorotic appearance; the catamenia are irregular, and she suffers from habitual palpitation of the heart, is liable to take cold, and for the last eight days has been suffering from catarrh, accompanied with a considerable degree of fever, especially during the last three days. On examination, pneumonia in the first stage was discovered in the lower part of the right side; it extended over nearly two-thirds of the lung. There was fever, rusty sputa, dyspnœa, murmur in the carotids, paleness, and a rather small pulse. M. Rayer prescribed a bleeding from the arm to the extent of three or four palettes, and a potion containing two grains of tartar emetic. Next day she was better; the tartar emetic was repeated, and continued for some days. On the third day, the pneumonia had in great part disappeared; the sputa had ceased to be bloody, but the dyspnœa still remained with some fever, and a blowing sound posteriorly. The tartar emetic was continued, and the cure completed. Convalescence was complete on the fourth or fifth day. The patient, however, still remains in the hospital, weak, pale, and sickly, as she had previously been. She will now probably be subjected to an anti-chlorotic treatment. In this disorder, M. Rayer is in the habit of ordering iron in pretty large doses, combined with a small quantity of canella powder.

In his remarks on the case, M. R. asked—If the treatment of pneumonia in chlorotic subjects had been thoroughly expiscated by authors? From the result of some bibliographic researches, we consider the question has never been treated in a formal manner. It has generally, however, been received as a rule in practice, that in chlorotic subjects, bleeding should only be had recourse to in a moderate way. We have seen M. Bouillaud bleed in these cases, but to a less extent than in subjects not affected with this disorder. In consequence of the circumspection forced upon him in the way of bleeding, M. B. considers pneumonia to be of a more serious character in chlorotic subjects,—other conditions being of course supposed equal,—from the reason, that, in his opinion, the true, the only remedy in inflammation is blood-letting; tartar emetic, and other hyposthenic remedies, being, in his eyes, agents without any value whatever. Fortunately, other practitioners do not participate in his views; and we every day see dynamic remedies produce the most satisfactory cures in cases where bleeding is either inadmissible or insufficient. In a general point of view, moreover, bleeding is not contra-indicated in the chlorotic state, and for the reason that the generally received doctrine regarding the state of the blood in this class of subjects is false, as we shall prove. Chlorosis constitutes a serious complication, not because there is either less blood, or deglobulated blood in the organism, but because, if we may so speak, the constitution is already exhausted, in consequence of the arteritis allied to the pneumonia. Chlorotic arteritis of itself predisposes to pneumonia; but from the very circumstance that those endowed with this kind of constitution are naturally delicate, the disease is never accompanied with such a state of general plethora as to authorise the use of copious blood-letting; thus the use of hyposthenic remedies in suitable doses ought to be insisted on, such as tartar emetic, ergot of rye, and hydrocyanic

acid. M. Rayer has adopted the mixed method, that is to say, he combines bleeding with tartar emetic in all cases of pneumonia indiscriminately, and the practice has been successful in his hands.—*Annales de Thérapeutique*, December 1845.

[It is right to state, that M. Rognetta, the Editor of the *Annales de Thérapeutique*, regards chlorosis as chronic *arteritis*.]

Thoracic Percussion.

M. Lanza, Professor of Clinical Medicine at Naples, lately read to the Scientific Congress a paper on Thoracic Percussion, in which he endeavoured to determine the normal sounds produced by percussion in the human chest, more exactly than had been hitherto attempted. The results at which he arrived are, that the sounds vary, in the normal state, according to the constitution of the individual, and more especially according to the natural tone of their voice, which has an intimate connection with the state of the thoracic organs. Thus, for instance, in three healthy individuals, of whom the one has a *tenor* voice, the other a *bass*, and the third a *baritone*, it may be certainly assumed that percussion will yield a different result in each. In the first, the sound will be similar to that produced in striking a perfectly empty cask; in the second, the sound will be more masked, as if striking a cask filled with raw silk or cotton; in the third, the sound will be a mean between the two former, and the more his voice approaches to the acute tone, percussion will bring out a sound, at the summit of the chest, having a character approaching to that of the tenor. If, on the other hand, the voice has an inclination towards the bass, then the base of the thorax will yield the loudest sound on percussion. So that an individual being given, M. Lanza, without hearing him either speak or sing, can, by the sound elicited by percussion, predict the tone, quality, and extent of his voice. M. Lanza has made an immense number of experiments on this interesting question, the clinical application of which is easily foreseen; for if it be true, that the normal sound of the chest varies according to the original form of the tissues, that is to say, according to the constitution, then the anormal sounds elicited by percussion must, in order to appreciate the differences, be judged of relatively to the *type* of the individual. From all this it follows, that there is at least reason to examine anew the presently received opinions regarding percussion, in the study of diseases of the chest.—*Annales de Thérapeutique*, December 1845.

Ovarian Dropsy—Spontaneous Cure.

A woman, aged 28, had suffered from Ovarian Dropsy of the right side for two years. The tumour was large and increasing, when a small projection appeared in the region of the umbilicus, and at last burst. A torrent of water escaped through the opening, which continued fistulous. The discharge became puriform. The abdomen continued to decrease, the discharge to become less, till at length it altogether ceased, and the wound cicatrised. The woman was completely cured. At a later period, she married, became pregnant, and was delivered of a fine child. The abdomen continued large, and it soon became evident that the tumour had returned. It ran exactly the same course as the preceding, continuing to increase, till an abscess formed at the umbilicus. The fluid was evacuated, and the sac continued to contract, till there was no further secretion. The wound cicatrized, and the cure has continued complete. (*Medicinische Zeitung.*) Facts of this kind are rarely met with; but we cannot help regretting, that in our day surgeons see no other mode of curing these tumours than by extirpation.—*Annales de Thérapeutique*, December 1845.

Ammonia in Asthma.

M. Guérard has employed Ammonia in a hundred cases of Asthma, and generally with a favourable result. In some, indeed, its effects were truly marvellous,

the paroxysm disappearing as if by enchantment. We lately saw in his wards an old woman, aged 60, who on admission was literally suffocating, the respiration being nearly suspended, in consequence of extensive pulmonary emphysema; the paroxysms recurred with extreme violence; but these disappeared, after a single application of ammonia to the throat, a month ago. At the present time, this woman is tolerably well (*assez bien*), she sleeps quietly, her respiration is free, and her physiognomy tolerably calm; she merely complains of an uneasy feeling in the throat, caused by relaxation of the uvula, which is resting on the base of the tongue.

M. G. applies the remedy in the following manner:—He dips a small pencil of charpie into pure liquid ammonia, and then instantaneously into a glass of water, after which he immediately passes it to the back of the throat, touching rapidly the velum, uvula, and œsophagus to a greater or less extent. He seldom has occasion to repeat the operation; when there is merely simple emphysema the improvement has been permanent. The pencil should neither be carried too deeply into the throat, nor allowed to remain too long in contact with the soft parts, more especially the posterior wall of the pharynx; the re-action resulting from such an application is, at times, followed by the most frightful symptoms, menacing instant death. The last case we witnessed at *La Charité* was that of a young man, hemiplegic, aphonious, and previously epileptic; the pencil was carried deeply into the pharynx, and maintained there a considerable time. The most horrible convulsions immediately ensued, and for a time it was feared he would sink. Fortunately, the symptoms abated. In another case, recourse was nearly had to tracheotomy. By this mode of operating, the ammonia, exhaled in too great abundance, from the heat of the parts, acts too powerfully on the glottis, causing it to contract spasmodically, and the patient is threatened with asphyxia. It is well known, moreover, that cases have occurred, in which death has ensued from the presence of ammonia diffused through the air. Percy relates a case in which the son of a chemist thus perished,—he had immediate assistance, but fell a viciim to the bursting of a bottle filled with ammonia. A similar case has been given by Merat and Delens. The importance of circumspection in the use of the remedy is the more necessary, as the benefits resulting from it are neither to be attributed to its cauterising or revulsive effects upon the œsophagus, as has been imagined, nor yet to any nervous action; were this the case, any other cautery or irritating substance applied to the same spot would produce the same, if not more powerful effects, for the cauterisation of the throat by the diluted ammonia is but slight. We shall see by and bye that its action on the diseased organ is of a purely dynamic nature. But before proceeding further, we may inquire if this mode of treatment, so much vaunted of late in Paris, is really new. We have no hesitation in stating that it has been taken from the work of M. Giaccomini, who is the only one, so far as we know, who has recommended the use of ammonia as a curative means in cases of asthma and catarrh. Three questions naturally arise from the preceding facts. 1*st*, In what cases of asthma may ammonia be prescribed with advantage, and in what cases is it hurtful, or of no use at all? 2*d*, What is the true principle of action of the remedy in such cases? and, 3*d*, Is it indispensable to apply the ammonia to the throat in order to obtain its good effects?

From daily observation, it is evident that asthma frequently occurs in a state of complication with organic lesions of the heart, and aorta, or with tubercles; at other times, it exists without these complications, although otherwise accompanied with emphysema or catarrh. In the latter case, the disease may be denominated simple, the catarrh and emphysema being regarded as symptoms of the affection. From what we have observed at *La Charité*, it appears, that it is only in cases of the latter description, that is to say simple asthma, (idiopathic of authors) that ammonia effects a cure, or affords great relief.

In regard to the second question, as previously remarked, we can only regard the result produced by the ammonia, as a dynamic effect acting immediately on the diseased organ, an action analogous to that obtained by Scarpa from the same remedy, in congestive amaurosis. And the proof that its action is dyna-

mic, and neither mechanical nor nervous, is just this, that if any other irritating remedy, the actual cautery, for instance, boiling alcohol, tincture of canella, or cloth steeped in hot wine, the same results will not be obtained; far from that, the disease will be aggravated. Two things, moreover, must be considered regarding the medication in question, and these are,—its physico-chemical and local action, which is evidently irritant, and its dynamic action, resulting from the speedy absorption of the ammonia by the bronchia, which it reaches with the air. The first of these is unimportant in a therapeutic point of view; it is inconvenient, aud would certainly be hurtful, were it not counteracted by the dynamic action, affecting not only the lungs, but the whole system. What, then, is the nature of the dynamic action of the ammonia? From the effects we have witnessed in asthma and congestive amaurosis, we have no doubt that it is hyposthenic. In one or other case you have a humoral evacuation, (mucus, tears,) and afterwards, results similar to those produced by other hyposthenic remedies. If instead of ammonia, boiling alcohol be used, you will likewise have humoral evacuation, but the disease is increased. From what has been said then, it follows, that the direct application of the ammonia to the pharynx is not indispensably necessary, in order to obtain all the good expected from it in asthma, its absorption by the stomach will lead to the same results, if it be administered in sufficient doses. M. Rayer has already obtained good effects from it in this way, but the dose being too small, they have not been permanent. The remedy must therefore be given in sufficient quantity, through other absorbing media, not excluding the respiratory organs themselves, by placing a phial filled with the medicine near the nostrils, or disseminating it through the air; the rectum, skin, and stomach, may conjointly be made the means of repeatedly administering the remedy. It is well known, for instance, that belladonna applied to the neighbourhood of the orbit causes dilatation of the pupil, produces its hyposthenic effect upon the globe of the eye and the brain, exactly in the same way as if it had been administered by the rectum, stomach, friction over the extremities, or injected into the bronchia. Ammonia forms no exception to this general law of effects produced by absorption.—*Annales de Thérapeutique*, Nov. 1845.

INFLAMMATION OF THE EYE FOLLOWING FEVER. By ALEXANDER JACOB, M.D.' F.R.C.S.I., Professor of Anatomy and Physiology in the Royal College of Surgeons, and one of the Surgeons of the City of Dublin Hospital.

[The author reprints the following essay, because the *Transactions of the College of Physicians of Ireland*, in which it was first published, are not within the reach of general readers; and because attention has been lately directed to the subject by Dr Mackenzie and Dr Anderson of Glasgow. It was read on the 7th of January 1828, and published in the same year.]

"The occurrence of a Local Inflammation of Specific Character, as a consequence of Fever, is a fact of importance, not only to ophthalmic surgery, but to pathology generally.

"That iritis, or internal inflammation of the eye, is one of the sequelæ or consequences of that form of fever which afflicts this country, was first established by Mr Hewson, in his work on Venereal Ophthalmia, and the fact is now fully admitted by the profession in this city. Having myself met with seventy or eighty examples of this disease within the last year, I am induced to communicate the results of my inquiries respecting it.

"I am unwilling to apply the term iritis to this affection, because I do not believe that the iris is the part primarily or exclusively attacked; but, on the contrary, that all the internal parts of the eye participate in the inflammation, especially the retina, as proved by the symptoms to be presently detailed. Even in syphilitic iritis, the inflammation is not confined to the iris, but extends to the membrane of the aqueous humour, the sclerotic coat, and cornea, and if not checked, finally to the lens, vitreous humour, and retina. The use of the term has the effect of directing the attention of the practitioner to the iris, which

bears a great deal of inflammation without destruction to the organ, and withdrawing it from the retina, which bears very little without permanent injury to vision. I therefore call the disease Internal Inflammation of the Eye.

"That this inflammation is to be considered one of the consequences of fever I do not entertain a doubt, because in all the cases which I have met, the patients had suffered from fever during the preceding six or eight months, and in one or two instances only the previous existence of fever was doubtful. The conclusion can be disproved only by supposing that so great a proportion of the population had gone through fever within that period, that few had escaped to afford examples of the disease occurring independent of such cause. My experience leads me to believe that this affection occurs much more frequently in young than old persons. I have no case noted of its occurrence at a later period of life than forty-five; and of thirty cases in which the ages have been noted, three only are above twenty-five. I believe, also, that it is much more frequent among the poor than the rich, and therefore is probably to be referred to exposure to cold, and to insufficient nourishment after recovery. It likewise may perhaps be considered to arise more frequently among females than males; neither are children exempt from it, as I have met with cases at three, five, and seven years of age. I have not found that the practice of any particular trade disposes to it. The inflammation, in the majority of the cases seen by me, made its appearance within six weeks or two months after recovery from fever; in some instances, however, it appeared before the patient left the hospital, and in others not for four, five, or even eight months. Both eyes are seldom affected; I do not think that I have met a case in which more than one was attacked.

"The inflammatory symptoms are generally preceded by those defects in vision which are considered to arise from disease of the retina, such as muscæ volitantes, clouds, and luminous coils or stars. These, in most instances, had not existed for more than six, eight, or ten days previous to the appearance of inflammation; but in some they had existed for two months, commencing immediately after recovery from fever. The accounts given of these first symptoms were, that the sight began to fail so as to disable the patient from working at his trade; that a black fog, cloud, gauze, or scum came before the sight; that vision became dim, spread, or dazzled; or that there were motes, threads, stars, or flies dancing or swimming before the eyes. The inflammatory stage is distinguished by the increased vascularity, the cloudiness of the transparent parts, alterations in the condition of the iris, pain, intolerance of light, increased secretion of tears, and defect of vision.

"The vascularity produces the same appearances which have been observed in other forms of internal inflammation and iritis; at its commencement a pink zone surrounding the margin of the cornea; at a more advanced period, vessels converging from the lateral parts of the globe to the cornea. The pink zone in the sclerotic, or tunica albuginea, arises from the enlargement of the capillary vessels of the sclerotic at this part admitting red blood, which vessels, in a state of health, we conclude, carry transparent blood only. The larger distinct vessels, which appear at a more advanced period converging to the circumference of the cornea, and obscuring the white of the eye, are the branches leading to those capillaries, and as they do not ramify so extensively, or form the same reticulated arrangement as those of the conjunctiva, they afford a good means of distinguishing inflammation of the globe, or its parts, from inflammation of the conjunctiva. Diagnosis, founded upon the condition of the vessels alone, is not, however, to be relied upon; because there is frequently so much conjunctival inflammation accompanying the internal derangement, that this vascular arrangement is obscured. It is to be remembered, that this must also be the condition of the vessels in inflammation of the sclerotic or cornea, from whatever cause it may arise. I have repeatedly observed it in wounds, ulcers, and abscesses of the cornea.

"In this inflammation, the transparent parts are rendered more or less clouded or opaque; the cornea especially has its margin or circumference almost always of a whitish or grey appearance, presenting an opaque circle resembling the *arcus senilis*. The anterior chamber of the eye appears clouded, independent of

the opacity of the cornea, arising probably from thickening of the membrane of of the aqueous humour; this cloudiness is sometimes general, sometimes it presents a muddy patch behind the cornea, as in syphilitic iritis. In the worst form of the disease the lens itself becomes partially opaque, reflecting light falling obliquely upon it, and presenting an opaline amber colour; indeed, it is in this way I have observed vision to be destroyed where the disease has been fatal to the organ. The hyaloid membrane of the vitreous humour may possibly participate in this opacity.

"The iris is always altered in colour, the brilliancy of its tints being totally lost; it never, however, acquires the decided yellowish-green observed in syphilitic iritis; neither have I observed the abscesses or tubercles, usually called globules of lymph, which characterize that form of inflammation; purulent matter is, however, occasionally secreted in the anterior chamber of the aqueous humour, constituting hypopion, or unguis. I have not observed that the secretion of purulent matter was a consequence of more intense inflammation; on the contrary, I have seen it in very mild cases, and even where the pupil contracted on exposure to light. The pupil is generally slightly irregular, but I have not observed that it contracts adhesions to the capsule of the lens, or that it becomes closed as in iritis; in many well-marked cases I have found it contract on exposure to light with considerable activity.

"The patient generally complains of a stinging or aching pain darting to the temple or nose, but in many instances there is little or no suffering from this cause. Intolerance of light, and even severe pain on exposure to any strong glare, is almost always present. The answer to the first question respecting the pain is, that it is produced by the sun, the candle, or the fire. When there is much intolerance of light, there is considerable secretion of tears, which produces a distressing scalding sensation.

"Vision is in all cases much impaired; some cannot read print of moderate size,—others cannot distinguish large capital letters,—others are unable to see a key or other large object held at a short distance from the eye,—while others can only distinguish light from darkness. I have not observed that the degree of injury to vision was proportioned to the extent of the inflammation; the cases of mildest appearance being sometimes attended by the most defective sight. The patient can seldom distinguish all the prismatic colours, deep blue and green generally appearing black.

"The following history of one well-marked case affords a summary of the preceding detailed symptoms. The patient states that he recovered from fever two months ago, and returned to work at his trade as usual; that about three weeks ago, his sight became dim, his work confused by motes or flies floating before his eyes; and that a few days ago, the eye became red and sore. He complains of pain in the eye-ball, extending to the temple, and suffers from exposure to sunshine, fire, or candle. He cannot read small print, or tell the hour by a watch. His eye feels hot, and there is a considerable discharge of scalding tears. The sclerotic is highly vascular, and the larger vessels converge to the circumference of the cornea, which is surrounded by a pink zone. The cornea is slightly clouded, the margin forming a whitish circle resembling the *arcus senilis*. The anterior chamber of the eye appears clouded, independent of the cloudiness of the cornea. The iris is altered in colour; the pupil is slightly irregular, acts sluggishly, or is nearly immoveable. The crystalline lens appears clouded, of an amber tint, and opaline appearance; and vision is permanently impaired, or totally lost, with dilated pupil, and other symptoms of perfect amaurosis. When the inflammation subsides, and the disease terminates favourably, the symptoms gradually disappear; the purulent matter, if secreted, is absorbed, and the iris recovers its colour; the pupil becomes regular and active, and vision is perfectly restored. An imperfect recovery is sometimes obtained, leaving defective vision, muscæ volitantes, and other amaurotic symptoms.

"The treatment of this inflammation of the eye is not attended with much difficulty. Bleeding, locally or generally, in proportion to the urgency of the symptoms; blistering, where there is much pain or intolerance of light; purga-

tives, antimonial medicines, and opiate stupes, are obvious means of relief. I am in the habit of using the extract of belladonna very freely, not only in this form of inflammation, but in every other, and more especially in syphilitic iritis, where there is so great a tendency to closure of the pupil and adhesion of its margin to the capsule of the lens. In the contracted state of the pupil, its margin, at least when inflamed, is in contact with the capsule; but when dilated, it is altogether detached from it, and consequently cannot adhere. It must, however, be admitted that the iris, when much altered by inflammation, is not affected by the belladonna; but even under such circumstances its use is not attended with any disadvantage. But it is not from its effect on the pupil alone that the extract of belladonna should be applied; very decided relief is obtained from its application in those cases where there is deep-seated pain, extending from the eyeball to the temple, and especially in rheumatic inflammation. It may be used, as recommended by Beer, in the form of ointment, rubbed in upon the temple, (half a drachm of the extract, with an equal quantity of mercurial ointment every night), or the extract alone, softened with water, and daubed over the lids and brow, and kept moist for one or two hours with a light fold of old linen wetted every ten minutes, may be preferred. I do not, however, by any means recommend that the surgeon should depend upon these remedies alone; on the contrary, I believe that they will prove ineffectual in the majority of cases, and therefore we must have recourse to mercury, which has been found so valuable a resource in other cases. In my own practice I have found the relief from the use of mercury so certain and decisive, that I have trusted to it almost exclusively, with the assistance of the belladonna. I have generally found that two grains of calomel, with a quarter of a grain of opium, three times a-day, answered every purpose; and in the majority of cases I produced the necessary mercurial action, as marked by tenderness of the gums, in eight or ten days, by the use of three, four, or five grains of blue pill alone, three times a-day; and if the pain should be severe, combining hyoscyamus or belladonna with the dose taken at bed-time.

"I have heard that the sulphate of quinine has been administered with advantage in those cases; but as my experience of its efficacy is not considerable, I cannot speak of it with any certainty. In two cases which I met after the inflammation had subsided, and in which vision was as much impaired as if no remedies had been adopted, bark in powder had been administered for ten days. I gave trial to the sulphate of quinine myself in four well-marked cases for eight days; but finding no relief, had recourse to mercury, which effected a cure in the usual time. I have no doubt that many of those cases, when the inflammation is not severe, recover without any treatment. I have met with several complaining of muscæ volitantes, and other slight amaurotic symptoms, who, upon being questioned, stated that they had slight sore eye after recovery from fever. Of the value of sulphate of quinine as a remedy in most forms of ophthalmia, when occurring in debilitated or scrofulous subjects, or after long confinement in an unwholesome room, or after the injudicious use of mercury, I am fully aware; and I know of no curative means which merit more the attention of the ophthalmic surgeon."—*Transactions of the College of Physicians in Ireland*, 1828.

At very nearly the same time that my communication was before this association, the late Mr Wallace of this city read a paper on the same subject before the Medico-Chirurgical Society of London, the object of which was to establish that this inflammation of the eye could be removed by bark or quinine, and that he had, in fact, succeeded in all cases in removing it by this remedy. The cases quoted, however, do not support this statement. Seven recorded as severe examples of the disease cured by bark or quinine, had all been previously treated by mercury, and were, in fact, brought forward as cases "in which mercury had been employed in vain." Such cases, however, are totally inconclusive as evidence to prove that this particular form of inflammation of the eye admitted of cure by quinine. Every man who has seen much of general inflammation of the eye, commonly called iritis, must have observed that in many cases, and

even in syphilitic inflammation, the redness, pain, and defective vision continue, notwithstanding the administration of mercury; or that, after having been removed, these symptoms return on exposure to cold or wet. In such cases, however, few, I believe, resort to mercury again, at least for some time; but rely on remedies which have been found useful under such circumstances, such as iodine, turpentine, colchicum, and bark. How or why these remedies, so dissimilar in their nature, produce beneficial effects, we know not; but I think that it can scarcely be denied, that sometimes one, and sometimes another, is found useful in this state of things; and I have no doubt that the amendment, attributed to the bark in these cases by Mr Wallace, such as it was, was of this description, and such as we every day see under similar circumstances. The view I myself take of the matter is this—I consider that the destructive inflammatory action is arrested by the mercury, and by depletion, if resorted to, but that the vascularity or enlargement of vessels, and with it more or less of pain and defective vision, necessarily still continue; as do also changes in organization, such as discoloration of the iris, cloudiness of the chamber of the aqueous humour, contraction, irregularity, and adhesion of the pupil. This surely is in accordance with our views of inflammation in general. We do not assume that inflammatory action still continues, because parts remain still red, tumid, hard, and painful. We have to distinguish between inflammation and the consequences of inflammation; and in inflammations of the eye we have to do so particularly. I therefore consider that when the inflammation appears to linger, or that it does not appear to yield to the usual remedies, we, in fact, have the consequences more to contend with, and hence the advantage of remedies influencing the functions of secretion and nutrition, and of such change of diet as will restore the frame to its naturally healthy state, after having been disturbed by powerful remedies and denial of food; hence, therefore, the value of bark under such circumstances, and hence its supposed specific influence in arresting inflammation. For my own part, I am so satisfied that this is the principle upon which we should proceed, that I often place as much reliance on generous diet, in moderation, and improvement as to means of pure respiration, as I do on the remedies above alluded to. At the same time, I would not have it understood that I deny that bark in certain cases exercises an influence on inflammatory action so peculiar, that it may be called specific. I will allude to such cases presently; but I do deny that inflammation, fairly established, and causing change of structure, disorganization, and permanent interruption of function, such as intense redness, loss of transparency, effusion of lymph, or purulent matter, adhesion, contraction, fixed pupil, and blindness, should for a moment be left to the influence of bark or any such remedy.

That transient inflammation of the eye, or of any other part, arising from some state of the system in general, which we do not well understand, or of some important organ in particular, may be removed by bark or other remedies exercising influence on nutrition or secretion, cannot be denied; and if not, it is probably equally true that inflammation from similar causes, which might otherwise become established, may be arrested at its commencement by the same means. This will explain the statements made respecting the cure of the inflammation in question by bark, in certain cases, but it will not explain the statements made by Mr Wallace of perfect cures effected by the same remedy where great disorganization of the eye had taken place. I have stated in the communication above reprinted, that, " in my own practice, I have found the relief from the use of mercury so certain and decisive, that I have trusted to it almost exclusively;" and, again, that "I gave trial to the sulphate of quinine myself in four well-marked cases for eight days, but finding no relief, had recourse to mercury, which effected a cure in the usual time." All this I am sure was true, because the paper was written at the moment I was engaged in the inquiry, and I should have been as well satisfied to have removed the complaint by one remedy as another. I would also have it understood that I am not at all an advocate for the exclusive or indiscriminate use of mercury in inflammation of the eye. On the contrary, I am convinced that it is often unnecessarily and injuriously resorted to when other remedies might have effected a

cure. In those cases which appear to be of a gouty, rheumatic, or neuralgic character, and in which the inflammation returns once, and sometimes twice, every year, for several years, I never begin with mercury, and sometimes do not give it at all (although the disease may continue for three or four weeks) if the patient has been subjected to repeated mercurial courses in former attacks. I generally commence by giving a smart purgative composed of compound of colocynth pill and calomel, to remove the contents of the intestines, and with the hope of stimulating the liver to secretion. I then, keeping the patient in bed, give antimonial medicine in such doses, and at such intervals, as will affect the skin without producing nausea; at the same time applying some leeches over the cheek-bone, if the patient's strength permits of it, and thus sometimes cut short the attack; or, according to the peculiarities of the case, and the previous history, I resort to turpentine, as suggested by Mr Hugh Carmichael; or to colchicum, if the patient exhibits symptoms of gout or rheumatism; or to the hydriodate of potash, if the constitution appears scrofulous; or, if the pain be of neuralgic character, with or without intermissions, bark or quinine is given. I mention this here, and perhaps somewhat out of place, because I want to prove that there is nothing very wonderful or unusual in the administration of bark in certain forms, and at certain stages of inflammation of the eye; and in stating as I do above, the course I pursue in complicated and untoward cases, I only state what well-informed practitioners all do under similar circumstances. I can with certainty point out cases which I have ventured to treat for three or four weeks without a grain of mercury, and which recovered as completely as on former occasions, in which salivation had been induced; such cases having been exceedingly severe and alarming, with intense redness, severe pain, and intolerance of light, and total blindness. Last year I attended one of them with Sir Henry Marsh, in which guaiacum was at his suggestion the remedy principally relied on. This was perhaps the twenty-fifth attack to which this gentleman had been subjected, and was of distinct neuralgic character, with regular intermissions, and most distressing intolerance of light. With the state of this gentleman's eyes I was well acquainted. The pupil adhered to the capsule of the lens of both eyes, and was contracted and irregular, and the capsule at the place of adhesion was opaque, so that a very small aperture only remained for the transmission of light. After this attack I examined the eyes carefully, and was agreeably surprised to find that they had suffered very little from it; vision was not quite so good as before, and perhaps the opacity of the capsule had extended a little, but this was so soon after his recovery, that I attributed the increased defect to temporary causes.

We have now to return to the subject of this particular inflammation of the eye following fever. It appears that an epidemic fever prevailed in Glasgow during the greater part of 1843, closely resembling, if not identical with, that which prevailed in Dublin in 1826, and it is very instructive and remarkable that this fever was followed by inflammation of the eye similar to that above described by me. Of this fever, with this its consequence, an excellent account was given by Dr Mackenzie in the *London Medical Gazette*. The title of *Post-febrile Ophthalmitis* is given by him to the inflammation of the eye, and I suppose that it may with convenience and safety be adopted in nosological systems, especially if we can say that the disease presents distinct specific characters; although perhaps we have already too many varieties, and even symptoms and consequences of diseases of the eye described under particular names, as if they were generically or specifically different from all others. Dr Mackenzie relies much on Mr Wallace's description of the disease as it appeared in Dublin, but I am very much inclined to think that that gentleman saw very little of it. In fact the inflammation differs little from other inflammations of the eye; it is its occurrence as a consequence of this particular form of fever which is remarkable and instructive as a pathological fact. As in all other cases, so in this, the sclerotic becomes red, the iris discoloured, the transparent parts cloudy, the pupil opaque, and the retina more or less insensible; and if the disease proceeds unchecked, it ends in closed or contracted and adherent pupil, cataract, and that total destruction of the organization and functions of the retina called amau-

rosis. As to treatment, Dr Mackenzie recommends depletion, even where "the wan appearance of the patient, a small pulse, and general debility, might tend to deter from a use of the lancet." In the cases treated by me after the Dublin epidemic I did not bleed, except occasionally by leeches, so that there must be some difference as to constitution between the sufferers in Dublin and Glasgow. I shall, however, have hereafter to say a good deal as to the necessity or advantage of bleeding in inflammations of the eye, and perhaps to argue that it has been relied on oftener than it deserves. Dr Mackenzie gives a decided opinion in favour of mercury, and places little reliance on bark.

Dr Anderson of Glasgow has given an elaborate account of this disease in Dr Cormack's MONTHLY JOURNAL for October 1845, and has described the symptoms and consequences with great minuteness. He says that of one hundred and thirty-five cases, ten began during the fever or its relapse; one or more relapses being the characteristic of this fever. Thirty-four began at once upon convalescence, and twenty-nine within a fortnight of convalescence; while thirty-one occurred within the following month, and thirty-one within five or six months, which appears to prove that in this fever there is, not only during the existence of the fever, and immediately after, but for six months subsequently, a liability to this, and probably other local inflammations, against which the practitioner should be on his guard. The fever, as Dr Anderson observes, was distinguished by the tendency to congestion of the liver and spleen, and to rheumatic affections; while congestion of the kidneys, causing albuminuria and dropsy, with this inflammation of the eye and affections of joints, followed. In the treatment, Dr Anderson relied on bleeding, mercury, and belladonna, rejecting bark, except in its proper place, as an aid. He treated a few cases without mercury, which appear to have terminated in a satisfactory way.

The history of this inflammation of the eye is well calculated to convince medical practitioners that diseases of this organ are entitled to their particular consideration, if for no other reason, because they afford so much evidence of a tendency to local inflammation in certain states of the entire system. When internal organs are affected, such as the liver, spleen, lungs, or kidneys, whether we please to call the affection congestion or inflammation, we cannot see them, and can therefore form but an imperfect judgment as to the extent of the disease; but where the eye is the seat of the mischief, so much is visible, that we can see the progress from beginning to end, and can modify the treatment accordingly.—*Dublin Medical Press*, 14th January 1846.

GREEN ALVINE EVACUATIONS OF CHILDREN. BY GOLDING BIRD, M.D., Assistant Physician to Guy's Hospital.

Whilst the attention of the practitioner has been constantly drawn to the frequent occurrence of bright green dejections in the ailments of infants, but little has been done towards determining their real nature and chemical composition; there being, so far as I know, but one analysis recorded of these productions. I have repeatedly examined these green evacuations, with the view of testing the accuracy of the popular opinion of their being chiefly composed of bile, but never made a minute examination of any until a few weeks ago, when my attention was particularly directed to the subject by my friend Dr Forbes, who placed in my hands one of the best specimens of a green evacuation I ever saw. It was passed by a hydrocephalic infant, whilst under the influence of mercury, and presented the following characters. It was a dirty green turbid fluid, which, by repose in a glass vessel, separated into three distinct portions—1, A supernatant fluid, of oil-like consistence, presenting a brilliant emerald green colour; 2, A dense stratum of mucus, coagulated albumen, and epithelial debris, mixed with red particles of blood; 3, A deposit, occupying the lower part of the vessel, of large crystals of triple phosphate of magnesia and ammonia, in fine prisms of an apple-green colour.

The supernatant emerald green fluid was decanted for examination.*

A. It was faintly alkaline, possessed of a broth-like colour, and a density of 10·20.

B. The addition of a few drops of nitric acid did not alter the colour, even after ebullition. A larger quantity of the acid being added whilst the mixture was boiling, converted the emerald-green colour into a pinkish yellow; the green colour was not restored by the subsequent addition of an alkali.

C. Acetic acid scarcely affected the green fluid, producing no apparent coagulation of mucus.

D. A solution of acetate of lead threw down a copious greyish green tenacious precipitate, leaving the supernatant fluid colourless.

E. Bichloride of mercury produced a light green precipitate, leaving the supernatant fluid pale, but not decolouring it.

Analysis.

1. 1000 grains of the green fluid left, by careful evaporation, a deep olive-green, highly deliquescent, extract, weighing 100 grains.

2. This extract (1) being immersed in alcohol of 0·837, formed a mass like bird lime, which could not be mixed with the spirit. Even after long boiling, it appeared hardly to diminish in bulk. The clear tincture being decanted, left, however, an extract weighing 30 grains. This residue possessed the yellowish green colour of faded leaves, an odour of fresh broth, and a sweet sub-astringent taste, with a very slight admixture of bitterness.

3. The alcoholic extract being carefully incinerated, left 5·5 grains of ashes, consisting chiefly of chloride of sodium mixed with mere traces of tribasic phosphate of soda (3 Na, O, P2 O5). It was alkaline, but did not effervesce with acids.

4. The portion left undissolved by boiling alcohol yielded to water 13 grains of nearly tasteless matter, which, by incineration, left a powerfully alkaline ash, weighing 1·75 grains, not effervescing with ashes, and consisting nearly exclusively of alkaline tribasic phosphate of soda.

5. The residue, insoluble both in water and alcohol, weighed 57· grains, and consisted almost entirely of coagulated albumen, dry mucus, and modified blood. It left by incineration 1 grain only of ashes, consisting almost wholly of brick-red sesquioxide of iron.

The following is a view of the results of the examination:—

Alcoholic extract,	Organic	24·50
	Inorganic	5·50
Aqueous extract	Organic	11·25
	Inorganic	1·75
Insoluble matter,	Organic	56·00
	Inorganic	1·00
Water and volatile matter		900·
		1000.

Regarding the chemical constitution of the organic portion of the alcoholic and aqueous extracts; the former consisted chiefly of fatty matter, cholesterine, and a green substance, probably identical with the so-called *biliverdin*, with mere traces of bile, barely sufficient to communicate a bitter taste to the extract, and in too small a quantity to leave any carbonate of soda in the residue of incineration. The aqueous extract consisted chiefly of ptyalin, and the extractive matters comprehended under the general term of "extrait de viande" by Berzelius. The composition of the fluid part of the green evacuation may therefore be thus expressed:—

Biliverdin, alcoholic, extractive, fat, cholesterine, with traces of bile,	24·5
Ptyalin, aqueous extractive coloured by biliverdin,	11·25
Mucus, coagulated albumen, and hæmatosine,	56·0
Chloride of sodium, with traces of tribasic phosphate of soda,	5·5
Tribasic phosphate of soda,	1·75
Sesquioxide of iron,	1·0
Water,	900·
	1000·

An analysis of a green calomel evacuation has been recorded by Simon; he has not given the proportion of solids and water present, but merely detailed the composition of the dry extract, which consisted of

Soluble in alcohol	Bile, bilifellic acid, biliverdin,	21·4	
	Fat, containing cholesterine,	10·0	42·4
	Alcoholic extractive	11·0	
Ptyalin, aqueous extractive,			24·30
Albumen, mucus, epithelial cells,			17·10
Saline matter,			12·90
			96·7
		Loss	3·3
			100.

Some late researches on the nature of the green stools said to be of frequent occurrence in patients who are under a course of the Marienbad and Carlsbad waters, have been published by Professor Kerstin of Freiberg. He has altogether denied that any quantity of bile is present in the green evacuations, and has attributed their tint to the presence of green sulphuret of iron, generated in the stomach and intestines by the reduction of the sulphate of soda present in the water, to a sulphuret, and its subsequent action on the iron existing in the springs alluded to. He states, in accordance with this view, that hydrochloric acid destroys the green colour of the stools, evolving abundance of sulphuretted hydrogen. In this character there is an essential difference between the green evacuations of the Marienbad patients and of those under the influence of mercury. The conclusions arrived at by Professor Kerstein have been flatly contradicted by Dr Frankl of Marienbad, who attributes the colour of the evacuations to the "same source" as the greenish tint of some mucous discharge from the vagina in leucorrhœa, the urethra in gonorrhœa, and the nasal secretions in some forms of coryza.

That bile may, and often must, be present in large quantity in the fœcal dejections in disease, is certain; but that it is necessarily present in the green evacuations so common in early infancy, and under the influence of mercury, may be questioned. In Simon's analysis a large quantity of bile was found, but in the specimen examined by myself but mere traces were detected. If any quantity of this secretion really existed, the alcoholic extract must have tasted bitter, and the ash must have contained an alkaline carbonate, as from the sparing solubility of phosphate of soda (HO, 2 Na O, P2 O5) in alcohol there could not have been sufficient of this salt present to unite with the soda of the bile to form during ignition the alkaline phosphate (3 Na O, P2 O5)[1]

I have assumed that the green colour of the matter examined was owing to *biliverdin*, a conventional term for a substance very imperfectly understood, and very likely applied to substances essentially distinct in their nature. Berzelius has compared biliverdin to the chlorophylle, or green colouring matter of leaves, although this must be regarded as partaking rather of a wax-like nature than as a mere coloured extractive. It must, however, be borne in mind that green colouring matter may be possibly generated in the animal economy from the action of certain matters on the hæmatosine, or colouring matter of blood. Thus, it is well known that when blood is exposed to the influence of sulphuretted hydrogen gas, it acquires a deep olive-green colour when viewed by reflected, and a dingy red, by transmitted light—phenomena identical with those presented by the colouring matter of bile. Attention has been drawn to this remarkable fact by Professor Leopold Gmelin. It is now ten years ago since a series of researches on the action of oxydating agents upon blood were published in the pages of this journal by Dr Brett and myself. In that paper we described two products of the action of nitric acid upon clot of blood,—an olive-green sweetish

[1] Philosophical Magazine, June 1845. I have here pointed out the nature of the change alluded to above.

astringent substance, and an intensely bitter yellow one; we applied the conventional term of chloro-hæmatin to the former, and xanthe-hæmatin to the latter.

Since, then, the colouring matter of blood is fully capable of being converted into green pigments under the influence of different agents, it must, I think, be admitted, that we are not to assume the green colour of an animal excretion as of necessity depending upon the presence of an excess of bile. And when chemical analysis fails to indicate the presence of any quantity of this secretion in a bright green evacuation, it is but legitimate to seek for some other cause of this tint. The proportions of the so-called biliverdin very closely approach to those of the xanthe-hæmatin before alluded to, and I confess that I am induced to regard the green colour of the emerald and "chopped spinach" stools of children as depending upon the presence of modified blood, rather than on an excess of bile.

Believing that the green stools alluded to are but a form of melœna, I have often closely questioned the nurses of children voiding them, regarding the appearance of the evacuations before and after the development of the green colour, and have almost constantly been told that streaks, or even clots of blood, had been observed.

I regard, then, the presence of green stools as indicative not of a copious secretion of bile, but of a congested state of the portal system, in which blood is exuded very slowly, and in small quantities, so as to allow of the colour being affected by the gases and secretions present in the intestines; a state of things capable of readily ending in melœna, in which the effusion of blood is so copious and sudden as not to give time for the occurrence of the changes alluded to.

There is, moreover, a peculiarity in the green dejections of children and others whose portal circulation is congested, which, so far as I know, is quite distinct from any property presented by mere bile under similar circumstances—I allude to the effect of exposure to the oxygenating influence of the air upon them. When first voided, the "chopped spinach" stools are in the majority of cases of a bright orange colour, and they assume their characteristic grass-green hue only after exposure to air. The time required for this change varies remarkably. I have seen an orange coloured stool become green in a few minutes; and in the same patient, only a day or two afterwards, many hours may have been required to effect the same change.—*Medical Gazette.*

Cold to the Region of the Uterus, in Cases of Hysteria.

Although we do not admit that Hysteria in every case takes its rise in some affection of the uterus, it yet appears evident, that in many women endowed with what is called a nervous organisation, the disease may originate from some temporary over-excitement of that organ, the result either of a material cause, or of simple nervous reaction. Two cases are detailed by M. Butignot, in the *Journal de Médecine de Toulouse*, which tend to confirm this opinion. They are the following, and are not without some value in a therapeutic point of view.

Case.—A young girl, aged 18, was seized for the first time, in 1842, with an attack of hysteria, which lasted seven days. During the whole of this period she was deprived of sight; but her intellectual faculties remained entire. Convulsive movements succeeded at intervals a permanent contraction of the muscles of the trunk and extremities, which kept her in a state of complete immobility. Continuous spasm of the muscles of the throat rendered deglutition and articulation nearly impossible; it was but rarely she could swallow a few drops of fluid, or give utterance to a few words in a low tone of voice. After having in vain had recourse to bleeding, revulsives, and the whole arsenal of soothing and antispasmodic remedies, M. Butignot found himself obliged to trust to the resources of nature; until, towards the course of the fourth or fifth day, he remarked that the affection always became aggravated towards mid-day. He then had recourse to the sulphate of quinine, which completely checked the periodic exacerbation, produced cessation of the muscular spasms, and at length restored the powers of

vision. But the following year the whole of the preceding symptoms again manifested themselves. A bleeding, sinapisms to the feet, cold to the head, an antispasmodic draught, were all had recourse to, without any beneficial effect. The state of the patient continued the same, and there was reason to fear that this second attack would prove as tedious as the first. On reflection, M. B. was led to suppose there was over-excitement of the uterus, from the patient complaining of pain in the neighbourhood of that organ, and from the catamenia having been more scanty than usual. It then occurred to him to give up all medication, and merely to apply cold to the lower part of the abdomen and superior part of the thighs, by means of compresses dipped in cold water, and frequently repeated. This treatment succeeded wonderfully. The attack ceased in half an hour after its commencement; and from that period the patient has had no return of her symptoms.

Case.—The second case cited by the author is that of a young girl, who, when seen by him for the first time, had been in a state of unconsciousness for several hours, and subject to violent convulsive movements, occurring from time to time. From the information given, he learned, that, for some days previously, she had suffered from weight in the head and vertigo. A bleeding was had recourse to, which was followed up by the application of cold to the head, and sinapisms to the lower extremities. The remedies produced no marked change in the state of the patient. Her health, however, continued gradually to improve, till, at the end of six months, she was again seized in a similar way; and M. Butignot was again sent for. He then learned, for the first time, that his patient, in whom the catamenia were regular, had a lover for whom she entertained the most violent attachment, and that, although not an inhabitant of Toulouse, he was in the town at that time, as he had also been at the period of her former attack. Thus both attacks occurred in consequence of circumstances which would not only give rise to great nervous excitement, but also to uterine irritation. Besides this, the symptoms of plethora, and cerebral congestion, which were observed previous to the first attack, had not occurred previous to this one. There being nothing to indicate the necessity of previous depletion, M. Butignot had at once recourse to the application of cold to the lower part of the abdomen and superior part of the thighs. The use of this remedy was followed by the same result as in the former case; all the symptoms ceased in the course of a quarter of an hour, and did not return.

It is the latter case, which seems more especially to prove that a plethoric state of the uterus may play an important part in the production of hysteria. In this point of view, the first is of far less value; but it has the advantage, on the other hand, of making it not less evident, that the application of cold to the region of the uterus may be of signal benefit in the treatment of a class of diseases which are often most difficult to overcome.—*Encyclographie Médicale*, December 1845.

MIDWIFERY.

Anatomical Source and Pathological Nature of Post-Partum Hæmorrhage. By J. Y. Simpson, M.D., F.R.S.E., Professor of Midwifery in the University of Edinburgh, &c.

The non-occurrence of Hemorrhage from the Uterine Vessels, after the complete detachment of the placenta in ordinary parturition, is probably not explicable, as is generally imagined, upon the sole circumstance of the simple and absolute contraction that occurs in the uterine fibres after delivery. We know

from the observations of Gooch,[1] Velpeau,[2] Rigby,[3] and others, that post-partum hemorrhage sometimes supervenes when the uterus appears contracted and reduced to its usual size after delivery. On the other hand, numerous facts show that there is little or no tendency to hemorrhage after the perfect expulsion of the placenta, although this simple and absolute contraction of the uterine fibres be, at the time, so far prevented by the presence *in utero* of a full-grown fœtus, as in those placental presentations in which, as occasionally happens, the after-birth is expelled or extracted before the child.[4] When the child is born in ordinary labour, and the placenta happens to be retained from *want* of uterine contraction, hemorrhage does not necessarily supervene. It is well known that Ruysch, William Hunter, and others, adopted, for a time the practice of leaving the placenta in utero for hours and days till nature herself threw it off, and that they were at last forced to abandon this line of treatment,—not because uterine hemorrhage was liable to supervene, but because the dead and retained organ was found to become putrid, and to give rise to symptoms of severe irritation and fever. Again, after the complete evacuation of the uterus in common parturition, and the total removal of the placenta, hemorrhage does not necessarily supervene, though the uterine fibres are not in a state of firm contraction. We often find them alternately relaxing and contracting when after-pains supervene, and yet the general relaxation that is observable between the pains may not give rise to the slightest degree of flooding. Every practitioner has had occasion to watch with more or less anxiety, the uterus remaining of considerable size and softness for some time after delivery, and consequently with its fibres not firmly contracted, but without after-pains, and without hemorrhage supervening. In the same way, in some cases of placental presentation after the placenta has become expelled, and while the child remains in utero, the labour-pains have ceased; and still, notwithstanding this cessation, not only has no hemorrhage followed, but, on the contrary, the flooding that previously existed, has immediately ceased.

No doubt the occurrence, after delivery, of great and decided atony in the whole muscular system of the uterus, does assuredly give rise to *post-partum* hemorrhage. But if I may judge from my own observations, I would venture to remark, that the morbid condition which is most frequently and earliest seen in connection with post-partum hemorrhage, and which is specially remarkable in cases where the flooding is more enduring than usual, is a state of irregularity, and want of equability in the contractile action of the different parts of the uterus—and, it may be, in different planes of the uterine fibres—as marked by one or more points in the organ, feeling hard and contracted, at the same time that other portions of the parietes are soft and relaxed—and by the contracting and relaxing fibres, slowly but frequently changing their relative situations.[5]

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[1] Medico-Chirurgical Transactions, vol. xii. p. 157. "The observing practitioner must," Dr Gooch remarks, "have been frequently struck by the little proportion that existed between the want of contraction and the degree of hemorrhage; having found the uterus bulky without any hemorrhage, and a profuse hemorrhage without greater bulk of uterus. Nay, further, I have witnessed a profuse hemorrhage, though the uterus had contracted in the degree which commonly indicates security; and I have ventured to do what is seldom justifiable, separate the placenta before the uterus had contracted, without more hemorrhage than after a common labour. What is this circumstance that has so great an influence that its presence can cause a moderately contracted uterus to bleed profusely, and its absence can cause an uncontracted uterus to bleed scarcely at all?" P. 152.

[2] Traité de l'Art des Accouchemens, tom. ii. p. 539.

[3] London Medical Gazette, vol. xiv. p. 352, and System of Midwifery, p. 218.

[4] See Northern Journal for February 1844, p. 252; or Edinburgh and London Monthly Journal for March 1845.

[5] "I have rarely introduced the hand into the uterus in a case of flooding, without meeting with it [hour-glass or irregular contraction], whether the placenta had or had not been expelled."—*Dr Burns' Principles of Midwifery*, 9th Edit. p. 543.

Upon the same principle, I believe that in attempting to prevent or remove the morbid condition leading to post-partum hemorrhage, when it is functional in its nature, and not connected with any organic or traumatic causes, we ought to endeavour to produce not merely a certain *degree and amount* of uterine contraction, (the great and primary practical point to which we always justly look,) but also a certain *equability and uniformity* of contraction. At the same time I would repeat, that this part of the subject, like the whole question, of the manner and means by which hemorrhage is prevented from the exposed uterine veins, after every case of ordinary labour, stands, in my opinion, in need of new, careful, and extended investigations. I have, however, at present, no desire to encounter so wide and complicated an inquiry; and shall content myself with stating in reference to the subject, the few following suggestions.

First, Uterine hemorrhage, after the separation of the placenta in any of the stages of labour, is *not Arterial* in its character. The utero-placenta arteries are numerous, but so long and slender[1] as to become readily closed,—1. By the tonicity of their coats; 2. By contraction of the uterine fibres upon the course of these vessels themselves, as they pass through and amid the uterine structure; and, 3. And principally, by the changes in their tissues produced by the mechanical rupture of their coats,—*torn arteries* being little, if at all, liable to bleed,—and the placenta being separated by a true process of *avulsion*.

Secondly, Hemorrhage, therefore, under the conditions supposed, is *venous* in its source and nature. Further, it is specially important to mark that it is a *venous hemorrhage by retrogression*. The *forward* course of the uterine and utero-placental venous circulation, is from the dilated maternal capillaries or cells of the placenta towards the periphery of the uterus, and the ovarian and hypogastric venous trunks. In uterine hemorrhage, the blood that escapes, instead of flowing onwards, regurgitates *backward* into the uterine cavity.

Thirdly, The mechanism by which, after the separation of the placenta, this retrograde course of the venous circulation towards the cavity of the uterus, so as to lead to hemorrhage, is *prevented*, is probably of a compound character, or is effected by different means. Each of these means may be more or less efficient under different circumstances and at different times.

Fourthly, The most powerful of these preventive measures consists in the uniform and regular contraction of the uterine fibres. By this contraction the canals of the supplying arteries are constricted, and the venous tubes or sinuses which more immediately yield the discharge, are directly compressed. The facility of this compression of the sides of the veins, and the consequent diminution of their cavities, is promoted by the naturally thin, flattened form of their canals, and by the fact that the proper contractile tissue of the uterus forms their second coat,—the uterine veins consisting of the usual lining membrane of the venous system placed in direct contact with the muscular tissue of the uterus. At the same time, it is to be recollected, that there seems to be often no direct relation between the degree of uterine contraction and the degree of tendency to hemorrhage; for, as we have just seen,—1. No hemorrhage may occasionally be observed after delivery, though the uterus is not contracted to its usual degree; and, 2. It may be present when the uterus is apparently well contracted. But, 3. There are, according to most anatomists, few or no *contracting* fibres in the structure of the os and cervix uteri; and certainly, after delivery, I have generally, if not always, found it remaining open, gaping, soft, and flaccid, even when the proper cavity of the uterus above felt shut and contracted, and its parietes hard and firm. Still, when the placenta is attached to the surface of this *uncontracting* portion of the uterus, as in *placenta prævia*, hemorrhage is not common after its separation, unless some laceration of its vessels has occurred. Here we have post-partum hemorrhage prevented, *without* the contractile mechanism, generally considered necessary for its avoidance, being almost in existence. And, 4. In cases of spontaneous or artificial extrac-

[1] I speak of these utero-placental arteries as they are seen in the beautiful injected preparations of them left by William Hunter and the second Monro, and as I have myself observed them in recent specimens.

tion of the placenta *beforo* the child in some placental presentations, and twin labours, the placental mass may be completely separated, and the uterus still remain *distended* by the presence of a child in its cavity so as to prevent much contraction of its fibres, without hemorrhage occurring. The venous trunks running to the uterus are not supplied with valves, and under the above and other circumstances, by what means in addition to, or in substitution of, the contraction of the uterine fibres, does nature prevent the retrograde flow of venous blood into the uterine cavity,—or, in other words, by what means does she prevent uterine hemorrhage?

Fifthly, The structure and mutual relations of the venous sinuses of the uterus seem calculated to obstruct and prevent such a retrograde flow of blood in their tubes as to cause hemorrhage. The uterine veins are large, but of a compressed flattened form, and arranged in several planes or floors above one another in the uterine walls. On examining these veins in several pregnant uteri, by dissecting them from the outer or peritoneal surface of the organ, downwards towards the mucous, I have found the following arrangement:—Each venous tube gives off numerous communicating branches to the veins of its own plane or floor, by a set of *lateral* foramina. When, however, a venous tube of one plane comes to communicate with a venous tube lying in the plane immediately beneath it, the foramen between them is not in the *sides*, but in the *floor* of the higher or more superficial vein, and the opening itself is of a peculiar construction. Looking down into it from above, we see the canal of the vein below partially covered by a semilunar or falciform projection, formed by the lining membrane of the two venous tubes, as they meet together at a very acute angle, —the lower tube always opening very obliquely into the upper.[1] In the folds of these falciform projections, the microscope shows the common contractile tissue of the uterus. Do these semilunar or falciform projections, and the oblique communications of the lower with the higher planes of veins, allow the normal flow of venous blood from the deeper to the more superficial veins of the uterus, while after the placenta is separated, they prevent that anormal or retrograde flow of it from the more superficial towards the deeper-seated venous tubes, which would produce hemorrhage? Here I suppose it possible that these falciform processes may act upon the same principle as the Eustachian valve, but in a less perfect manner, while, by the obliquity of the communications between the different planes of veins, it may be that blood does not so readily retrograde into the deeper vessels, in the same manner as urine does not retrograde into the ureters from the bladder, in consequence of the oblique opening of the former into the latter. Do the uterine fibres seen in the venous falciform processes tend to aid this valve-like mechanism, by diminishing, under contraction, the apertures between the different planes of veins?

Sixthly, One cause contributing to prevent hemorrhage after the total separation of the placenta, is the abstraction from the uterine vascular system of the derivative or sugescent power of the maternal circulation in the placental cells, and the consequent tendency of the blood to flow in the more direct and freely communicating channels that exist between the uterine arteries and veins. Besides, the general and direct forward current of the blood along the course of

[1] In the course of dissecting the veins of a pregnant uterus, in the sixth month, from the peritoneal surface downwards, Mr Owen states that he "observed that where the veins of different planes communicated with each other, in the substance of the walls of the uterus, the central portion of the parietes of the superficial vein invariably projected in a semilunar form into the deeper-seated one; and where (as was frequently the case, and especially at the point of termination on the inner surface), two, or even three, of these wide venous channels communicated with a deeper sinus at the same point, the semilunar edges decussated each other, so as to allow only a very small part of the deep-seated vein to be seen. It need scarcely be observed how admirably this structure is adapted to insure the arrest of the current of blood through these passages upon the contraction of the muscular fibres with which they are everywhere immediately surrounded."—Works of John Hunter, vol. iv. p. 68. See also Mr Goodsir's corroborative statement, in his admirable Anatomical and Pathological Observations, p. 61.

these larger uterine veins diminishes, and, in a measure, destroys the tendency which it might otherwise have either to flow backwards, or to escape by any existing lateral apertures of the vessels.

Seventhly, Among the other remaining means by which hemorrhage is more or less prevented after the detachment of the placenta, I may mention, 1. The occasional presence of tufts of fœtal vessels left in the orifices of the uterine veins, and forming not only immediate mechanical obstacles, but nuclei for the ready coagulation of the blood; 2. The formation of coagula in some of the collapsed venous tubes and orifices; and, 3. The presence for some hours, or even days, after delivery, of the collapsed decidua over the apertures seen in the veins on the interior of the uterus.

To these few and imperfect suggestions, I am desirous to add one remark. Several of the natural means of arresting uterine hemorrhage that I have spoken of, admit of extended anatomical examination being applied to their more perfect investigation; and some of the observations that I have ventured to offer, may be yet proved or disproved, by being tested by direct experiments with vascular injections thrown into the dead body.—*Northern Journal of Medicine*, January 1846.

FORENSIC MEDICINE.

Death from the Negligent Administration of Strychnine—Inquest at Manchester.

An inquest was held on the 18th ult., at the White Lion, Todd Street, on view of the body of a woman named Mallinson, aged 35, wife of George Mallinson, weaver, of Clock Alley, who was confined about five weeks ago, and had since been an out-patient in the Manchester and Salford Lying-in-Hospital. The following evidence was then taken:

George Mallinson stated that he was a weaver, and lived in Clock Alley. The deceased was his wife, and was thirty-five years of age. She had been confined five weeks ago on Sunday, and was an out-patient of the Lying-in-Hospital. Since her confinement she had had a severe cough, for which she received medicine at the Hospital. On Saturday morning she went for this medicine, but came back about eleven o'clock without it. At three o'clock she went again, and on her return she showed witness twelve powders (some of which were produced). There were proper instructions upon one of the powders, which was labelled "for the mother; to be taken three times a-day." She took one of them in tea about a quarter to four o'clock, and witness saw her mix it with the tea. She examined it, shaked her head at it, and said, "this passes my judgment." It caused a great quantity of saliva to flow, and she shook her head, seemingly much disgusted; she said she thought they (the hospital doctors) meant to salivate her. Witness remained with her about five minutes and then went up stairs to look after his work, but came down every two or three minutes to see how she was going on. A few minutes past four o'clock, witness heard the children screaming, and ran down stairs, when he saw deceased lying back in the chair in a very convulsed state, every limb shaking. Several neighbours were called in. The deceased was placed in an easy reclining position, and in a short time she partially recovered; but for a considerable period the shaking was so powerful, that it took several persons to hold her hands open, which it was thought would be beneficial. There were short intervals of recovery, during which she uttered some exclamations expressive of great pain; but the least motion produced another paroxysm, and in this state she continued till twenty-five minutes before six o'clock, when she died.

After some evidence as to the medical and poisonous properties of strychnine, the coroner said the case had now arrived at a point when it became necessary that it should be adjourned, in order to have the powders analysed, and it was

arranged that Dr Robert Smith should be engaged for the purpose. The case rested mainly on the person who dispensed the medicine, except Mr Runcorn himself had had any thing to do with it.

Mr Runcorn—I wrote the prescription, but had nothing to do with the mixing of it. In general, it is William Cobain who prepares the prescriptions.

The coroner said it appeared by the evidence, that if *strychnine* was given, which it was supposed had been done, the dose was a very rash one, and Mr Cobain could not have acted with due caution. He was therefore under the necessity of ordering Mr Cobain into custody.

Mr Cobain—I gave the proper medicine according to the label on the bottle. *Strychni nux vomica* was not written on the prescription, but *pulv. strych.*, and I gave it from a bottle labelled *p. strychni.*

Mr Hunt—I have been connected with the institution from 1828, and I have never prescribed this medicine: I was not aware there was such a thing in the surgery.

Mr Sharples, one of the jurors, said he thought the person who mixed the prescription had done it in conformity with the label upon the bottle. This poor man had been fifteen years in the hospital, and he was perhaps not aware of the properties of the medicine, and possibly following the old Pharmacopœia of Edinburgh. He thought the medical officer (Mr Runcorn), was more culpable than the dispenser.

[The two bottles were then sent for, when it was found that the one was labelled *nucis vomica*, and the other *p. strychnine.* The prescription being *pulv. strych.* Cobain, it would seem, assumed that the latter was the bottle from which he should take the three grains.]

The statement of Mr Cobain was then taken, from which it appeared that he had been eighteen years connected with the institution, and that he was employed in preparing all the prescriptions, though he knew nothing whatever of the nature or properties of the various medicines. At the conclusion of his examination, the inquiry was adjourned to Friday at ten o'clock. Mr Runcorn and Mr Cobain were required to attend on that day, the latter being discharged from custody in consequence of the statements that had been made.

The adjourned inquest took place yesterday morning at ten o'clock, when Mr Runcorn and Mr Cobain were again in attendance. Mr Makinson, solicitor, appeared for Mr Cobain, and Mr Barlow for Mr Runcorn.

The coroner stated, that since they last met he had had further information, which had induced him to request the presence of Mr Whitehead, one of the medical staff of the Lying-in-Hospital; and that gentleman and Mr Hunt, one of the surgeons, were now in attendance. From the information given by Mr Cobain at the last sitting, it might be necessary further to examine the witnesses who were formerly heard, and every opportunity would be given for gentlemen who appeared on behalf of parties implicated to put what questions they thought proper.

Mr William Cobain was then sworn as a witness. He deposed—I consider myself a servant to the institution (the Lying-in-Hospital). I was engaged in the capacity of a useful man in the house. I was to make myself generally useful in the kitchen and every part I was sent to. I was also to assist the house apothecary in the surgery, by giving out the medicines. He used to compound the medicines at first and I used to reach him them, and give them out under his directions to the different patients. He afterwards instructed me to compound according to the written prescriptions, and to give out castor oil, to compound salts and senna, cough medicine, and other simple things. I have been there about eighteen years, and have compounded almost from the beginning. I was never taught the properties of the different medicines, and never knew them. When the label was put on the *strychnine* bottle produced, Mr Wood the then house apothecary and I labelled the whole and arranged all the medicines. This would be about twelve years ago. It is the duty of the house apothecary to purchase all the medicines. I am not sure whether he has not to apply to the other surgeons. By the thirty-seventh rule of the institution, the house apothecary is to provide the drugs and other necessary articles under

the direction of the medical committee. When we are short of drugs I inform Mr Runcorn, and he either sends me for them to the druggists or gets a large order from London. Mr Runcorn, I think, has been there about four years. By the thirty-third rule he must be a licentiate of the Society of Apothecaries, and I believe he is so. He has a room apart from the surgery, but he goes in there when he pleases, and has the superintendence of it. He occasionally compounds medicines, but not very frequently,—never when I am present. He might compound if he pleased, but he is engaged in other business. I should think he had a perfect knowledge of the situations and contents of the bottles and of the surgery generally,—as much so as myself. I don't know when the *nux vomica* bottle was labelled. The date on the label was written by me, not at the time the label was put on, but subsequently; I should say it was labelled before Mr Runcorn came. I don't remember using the *strychnine* bottle more than once during the whole of the time I have been there. I may have done so, but I don't recollect ever using it before Saturday for compounding these powders. By "*p. strychnine*" I understand nothing more than that it is a powder. I was very busy on Saturday morning till after twelve o'clock. During the remainder of the day I had not much to do. Mr Runcorn, I believe, considers it his duty to prescribe medicines in the absence of the medical officers or in their presence. If they are absent he is bound to do so at his own discretion. The medical officers consist of a consulting physician and nine surgeons. If none of these were present, Mr Runcorn would be compelled of necessity to prescribe.

The coroner here referred to the seventy-third rule, which stated that if the surgeon of the day was absent, he should depute another to officiate for him, and the apothecary should supply his place; and that no pupil should prescribe, except by the direction of the surgeon or the apothecary.

The witness continued.—Mr Runcorn is servant to the hospital; he acts under the instructions of the medical board, and is considered as under their control.

Mr Hunt explained that this was not so; the medical board considered Mr Runcorn as a licentiate of the Society of Apothecaries, as fully competent to prescribe for any case in their absence without being responsible to them; but when they were present, he acted under their directions.

Examination continued—I believe Mr Runcorn acts under the orders of the Medical Board in their presence; in their absence he can act as he pleases; sometimes one of the surgeons is in daily attendance; sometimes not; there are six surgeons, who attend at the hospital in rotation (two at a time) to prescribe medicines for the out-patients; the home patients are attended by a separate staff of surgeons; on Saturday last, deceased came to the hospital between ten and eleven in the forenoon; she brought me this prescription into the surgery; I looked at it, and told her, as the powders were rather awkward to make up, and as a great many persons were waiting, she had better come in the afternoon. I made them up before I went to dinner; I don't recollect that she asked if she might send for them, and I said she must come herself; I don't remember any thing she said; the surgeons for that day were Mr James Whitehead and Mr Walker Golland; the former was there that morning; he was in the prescribing-room with Mr Runcorn, where Mr Runcorn generally sees his patients; I was not present when this prescription was written; it is Mr Runcorn's writing, but I cannot say whether he wrote it by his own authority or by the direction of some one else; the deceased came again about half-past two in the afternoon, saying she had called for the medicine; the powders were ready, and I gave them to her; she did not wait more than two minutes; she might have waited a good while in the morning before I saw her; Mr Whitehead was not there when she came in the afternoon; he would only stay till the prescribing was finished; he generally comes at ten in the morning, and does not leave till the prescribing is finished, unless he has business to attend to; I think Mr Whitehead was first in the room that morning; I don't know whether the prescribing began before he came, but I think not, to the best of my knowledge; the prescription in question I received after Mr Whitehead came, and while he was

there; the patients who attend the hospital go into the prescribing-room singly, in rotation, and afterwards bring the prescription into the surgery; two or three may go in together, when there is much pressing, but the practice is for them to go in singly; after the deceased had got her powders in the afternoon, as I had never before compounded from the *strychnine* bottle, I took the liberty to ask Mr Runcorn about it; I said I had given her the powders, but I did not know what they were; he said he believed it was Mr Whitehead's prescription; he then followed me down into the surgery, examined the bottles, and went out; he looked for some time at the *strychnine* bottle, and said that I should have given from the other bottle, and not that; I think he said I should have used "*strychniæ nux vomica;*" I reached down the "*nux vomica*" bottle, and he said that was the medicine intended to be given; I think he then went out; this might be half an hour or better after the deceased left; I think scarcely three-quarters of an hour; Mr Runcorn expressed a desire to go after the woman, but we had not her address; in about a quarter of an hour after, a woman came to say that the deceased had taken one of the powders, and was in fits; I went to Mr Runcorn's room, but he was out; I then ran to Mr Whitehead's in Oxford Road, a distance of a mile, and told him what I had heard; he said he would go directly to the deceased's house; I asked him if he thought there was any danger of the woman dying, and he said it was doubtful; the prescription was not then alluded to; the *strychnine* was not mentioned, and nothing further passed; the address of the patients is always put on the prescription paper; I have no other means of knowing it; when deceased left, she took the paper with her; the names of patients are entered in a book at the hospital, but not the addresses; I knew neither the name nor the address of the deceased; the recommendation-book, kept by Mr Runcorn, would contain both; I don't know where the book is kept.

The coroner, after going through the evidence, and making some general observations, said—

It appeared that Mr Whitehead had been at the hospital when the prescription was given; and this was corroborated by the dying expression of the deceased woman. It was evident, therefore, that both he and Mr Runcorn must have been present when the prescription was written. Mr Runcorn had declared to Cobain that the prescription was not his, but Mr Whitehead's; and the jury would therefore have to consider whether he had acted entirely under Mr Whitehead's directions; or whether, knowing the properties of the medicine, he ought not to have paused or objected to write the prescription. There was evidence that the business had been done in a great hurry; and this might probably excuse Mr Runcorn more than Mr Whitehead, who had most likely dictated the prescription. In reference to the name and address being kept, he observed it was extremely desirable that some plan should be adopted, and it might very easily be done, for keeping a record of the names and addresses of all the patients to whom medicines were given. Mr Runcorn, it was evident, was tolerably well acquainted with the contents of the surgery; and, knowing the fact of the difficult nomenclature—how that the same, or nearly the same abbreviation was used for several different preparations, he might have judged that the assistant would be liable to a mistake; but in this case, as the *strychnine* bottle had never before been used, it was just possible he might not know of there being more than one preparation of *strychnine* in the surgery. The jury would construe this accordingly, as they thought it most probable. The statement of the husband as to the wife's dying observation, and which he referred to Mr Whitehead, was a very important matter. In conclusion, he said it was for the jury seriously to consider the case. He had no doubt the two gentlemen from the institution bore the best characters, but this the jury were not to regard, any further than to remember that in their profession errors and mistakes would sometimes occur unintentionally, by which the loss of a patient's life might be caused; and in such a case there was no criminality on the part of a surgeon. The jury would have to consider whether this might not have been caused by mistake, the effect of hurry; this would not entirely excuse them; for in a case where laudanum was sold by a boy instead of paragoric, the boy

was considered responsible; and this case was as nearly parallel with that as could be. If the nomenclature of medicine was faulty, they ought to be the more careful; but if the jury thought it was attributable to that, probably both parties would be entitled to their acquittal, and it might be attributed to misadventure. Still, if Mr Whitehead was a surgeon of the institution, he ought to have been acquainted with the surgery and its contents; for it was a maxim, that no one ought to be ignorant of his profession. If there were any gross carelessness or ignorance, the law clearly made the parties responsible; and in this case, the jury must consider whether there had not been something like rashness in prescribing three grains of an ingredient of which Mr Holroyde considered the very largest dose to be one and a half grains. The *strychnine* bottle had been labelled "*p. strychniæ*" ever since Mr Runcorn had been connected with the institution, and probably ever since Mr Whitehead had. If the jury thought this case one of gross carelessness or ignorance, it would be their duty to find a verdict of manslaughter against one or both of those gentlemen. But every prisoner was entitled to the benefit of a doubt; and, if the jury thought there was any thing to excuse them, by the quantity of business at the institution, they would find it a case of misadventure, and acquit the officers. The institution was one which was highly useful; the gentlemen before them were its officers; but the jury, while entertaining these considerations, had a duty to perform, independently of them.

Cobain was recalled, and asked as to how long Mr Whitehead had been connected with the institution.

Mr Whitehead said, he had been elected one of the surgeons in August 1842.

The jury began to consult at about five minutes after five.

Before the coroner left the room, one of them asked for a Work on Materia Medica, which it was promised should be supplied.

After they had consulted about an hour, the coroner and other parties were called in, when the jury announced that they had agreed to a verdict of "*death from misadventure*," thereby acquitting all the officers of the institution. They accompanied this verdict with a strong recommendation, that a more intelligent person than Cobain, one who understood the properties of medicines, should be employed in compounding; that prescriptions should be written in full, where any dangerous medicines were employed; also, that a regular day-book should be kept in the surgery, open to the compounder, by which it could be ascertained, at any time, where the whole of the patients resided, and what were the prescriptions that had been given to them.

Mr Hunt, the senior surgeon of the hospital present, undertook, on behalf of the trustees, that this should be done.—*Manchester Courier*, as abridged in *Dublin Medical Press* for Jan. 7, 1846.

Important with reference to Infanticide—Death of the Child from Injury dependent on Forcible Expulsion. By Dr Sewell.

Mrs B., aged 30, married, and pregnant with her first child, was seized during the night with labour pains. Being a refugee from the late fire (in Quebec), she occupied part of a garret in which two or three other families and some young men were sleeping. Feeling a delicacy at being confined under such circumstances, she suppressed her cries till daylight, when she descended into a lower apartment, in which resided a woman who had been recently confined, to whom she detailed her feelings, requesting, at the same time, that some warm water might be given her to sit over, to relieve what she described as a great pressure at the lower part of the bowels. She had scarcely seated herself on the edge of a rather high chair, when a severe pain seized her, and before any assistance could be afforded, (though one or two women were in the room,) the child was forcibly expelled, and fell head foremost on the floor, being killed on the spot. I should have mentioned, that I was sent for immediately after Mrs B. had descended into the lower chamber, but did not arrive till about twenty minutes after the delivery. The child, which was a remarkably fine one, was perfectly dead, and still attached by the cord to the placenta, which came away shortly

after the infant. In the above case, not the slightest suspicion of criminality can attach to the mother; but suppose the delivery to have taken place in private, though there would be ground for a medico-legal investigation, still, with the fact brought before them by the coroner, that such cases as that now reported, do not unfrequntly occur, a jury should be extremely cautious, how they return a verdict of wilful murder against the unfortunate mother.—*British American Journal*, No. 5, vol. i. 1845.

Case of Delivery during Sleep. By Dr Schultze.

Dr Schultze was called on the 25th of May 1844, to attend the wife of an artizan, who had reached the full term of her fourth pregnancy. He found her lying in a state of profound somnolency, so that it was quite impossible to rouse her, either by violently shaking her, or by applying to her nostrils the most powerful stimulants, such as ammonia and ether. On the third day of this unnatural sleep, the woman, without awakening, was delivered of a healthy, living, and well-formed male child. On visiting the female the following day, Dr S. found that she had not long spontaneously awakened from her sleep: and as she had no recollection of her delivery, she was somewhat astonished to find the child had been born without her having been aware of it! —*Annales d'Hygiène*, Jan. 1845, as quoted in *Northern Journal of Med.*, Nov. 1845.

[In our Number for August 1842, (p. 783 of volume ii.,) is the report of a discussion in the Med.-Chir. Society of London, on "*Parturition without Pain.*" Vide also a paper on the same subject, at p. 610 of the same volume, by Mr Lewis of Liverpool.]

Unconscious Pregnancy occurring while Nursing and with Menstruation. By Dr Duke of Towcester.

I was summoned early on the morning of the 18th of November last, to visit Mrs S., living four miles off, who, I was informed, had miscarried during the previous night. Upon my arrival, I found her in care of a midwife, and learned the following particulars:—The woman states that "she supposed she was not pregnant up to the night of her miscarriage, she having *regularly menstruated up to, and on the last monthly period, and was at the same time suckling a child, now sixteen months old.*" During the night, she was attacked with pains resembling those of labour, and on getting up at two A.M., to obey the calls of nature, felt something pass away from the vagina, during a pain, which, upon examination, she found to be a child, and which, she says, lived for a few seconds. She immediately sent for a neighbouring midwife, who separated the child, and then endeavoured to get away the placenta, by pulling at the cord, &c., &c. Not having succeeded, the patient began to feel very anxious, and sent for me. On arriving at nine A.M., (seven hours after,) I found her as follows: She has had no pains since the expulsion of the fœtus, (which I examined, and found to be a female nine inches long,) and had not any hemorrhage. Upon making a vaginal examination, the os uteri was nearly closed, and the woman having requested me to remove the placenta, I was, by a little dilatation, enabled to get my two fore-fingers into the uterus, and separate the greater portion of the placenta, which was still adherent. With some difficulty I got this away, but felt that I had left a small portion behind, which I could not succeed in extracting; however, as there was *no hemorrhage*, and the woman having expressed herself perfectly relieved, I did not consider it my duty to interfere further. After staying a reasonable time I left her, not having told her of my suspecting any portion had remained. On calling next day I found that the portion I felt anxious about had come away during the night. There was no discharge except the healthy lochia. She had no bad symptom; was up on the ninth day; and is now in perfect health.

The case is interesting, from the woman having been *pregnant, nursing, and menstruating at the same time.* I, from my own knowledge, am aware that she

was the two former, having attended her some time before for another affection, and *saw her suckling her child*, and I have no reason to doubt her having been menstruating. She did not notice her increasing size, or feel the motions of her child.—Abridged from *Dublin Medical Press*, 14th January 1846.

Presumption of Survivorship.

Hugh Swinton Ball, with his wife and adopted daughter, were lost on board the steamer Pulaski, on the 14th of June 1838. By his will, he bequeathed to his wife his household furniture, servants, &c., and in case he died without children, he gave her all the property received by him in marriage, and other legacies out of his own estate. A claim was made by her heirs, on the ground that she had survived her husband.

Chancellor Johnston heard the cause at Charleston, in January 1839. He first reviews the cases that have already come before various courts, and remarks that in all these "the English and American courts have hitherto carefully avoided the adoption of any rule of decision. The cases have gone off by compromise, or were decided upon a rule adapted to the nature of the question before the court, and not to the question of right as transmitted by survivorship;" or, in the words of Chancellor Kent, "The English law has hitherto waived the question." In proof of this, he adduces the well-known cases of General Stanwix and Selwin, of Taylor *v.* Diplock, and Wright *v.* Surmada. Still Chancellor Johnston is not prepared to abandon as delusive all efforts to attain rules capable of deciding the fact of survivorship, even in instances deemed conjectural. But if there be any evidence whatever, even though it be but a shadow, it must govern in the decision of the fact. The *code civil* is indeed grounded on this. It provides that if several persons entitled to inherit from each other, happen to perish, without the possibility of knowing which died first, the presumption of survivorship is determined *by the circumstances of the fact*, and it is only in default of these that rules are enacted, applicable to cases of a more conjectural character.

"In what I have said hitherto, I have contemplated a case where the cause of death consisted of one disaster, whether of more rapid or of slower operation. But where the danger consisted of a series of successive operations, separated from each other, and each capable of inflicting death upon the victims according to the degree of exposure to it, there is certainly more scope for testimony and for inference, from circumstances, than in other cases."

The facts are thus stated by the Chancellor:—

"The Pulaski left Savannah on the 13th of June 1838, and arrived at Charleston that evening. The next morning Mr and Mrs Ball, their adopted daughter, and a servant, went on board, and she departed north on her course, until about 11 o'clock of that night, when most of the passengers having retired to their berths, the starboard boiler exploded. By the explosion, an extensive breach was made on the starboard side of the vessel. Her main deck was blown off, thus destroying the communication between the forward and after part of the steamer. The forward part of the upper deck (called the hurricane deck, in contradistinction to the after part, which is called the promenade deck) was blown off, carrying with it the wheel-house, in which the commander of the boat, Captain Dubois, was sleeping at the time; the gentlemen's forward cabin was much torn, its floor ripped up, and its bulk-head driven in; and Major Twiggs, whose berth was there, gives us reason to suppose that many perished in that part of the vessel by the explosion. The gentlemen's after cabin (which was under the main deck, and immediately beneath the ladies' cabin, which was on that deck) was also injured. Some part of the floor was ripped up, the bulk-head partly driven in, and the stairs communicating with the deck more or less shattered. The vessel was careened to the larboard, and as she dipped, began to fill with water. In a very short time the hold was filled, and the water gained to the level of the floor of the gentlemen's cabins. It rose higher with great rapidity; the vessel settled to the centre, where the breach was, and all hope that she could hold together was abandoned. She parted amidships, and

angle of nearly thirty degrees. The gentlemen's after cabin was now entirely filled, and the forward cabin was certainly in as bad a condition. There were some persons on the forward part of the vessel, nearly all of whom speedily perished, but the greater number were in the after part, including one or two, who had passed by swimming from the forward to the after part. Of those on the after part, as many as could, climbed to the promenade deck; but there were many, mostly ladies, among whom was Mrs Ball, who remained on the main deck. These, as that deck sunk deeper and deeper, retreated along the gangways, by the ladies' cabin, towards the stern. The promenade deck, by the action of the waves, was burst from the top of the boat, and was submerged with all that were on it. Whether the stern of the boat was submerged at or after this time, is uncertain. Some of the witnesses think it was, even before the promenade deck,—others that it was not submerged at all. All these events had taken place, according to most of the witnesses, in about from forty to fifty minutes; according to others, in less time.

"Some few escaped in the boats, others on parts of the wreck, and others on rafts constructed by them as they could. Of Mrs Ball nothing is known after the submerging of the promenade deck, nor for some time before. Before that event, her cries were heard by one witness who had gained the promenade deck as they proceeded from the place she still occupied on the deck below. No witness speaks of her afterwards.

"Within a few minutes after the explosion, according to one witness who knew her, she came out of the ladies' cabin and began to call upon her husband. The scene was one of terror, as may be supposed; but although a crowd was instantly gathered at that part of the vessel, there was not much noise. The surrounding horrors seemed to have subdued the sufferers, and in mute astonishment they contemplated the fate that awaited them. Even the wheels had stopped. Nothing but the sound of the waters, which were somewhat disturbed, and the hasty exclamations of friends as they sought each other out, and the noise occasioned by such preparations as the more active and prudent felt themselves called upon to make for themselves and others under their charge, were heard. But the voice of Mrs Ball was heard above all others, calling upon her husband. She ran forward to the chasm caused by the explosion, retraced her steps, and continued to traverse the starboard gangway in search of him, uttering his name in tones so elevated by her agony, that they reached most parts of the vessel, and seemed to have made an indelible impression upon all who heard them. Her cry, according to one witness, was a cry of bitter despair and anxious inquiry, and, according to all, it was lifted in shrill tones, carrying an irresistible appeal to all hearts.

"Mr Ball was neither seen nor heard. Mrs Ball was heard and seen by many, but no response was heard to her cries, nor was any one seen to approach her for her protection or consolation. Two witnesses, who knew Mrs Ball, saw *her*, but did not see *him*. One of them passed and repassed her, in a hurried manner, to be sure, but did not discover him.

"He was neither seen nor heard after the explosion, unless he was the person referred to by two witnesses, who state the following circumstance:—Very shortly after the explosion, a boat was let down on the starboard side of the steamer, into which some persons descended. As the boat was lying below, a gentleman came to that side of the deck, and throwing a coat into the boat, called to those in it to hold fast a moment, and instantly disappeared. He never re-appeared; but the next day, the coat was found to be a black dress coat of a large size, (such was the size of Mr Ball,) and in one of the pockets was discovered a shirt collar, on which was written the name of Ball, with some initials which the witnesses have forgotten.

"Now, these are the circumstances of the case. It is not the case of an unknown calamity, nor of one withdrawn from observation, nor is it a case where the calamity was of instantaneous operation. It is a case for testimony, and to be decided on testimony."

Chancellor Johnston proceeds to say, that, as the right on the part of Mrs Ball was derivative, the burden is on the plaintiffs to prove that she was the

survivor. But although bound to prove this, it does not follow that they are to prove it to demonstration. We must take the best evidence that the case affords.

Although unwilling to rest on the fact, that Mrs Ball was the last person seen, yet he inclines to the opinion, that in cases of persons lost by a common accident, this should be the ground of decision. He prefers, in the present instance, to put the case upon the ground of probability, arising from the evidence; upon a belief engendered by a combination of the circumstances, and upon the superiority of positive proof over conjecture, or even probability.

"The explosion produced its most fatal effects in the gentlemen's forward cabin, and that was the first part of the vessel which sunk. The after cabin was also much injured. From the forward cabin many persons never escaped. From the after cabin, so far as we know from the evidence, all did escape except Judge Cameron, an infirm old man. But from the description given of its condition, it is possible that some others may have been detained, either from being hurt or otherwise, until the cabin filled.

It is *certain* that Mrs Ball escaped the explosion. Is it certain that Mr Ball did? Mr Ball engaged a berth in the after cabin. The probability is, that he got it, but this is far from certain. The boat came with many passengers from Savannah, which may have occasioned Mr Ball to be displaced and transferred forward. I think, however, it is not probable he was so transferred, because, by an arrangement between the agents in Savannah and at Charleston, they were entitled to let the berths, in alternate order, throughout the boat; and we know, that some of the passengers, who came from Savannah, had not the advantage of pre-occupying the after cabin, and if so, in the greatest danger from the explosion. Mrs Ball was clear from that danger *certainly*. Mr Ball only *probably*. Supposing that he was in the after cabin, still there are chances of his destruction there. *This is certain.* Is it certain that Mr Ball had hitherto escaped, and was the person who threw the coat into the boat? It may be that he was the man. I think it hardly probable. I should have thought that he was the man, if he had been seen at any time near his wife, or had answered to her heart-rending calls. But it is more probable that some one else, in the hurry of the moment, may have mistaken Mr Ball's coat for his own, and thrown it into the boat, than that an affectionate husband and brave man, as Mr Ball is proved to have been, should have heard such appeals as were made to him by his wife, and should at such a time, have failed in his duty to her.

"We have indubitable evidence that she had so far escaped; the same evidence, with a moral force, which cannot be resisted, convinces us that he must have already perished, or he would have been at her side. I have, from all these considerations, formed the opinion that Mrs Ball survived her husband."

On appeal (February, 1840) the above decision was confirmed.

The reporter gives the argument of Colonel Hunt, counsel for the appellants. The burden of this is, that the exact time of the death of Mrs Ball is known. She was, from her terror and feebleness, undoubtedly drowned, when the decks sank. Mr Ball may have survived for some time after. The great error (he objects) on the other side, is the resort to negative testimony. He was not seen—he was not heard—therefore he was dead, although no cause of death is traced to him. There is no proof that he was killed by the explosion. He was a good swimmer—he may have caught a fragment of the wreck, and survived a long time. As to Mrs Ball, this was impossible.

Colonel Hunt considers it certain that Mr Ball had a berth in the after cabin, from which all escaped except Judge Cameron. He is also decided in opinion that it was Mr Ball who threw his coat into the boat; nor because he was not with his wife, does it prove that he was dead. He might have been seeking some means to save her; he might have been looking for his adopted daughter.

"There is no legal proof that Mr Ball was dead at the time the witnesses heard the cries of his wife. No human testimony can fix the time of his death, while that of his wife is rendered almost certain. And thus, so far from the complainants having established their survivorship, the weight of evidence proves that the husband survived. It is enough for us that the fact is left un-

the forward and after parts pitched into the water, towards the centre, at an settled. The burden of proof was upon the complainants, and they have failed to establish their position."—*Pell and another* v. *Ball's Executors.* Cheves' Cases in Chancery, (South Carolina), vol. i.—*American Journal of Medical Science.*

HYGIENE.

EGGS IN RELATION TO HYGIENE.

Two important papers, on the Yolks of Eggs, have been presented to the Academy of Sciences; the one by M. Pelouze, the other by M. Gobley. From these it appears, that the yolks of eggs contain a considerable proportion of phosphorus, and that it is found in the state of phosphoric acid in combination with the fatty matter (glycerine) of the yolk, forming a phosphoglyceric acid, which is itself also in a state of combination, with soda on the one hand, and ammonia on the other; whence result two salts, or rather a soluble salt, phosphoglycerate of soda, and an ammoniacal soap. It has been long known that the yolk of egg contained sulphur and phosphorus, but we were ignorant that it existed in so large a proportion, and we were farther ignorant under what state it really did exist. This discovery enables us to explain why the use of eggs should have such a powerful effect on the generative organs. The phosphorus, like cantharides, acts on the genito-urinary apparatus, from its presence in the urine eliminated after digestion. We know, that from the urine collecting in the bladder during sleep, this viscus becomes dilated, and presses upon the vesiculæ seminales, from whence result erections in the morning. Stone in the bladder produces the same result. Now, if after the use of eggs the urine contains more than its usual proportion of phosphorus, we can easily understand that the irritation arising from such a condition is sufficient to explain the phenomenon. Whether this be the true explanation or not, the fact, at all events, is certain. Phosphorus, moreover, exists in the white of egg as well as in the yolk, as was demonstrated by Prout long ago. It is probable, that it also exists in the former, in a state of acid in combination with soda, for soda is also found in this portion. It is curious that the egg, which contains so much phosphorus in the white, the yolk, and even in the shell, is itself fecundated by a highly phosphorised fluid; the sperm, as we have had occasion formerly to remark, containing a large proportion of this substance. It is for this reason that this fluid corrodes linen; the phosphorus becoming oxidised from exposure to the air, passes into the state of phosphoric acid. We presume that the penetrating odour of the sperm is principally owing to the presence of this volatile principle. As to sulphur, we know that it exists in the egg in a tolerably large proportion, since we see it blacken a silver spoon when used to divide them when they are cooked in certain ways. The sulphur, from its contact with the fat, becomes oxidised, and passes into the state of acid. We may ask, however, why this colouration of the spoon does not always take place, more especially when the eggs are cooked with grease, as in an omelette.

It was announced, some years ago, that albumen and fibrin were constituently the same; and this proposition has been adopted by chemists. Whence it follows that there is no other difference between the white of egg and a cutlet, between the former of these and a slice of beef, than the mere form. This conclusion, however, is far from being correct in practice; and if there are chemists who maintain it in the laboratory, they probably know better when seated at the table! However this may be, it is nevertheless certain, that an egg is both a substantial and nutritious aliment, and may with advantage be prescribed in lieu of the flesh of young animals, although it cannot altogether replace them. When fresh, and simply boiled, it may be regarded as a valuable medium between soups and meat for convalescents; it is more easily digested and less nourishing than meat, and from this circumstance it furnishes a means for graduating the strength of the diet. The mean weight of the contents of an egg has been estimated as nearly an ounce and a half, two-thirds of which is made

up of the white. But the white is not entirely made up of albumen; it also contains a considerable quantity of water,—in such quantity, indeed, that from spontaneous evaporation through the pores of the shell, an egg loses nearly half its weight. The mass which remains is dry, solid, and tilted up towards the small end of the shell. If plunged into water in this state, the mass absorbs a large quantity of fluid, and assumes again, it is said, up to a certain point, the aspect of its fresh state, without exhaling any bad odour.—(*Prout.*) This statement, however, probably requires verification, for it is ascertained that, in an egg not altogether fresh, there exists, at the large end of the shell, not only a vacuum of a size in proportion to its age, but also a strong smell of sulphuretted hydrogen gas. It must not be forgotten, moreover, that in the very freshest egg, the shell is not quite full, as in the large end there is always a small vacuum, which is filled with air. This air expands in proportion as the egg loses part of its water by transpiration; its contents may then be shaken, and a noise produced within the interior of the shell. This may be prevented by plunging the egg for a short time into water. The evaporation, now under consideration, is most abundant at the large end, because in that situation the albumen is more fluid and watery. The whole periphery of the albumen,—that which is in contact with the shell,—is less consistent than that which surrounds the yolk.

Considered anatomically, the white of egg exhibits a great resemblance to the vitreous humour of the eye, the albumen being retained in a multilocular sac, which prevents it becoming diffluent. In the midst of this mass lies the yolk, which is united to the white, or, more properly speaking, its membrane, by means of an uneven but true double ligament, which is called chalazza. The white is not in immediate contact with the shell, but is separated from it by a thin white peripheral membrane, a true peritoneal covering, which is supposed to be formed of concrete albumen.

Considered chemically, the yolk differs merely from the white in containing a large quantity of fixed oil (four grammes to each yolk), and by its yellow and red colouring matter, analogous to that of the bile and the cerumen of the ear. This circumstance has caused the yolk to be regarded as a true emulsion analogous to that made from vegetable substances. Its substance is, in fact, made up of water, albumen, and oil,—apart, of course, from some chemical elements, such as sulphur, phosphorus, lime, soda, potash, and magnesia, which are also met with in the white.—(*Berzelius.*) Is it correct, then, to maintain that the yolk of egg is nothing more than a kind of almond emulsion? It is not so practically; an emulsion racks the stomach, has a hyposthenic effect upon the system, or refreshes it like all antiphlogistic potions, whereas the yolk of egg restores, nourishes, stimulates. It is no more true in practice to designate the yolk an emulsion than to designate the white as fibrine. We are not certain that the large quantity of oil obtained from a roasted yolk exists in it in the natural state. Chemistry alters, denaturalizes every thing organic, in order to obtain some result; and it is not known whether certain bodies which they obtain really exist in nature. Yolk of egg spread upon linen stiffens it, but does not stain it like almond oil for instance. Be all this as it may, it is certain that the yolk is more nutritious than the white, (the reverse ought to be the case according to chemical notions,) and if it be true that it contains a large quantity of oil, it may be given to persons of a lean habit in order to fatten them, since it is said that nuts produce this effect in the gallinaceæ, owing to the oil they contain. As is well known, the oil of egg is applied to various uses in pharmacy; amongst others, it is employed as an excipient instead of axunge, for making up certain ointments. We have found the yolk of egg very useful when applied as a kind of poultice during the night to painful furunculi, or other circumscribed swellings occurring in the face or elsewhere. We may state, lastly, that when an egg is boiled with the shell in water, the latter becomes mineralised, and is found to contain various salts, soda, sulphate, chloruret, and phosphate of sodium, calcium, magnesium, and traces of animal matter. In certain cases this water might, therefore, be used as a remedy.—*Annales de Thérapeutique, November* 1845.

DISEASES OF WORKERS IN ZINC AND COPPER. BY M. BLANDLET.

No Zinc whatever is used to alloy the Copper employed in the arts; and even were the proportions of Lead made use of which have been recommended in one receipt, we can scarcely suppose that the dust of an alloy containing only $\frac{1}{100}$ of lead could suffice to produce lead colic. It is zinc and not lead which is employed in the proportion of from 33 to 50 per cent. to prevent oxydation. The popular notion, that the disease is due to the lead contained in the solder, is equally false; no lead whatever being employed for this purpose. Physicians in all countries being unwilling to admit the existence of a colic caused by copper, have been in the habit of setting down as colica pictonum every case of colic met with in a worker in metal, whether the fact of his making use of lead was or was not ascertained; and, consequently, on looking over the records, for the last two years, of the hospitals Saint Antoine, La Charité, Hotel Dieu, and La Pitié, M. Blandlet found no less than 18 cases of colic, which had there been met with in turners, founders, polishers, &c., of copper, many of whom ascribed the symptoms solely to their use of that metal. M. B. remarks, that the number would have been much greater, were it not that many physicians finding it impossible in any way to father the disease on the handling or inhalation of lead, set it down as enteritis, &c. M. Blandlet seems to look on the introduction of particles of copper into the prima via, by their being diffused in the atmosphere, or communicated by the hands or benches of the workmen to their food, &c., as the most fruitful source of disease; and hence he recommends covering the mouth with a cloth to strain the air, strict attention to personal cleanliness, and the prohibition of eating in the workrooms, as the best preventive measures. The workmen universally rely on the use of milk as the most effective means of warding off an attack of colic.

The symptoms in trifling cases, which for the most part do not prevent the patient from working, consist merely of colic pains, lasting one, two, or three hours, and often leaving after them great abdominal tenderness, so that the patient cannot bear to button his trousers. During the fit, relief is obtained from bending forwards. Pressure may or may not cause pain. In more severe attacks there is diarrhœa, the evacuations being generally greenish, (in some of the cases given in the paper of M. Blandlet, copper was distinctly recognised by the usual tests.) In other instances, there is bilious vomiting, and occasionally passing of blood. The circulation is rarely affected; but sometimes a kind of excitement, analogous to intoxication, has been observed. Cough is a very frequent symptom; but the affections of the respiratory system the author promises to make the subject of a distinct memoir. The following is a tabular view of the means of distinguishing colica pictonum from the colic produced by copper:—

COPPER COLIC.	COLICA PICTONUM.
1. Diarrhœa frequent.	1. Constipation.
2. Alvine evacuations greenish.	2. Sero-mucous stools.
3. Abdomen generally pained by pressure.	3. Abdomen free from pain, and most frequently relieved by pressure.
4. Vomiting frequently met with.	4. Rare.
5. Sanguinolent evacuations.	5. Never met with.
6. Duration, forty-eight hours.	6. Duration, several weeks.
7. No affection of the nervous system.	7. Marked affections of nervous system.
8. Workmen become accustomed to the emanations of copper, which eventually cease to affect them.	8. A miserable death is the result if the patient persist in his occupation.
9. Milk and sweetened albuminous fluids prevent and relieve copper colic.	9. Sulphuric acid and some of its compounds appear to prevent and cure lead colic.
10. Opium is indicated in the diarrhœa of copper colic.	10. Purgatives are indicated in Saturnine colic.

The treatment recommended is very simple. Milk, or rather albumen, sweetened with sugar, is to be given to shield the stomach and intestines from the irritation of the particles of copper. In cases of constipation, a gentle purgative

is to be given, or the bowels are to be freed by a laxative enema; but in all cases, the application of opiate lotions to the abdomen, and in most, the administration of laudanized syrups will be attended with the best effects.

An abstract of the examination of a great number of operatives and manufacturers is given by M. Blandlet, to prove that the apprentices and fresh hands rarely escape an attack of some kind, originating in the poison of copper, and that very serious symptoms originating in this source are of ordinary occurrence in the workshops, although the sufferers rarely apply at the hospitals for aid.

Poison of Zinc.—*M. Blandlet* having been led to inquire into the affections supposed to arise from the vapours of oxide of zinc diffused through the atmosphere, was at first surprised to find, that although the brassfounders often experienced much annoyance from this cause, the smelters of zinc were perfectly free from any unpleasant effects of the kind. An intelligent workman, however, relieved him from his embarrassment by assuring him, that the low heat used by zinc smelters was not sufficient to vapourize the metal, whilst in brassfounding, the much greater heat required to cause the copper to enter into fusion vapourized a considerable portion of the zinc, which being inhaled by the workmen, gave rise to the symptoms. In ordinary circumstances, the vapours of oxide of zinc are carried off rapidly by the draught; but when the wind is unfavourable, the draught bad, and the apertures admitting air, closed on account of the cold, the workmen a few hours after being engaged in casting, complain of loss of appetite, oppression and pain in the stomach, vomiting or tendency to vomit, oppression of the chest with cough, pain in the forehead, ringing in the ears, general lassitude and sensation all over as if beaten, loss of appetite, shivering, continuing for two or three hours, and followed by cold sweats, or more frequently, the sweating is preceded by flushes of heat, and violent febrile reaction follows. In the morning all this train of symptoms has disappeared, but the health of the workman is gradually undermined, and asthma and other affections of the respiratory apparatus are a frequent consequence of the repeated exposure to these deleterious fumes. The remedy recommended by M. Blandet is, to give a purgative lavement, and to cause the patient to drink copiously of tea.

The preventive means are, to allow as few persons as possible to be present at the casting; to add the zinc to the copper at as late a period as possible; and, above all, to secure in the casting chambers a good draught and thorough ventilation.

The injurious effects of the fumes of oxide of zinc are attested by the evidence of numerous artisans and manufacturers; and M. Blandet concludes his very important communication by urging the importance of prohibiting the establishment of zinc or copper foundries in cities or populous neighbourhoods, since their deleterious fumes must make a powerful addition to the numerous train of evils almost inseparable from the crowding together of human habitations.—*Journal de Médecine, par M. Trousseau*, March 1845, as quoted in the *Dublin Hospital Gazette* for 1st Dec. 1845.

MATERIA MEDICA AND CHEMISTRY.

The Hill Opium of India. By Dr Sutherland.

This drug has probably never reached this country before. . . . . The localities where this opium is an object of cultivation, are those ranges of the Himala varying from six to eight thousand feet above the level of the sea. The plant is cultivated in little terraces or hanging gardens, watered by rills from the precipices above, and guided in tiny canals, such as are cut for rice growing. The soil consists of debris or detritus, from the overhanging mountains, and the enormous quantity of micaceous schist that assists in the formation of these mountain ranges, may form a soil specifically affecting the product. Besides the supply of this drug, necessary for the demand among the hill population, certain causes exist for the supposition that a contraband exportation of it is

carried on towards Scinde by the Sutlej, and also by the Sirsa and Bahawulpoor countries. This was stated to me by a European trader, whose various avocations and vicissitudes had rendered him likely to be possessed of some knowledge of the circumstance. But there is no reason to think that any quantity reaches the British provinces, probably from its superior qualities being as yet unknown. . . . From the analysis, it would appear that the value of the drug consists in the presence of rather more than the average proportion of morphia, and greatly less than the average quantity of narcotina, which agrees with the medical effects noticed.—*Northern Journal of Medicine*, Jan. 1846, p. 8.

ANALYSIS OF THE HILL OPIUM OF INDIA. BY S. FOURNEY THOMSON, M.D., Chemical Assistant in the University of St Andrews.

I received from my friend, Dr J. S. Sutherland, of the Bengal Medical Establishment, a small quantity of a drug, the product of India, and called "Hill Opium." It was of a consistence as hard as bee's-wax; of a dark-brown colour; a bitter, somewhat spicy, not disagreeable taste; an aromatic opiate odour; a somewhat shining and homogeneous fracture. Being requested to ascertain the proportions of morphia and narcotina in the specimen, I subjected it to a variety of processes, which gave evidence that it contains the following proximate principles characteristic of opium, viz.:—morphia, codeina, narcotina, and meconic acid. When the opium had been exhausted, first by distilled water, and then by dilute acetic acid, the insoluble residuum amounted only to about 17 per cent., and the ash to 3·3. The morphia was estimated both by the process of Gregory, and that by Mohr; and the narcotina was also ascertained in two different ways.

1.—*Estimation of the Morphia.* 1. By the well-known method of Dr William Gregory, I obtained from 50 grains of the opium, gr. 4·7 of the common muriate of morphia, or 9·4 per cent., which indicates nearly 7 per cent. of pure morphia. From this muriate I procured a minute quantity of codeina. The precipitated morphia was turned red by nitric acid, and blue by sesquichloride of iron. The infusion and the precipitated salt of lime were coloured blood-red by sulphated peroxide of iron, which is the property of meconic acid.

2. Seventy-five grains of the opium were, in the next place, treated according to the process of Mohr. It was digested with successive portions of distilled water; first, for 48 hours, and then for 36, and 24 hours at a time—the infusion being always well expressed from the residuum. The liquid being brought a-boil, was poured into boiling-hot milk of lime, containing twenty grains of the caustic earth; and when it had boiled a little while, it was filtered, evaporated down, and boiled with sal-ammoniac, as long as odours of ammonia escaped. The precipitated morphia being washed and dried, was almost colourless, and weighed altogether gr. 6·675, which is 8·9 per cent. It was entirely soluble in oxalic acid, and was rendered blue by sesquichloride of iron, and red by aqua-fortis.

From these two separate processes, it is to be concluded that the opium contains not less than from 7½ to 8 per cent. of this alkaloid, and therefore that a pound weight (avoirdupois) would yield nearly 13 drachms (apoth.) of good muriate of morphia.

2. *Estimation of the Narcotina.* 1. Fifty grains of the opium, dried and pulverized, were digested for two days in half a fluid-ounce of ether, with the aid of a gentle heat. The solution was then poured off, and the mass being dried and powdered again, the digestion was repeated twice more, for a day each time, with fresh ether. The residuum was then washed with ether, and the whole solution evaporated nearly to solidity, and till it had no ethereal odour. This extract was of a dark-brown colour, and it reddened litmus paper. On treating it with warm and weak muriatic acid, a reddish solution was obtained, and a tough dark-grey residuum, insoluble in water, and of the characters of caoutchouc. In the next place, the solution was boiled with animal charcoal, filtered, and precipitated with excess of ammonia. The light-grey precipitate thus obtained being heated in alcohol, some black matter was left undissolved,

and the crystals of narcotina weighed gr. 0·85, or 1·7 for 100 parts of the opium.

2. The residuum of the opium from process 1, 2, was digested for some days in dilute acetic acid, with the aid of a gentle heat, and the filtered infusion treated with ammonia in surplus. The black agglutinated precipitate was redissolved in acetic acid; its solution clarified by animal charcoal; and when the treatment with volatile alkali had been repeated, the washed precipitate weighed gr. 1·2. Being of a grey colour, it was doubtless mixed with some colouring matter, so that the result of this second experiment confirms the preceding, to the effect that the opium contains but a small per-centage of narcotina.

It is not indeed to be relied upon as determining the real amount of narcotina, for we know that some of this alkaloid comes away by the maceration in water for morphia; but as the greater part of it is left in the residuum, we may justly regard the obtaining so small a quantity as gr. 1·2 (impure), from the solid remains of 75 grains of the opium, a proof of the correctness of the former estimation by ether, which is the proper menstruum for narcotina. In regard to the morphia, the estimation by process No. 2 must be considerably nearer the truth than the first trial, in consequence of the greater security against loss in the prompt method of Mohr. In proceeding with No. 1, I had such a multitude of manipulations, as inevitably to cause serious diminution of the product. However, in the following comparison of the hill opium, with those of Turkey and Egypt, which were analysed by Mulder and Schindler, we shall take the morphia at 7·95 per cent.—the mean between our two experiments.

	Morphia, per cent.		Narcotina, per cent.
Hill opium	7·95		1·70
Smyrna opium, (best sp.)	10·84		6·80
Ditto	9·85		9·36
Ditto	10·30		1·30
Egyptian opium	7·00		2·68

—*Northern Journal of Medicine*, Jan. 1846.

Modus Operandi of Copaiba in Gonorrhœa.

The following case, related by P. Oates, Esq., is a striking proof of the mode of action of copaiba in gonorrhœa:—

"When a lad, this patient had tied a piece of string round the middle of the penis, and so tightly, that from the sudden and great swelling produced, the urethra and corpus spongiosum were both nearly divided, and an opening into the canal was left at this point, through which the whole of the urine was voided in micturition from this time. The appearance of the penis, when not erect, was as if broken; the anterior portion hanging down almost at right angles with the posterior. The gonorrhœa was violent, with a profuse discharge from the meatus urinarius, as well as from the false opening or fistula, if one may so term it, showing that a great extent of the urethra was the seat of the inflammation. After a few days of palliative treatment, by diuretics and diluents, during which the discharge remained *in statu quo*, M. Ricord ordered for him the balsam of copaiba, under the use of which, the portion of the urethra posterior to the fistula, viz.—so much of the canal as was traversed by the urine, got completely well, while from the anterior portion the discharge was as profuse as ever. The indication was here clear; the copaiba was continued, and a syringe given to the man, with which he was directed to inject his urine into the meatus urinarius after each micturition, and in a few days the cure was complete. This case shows very clearly the modus operandi of the balsam of copaiba in gonorrhœa to be, by impregnating the urine with its principles, and being so applied to the inflamed membrane, and not by being in any other way determined to the part. This is further shown in similar affections in the female, where the urethra is more implicated than the vagina; it also points out the use of injections of copaiba in gonorrhœa; and, although they have been tried with partial success, it is by no means a general way of using the remedy. If, however, a formula could be found, in which it could be so combined and modified as when eliminated with the urine, all the advantages of the medicine might probably be secured. There is no doubt copaiba is the most powerful resource we possess

in gonorrhœa, and where it does not succeed, it is generally from its nauseating the stomach to such an extent as to be inadmissible, or otherwise deranging the system; and, could it be used in an appropriate form as an injection, the patient might be spared the disgust and unpleasantness consequent on a course of this nauseous drug."—*London Medical Gazette*, Aug. 22, 1845.

SIMPLE METHOD OF DETECTING THE LEAST TRACES OF SULPHUROUS ACID: BY W. HEINTZ.

In 1792, Pelletier, senior, published a tolerably sensitive test for sulphurous acid. In 1835, Girardin again directed the attention of chemists to this method, which had become almost forgotten. It is based on the action of protochloride of tin on this acid, and is indeed very applicable when the quantity to be detected is not too small. When, for instance, crystals of protochloride of tin are immersed in the liquid under examination, to which hydrochloric acid has been added, or protochloride of tin dissolved in hydrochloric acid and poured into the unmixed fluid, it becomes after a time yellow, turbid, and the yellow precipitate gradually acquires a brown colour when sulphurous acid is present. But if only extremely small traces are to be detected, this method no longer suffices; it then gives no result at all. This has led MM. Fordos and Gelis to recommend another one,[1] which in fact detects much smaller quantities of sulphurous acid. They employed it principally in examining the purity of muriatic acid. According to them, the acid is poured upon zinc, and the hydrogen evolved passed through a solution of a lead salt (they used basic acetate of lead). The sulphuretted hydrogen formed from the sulphurous acid throws down from the solution of lead sulphuret of lead. It is evident that this method may be employed, not merely in examining muriatic acid, but almost in every case where the absence of sulphuretted hydrogen has been proved. It is only requisite to add muriatic acid to the substance under examination, and to act with this liquid upon zinc.

However, notwithstanding the sensitiveness of this method, it has many inconveniences. In the first place, it is always necessary to have a peculiar, even though simple, apparatus for disengaging the gas; and, in the next place, the greatest care must be taken that the zinc contains no sulphur.

I have been led to a more simple and quite as sensitive a method, which indeed is identical with that first described by Pelletier, only the means by which I render the reaction more evident is new. The following is my process:—A solution of protochloride of tin in dilute muriatic acid is added to the liquid under examination, or to the substance dissolved in water, or in muriatic acid, and the mixture heated to incipient boiling. This would produce decomposition, causing the precipitation of sulphuret of tin if there were any quantity of sulphurous acid present; but if the quantity is diminished to within a certain limit, no sulphuret of tin is deposited; the liquid however smells of sulphuretted hydrogen, and acquires a faint yellowish tint without becoming turbid. The smell would therefore already indicate a smaller quantity of sulphurous acid than requisite to produce a precipitation of sulphuret of tin. But since the smell, when only minute traces of the acid are present, might be concealed by the vapours of the muriatic acid, the presence of the sulphuretted hydrogen may easily be rendered perceptible by adding a few drops of a solution of sulphate of copper to the cold liquid. Sulphuret of copper is immediately thrown down, which, from its intense colour, indicates the presence of the most minute trace of sulphuretted hydrogen, consequently in this case also of sulphurous acid. A solution of chloride of bismuth in muriatic acid may likewise be employed instead of the solution of sulphate of copper; but acetate of lead cannot be used for the purpose, as no black precipitate, but a white one, would be obtained, consisting of chloride of lead.

The reaction is not quite so certain if the sulphate of copper is first added to the liquid into which some protochloride of tin has been conveyed, and the whole then heated; for in this case the protochloride of tin first reduces the

[1] See Chem. Gaz., vol. i. p. 264.

oxide of copper. If, therefore, more of the copper solution has been added to the liquid than can be converted into the protoxide of copper by means of the protochloride of tin used, there remains in such a case none of the latter to convert the sulphurous acid into sulphuretted hydrogen. It is true, that when care has been taken to use an excess of the protochloride of tin, a reaction is also obtained in this way, the oxide of copper being first reduced to protoxide of copper, and the sulphurous acid being converted into sulphuretted hydrogen by the excess of the protochloride of tin, which produces a precipitation of sulphuret of copper.

The action of protochloride of tin on sulphurous acid and a solution of copper, and the liquid so obtained, may be rendered more intelligible by the following equation:—

$$2SO^2+6SnCl=SnS^2+2SnO^2+3SnCl^2$$
$$\text{and } SnS^2+2CuO=SnO^2+2CuS.$$

The reaction which occurs between the sulpurous acid, protochloride of tin, and a solution of copper, might be exhibited by the following equation:—

$$LO^2+4SnCl+2CuO=SCu+2SnCl^2+2SnO^2.$$

Puffendorff's Annalen. 1845, No. 9, as quoted in *Chemical Gazette*, 1st Dec. 1845.

SENSITIVE TEST FOR MANGANESE. BY WALTER CRUM.

In the formation of green manganate of potash, we possess a test for manganese which leaves nothing to be desired. It is, however, only applicable with the dry substance. The following is a method for detecting this metal in a liquid, which is by no means inferior in sensitiveness to that in the dry way; it depends on the formation of permanganic acid and the intensely red colouring of the manganiferous solution produced by it. When peroxide of lead is heated with dilute nitric acid, and a solution of manganese then added to it, the liquid acquires, even when very little of the latter has been employed, the intensely purple-red colour of permanganic acid, which is very readily perceptible as soon as the excess of peroxide has subsided.

10 grs. of unslacked lime, dissolved in nitric acid and heated with dilute nitric acid and peroxide of lead, produced a purple colour, which was as intense as that formed under the same circumstances with 1-100th gr. protosulphate of manganese. This lime consequently contained approximatively 1-3000th of its weight of manganese. White marble was likewise found to contain manganese by means of this test.—*Ann. der Chem. und Pharm.*, August 1845.—As quoted in *Chemical Gazette*, 1st December 1845.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 67 of January Number.)

SESSION XXV.

FOURTH MEETING.—*Wednesday, 7th January* 1846.—DR GAIRDNER, P., in the Chair.

OBSTRUCTIVE DISEASE OF THE MITRAL VALVE. BY DR JOHN SCOTT.—A few observations were made on the general and particular symptoms. A case was

detailed of a young lady, who had, two years previously, been affected with chorea, and who, when first seen, exhibited symptoms of general fever, (remittent in its progress), accompanied by severe pains in the left hypochondrium, alternating with acute pain in the head, and delirium, a rapid and sharp pulse, great general agitation, and when the febrile paroxysm was at its height, with a loud bruit obscuring the sounds of the heart. In a state of repose, there was no bruit, but a tumultuous vibrating feeling of the heart to the hand, with sharp clear sounds. The disease terminated in a kind of asphyxia. The disease was accompanied by diarrhœa, which lasted nearly three weeks. On dissection, a warty and fleshy excrescence was found, arising from one-half of the mitral valve. No marks of endocarditis were present. A drawing and preparation were exhibited.

SOFTENING OF THE HEART. BY DR JOHN SCOTT.—*Dr Scott* alluded to a case, in which the principal signs were dyspnœa on undue exertion, a soft irregular pulse, and the apex of the heart pulsating beneath the lower part of the sternum. The patient's general health was good, with the exception of great liability to bronchitis, which was easily manageable by proper care. This state produced great aggravation of the signs. The patient died from having neglected one of these attacks. Dr S. considered this as one of the cases which due care and attention to diet render amenable to treatment, while neglect of rules was certain of leading to a fatal result. The heart was large and soft, and tore on being removed from the body. Dr Scott had several cases of the same kind under treatment, where favourable results had been obtained, and where this state of the heart in all probability existed.

[What is Dr Scott's treatment in these cases? Is softening of the substance of the heart so easily detected during life? If so, what are the precise diagnostic signs?]

APOPLEXY CONNECTED WITH OBSTRUCTION IN THE VEINS AND SINUSES OF THE BRAIN. BY DR JOHN SCOTT.—A young lady was seized with paralysis of the left side of the body, and with coma. She died in thirty-six hours. In the right hemisphere of the brain a clot of considerable size was discovered, surrounded by broken down cerebral substance. From this a large vein, filled with black and firmly coagulated blood, was traced into the longitudinal sinus. The sinus itself, as well as the lateral sinuses, were filled with firm clots, partly of blood and partly of lymph. These Dr S. considered as not of recent formation, and to have been the cause of the rupture of the vessels of the brain. The preparation of the vessel was exhibited.

He had seen several cases of the same kind in young subjects; and wished to draw a contrast between such cases and those arising from diseased arteries at a more advanced age.

THYROID, THYMUS, AND SUPRA-RENAL BODIES. BY JOHN GOODSIR, ESQ. —*Mr J. Goodsir* stated, that he had observed the thyroid, thymus, and supra-renal bodies to consist, at an early period of embryotic existence, of two long continuous masses of blastema, extending over on each side of the spine, from the anterior extremity of the Wolfian bodies to the base of the cranium. These two bodies are the last portions of the blastoderma, which become included by the umbilical constriction. The posterior part of each mass becomes converted into the supra-renal body around the omphalo-mesenteric vessels, the middle portion becomes the thymus around the cardinal veins and sinus of Cuvier, whilst the anterior constitutes the thyroid body, around the anastomosing branches of the first and second bronchial vascular arches.

BLACK PHTHISIS. BY DR MAHELLAR.—*Dr Mahellar* said that carbon is inhaled, and found in the lungs and in the bronchial glands of others than coal-miners. He adduced the case of a chimney-sweep, whose chest he had an opportunity of examining after death, where the bronchial glands were found enormously enlarged from the impaction of carbon, produced

by the inhalation of soot. He had lately seen several cases where carbonaceous sputum was present, amongst iron-moulders and founders who had been subjected for a length of time, during their labour, to an atmosphere charged with charcoal and smoke. In connection with the above subject, a case of melanosis was also reported.[1] The black deposit had much the appearance of the foreign matter found in the pulmonary organs of the coal-miner; and, with the view of ascertaining if there existed any analogy in the component part, the enlarged bronchial glands and melanotic matter were submitted to chemical analysis, with the following results:—The bronchial and lymphatic glandular structure of the chimney-sweep were found, after being boiled in concentrated nitric acid, to contain a large proportion of carbon, while the melanotic cyst, under the same process, did not leave a vestige of colouring-matter—evidently proving the dissimilitude between these substances; the first, that of the chimney-sweep, showing the existence of foreign matter; the second, melanosis, composed of the constituent elements of the blood.

From the above inquiry, Dr Makellar felt himself at liberty to maintain, that the bronchial glands, in individuals subjected to a smoky atmosphere, do invariably contain black matter, which has at some period been inhaled.

The microscopic examination shewed the carbon most distinctly in a molicular form.

New Members.—Drs Buchanan, David Skae, and Thomas M. Lee, were admitted Ordinary Members of the Society.

VARIETIES.

Medical Reform.—"We have heard, upon good authority, that it is Sir James Graham's intention to abandon the fourth Medical Bill, which has given rise to so much division of feeling in the profession. Legislation must therefore begin *de novo;* and let us hope, that as the four successive attempts of the Home Minister have elicited strong opinions from all parties in the profession, the experience thus acquired may lead, in another attempt, to a more successful result. That any legislator should ever succeed in reconciling the conflicting interests of all those who will be affected by medical legislation, is a moral impossibility. Physicians, surgeons, general practitioners, apothecaries, and pharmaceutists, have shown, by the opposition with which they have received one or all of these measures, that no law can be passed which does not in some shape interfere with what they have hitherto regarded as exclusive privileges. That which met with the approbation of one class, was immediately denounced by another; and we think argues the possession of no small amount of perseverance, on the part of any minister, to make four attempts to satisfy the corporate bodies of a profession, which appeared to have among them no common principle of agreement."—*Medical Gazette,* 23d Jan. 1846.

[The information contained in the above, we anticipated in last number.]

Middlesex Hospital.—The following notice has been forwarded to us (*Medical Gazette,*) by the medical officers of the Middlesex Hospital for insertion:—In consequence of certain transactions with reference to the entrance of pupils, it has been resolved by the lecturers of the Middlesex Hospital School, that no pupil of Mr Tuson's will in future be admitted to the School.

London Hospital.—Mr George Critchett has been elected Assistant-Surgeon to the London Hospital.

St Thomas's Hospital.—On Wednesday last Dr Leeson received the appoint-

[1] Vide the author's article in the present number.

ment of Physician to St Thomas's Hospital, vacant by the death of Dr Williams.—Dr Cohen was at the same time elected to the office of Assistant-Physician.

Liebig.—The Grand Duke of Hesse Darmstadt has conferred the title of Baron on the celebrated Professor Liebig.

Physician to Heriot's Hospital. The following is the original statute referring to this office. "De Electione et Officio Medici Pharmacopolæ et Tonsoris Seu Chirurgi.—Thair sal be appoynted one doctor of phisick, who, for visiting and luiking to all the seik in the hospitall, sall receave yeirlie from the thesaurer * * * * * One apothecarie wha sall be payed for all his billis of droggis, if they be subscryved with the doctor of phisickis hand. One chirurgiane barbour, who sall cutt and pole the hair of all the scholleris in the hospitall, as also luik to the cure of all these within the hospitall who any way sall stand in neid of his airt, and sall recave for his wages yeirlie * * * ."—*Steven's Memoir of George Heriot.*

Edinburgh Surgeons prior to the Sixteenth Century.—Prior to the commencement of the sixteenth century, the qualifications required in him who practises as a surgeon in Edinburgh were, that he should be able "to wryte and reid, and to knaw anatomie, nature and complexion of everie member of the humanis bodie, and likewise to knaw all the vaynes of the samyn, that he may mak flewbothemea in dew time," together with "a complete knawledge of shaving beards and cutting hair."—*Nugæ Canoræ in Medical Gazette.*

OBITUARY.

Death of Dr Hannay of Glasgow.—It is with sincere regret that we this day record the death of Dr Alexander John Hannay, an event which has shed a deep gloom throughout the wide professional circle in which he moved, and among the numerous friends and well-wishers whom the many excellencies of his character had drawn around him.

Dr Hannay was a native of Wigtonshire. He received his medical education chiefly in Edinburgh. He afterwards studied in Paris, at a time when medicine had just received many signal improvements from the hands of Laennec, and the other eminent men who then adorned the French medical school. Dr Hannay became a zealous advocate of these improvements; and when he came to establish himself in Glasgow soon afterwards, he diffused, by means of his lectures and of his practice, the knowledge of them throughout this country. How much he effected in this way, our readers may judge from the fact, that the late Dr Hope, one of the most eminent physicians in London, dedicated to him the latest edition of his great work on the Diseases of the Heart, as to his first instructor in the difficult art of discriminating those affections. The language of Dr Hope will be re-echoed by the numerous pupils throughout the country who have been initiated by Dr Hannay in the principles of medical science; and who, while they read with profound sorrow this announcement of his death, will join willingly in rendering a tribute of gratitude to his memory.

In all the private relations of life, those who knew Dr Hannay best esteemed him most. His manners were singularly courteous and affable—his temper kind, generous, and benevolent. The sick poor have lost in him a steady friend, at all times ready to give them whatever relief his professional skill and means of assisting them could procure. When we add, farther, that Dr Hannay was sincerely but unostentatiously pious, we shall have said enough to enable our readers to understand why we do not merely mourn his death as a private individual, but regard as a loss to the whole community, that a man of such worth and high qualification should have been cut off in the flower of his days, and in the midst of his opportunities of usefulness.—*Glasgow Newspaper.*

THE

MONTHLY JOURNAL

OF

MEDICAL SCIENCE.

No. LXIII.—MARCH 1846.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On Certain Puerperal Affections.* By SAMUEL LAWRENCE, Esq., Montrose.

THE first of the two following cases bears a pretty close resemblance to the affection which has been so admirably described in this Journal, by Dr Golding Bird, under the name of PUERPERAL NEURALGIA.[1]

CASE 1. Mrs B., after a natural and easy labour, was delivered of her third child on the 15th November 1843. On the 17th, at 9 P.M., I was sent for by express to visit her. I found her looking somewhat confused and restless. The face was rather flushed, the eyes a good deal injected, the tongue moist, the pulse 106, jerky, compressible, and of rather small volume. The uterus, through the abdominal parietes, presented a considerably enlarged volume; and, over the space of a few square inches, at its fundus, toward its right side, acute pain was experienced on pressure. During the night, between the 15th and 16th, (the first night after delivery,) and throughout the 16th, she flooded a good deal. On the morning of the 17th, she began to complain of headach, and continued to do so during the day; and in the evening, after discharging a quantity of coagula, she had severe rigors, followed by abdominal pain. Two hours before my visit, twelve grains of Dover's powder were, by my desire, administered, from a belief, (produced by an incorrect report brought to me), that bowel complaint had supervened. Soon after this dose, delirium came on, and continued, interrupted by brief periods of slumber, until I saw her. She was then collected, and answered questions correctly; but betrayed a great degree of restlessness. I ordered poultices with mustard to the abdomen, to

[1] MONTHLY JOURNAL, January 1843, p. 29.

be repeated every third hour, and the following pill every third hour: —R. *Submur. hydrarg. gr. iij; tart. ant. gr.* $\frac{1}{8}$; *p. opii gr.* $\frac{1}{4}$; *cons. ros. q. s. ut ft. pil. Mitte tales vi.* 18*th*. Restlessness continued till four o'clock this morning, when she fell into a sound sleep. Acute pain is still felt over the uterus, but now principally towards its left side. The skin is cool; the face rather pallid; the pulse 88; the bowels confined. I ordered her to continue the pills, and to take immediately three ounces of castor oil. 19*th*. The pain is still acute when pressure is made over the hypogastric and iliac regions. The pulse is 96, and of moderate strength; the bowels have been opened freely. The secretion of milk and lochia continue; the latter is attended with much fetor. A blister was applied to the seat of the pain; and an order given to continue the pills. 22*d*. From the time the mouth began to be affected by the mercury, and the blister to rise, the pain declined rapidly, and is now removed. A degree of excitement has, however, been produced these two days by hemorrhoids, accompanied to-day by diarrhœa. Twelve grains of Dover's powder were prescribed to be taken at bed-time. 23*d*. The diarrhœa ceased after the opiate. She is now in every respect convalescing favourably.

Remarks.—All of the prominent symptoms in this case pointed to the uterus, as the seat of the disturbance. Its volume was enlarged; the abdominal pain did not extend beyond the space occupied by this organ; and the lochia were not only very profuse, but were also of an extremely fetid odour. The probability of the affection being inflammatory was indicated by the rigor and subsequent febrile excitement, with the acute pain increased on pressure; while, on the other hand, the limited extent of pain, its flitting character, the transient delirium, and *the want of proportion among the general symptoms*, seemed to mark it as one of high nervous excitement, from mere uterine irritation. Regarding the case as *exclusively neither*, but partaking of both, the treatment was directed accordingly. Depletion, both local and general, I avoided, as being more likely to injure by reducing the strength, than to cause benefit by its antiphlogistic action. By giving bland nutritious food, I endeavoured to *sustain* without *stimulating* the vital powers; and I restricted the rest of the treatment to the use of calomel with opium, and the counter-irritation of a blister. The issue of the case fully answered the expectation cherished. *Query*, Could irritation of the uterine sinuses be connected with the causation of the malady? Would not the re-expansion of the uterus (from defective tonicity) be accompanied by exposure of the mouths of the sinuses to the action of the air?—and might not the irritation thus induced occasion the whole train of morbid phenomena, the fetid lochia, the shifting local pain, and, by reaction on the cerebro-spinal system, the delirium, &c.?

CASE 2. *November* 4, 1844. Mrs S. was delivered of her first child

three weeks ago. Her labour was natural, and her recovery good. Yesterday evening, after exposure to cold, she was seized with severe pain in the lower part of the abdomen, which continued all night, with occasional brief but perfect intermissions. Fifteen grains of Dover's powder were taken early in the morning, which, with fomentations, gave much relief. At noon, I visited the patient. No pain was complained of on pressure; the pulse was natural; the bowels were confined; and the tongue was foul. I prescribed a blue pill with hyoscyamus to be taken immediately; and a dose of castor oil in the evening.

Nov. 5, 11 A.M. The pills and every thing which she has taken have been rejected. The abdomen is rather swelled, and painful on pressure; the respiration is impeded; the tongue is much furred; the bowels have not been opened; the pulse is 90; the skin is hot; and the thirst is urgent. Apply a blister to the abdomen. R. *Subm. hydr. gr. iij; opii gr.* ½; *tart. ant. gr.* ⅛. *M. et mitte tales vi. Sumat i 4tâ quâque horâ. Enema purgans om. hor. donec alv. resp.*—3 P.M. The abdominal pain has increased; the respiration is more embarrassed; the pulse is 120. *V.S. ad* ℥*xx. An enema of turpentine and castor oil immediately.* R. *Subm. hydrarg. gr. v; opii gr. ii. Ft. bolus, statim sumend.*—10 P.M. Pulse 140, and weak; pain gone; symptoms of great prostration present. I now called Dr Steele in consultation on the case; and, from this period, he attended it conjointly with myself. We directed half a glass of wine to be given every two hours, and a little beef-tea occasionally. A bran poultice was applied to the bowels; and the tartar emetic of the pills was replaced by half a grain of ipecacuan.—*Nov.* 6, 8 A.M. The pulse is 120, and still weak. We continued the stimulants.—8 P.M. Reaction commenced about mid-day, when the wine and beef-tea were withdrawn. The pulse is 130. There is considerable pain at the epigastrium, and the bowels have not yet been opened. There was ordered to be administered immediately an enema of turpentine, with two drops of castor oil, and three drachms of tincture of assafœtida. Another blister was applied over the epigastrium, and we prescribed the pills of calomel, antimony, and opium, without ipecacuana.—*Nov.* 7, 10 A.M. The pain is much relieved by the blister. Pulse 108. Bowels opened from enema.—8 P.M. The symptoms continue favourable. Pulse 104. There is less pain in the abdomen.—*8th.* She continues to improve.—*9th.* More vomiting was excited last night by beef-tea having been taken contrary to orders: it was allayed by Dover's powder.—R. *Hydrarg. c. creta gr. v; p. rheii gr. vi. Mitte pulv. tales iv. Sumat unam om.* 4 *horâ.—Evening.* Bowels not opened. Pain gone. Skin acting freely. From this time recovery proceeded favourably during the few weeks that elapsed ere health was fully restored.

Remarks.—This case is interesting in several respects. First, as illustrating how a case of spasm of the bowels may pass rapidly into one of severe inflammation; Secondly, as affording encourage-

ment to persevere in the administration of remedies, even under circumstances apparently the most hopeless; and, Thirdly, as proving how much care is necessary in conducting the dietetic part of the treatment.

When the case was first seen, there was nothing to denote the existence of inflammation,—no pain on pressure, no rigor, no excitement of the vascular system; and the fair presumption was, that, by removing offensive matter from the bowels, by the administration of anodynes, and the application of fomentations externally, the attack would speedily give way. It teaches, however, that so long as spasmodic symptoms continue, the risk of inflammation is not terminated, for the former may pass rapidly into the latter. It also shows most impressively that the practitioner should never give way to despair, nor relax his efforts for the recovery of his patient, even when all the symptoms combine to form the most gloomy prognosis. Nothing could be more hopeless than the appearance of the case on the evening of the second day of attendance. There was an utter prostration of all the powers, (except the intellectual, which continued entire throughout;) even the abdominal pain, through the failure of sensibility, was gone. Yet, from the measures employed, a most gratifying change was produced; and the case would have progressed without one unfavourable symptom, but for the imprudence of the friends of the patient in administering beef-tea at a time when it was judged too stimulating, and had been prohibited. Another and not the least important lesson taught by this case is that very great judgment is necessary in determining on blood-letting in inflammatory affections in puerperal women.

The strength and previous condition of the patient, as well as the degree of inflammatory action, must be taken into account. In this case, the frightful prostration which occurred a few hours after the bleeding caused regret that it had been resorted to, or at least that it had been employed to such an extent. Indeed, my general experience leads to the conclusion, that when the drain of lactation is fairly begun, venesection is a remedy very badly borne, and that its use can only be justified by circumstances of the most obvious and urgent necessity.

PANMURE PLACE, MONTROSE, 23d Dec. 1845.

ARTICLE II.—*Notice of the Prevailing Diseases of Shanghae (China.)* By W. LOCKHART, M.D.

THE most numerous cases of disease here are various affections of the eye, gastrodynia, and rheumatism. Gastrodynia is apparently caused by the oily nature of the food used by the Chinese,—cakes boiled in oil, much of which is, of course, burned or roasted,

forming a large portion of their diet. The rheumatism probably depends on the sudden changes of the climate, which much affect the people, who generally live on the bare ground, the lower storey of their houses of the common kind being neither boarded nor tiled. The diseases of the eye are very numerous, those of a chronic inflammatory nature being the most prevalent. There certainly is a very large number of persons in China afflicted with diseases of this organ, slight cases being aggravated by dirt and neglect, till alteration of the tissues take place. Catarrhal ophthalmia is very prevalent, and destroys many eyes. I think the pungent smoke from the charcoal fires does much injury to the eyes of those who are exposed to it. Elephantiasis of the legs and Asiatic leprosy, two frightful diseases, afflict numbers of the people, especially in the districts where rice is grown, the land being constantly kept under water; at least, I have been led to think that these diseases prevail most in such places. Intermittent fever prevails to a very great degree in Chusan, where the land is very wet, but is not much seen here, that is, around Shanghae; for cotton is the chief product of the soil, and that is grown on *dry* land, and not much irrigated. Before we visited this place, we had heard that it was a most unhealthy spot: our experience, after eighteen months' residence, shows thus far a different result; for we find, except during the months of July and August, a cool and pleasant climate. During these two months the weather is very hot and oppressive; but for the rest of the year we are not disturbed from this cause, as we anticipated; and among the foreigners who reside here very little sickness has existed; so that we are led to hope that our position is a healthy one.

It is surprising how a number of persons can exist at all in the manner the Chinese live, especially during the summer. The streets are very narrow, and their houses very confined. The streets have sewers; but instead of carrying off the filth, they only form continuous cesspools. It is true, that the tide rises into canals that traverse the city, and helps to wash them out to some extent; and also, that the filth and ordure have a high market value as manure, causing it to be carried away in large quantities from the city every day; but notwithstanding all this, Chinese cities are extremely filthy, and were a medical police to sit in judgment on one of them, they would declare that disease and pestilence must frightfully destroy the people. Such, however, is not the case, to the extent it might be supposed; though the Chinese are a sallow race of people, and do not enjoy that high state of health they might do, with better regulations in their cities and towns. I do not mean to say that Shanghae is more uncleanly than other cities; for all the large towns of China are in the same condition, so far as I have seen.

SHANGHAE, June 1845.

ARTICLE III.—*Cases illustrating the Advantages of Amputation at the Middle of the Leg.* [Drawn up at the request of SIR HENRY HARDINGE.] By J. A. LAWRIE, M.D., Surgeon to the Royal Infirmary of Glasgow.

ON the 31st of October 1842, Sir Henry Hardinge did me the honour of addressing to me a letter on the subject of AMPUTATION AT OR BELOW THE MIDDLE OF THE LEG, after which the patients walk with the use of the knee-joint,—requesting that I would give him what information I could afford. He suggested "that every case at Glasgow of amputation above the ankle, and not higher than the middle of the leg, should be given in detail, stating the result as regards activity and the power of labour, and then, by comparing the cases of those of nearly equal age, who walk by resting the knee on the wooden pin, whose legs have been amputated immediately below the knee, to ascertain which of the two systems is the most advantageous for the purposes of labour, and most satisfactory to the men themselves; whether there is more liability to suffering from cold or rheumatism in one case than in the other, clearly stating the result as deduced from a personal examination of the men themselves; also, how soon after the stump has completely healed the patient can walk with a short pin, and the use of the knee-joint."[1]

[1] The Letters which I received from Sir Henry Hardinge are here subjoined:—

No. I.

"3 WHITEHALL GARDENS, 31st October 1842.

"SIR,—In the London *Medical Gazette* of this year, I have read a paper of yours on the comparative merits of amputation immediately below the knee, and of amputation below the calf of the leg.

"You state, that by a simple and cheap apparatus, the patient with a long stump can walk with great advantage, on the 'wooden pin,' eighteen and twenty miles a-day, and that the price of a wooden pin for the low operation is 15s., and for the high 20s.

"The only justification for amputating the working man's leg immediately below the knee is, that it has been supposed that he can labour and earn his living better by resting his knee on the common wooden pin, than by taking off the limb three or four inches above the ankle-joint. This practice of taking off the limb immediately below the knee is almost universal in the army and the navy.

"The same practice is followed in France; and I send you a *Mémoire* on this subject, in which you will perceive that the writer takes the same view of this question that you do. It appears to me to be important for the comfort and advantage of the soldiers of the army, that this question should be investigated, and I propose to draw the attention of Sir James M'Grigor, Director-General of the Army Medical Board, to this subject. But before I do so, I shall be glad to hear from you, venturing to offer this suggestion, that every case at Glasgow of amputation above the ankle, and not higher than the middle of the leg, should be given in detail, stating the result as regards activity and the power of labour; and then, by comparing the cases of men of nearly the same age, who walk by resting the knee on the wooden pin, whose legs have been amputated immediately under the knee, to ascertain which of the two systems is the most advantageous for purposes of labour, and the most satisfactory to the men themselves; whether there is more liability to suffering from cold or rheumatism in the one case than in the other; clearly stating the results, as adduced from a personal examination of the men themselves."

The Following Statement consists of—

I. CASES OF AMPUTATION AT OR BELOW THE MIDDLE OF THE LEG, THE PATIENT USING THE KNEE-JOINT IN WALKING.

II. CASES OF AMPUTATION ABOVE THE MIDDLE OF THE LEG, THE PATIENT USING THE KNEE-JOINT IN WALKING.

III. CASES OF AMPUTATION IMMEDIATELY BELOW THE KNEE, THE PATIENT RESTING ON THE COMMON PIN WITH THE KNEE BENT.

IV. THE COMPARATIVE ADVANTAGES OF THE TWO OPERATIONS.

V. THE MANNER OF PERFORMING THEM.

VI. GENERAL INFERENCES.

I.—CASES OF AMPUTATION AT OR BELOW THE MIDDLE OF THE LEG, THE PATIENT USING THE KNEE-JOINT IN WALKING.

CASE 1. Mr E. A., St A—— Street, Glasgow, agent for a victualling society. The limb was removed in 1826, at the middle of the leg, for disease on the back part of the foot. The stump healed in about six weeks, and in three months the patient was taking walking exercise on a long wooden pin. At present he uses an artificial leg, the apparatus resting partly below the knee, and partly on the thigh. He walks remarkably well; so much so, that hardly any lameness is observable. No casual observer would challenge his gait on the street. His occupation requires him to be constantly walking or standing; and he can undergo almost any amount of fatigue. The sound limb is generally the first to feel tired. He has no pain or uneasiness of any kind in the stump.

This gentleman being very intelligent, his opinion and experience are exceedingly valuable. He has walked in the four following ways:—

"As you have so ably drawn the attention of the public to this question, in your paper of the 7th January last, I need no apology for this intrusion on your time.—I have the honour to be, Sir, your obedient servant, "H. HARDINGE."

"DR LAWRIE, M.D., Moore Place, Glasgow.

No. II.

"WAR OFFICE, November 27, 1842.

"SIR,—I have had the pleasure on my arrival in town to receive your memoir, and the three models of artificial legs.

"I beg to offer you my best thanks for the readiness with which you have complied with my request, and, as far as I can form a judgment, for the very clear and candid manner in which you have treated the subject.

"It is my intention to have the whole question brought before Sir James M'Grigor, the Director-General of the Army Medical Board, in order that it may be fully discussed.

"I find since I last addressed you, that the memoir of MM. Arnal and Martin is also undergoing a very interesting investigation at Paris, which I will forward for your perusal as soon as I receive it.—I have the honour to be, Sir, your very obedient servant, "H. HARDINGE."

"DR LAWRIE, M.D.

1. *On the bent knee deprived of the use of the joint.*—He was very anxious to walk as soon after the operation as possible, and having been told that his stump would not bear the pin with the use of the knee-joint, he procured the common long pin with the rest on the bent knee. This, he says, is by far the worst and most fatiguing method of walking that he had tried. The jolting was exceedingly disagreeable, and with it, even had his stump been short, he could not have followed his present avocation. He very soon laid it aside. He considers it the worst possible apparatus for the labouring man.

2. *The short pin, with the use of the knee-joint, and without any thigh piece.*—This he found an immense relief, and an incalculable improvement on the first plan. It is exceedingly light, and gives the free use of the knee. The disadvantage is, that it is not very well fitted for walking distances, the fore part of the stump below the knee being apt to become excoriated. He can hardly conceive any circumstances in which it would not prove of great service to the labouring man.

3. *On the wooden pin with the addition of a thigh piece.*—This he found an improvement, by dividing the pressure between the leg and the thigh. It is light, steadies the knee-joint, and is well fitted for walking, and all kinds of labour. The additional expense of the thigh piece was not great.

4. *On an artificial limb.*—This he prefers (as all who can afford it seem to do) for the sake of appearance, and also as being steadier, by affording a larger surface to rest upon, in walking.

CASE 2. Margaret Duncan, aged 18, a servant, was admitted into the Glasgow Royal Infirmary on the 13th May 1834, for scrofulous disease of the ankle-joint. On the 9th August, amputation was performed three inches above the ankle-joint, by the posterior and anterior flap operation. Towards the end of August, an abscess formed in the posterior flap.—*September* 12. The stump has healed. *Dismissed cured.*

I saw this girl frequently after she left the Infirmary. The stump was *very* good, and free from uneasiness of any kind. She died some months afterwards of abscess in the loins.

CASE 3. Jean Eccles, aged 12, a mill girl, was admitted into the Royal Infirmary of Glasgow on the 1st February 1840. She was then pale, weak, and emaciated, and subject to night-sweats, diarrhœa, and occasional rigors. For twelve months she had had disease of the right ankle-joint, which, on admission, had several openings in it, through which the bones were found to be extensively diseased.—*February* 5. The limb was removed immediately above the ankle, by the anterior and posterior flap operation.—*March* 4. She had no bad symptoms. The stump healed, and looks well, and her general health much improved. *Dismissed cured.*

As soon as the limb would bear the apparatus, I sent this girl to the bandage-maker to have the short pin fitted on. She frequently visited me at the hospital; when she walked remarkably well, and without pain or uneasiness of any kind. On inquiry, I am sorry to find that she died of consumption some time ago.

Case 4. Robert Rankin, aged 20, a sawyer, residing at Springbank, healthy, plethoric, and unmarried, was admitted into the Glasgow Royal Infirmary on the 8th December 1840. Five hours before his admission, his right foot and ankle had been entangled in the revolving saws of a saw-mill, and torn to shreds. He was much sunk from great loss of blood.

The limb was almost immediately removed below the middle of the leg, being as far from the knee as the lacerated condition of the skin and muscles of the leg would permit. The operation was performed by the posterior large and anterior small flap. On the 15th, a dead portion of the anterior flap separated, and left the end of the tibia exposed. He went on pretty favourably: the stump nearly healed, but remained tender in front. His general health was good. In this state he was *dismissed cured* on the 26th January 1841.

I have since seen this lad very frequently. A few months after leaving the Infirmary, he procured a short pin. This caused so much pain at the end of the sawn bone and stump, that he could not bear it. After being a few days at work, the skin over the bone, which was never completely healed, gave way afresh, and he was obliged to desist from his employment. On examining the stump, it appeared to me that the loss of skin from mortification, and the subsequent exposure of the bone, had rendered the anterior flap too small. The new skin was firmly adherent to the end of the bone, instead of being loose and moveable on it, and the slight drag upon it caused by the apparatus was more than its tender and contracted state could bear. I recommended him to have the end of the tibia exposed, and a slanting portion sawn off, so as to diminish the disproportion between the size of the bone, and the extent of skin which covers it. To this he would not submit, and preferred having a long thigh piece fitted to his original pin. I saw him a few days ago. The stump soon all but healed, the uneasiness nearly ceased, and he was able to be constantly at work in the saw-mill. He walks exceedingly well.

This lad is the only one I have met with who regrets that his leg was not taken off immediately below the knee. He thinks he would thereby have been saved all his subsequent sufferings. As I have already stated, it appears to me that the loss of the anterior flap by mortification was the cause of all his annoyance from the stump. It may be said, that the possibility of such an occurrence, with its attendant bad effects, is an objection to the low operation. Doubtless it is;—but is it not equally so against the very high operation?

If the anterior flap or skin on the fore part of the stump were to mortify in that operation, the parts might be left so tender as to be unable to bear the pressure necessary for the apparatus with the bent knee. As it is, Rankin, with the addition of a long thigh piece, is, in my opinion, much better off, than if he were deprived of the use of his knee. It is right, however, to repeat, that at present *he* does not think so.

CASE 5. This case occurred in the practice of Dr Alexander King of this city. In the spring of 1835, Dr King amputated the limb of a girl of seven years of age, below the middle of the leg, for disease of the ankle-joint. In less than three months, this child was begging on the streets, walking well and firmly on the wooden pin. She was seen years afterwards by Dr King "walking with great freedom, and fit for any avocation in life."

CASE 6. For the narrative of this case I am also indebted to Dr King. In the spring of 1840, Dr King amputated the leg of a gentleman, (Mr K.,) upwards of 60, below the middle of the leg, for disease of the bones of the foot and ankle. The stump healed most favourably, and in two months after the operation, he was able to take exercise on the pin. "Since that period he has taken more exercise on foot and on horseback than the majority of men of his years. He walks with a very trifling halt. He has a firm seat on horseback, but when he has *indulged a little too freely*, he and his pony occasionally part company. On such occasions, he has walked six or seven miles. Last winter he was frequently on the ice enjoying the game of "curling;" and a few weeks ago, I saw him, by way of recreation, binding sheaves behind his own reapers, —an *amusement* which requires as much strength and exercise of muscle, as almost any field labour in which a man of his age can be engaged." For some time he used the pin, model No. 1. He rather prefers model No. 2. At present he uses an artificial leg, the upper part of which is made according to this last model with a short thigh piece, model No. 3, resting chiefly on the heads of the bones of the leg, immediately below the knee-joint. He adopted the artificial leg, partly for the sake of appearance, and partly because he found that the pin was apt to sink too deep while he was walking in his fields in wet weather.

CASE 7. Robert Carmichael, aged 22. The left limb was amputated below the knee by the anterior and posterior flap, in February 1841, by Dr A. Buchanan, in the Glasgow Infirmary. The amputation was performed rather *above* the middle of the leg;—the stump is very good, and free from uneasiness of any kind. He regrets that it is not two inches longer. He has never used any apparatus, except an artificial leg with a thigh piece made by his father. He scouts the idea of walking with the knee bent, and losing the use

of the knee-joint. He is a packing-box maker, and constantly at work. Has walked 15 miles at a stretch; after which he was chiefly annoyed with blisters on his foot. He can walk 10 miles daily on an average. Though the artificial limb feels heavy, he prefers it, for appearance sake, to the pin, to which he is very averse.

Case 8. Thomas Scott, aged 25, a labourer, was admitted into the Glasgow Royal Infirmary on the 23d January 1842, under the care of Mr Lyon. An hour previous to admission, the lower part of his leg and ankle was smashed in a quarry. Amputation was performed at the middle of the lower third of the leg. He left the hospital cured on the 4th April.

I am sorry to say, that I have not been able to hear of this patient since he left the hospital.

Case 9. William M'Laren, aged 26, a hawker, was admitted into the Glasgow Royal Infirmary, under Mr Lyon's care, January 11, 1842, for disease of the ankle joint. He was dismissed in April, and re-admitted in May. The limb was amputated below the middle of the leg on the 14th May. The stump was healed June 19. He was dismissed July 6. For some days previously he had been walking about the ward "with remarkable ease and facility" on the pin, model No. 1.

This man is understood to have gone to Ireland. I wrote to the clergyman of Shotts, from which parish he was sent to the Infirmary, but received no reply.

Case 10. John Griffiths, aged 28, a millwright, was admitted into the Glasgow Royal Infirmary, January 23, 1842, under the care of Mr Lyon, for injury of his right leg. February 28, the limb was removed below the middle of the leg. March 27, dismissed cured. November 20, this man came to Glasgow, a distance of ten miles, in order that I might examine his stump; unfortunately, I was on that day called to the country, and did not see him. He was seen by Mr Hilliard, instrument maker to the infirmary, who gave me the following account of him:—Soon after the amputation, and before the stump had quite healed, he ordered an artificial leg, the upper part of which was made according to model No. 2, on which he walked remarkably well. This he found too expensive for every day use, and he laid it aside for Sundays and holidays. He then made for himself "a working pin," the construction of which is rather curious. The body consists of an old coffee pot, having an iron hoop around its upper and under top. Into the under part of the pot is fixed a wooden pin, and to the upper, on each side, is attached a metal screw, fixed according to model No. 3. On this he walks admirably. He has been constantly employed for a long time.

When asked, if he would not prefer to have had his leg removed

immediately below the knee? his reply was characteristic enough. "The Almighty when he gave me a knee-joint, never intended that I should wilfully deprive myself of its use."

CASE 11. James M'Culter, aged 29, a sailor, was admitted into the Glasgow Royal Infirmary, August 29, 1833. He had his foot smashed immediately before admission, by the fall of a mass of iron. The limb was removed by the circular operation about the middle of the leg. September 14, a portion of the shin gave way over the end of the tibia, and exposed that bone. November 22, *dismissed cured.*

It was not intended by the operator that this patient should use the knee-joint, and he accordingly commenced walking with the common pin, on the hurt knee. This he soon laid aside. I saw him some years afterwards walking admirably on the short pin model No. 1, and rejoicing in the use of his knee-joint.

November 21, 1842. I have made enquiry about this man at the Dublin Steam Packet Company, in whose employment he was at the time of his accident. He remained in their service as quay-porter, doing light work; but having quarrelled with one of his fellow-servants he left them, and is believed to be now in Liverpool.

CASE 12. Mr M'Queen, a farmer, near Stirling. While conversing with Mr W. on the case, he mentioned to me that this man had his leg removed several years ago about its middle. He is now able to plough, climb ladders, carry heavy weights, and do all manner of farm-work. He is believed to use an artificial limb with a thigh piece. I give this case from the report of Mr W., and also of the bandage maker. I have not been able to procure his address.

CASE 13. Mrs M'F——, Paisley. The leg removed some years ago, some inches below the knee. She has no uneasiness or rheumatic pain in the stump. She walks with an artificial leg and foot, the upper part made according to model No. 1, without any thigh piece, which she presses to the pin, as shewn in the same model. The stump is well padded with a roll of flannel, which she thinks necessary to enable it to bear the pressure. The weight is borne by the heads of the tibia and fibula, over the latter of which the skin has become callous. This spot has occasionally inflamed after too much walking, and caused her to lay aside the apparatus for a few days. "She can perform her household duties, make markets, &c., without the slightest inconvenience." She would not have submitted to have had the limb removed immediately below the knee.

For the above report, I am indebted to Dr Paton of Paisley.

II.—CASES OF AMPUTATION ABOVE THE MIDDLE OF THE LEG, THE PATIENT USING THE KNEE JOINT IN WALKING.

I introduce these cases, with the twofold object of showing, that

the knee joint may be made available when the stump is short—in some cases very short: and that many, whose limbs are adapted for the old methods of resting upon the bent knee, and now cut on purpose for it, prefer the use of the knee-joint with the short pin, or artificial leg.

Case 14. John Rankin, aged 38, Scotch. The leg was amputated in New York in 1832, above the middle of the leg, for an injury of the ankle. The stump is about four inches long: he uses the pin made according to model No. 2. The stump, well defended by a worsted stocking, pads of flannel and a flannel bandage, is thrust into the box, and rests on the heads of the tibia and fibula. There is no knee strap. He suffers no pain in the stump, nor inconvenience of any kind, except slight chafing of the skin, when he walks very far. Since the operation, he has made twelve voyages, four to the East Indies, four to the West Indies, and four to North America; eleven of these were in the capacity of cook, and one before the mast. By means of a hook attached to the front of the pin, he can go aloft nimbly.

This is the best example I have met with of the advantages of the short pin. No doubt much is due to the spirit and activity of the man; but no effort on his part could enable him to undergo the fatigue and perform the feats of which he is capable, if he were deprived of the use of the knee joint. He scouts the idea of walking with the knee bent, and is so well satisfied with what has been done for him, that he considers his stump and apparatus *perfect*, and models for all future operators and bandage-makers. I alluded to this case in the *London Medical Gazette;* but at that time was not aware that the leg had been removed *above* the middle.

Case 15. William Black, aged 26, a student of medicine. The leg was removed five years ago, rather above its middle, for disease of the ankle joint. The stump is five inches long: he regrets that it is so short—and thinks he would have walked better had it been two inches longer. He some time used apparatus (Model No. 1,) with a thigh-piece resting on the heads of the bones of the leg, and partly on the thigh:—with this he walked twenty miles in one day. Now, he has an artificial leg with a thigh-piece, which he prefers for the sake of appearances, and for walking a short distance, especially on the street. For a great distance he gives the preference to the pin. Four weeks ago, he walked from Dumbarton (fifteen miles), at a stretch, without much fatigue,—notwithstanding that the spring of his artificial foot had given way. He has a very slight halt; he would not use the apparatus for the bent knee.

Case 16. Mr J——, Glasgow. The leg was amputated *immediately* below the knee—upwards of twenty years of age—with the intention that he should rest on the bent knee. In some years, the stump was bent backwards at the knee, and he had considerable

difficulty in making it straight. He has an artificial leg, with a thigh-piece, and walks with the use of the knee-joint, resting mainly on the fore part of the stump immediately below the knee pan, and partly on the thigh. He walks very well, and can "be on his legs" a whole day. He regrets *exceedingly* that his stump is so short—having experienced from this cause much annoyance, especially in getting his apparatus to fit neatly and easily.

CASE 17. Miss M'F., a dressmaker. The right leg was amputated seven years ago, when she was 12 years of age, immediately below the knee. For several years she walked with a crutch, the stump being bent at the knee; she would not use the long pin resting upon the knee, but preferred (as all women seem to do), the crutch. At present she has an artificial leg resting, as in model No. 1, without a thigh-piece, weight falls on fore part of stump immediately below patella (knee pan), as in last case—walks very neatly—can accomplish three miles easily. Her principal impediment is a tendency to chafing on the fore part of the stump when she walks far. She regrets much that the stump is so short.

CASE 18. Christina Blair, aged 23, a fringe worker. The leg was amputated four inches below the knee, for gangrene after fever, six and a half years ago. For four years she walked on a crutch; and would not use the long pin resting on the bent knee. She then consulted me; her stump was bent back at the knee. I gave her directions for restoring the motions of the knee joint, and recommended her to try the short pin. This she now uses with a joint at the knee, and a short thigh-piece and belt (Model No. 3.) She follows her usual avocations, and can walk three miles easily; but complains of heat and irritation in the stump if she walks too far. She regrets that the stump is so short. Her mother is a poor widow, but she has purchased her apparatus, I believe, without assistance.

III.—CASES OF AMPUTATION IMMEDIATELY BELOW THE KNEE, THE PATIENT RESTING ON THE COMMON PIN WITH THE KNEE BENT.

CASE 19. William Edmonds, aged 20. The right leg was amputated immediately below the knee twelve years ago, for disease of the ankle. He rests on the fore part of the knee, the stump being permanently bent backwards. He stands at his work in a wood-sawing mill the whole day, and could walk eighteen miles without being very much fatigued. He has no uneasiness in the stump in cold weather, but the surface on which he rests is apt to be fretted during the heat of summer. He would prefer to have had the limb amputated so low in the leg that he could have used his knee-joint.

This lad walks remarkably well. His limb having been removed when he was eight years old, he is hardly aware of its loss, and

adapts himself to his deprivation with wonderful dexterity. He is constantly at work.

Case 20. Mr W., aged 40, a master baker. Two years ago, the limb was removed below the knee for disease of the ankle following a sprain. The amputation was performed three or four inches below the knee, with the hope of his being able to use an artificial limb; but the stump was allowed to bend backwards during the cure, and is now permanently fixed in that position. He has an artificial leg and foot, which he prefers to a common pin, (which he has used,) both for the sake of appearances, and as being easier and safer to walk with. He regrets *exceedingly* that he has lost the use of his knee-joint, and thinks that had he retained it, "he would have been as good as ever, able to walk like other people, and even to dance." He was annoyed with fretting and excoriation of the fore part of the stump on which he rests, until he used a bran cushion, which he has found to suit better than any material which he has tried. He can walk four miles easily.

This gentleman is decidedly of opinion, that for all classes of persons, the rich man and the labourer, the use of the knee-joint is of such importance, that in every case in which it can be done, its motions ought to be preserved. He has never walked with the use of the knee-joint, and cannot speak of the other methods from his own experience.

Case 21. —— M'Gill, aged 40. Seven years ago he had his foot and ankle smashed in a quarry, for which the leg was amputated about three inches below the knee. He retains the motions of the joint, but walks on a pin, made by himself, with the knee bent. He says he can walk thirty miles in a day, and that he continued for three years at his labour in the quarry after his limb had been removed. Since then he has kept a small grocer's shop, which is his present employment.

This person is quite decided in his opinion, that for the labouring man, the pin with the knee bent is the best apparatus. For walking, he prefers the short pin, and the knee-joint free; but for hard labour, and lifting heavy weights, the old pin is the best. He would always advise labouring men to have their legs so amputated that they could rest on the bent knee, but does not like a stump so short as that recommended by Mr Liston and some others. He assigns as a reason, that the pressure should be kept off the knee-pan, which it cannot well be, when the stump is cut close to the knee. He has never tried to walk in any other way than with the knee bent, and cannot speak of the comparative merits of the two methods from experience.

Case 22. David Mack, aged 25. The limb was injured by the fall of a mass of coal two years ago; and the leg was amputated

below the knee by the anterior and posterior flap operation. He was formerly a collier, and is now occupied in taking charge of a steam engine. He walks well, and feels confident in being able to earn his livelihood. The fore part of the stump is apt to be fretted and excoriated when he walks much, or when the padding on which it rests is imperfect; but he has never, from this cause, been obliged to leave his work for a single day.

He bought a pin for ten shillings. The one which he now wears was made by himself.

CASE 23. —— York, a mason. The leg was injured near the ankle ten months ago, and removed immediately below the knee. He employed a cabinet-maker to make him an artificial leg. The upper part was made according to model No. 2; but it fitted ill, and he could not wear it. He now rests on the bent knee. He has not resumed his occupation, but thinks himself able for it. He prefers the bent knee for the working man.

CASE 24. —— Ferguson, aged 50, a plasterer. Thirty years ago the leg was removed below the knee. He has never used any apparatus but the common pin, somewhat modified. He continued at his original occupation, and has been able to do any kind of work connected with it. He ascends a scaffolding or common ladder with the greatest ease, and has frequently mounted on the latter several storeys high. He can walk along joisting or a three-inch plank, without the least dread of missing his footing, and can lift as heavy weights as any ordinary man. In doing so, he so frequently broke the thigh-piece of his wooden pin, that he got it made of iron. Having broken more than one iron thigh-piece, he now wears it very heavy and strong. He has never tried any other method of walking, and is strongly of opinion that the bent knee is the best for the working man.

This man, whom I only fell in with to-day (Nov. 25), surprised me very much. I had no idea that a man deprived of his leg, and resting on his knee, could walk, ascend ladders, and lift weights in the way this man says (and I have reason to know truly), that he can. The operation was performed when he was 19. He seems to have been all his life a steady, industrious, persevering man, and for many years does not seem to have felt his loss.

The pin he wears is peculiar in having an iron thigh-piece, with a joint at the hip, and a broad leathern belt round his waist. It is ingenious, and very strong, but heavy.

I may here mention, that very few of those persons whom I have seen, who walk on the bent knee, know that they may retain the use of the knee joint, and walk on a wooden pin. They almost all think that the use of the knee involves the necessity of an artificial foot and leg—a cork leg, as they style it—and object to it as expensive or inconvenient. The true test is afforded by such cases as

that of Mr E., Case 8, who tried various methods, and John Rankin, Case 14, whose stump is suited to the bent knee, but who prefers the short pin. It may be objected, that these men are not obliged to lift heavy weights. If this objection be deemed valid, the experiment might be tried, of giving a labouring man both a common pin, and a short pin with a thigh-piece, and ascertaining which he prefers.

It is in this, as appears to me, that the work of MM. Arnat and Martin is deficient. It proves, that the low operation is the least fatal; but while it recommends it for the poor as well as the rich, it fails in showing the means by which the poor are to avail themselves of it.

Let us compare the advantages of the high and low amputation of the leg, as deduced from the foregoing Cases and Statistical returns:—

The two operations may be compared, 1st, As to their immediate, and, 2d, As to their ultimate results.

1st, The low operation is less fatal than the high. The Statistics of Amputations in the Glasgow Infirmary show, that of all our amputations "for disease," that immediately below the knee is the most fatal. I am not in possession of a sufficient number of cases of low amputation to be able to say statistically what is its rate of mortality; but this much I can say, that I am not aware of a single instance in which it has proved fatal in Glasgow. I have no doubt there have been fatal cases, but I feel certain that they are few in number, and none have fallen under my own observation.

On this point, the table at p. 67 of MM. Arnat and Martin's Memoir is very valuable, as showing the low mortality at Paris to be little more than one in ten.

Supposing, then, that its ultimate advantages should be found to be equal, or even somewhat inferior to those of the high operation, the comparatively great mortality which attends the latter, justifies me in saying that "it ought to be abandoned," and the former substituted for it.

2d, It is less painful, and more easily performed. It is less painful, because the thickness of muscle and of bone to be cut is less; and for the same reason, it is more easily performed, and makes a better operation. But to this last point I shall return, under the head of "The Method of Performing the Operation."

3d, I feel confident that the smaller amount of wound will insure a more speedy and less painful cure in the low, than in the high operation.

THE ULTIMATE RESULTS OF THE TWO OPERATIONS.

1st, The important difference between the two is, that the one insures the use of the knee joint, the other does not, or, at all

events, is not intended to insure it, and at best does so imperfectly. There can be no doubt that this *per se* is a vast advantage. Of the cases detailed there is not one, the subject of which did not admit that it would be of great consequence if the knee joint could be made available. The whole question then resolves itself into the means we possess of enabling the patient to "avail" himself of the joint thus preserved to him, and a comparison between these means and those employed for the high operation.

The mechanical contrivances for insuring the use of the knee joint hitherto used in Glasgow are the following:—

1st, The short pin with a knee strap, without a thigh-piece. (*Vide* Model No. 1.) Lowest price 15s.

2d, The above slightly modified. (*Vide* Model No. 2.) Lowest price 15s.

3d, Either of the above with a short thigh-piece. (*Vide* Model No. 3.) Lowest price 18s.

4th, The above with a long thigh-piece, the principal point of support being the tuberosity of the ischium. Lowest price 20s.

5th, Any of the above pins, with the addition of an artificial foot and leg.

We may divide the patients by whom these apparatus may be required, into the following classes:—

1st, *All females.*

2d, *Wealthy or independent men.*

3d, *Men not occupied at very hard labour, and in lifting heavy weights.*

4th, *Labourers engaged in severe toil, and employed in lifting heavy weights.*

Let us now inquire, how our mechanical contrivances will suit the necessities of their several classes?

1st, *All females.*—I do not recollect to have seen but one female who would use the common pin with the bent knee. She was a coal porter, and seemed capable of great fatigue. With this exception, all the females, of whatever rank, whom I have met with, have refused to use the common pin, and preferred the crutch. To females then the low operation, and any one of the above apparatus, is a vast boon; and as they can employ themselves at sedentary or light work, the simplest of the pins or limbs will suffice.—Jean Eccles, Case 3, walked remarkably well with No. 1.—Miss M'F. and Mrs M'F., Cases 17 and 13, on the same model, with the addition of an artificial foot and leg; and Christian Blair, Case 18, on model No. 3. The first and last of these are, in point of price, within the reach of the poorest patients; and I cannot avoid saying, that I should reckon any future operator guilty of an act of cruelty who would perform the high operation on any female patient if it could be avoided. The statistics alluded to show that the number of females who undergo amputations, is to males as 1 to $3\frac{1}{2}$,

thus removing at least one-fifth of the cases in which there may be a choice between the high and low operation, from the high, and assigning them, without cavil, to the low.

2d, *Healthy or independent men.*—I believe this class will universally prefer the low operation, with an artificial foot and leg fitted to one or other of the above models. I should recommend model No. 2, with a long light thigh piece as the best. This, properly fitted, will enable the wearer to take any amount of fatigue, and to enjoy any amusement on foot or on horseback which he may choose to pursue.

3d, *Men not occupied at very hard labour, and in lifting very heavy weights.*—I have not met with a single instance, with the exception of Robert Rankin (if indeed he be in this an exception) where the patient did not admit that the low amputation, and some one of the above apparatus, was a great improvement on the high operation and the bent knee. This feeling was so universal that it is unnecessary to adduce instances. They all admitted that the simplest of the models would enable its wearer to do any kind of light work.

4th, *Labourers engaged in severe toil, and employed in lifting heavy weights.*—It is here only that any difference of opinion is met with. Some, as Rankin, Case 4, M'Gill, Case 21, Ferguson, Case 24, affirming that, for severe and hard labour, the high operation and the bent knee is the best. While others, as John Rankin, Case 14, James M'Collin, Case 11, Mr E. A., Case 1, Mr R., Case 5, declare that for all kinds of work, some one of the above mechanical contrivances is by far the preferable. It was to be expected that a difference of opinion would be met with; and since the question cannot be determined by direct evidence, let us consider whether the details already given do not hold out such encouragement as to induce us to give this method of operating, *in all cases*, a farther and impartial trial. Now it does appear to me that John Rankin, Case 14, Mr R. Case 5, James M'Cultrie, Case 11, prove that almost any amount of labour and fatigue may be undergone with the simplest and cheapest of the mechanical means now in use. While Mr E. A., Case 1, Mr B., Case 15, and Mr M'Queen, the case alluded to by Mr W., show that the addition of a large thigh piece to the short pin, will *certainly* enable a patient with a sound stump to endure any fatigue, or perform any kind of work, of which the majority of labourers are capable.

A note from Mr Hilliard, instrument maker and cupper to the Glasgow Royal Infirmary, shows that this apparatus may be had for 18s. or 20s. I must say that this is to my mind quite decisive. The operation is less fatal. The use of the knee-joint is preserved, and an apparatus costing 20s. will enable the wearer to gain his livelihood at any kind of labour in which he has previously been engaged. This appartus gives three points of rest: 1st, Below the knee; 2d, Above the knee; and, 3d, At the top of the thigh. The weight of the body may either be divided between

them, or thrown on the thigh if the stump be tender. Indeed, in this latter case, the stump may be perfectly loose in the box, and be only used in binding and extending the knee-joint in walking.

IV. ADVANTAGES OF THE OPERATION IMMEDIATELY BELOW THE KNEE, AND OF THE PIN, FOR THE BENT KNEE.

The advantages of this operation are, that it allows the patient to use an apparatus so simple, that the majority of the poorer class can make it at a small cost for themselves. The bent knee is not liable to be excoriated except after much walking, and the wearer of the apparatus can undergo a great deal of fatigue. These undoubtedly are immense advantages, but are they not counterbalanced by the great fatality of the operation, and the loss of the motions of the knee-joint.

V. METHODS OF PERFORMING THE OPERATION.

I believe that almost all surgeons will admit, that a good method of operating immediately below the knee is still a desideratum. The great thickness of muscle behind makes the single flap operation objectionable; the double flap is from the same cause a bad operation; and the double circular although (as appears to me) the best, is apt to leave a puckered contracted stump. These objections do not apply with the same force to the anterior and posterior flap operation, or to the double circular when performed below the middle of the leg; the reason is to be found in the form of the limb at that spot.

The two best methods of operating are the double circular and anterior-posterior flap operations. It is unnecessary to enter upon the comparative merits of the two. Whichever is performed, great care should be taken to leave sufficient skin and muscle to cover the ends of the bones. There must be no dragging of the soft parts immediately after the operation; and no adhesion of the integument to the ends of the bones after the cure has been completed.

In performing the anterior and posterior flap operation, the posterior flap should exceed in breadth at its base one diameter of the limb, and be fully one diameter in length. The anterior flap, composed only of skin, should be at least half a diameter in length. The projecting ridge of the tibia should be pretty deeply sawn off in a slanting direction. If the limb be removed so low that the tendo Achillis forms part of the posterior flap, it should be cut off with one sweep of the amputating knife, before the stump is dressed. If care be taken to avoid interfering with the nerves, this additional step in the operation will cause very little pain.

One very important question on this part of the subject is, at what point should the bone be sawn, or, in other words, how long should the stump be? I have already endeavoured to prove, that the low

operation is by much the less fatal; and I believe I may say in general terms, that, *ceteris paribus*, the nearer the ankle, the less is the danger. Some apparatus makers object to very long stumps as being inconvenient for fitting on artificial limbs, or even the short pin. As a general rule, I should recommend the middle of the leg, or immediately below it, as the best point at which the bones can be sawn.

I would caution operators from incurring any risk of leaving disease, encroaching on unsound skin, leaving too little skin, or too short flaps, from a desire to have a long stump: as any one of these errors would more than counterbalance the advantage arising from a long stump. Some of the above cases prove that a *long* stump is not necessary to secure the use of the knee-joint.

The cases of John Rankin, Wm. Black, Mr J., and others, are instances of amputation above the middle of the leg. The stumps are sufficiently short to suit the old pin, while they are long enough to give the free use of the knee-joint, and admit of the adaptation of artificial limbs. I confess I was not prepared to find short stumps so very useful.

I would farther caution operators from allowing stumps to become bent backwards during the process of cure, even although they should be short, and apparently only suited for walking on the bent knee. If the motion of the joint be preserved, the joint may still be used, and admit of the adaptation of any of the forms of apparatus usually employed.

PART SECOND.

REVIEWS.

Clinical Introduction to the Practice of Auscultation, and other Modes of Physical Diagnosis, intended to simplify the study of the Diseases of the Lungs and Heart. By H. M. HUGHES, M.D., Assistant-Physician to Guy's Hospital, &c. 12mo, pp. 246. London: 1846.

No one who peruses, with candour, the volume before us can fail to admit, that it is the production of a physician who is practically acquainted with auscultation and percussion; and at the same time to perceive that it only requires a little re-digestion to be made what the author desires—"A work, in which should be simply explained to the student, not merely the origin, character, and diagnostic value of certain physical signs, but also the manner in which he should proceed to elicit them; and which should direct him how to percuss, as well as state the indications afforded by percussion." An easy Manual of the Rudiments of Physical Diagnosis was required; and might have been admirably supplied by Dr Hughes had he bestowed more time and care upon his task.

PRELIMINARY OBSERVATIONS AND DIRECTIONS occupy the First Chapter. Callous clinicians, inured to the rough routine of Hospital physical diagnosis, may smile or sneer at the cautions given, as to the "*conduct and demeanour of the examiner*," but they will be otherwise regarded by those practitioners and students of a better stamp, who, while they cultivate medicine with enthusiasm, never forget that with patients, poor as well as rich, their only business is to cure disease, or alleviate suffering. In conscientiously striving to accomplish these ends, there is afforded abundant field for observation. That patients hovering on the grave, and labouring under hopeless disease of the heart or lungs, have their naked chests percussed and auscultated ten or twenty times a-day, by as many clerks and students, tends to establish the thoughtlessness or cruelty, as much as the curiosity of these gentlemen. It being notorious that such deeds are perpetrated in many of our Hospitals, the following paragraph is neither unseasonable nor misplaced. The cautions and censures which it contains might have with propriety been conveyed in sterner language:—

"*Cautions as to the Conduct and Demeanour of the Examiner.*—Some care is occasionally necessary, lest persons of an excitable and irritable temperament, whose chests are about to be explored, should be alarmed by the anticipation of the examination, the nature of which they do not understand, and the trouble and fatigue of which they consequently exaggerate. It is therefore in such cases desirable, that if it have been previously made known that an examination of the chest is to be made, the process should be represented to be, as it really is, free from pain and attended with little inconvenience, though, if thoroughly effected, necessarily occupying considerable time. With the same view of not exciting alarm in the mind of such nervous individuals, all unnecessary display of stethoscope and pleximeter, and parade of every kind, should be avoided; otherwise some undefined notion of an operation may be produced, and the patient may become unwilling, or unable, to submit to the ordeal. If everything be quietly done, and all treated as a matter of course, and managed with delicacy and gentleness, I believe very few persons, unless exhausted by disease, will be either unwilling without hesitation to submit to, or unable without injury to bear, a tolerably minute exploration of the chest.

"The examiner should also endeavour at the commencement to wear a cheerful aspect, and be careful not to allow the results of his investigation to escape

him in the hearing of the patient, or even to permit them in any way to affect the expression of his countenance, each shade of which is sometimes watched by patients with the most intense anxiety, and even slight changes of which occasionally have a very depressing effect upon susceptible individuals.

"*In all examinations the benefit of the person examined should be the primary consideration.*—To this the mere gratification of the curiosity or interest of the examiner should ever be made to yield. The determination of a nice point of diagnosis should never be allowed to interfere with the real good of the invalid. When, therefore, patients are likely to become seriously exhausted by being examined, the exploration should not be attempted, or, if already commenced, should be at least temporarily suspended; unless, indeed, the immediate determination of a particular question should itself, and at that time, necessarily involve the benefit of the person examined. This caution is more particularly necessary in hospital and other public practice, in which it sometimes becomes necessary, for the sake of the patient, and the interests of humanity itself, to restrain the ardour of pupils and other examiners."—p. 3-5.

The other topics discussed in the first chapter are—the *Qualifications of the Student of Auscultation*, the *Position of the Patient*, the *Division of the Chest into regions*, and the *Different Modes of Exploration of the Chest.*

Inspection or Ocular Examination is the heading of Chapter Second.

Palpation or Manual Examination is the subject of the Third Chapter. The following is a favourable specimen of the author's style:—

"By the sense of touch the position of the heart may be generally ascertained, and, in some of its diseases, important information may be derived from manual examination. While the body is erect, the heart, when in a natural condition, is commonly felt to strike the parietes about an inch below and to the inner side of the nipple. While lying upon the back its impulse is greatly decreased, and is usually felt somewhat nearer the sternum. When the body is turned to the left side, the impulse is felt in a direct line with, or often nearly an inch to the outer side of a line passing vertically over, the nipple; while, on the contrary, when the body is turned to the right side, it is felt between the cartilages of the ribs, close to the sternum, or sometimes cannot even be felt at all. These changes are stated not to take place when the pericardium is adherent, and the want of these, therefore, is assumed to be diagnostic of that condition. But this fact I have myself never had an opportunity of verifying in simple adherent pericardium without enlargement of the heart, though, when the organ is enlarged, it is well known that the exact position of the impulse is sometimes not clearly defined.

"When the parietes of the heart are thickened, and the force of its impulse is consequently increased, the hand placed over the præcordial region becomes at once sensible of its abnormal force, though the pulse at the wrist may at the very same time be small and feeble.

"When the cavities of the heart are dilated, with or without any increase of the thickness of their walls, the impulse is often perceptibly extended over a larger space than natural, and may be felt not only above, below, and around its ordinary site, but also in the scrobiculus cordis, and sometimes even on the right of the sternum.

"When the heart is removed from its natural situation by gaseous or fluid effusions into the pleura, by tumours, abscesses, &c., it is by manual examination that the fact can generally be best determined.

"When obstruction exists in the valves, a trembling motion, or "purring tremor" ("*frémissement*"), is frequently communicated to the hand, and the tumultuous action, or tumbling motion, existing in the more advanced stages of disease, and when large effusion has taken place into the pericardium, can often be best appreciated by Palpation. This subject will, however, be treated more at large in the chapter on Auscultation, when speaking of diseases of the heart. The pulsations of aneurisms, the separation or approximation of the ribs in emphysema, the seat of abscesses—whether of the parietes or proceeding from

within the chest—and the nature and origin of tumours, are frequently most correctly ascertained by means of palpation."—pp. 31-33.

PERCUSSION occupies the Fourth Chapter. The author does not recommend the use of instruments in percussion; believing that the very best *plessimeter* is produced by the fingers of the left hand, and that the very best *percussor* is produced by the appressed finger of the right hand. This is, we think, true:—but still the occasional use of the plessimeter and percussor affords considerable ease to the hospital physician who may have many patients to examine; and to such as are allowed to give clinical instruction at the bed-side, they are decidedly valuable, as the general characters of the sound elicited by them can be more clearly heard by the group of pupils. The use of plessors and plessimeters was well expounded and enforced by Dr Hughes Bennett at p. 128 of this Journal for 1842.

AUSCULTATION occupies the Fifth Chapter.

The observation contained in the following passage we do not remember to have met with elsewhere:—

"In reference to œdema, another caution is required. This arises from the frequently observed fact, that the escape of serum from the cellular membrane, by the pressure of the instrument itself, gives rise to a sound very similar to one frequently proceeding from within the chest. The sound referred to is *pleuritic rubbing*, one form of which, possessing a jerking, or interrupted character, the noise produced by the escape of the serum from the cells under the pressure of the stethoscope so exactly resembles, that if the patient continued to breathe during the whole of the examination, the two sounds would be distinguished with the greatest difficulty, if, indeed, they could be at all distinguished from each other. An obvious distinction of course exists in the fact that the rubbing of the pleura is only present during respiration; while the œdematous creak, so long as any serum remains to be squeezed out of the cells, persists though the breathing be temporarily suspended. The sound so precisely represents certain forms of the rubbing existing in disease of the pleura, that I have, in the presence of pupils, occasionally illustrated the latter sound by pressing the stethoscope upon an œdematous thigh."—pp. 88-89.

That the rubbing sound, in the circumstances referred to, is owing to the escape of serum from the cells under pressure, appears to us, to be questionable. Is it likely that steady continuous pressure with the stethoscope would occasion such an *interrupted* flow of serum as would give rise to a broken or rubbing sound? Is it not more probable that this sound is caused by the slight rubbing of the mouth of the stethoscope on the skin as it sinks into the œdematous integuments, as they become extended from the expression of the serum?

Sundry dogmatic and erroneous statements occur in the Chapter on Auscultation. For example, the first sound of the heart is ascribed to the sudden closing of the auriculo-ventricular valves, whereas this is only *one* of its several causes.[1]

MENSURATION is discussed in Chapter Sixth. On this subject we gave copious extracts from Dr Walshe's admirable work in our number for February 1843, p. 125—138.

SUCCUSSION, OR EXAMINATION BY SHAKING, is the subject of the Seventh and last Chapter. As it is short and plain, we quote it entire.

"Succussion is by far the simplest as it is one of the oldest modes of examining the chest in disease.

"When a cask containing beer, or other fluid, is ready "full to the bung," or when a glass vial is filled with air alone, no sound is excited by their being shaken. But when the cask contains air as well as beer, or when there is a little water in the vial, a distinct noise is heard when they are respectively agi-

[1] Vide Williams, Hope, &c.

tated, in consequence of the free motion of the different fluids over each other; the vibrations produced in which are communicated to the wood of the cask, or the glass of which the phial is made, and thence to the surrounding air. Similar facts are observed in disease.

"When the pleura contains fluid alone, whether it be in large or in small quantity, no sound results from shaking the body. When it contains only air, as in cases of simple pneumothorax, even violent agitation of the trunk is not accompanied with sound. But when, from any cause, air and fluid exist in the pleura at the same time; when, whether it arise from an empyema giving way, and partially emptying itself through a bronchial tube, from a phthisical vomica bursting into the pleura, or from an opening with the external air being effected by gangrene of the lung, gas gains admission into the serous membrane, and pleuritis with effusion results; then a very well-marked sound, resembling the rattling, or squashing of fluid in a cask, may very generally be heard upon any violent agitation of the patient's body. This is *Succussion*. It is unnecessary to describe it farther. It is like the noise produced by shaking fluid in a cask. It can scarcely be mistaken.

"*Mode of effecting Succussion.*—Sometimes the mere jerking of the body, or a sudden twist made by the patient himself, is sufficient to produce succussion, and it may be generally made to appear, by an assistant shaking the body, while the ear of the examiner is applied to the chest. The most common, though somewhat clumsy mode of eliciting the sound, is for the person examining to give the body a good shaking, and then to put the ear down to the chest. But as individuals suffering from the complaints with which pneumothorax is associated, are ordinarily feeble, and often greatly exhausted, the least distressing, and, upon the whole, the most satisfactory mode of eliciting succussion, is by pressing the ear firmly upon the parietes of the chest, and while grasping the patient's body with one arm, swinging it gently to and fro, and then suddenly stopping the motion. When the sound is distinctly audible, this simple mode of proceeding will almost certainly produce it.

"The sound of Succussion may differ in tone, as in distinctness, according to the comparative amount of the air and fluid present in the cavity. It is loud, deep, and resonant, when the cavity is large, and when the quantity of air is comparatively great. It is more feeble and treble when the cavity is small, or when in a cavity of large size there exists only a small quantity of air.

"As it not unfrequently happens in pneumothorax with effusion, particularly in the latter stages of the complaint, that the gas is either absorbed, or driven out of the pleura, in consequence of the gradual increase of the fluid effused, the succussion may gradually decrease in distinctness and resonance, and at length entirely disappear. This usually arises, not, as has been sometimes incorrectly supposed, in consequence of the aperture into the pleura being closed, but in consequence of the serous membrane being quite full of fluid, and therefore incapable of admitting the presence of air.

"But is Succussion pathognomonic, or only a characteristic, of pneumothorax with effusion? It is certainly a characteristic, but, as certainly, it is not a pathognomonic sign of the disorder. It has been stated that a very large vomica containing some fluid, together with the air with which such cavities are ordinarily filled, has on some very rare occasions been known to have given rise to Succussion, as well as to metallic tinkling. I have never myself known it to arise from such a cause, nor have I any recollection of meeting any individual who had himself heard it under such circumstances. But it is clear that such a case might occur, and it is probable that some such cases have already occurred.

"But I have frequently heard that which, without great caution, is exceedingly apt to lead to error—I mean the exactly similar sound which often arises from shaking the body, when the stomach contains a mixture of air and fluid. Both sounds are often heard and felt by the patient himself, and both are sometimes heard by persons standing near to him, without applying the ear to the chest. The best mode, and in some cases the only mode, of discriminating between the two, is to examine the patient frequently, when the stomach is empty,

as well as when it is full, and before as well as after his meals. Other physical signs, and other general symptoms, and the history of the complaint, will of course materially contribute towards the diagnosis; though, without repeated and careful examinations, it is sometimes exceedingly difficult to arrive at certain conclusions upon the matter." Pp. 243—246.

Dr Hughes has produced a useful work. In it the student will find a good *aid* to the acquisition of the knowledge of the most important points in physical diagnosis. The best book, however, which can be written on the subject will be a dangerous *substitute* for bed-side lessons from a pains-taking teacher. Without such instructions, the most acute student of auscultation and percussion is liable at every step to become embarrassed and retarded; and at times, however much he may be on his guard, runs imminent hazard of imbibing error in place of truth. Physical diagnosis, like Anatomy, cannot be taught without demonstrations. This fact is one of the many irresistible arguments in favour of removing the destructive incubus of Clinical Monopoly from Medical education; and of affording encouragement to those who have the inclination, time, and opportunities of teaching practical medicine to small classes, from *living cases* and *post-mortem* demonstrations.

While we recommend the work of Dr Hughes, we must not be supposed as doing so to the exclusion of all other similar compilations. Dr Cowan's *Bed-side Manual of Physical Diagnosis*—a work which approaches more nearly to that of Dr Hughes than any other with which we are acquainted, though less than one-sixth of the bulk, is an admirable pocket companion for the Clinical student. Its excellent arrangement and clear style recommend it as a good introduction to the reading of larger treatises. Those who have made some progress in the practical study of auscultation and percussion will be pleased and edified with the work of Barthe and Roger, while the beginner will find it too elaborate, and therefore somewhat perplexing. We would also remark, that much of the information contained in the "Clinical Introduction" of Dr Hughes was previously well set forth in Dr Walshe's *Physical Diagnosis of Diseases of the Lungs.*" J. R. C.

Remarks addressed to Members of Parochial Boards and the Public, in reference to Medical Relief under the New Poor Law Act. 8vo, pp. 16. Edinburgh: 1846.

IN our number for August 1844, we endeavoured to attract attention to the State of the Poor in Scotland, especially with reference to medical aid. We showed, by extracts from the evidence taken and published by Her Majesty's Commissioners, that, to a fearful extent, the poor were neglected in sickness; and that the assistance which they did receive, was afforded by our brethren at enormous sacrifices, which they could ill afford. The little pamphlet now before us has evidently originated in the same desire which animated ourselves. Its pith and bearing is indicated by the following short extract:—

"Mungo Park, who practised as a surgeon in Peebles (and who, rather than undergo the drudgery of country practice, braved the perils of Africa), on one occasion rode twenty miles to succour a poor woman, and twenty miles home; all his reward was a drink of butter milk, and a potato. We fear there are many at the present day *hardly* so well paid." P. 16.

Within the last few weeks Sir Robert Peel has made a statement in the House of Commons, which leads us to hope that, ere long, the chief burden of ministering to the Scottish poor in sickness will no longer be unjustly and heartlessly thrown upon the medical profession. We quote the passage in the Premier's speech to which we refer:—

"I am sorry to say that there have been frequently just grounds of complaint

on the subject of medical relief. It will be remembered that the subject of medical relief in Scotland occupied the attention of the House last session; and we propose to extend the same measure to that country, for the purpose of giving Government a greater degree of control; and for the purpose of *gradually introducing an amendment in the amount of relief.* We propose to take *one-half* of the charge of paying medical officers, both in England and Scotland, upon the Government. We estimate the amount for England at £100,000, and for Scotland at £15,000; Ireland is under a separate law in reference to medical relief; but the whole subject is likely to occupy the attention of Parliament in the course of the ensuing session."

Thirty thousand pounds would, we calculate, yield about 5s. or 5s. 6d. per head for every *enrolled pauper;* but it must not be forgotten that the *occasional poor* form as heavy a burden on medical men as those on the roll. By seasonable and efficient medical attendance, the labouring man—too poor to pay the doctor, but too independent to be made a pauper of—may be preserved to his wife and children; and thus, the parish funds may be saved from the tax of maintaining many a widow and fatherless child. We assert that mere economy—the mere love of saving money—ought to satisfy the public, that a provision should exist in every town and country parish, for affording to the industrious or occasional poor, the means of securing medical attendance. But again, to let such persons be without medical assistance, or to give nothing to the practitioners who generously tender it to them, are alternatives as mean as they are heartless.

We hope that when the Parochial Boards come to the difficult task of allocating the promised pittance for attendance on the poor, they will enter on it impartially; and, on the other hand, that rival practitioners will earnestly strive to curb and stifle every petty jealousy, so that there may be nothing to frustrate Government's benevolent intention, of "gradually introducing an amendment in the amount of relief." Individual hardships, it must be remembered, are inseparable from a transition state; and can only be removed by respectful remonstrance on the part of those who suffer, and by the increasing experience and good feeling of those who wield the remedial power. J. R. C.

Lectures on the Nature and Treatment of Deformities, delivered at the Royal Orthopædic Hospital, Bloomsbury Square. By R. W. Tamplin, F.R.C.S.E., Surgeon to the Hospital. 12mo, pp. 267. London: 1846.

The Lectures which constitute this volume, originally appeared in the pages of our respected cotemporary, the *Medical Gazette.* They supply valuable practical information on the specialty of which they treat. Numerous wood-cuts illustrate the work; and establish the successful nature of Mr Tamplin's treatment—provided the fidelity of the artist can be relied on. J. R. C.

Nature and Treatment of Cancer. By Walter Hayle Walshe, M.D., Professor of Pathological Anatomy in University College, Physician to University College Hospital, and to the Hospital for Consumption and Diseases of the Chest. 8vo, pp. 591. London: 1846.

This is a most elaborate treatise, in which the subject of Cancer, in all its bearings, is very fully and ably discussed. The style is much superior to the common spawn of medical writings, being generally terse and classical; it is rarely obscure, though perhaps, in some instances, a little too diffuse. The matter, however, is rich, well arranged, and admirably handled. Great pains have been bestowed on the bibliographical department; and we may safely state that Dr Walshe has given the best digest of the literature of Cancer extant in any lan-

guage. The work, however, is not a mere compilation, for throughout, it bears the impress of an original, observing, and highly practical mind. We wish that we could add, that the author has thrown fresh hope into the treatment of the fearful malady.

Referring to the work itself, for full information as to the nosological position, anatomy, physiology, chemistry, pathology, and affinities of Cancer, we submit, for the consideration of our readers, the following extracts from the chapter on Treatment:—

PROPHYLACTIC TREATMENT.—The following remarks, though specially applied to Cancer, are obviously suited to the preventive treatment of many other diseases:—

"The notion of a prophylactic or preventive treatment of cancer involves the possibility of recognising the tendency to the disease before the actual formation of carcinomatous matter. Now, in the present state of knowledge, such recognition, as has already been seen, is a matter of impossibility. In the absence of positive indications, however, dubious ones may fairly be acted upon. Thus, should a depraved state of health, inexplicable by the condition of the different organs, commence to exhibit itself in persons springing from a cancerous father or mother, or having collateral relatives afflicted with the disease, measures should be taken without delay to effect, as far as possible, alteration in the constitution of the fluids and invigoration of the general health of such individuals. Those hygienic rules which experience has found most efficacious, in respect of diet, exercise, and mental occupation, should at once be put in force. It will be advisable to submit a threatened sufferer to an alterative course of medicine (non-mercurial), and the best mode of administering this is by the medium of mineral waters at their sources. The change of climate and of habits, and the removal of mental disquietude ensured by occasional visits to continental watering-places, has a powerful effect upon the general well-being of persons who have fallen into a bad state of health. Such patients often appear, to use a frequent expression of their own, 'to have taken a new lease of life.' It is matter of fair inference that in individuals presumptively prone to cancerous disease, the special change of the blood, which appears to constitute its primary morbid element, might, as well as other depraved conditions of the fluid, be warded off by these alterative measures.

"A mother, whose relatives have suffered from cancerous diseases, ought not to suckle her children. A vigorous nurse of healthy family should be selected for the purpose; and as has been recommended in the case of scrofulous children, lactation continued for a year or fifteen months. From the hour of birth the object, in the instance of infants belonging to a cancerous family, should be to secure the *mens sana in corpore sano;* with this view a well-regulated system of diet, nutritious but not stimulating, with full exercise, should be enforced. The child should inhabit well-sunned and well-ventilated rooms, and be provided with means of in-door exercise when the state of the weather confines him to the house. Gymnastic exercises, under judicious direction, are after the age of nine or ten to be strongly recommended. In the early years of life some sacrifice must be made of intellectual to corporeal improvement; confinement to the close air of school-rooms for a considerable number of hours daily cannot do otherwise than exercise a pernicious influence on the health of a child whose constitution is, in the manner supposed, vitiated by hereditary influence.

"The ordinary considerations in respect of general healthfulness, which serve to guide parents in the selection of a profession for their sons, should have their due weight in cancerous families. But there is one circumstance to be especially borne in mind, and of more importance than all others, I mean the avoidance of a profession the active and serious exercise of which entails more or less constant care and anxiety. The importance of this consideration appears from what I have said on the influence of mental suffering in generating the disease. For this reason, the professions of the Bar, Medicine, and Diplomacy should be avoided. The speculations in which merchants, bankers, stock-brokers, &c., are so prone to indulge, ought, if these occupations be embraced, to be systema-

tically shunned for the same obvious motives. All things considered, the professions of the Army, Navy, and the Church, unless there be some special objection, offer the best chances of escape from the disease to individuals predisposed to cancer. Females should not become governesses.

"Particular organs may have their special prophylaxis. The connection of cancer of the penis with congenital phymosis is established with sufficient certainty to justify early circumcision in individuals, thus conformed, belonging to a cancerous family. Again, as certain morbid formations (*e. g.* erectile and compound cystoid growths) exhibit more than an average amount of liability to become cancerous (I mean through the development of scirrhus or encephaloid in their substance), the removal of the former may be looked upon as prophylactic against the latter." Pp. 191—193.

CURATIVE TREATMENT.—A summary of the alleged virtues of the different reputed internal and external remedies is prefaced with the following remarks:—

"In examining the effects of the various modes of treatment proposed for the cure of cancer, I shall suffer no pre-acquired notion of the nature of the disease to influence my conclusions. I shall follow the results of observation solely, carefully avoiding the extremes into which writers of two opposite classes have fallen—that of being swayed by a dominant impression either of the utter incurability, or the ready curability of the affection. What can be more opposed to experience than the doctrine of M. Bouillaud, for example, who sees no difficulty in the way of curing cancer, because cancer is merely an inflammatory induration; or, again, than the figment of M. Breschet, who, guided by the speculations of Bichat, traces the disease to an aberration of 'organic sensibility,' and is persuaded we may readily manage this imaginary existence! And, on the other hand, can a greater perversion of the first principles of logic exist than that displayed by observers, who, profoundly impressed with the frequent failure of all methods of cure, assume as their device the constant intractability of the disease; and when eventually obliged to admit that growths, recognised as cancers, do occasionally disappear under the influence of remedies, have recourse to the plea that the disease was in such instances not really cancerous, *because it was* cured?" P. 193.

THE INTERNAL REMEDIES spoken of are—I. NARCOTICS—*Conium*, *Belladonna*, *Aconite*, *Hyoscyamus*, *Laurus-cerasus*, *Stramonium*, *Mezereon*, *Hydrocyanic acid*, *Digitalis*, and *Sedum acre*. II. ANTACIDS—*Lime-water*, *Ammonia*, and the *Hydrosulphuret of Ammonia*. III. TONICS—*Iron*, in a great variety of forms, *Gold*, *Copper*, and *Chloride of Barium*. IV. ALTERATIVES—*Mercury*, *Iodine*, and *Arsenic*. V. ANIMAL SUBSTANCES—*Cod-liver oil*, *Skate-liver oil*, and the *Flesh of the Grey Lizard*.

The *preparations of Iron* are thus spoken of—"This eminent practitioner (Mr Carmichael) particularly recommended the subphosphate, but also exhibited the phosphate and biphosphate, carbonate, and tartrate internally. The external use of these salts is combined with the internal; if the disease be in the ulcerated stage, they are applied in the form of a paste made with water; if not, a lotion, consisting of a strong solution of some one of them, is kept constantly applied to the part. I am not aware whether Mr Carmichael still retains his high opinion of the efficacy of iron; but certain it is that both he and several other practitioners, both in this country and on the continent, have obtained results from its administration that entitle it strongly to notice. There are doubtless no cases actually proving a cure of the disease; but numbers, in which local relief, and especially general improvement of health, followed its use, may be found in authors.

"Various preparations were, it appears, employed by Mr Carmichael. Among these the biphosphate was found a most valuable remedy by M. Fuzet-Dupouget. This practitioner having administered the salt in three cases of ulcerated cancer, in which the cachexia was prominently marked, found pain and fetor removed, the aspect of the ulcers improved, and the appetite and sleep restored. Death eventually occurred in all three cases, but without any of the intense suffering usually entailed by cancer. Denman had particular confidence in the *ammo-*

niuret. Dr A. T. Thomson has of late years introduced into practice the *iodide* of this metal, and there can be no question in my mind as to the special appropriateness of this salt in certain cases of cancer. I mean in cases where a state of anæmia, whether directly produced by hæmorrhage or otherwise, points to the utility and even necessity of administering ferruginous preparations. The syrup of the iodide (originally prepared by Squire, and containing three grains of the salt to a drachm of vehicle) is the best form in which this medicine can be given; if well prepared, it will not only be borne without increasing febrile action, whether existing rapidity of pulse be actually febrile or merely anæmic, but will distinctly lower the irritable excitement of the system. I have, it is true, had comparatively few opportunities of observing this in cases of cancer; but I have repeatedly witnessed, and pointed out to others, these effects in phthisical patients." Pp. 197, 198.

ARSENIC, as will appear from the following extract, is in favour with the author:—" Arsenical preparations appear to have been employed from the earliest antiquity in the treatment of cancer; but from the period of its recommendation in the tenth or eleventh century by a monk named Theodoric, may be dated the regular introduction of *arsenious acid* into practice. In respect of the efficacy of this medicine, as of others, opinions are divided. On the one hand appear the assertions of an experienced Swedish practitioner, Roennow, who, after fifty years' employment of it, had succeeded in curing thirty cases of well-marked cancer—the persuasion of Justamond, who esteemed it a specific—and the confidence of numerous practitioners of the last century in its powers. On the other, experiments on an extensive scale, conducted in Germany, France, and in this country, might lead us to question its power in curing any form of the disease. Mr G. N. Hill, however, states as the result of his experience that this substance retards the progress of the complaint, often prevents scirrhus from passing into the ulcerative stage, and sometimes apparently dissipates such tumours completely. Dr Copland believes that when this medicine is cautiously employed, both internally and externally, in conjunction with narcotics and alkalis, or otherwise judiciously combined, Mr Hill's opinion in its favour is not much too highly coloured.

"The least reflection upon the nature of cancer must lead to the conclusion that the more powerfully alterative a medicine is, the greater the chance *cæteris paribus* of its proving beneficial in that disease. This is an *à priori* argument in favour of *a trial* of arsenical preparations by no means to be disdained; and it of course possesses additional force, if these can be combined with any other alteratives of a powerful character. Now, in the *iodide of arsenic* these conditions are realised. Dr A. T. Thomson, who introduced the medicine, supplied the earliest evidence of its favourable influence in cases of cancer; this evidence, though not altogether convincing in respect of the solvent powers of the remedy, was of such a kind as to dispose me strongly to give it a trial under favourable circumstances. I have since done so in several cases, from which (in the greater number, other but not equally energetic means were employed simultaneously) I feel myself justified in drawing the following inferences as to its effects. It is to be premised, that in all these cases the species of cancer treated was scirrhus in the non-ulcerated stage, that the breast was the part affected, and that the constitution had in some begun to suffer seriously. 1. Given in doses of one-sixteenth to one-twelfth of a grain twice daily, two hours after eating, the iodide of arsenic is well borne, and may be continued without risk for several months. 2. The system generally soon gives evidence of its action—unusual perspirations with dryness of the fauces and alimentary canal occur. Sometimes slight headache is complained of, but this is rare; and I have known most violent periodical headache, which had afflicted a lady for years, disappear while she was under the influence of the salt. 3. The pain of the tumour decreases in violence. 4. The size of the breast generally diminishes; and if the tumour itself does not actually lessen in bulk, I have at least found that its enlargement, previously more or less active and apparent, becomes, as far as can be determined, suspended. There is difficulty in establishing the fact, on account of the change in dimensions of the breast generally. 5. The general health improves.

"My experience does not enable me to make any affirmation as to the power which this medicine, unaided, may by possibility possess of causing the removal of scirrhous tumours; one reason of this being that I have invariably, after a short trial of it alone, associated external agents in the treatment with it." Pp. 200—202.

THE EXTERNAL REMEDIES mentioned by the author are—I. MEANS WHICH LOWER THE NUTRITION OF THE PART, viz. *Leeches, Ligature of Nutrient Arteries.* II. MEANS CALCULATED TO PROMOTE ABSORPTION, viz. *Dry friction, Blisters, Electricity, Galvanism, Mercurial inunction and plasters, preparations of Lead, preparations of Iodine,* and *Dry pulverulent applications.* III. MEANS CALCULATED AT ONCE TO LOWER NUTRITION AND PROMOTE ABSORPTION, viz. *Compression.* IV. MEANS DESIGNED TO PREVENT EXTENSION OF THE DISEASE AND PROMOTE ABSORPTION, viz. *Subcutaneous incisions.* V. AGENTS CALCULATED TO ALTER THE CHARACTER OF EXPOSED CANCEROUS SURFACES, viz. *Gastric juice, Carbonic acid, Lead Tar,* and allied substances, *Turpentine, Terchloride of Carbon, Mineral Acids,* and escharotic substances generally, *Actual Cautery, Potential Cauteries, chloride of Gold,* and *chloride of Platina.*

"*Caustic potass,* the *bichloride of mercury,* the *chloride of antimony,* and the *nitrate of silver,* are among the potential caustics which have enjoyed more or less reputation for their effects on cancerous ulcers. The *acide nitrate of mercury* (made by dissolving one part of proto-nitrate of mercury in eight of nitric acid) is a favourite escharotic in the French hospitals; and is especially lauded by Recamier as possessing a marked affinity for the diseased structure, and as producing healthy granulations even on a cancerous basis. It is superficial in its basis.

"But, of all substances which have been applied with the present views in the treatment of cancer, *arsenious acid* is the most important. Fuchsius, who first used it, combined it with soot and serpentry; Guy, in his secret remedy, with sulphur, ranunculus sylvestris, and soot. Rousselot's celebrated powder consists of two drachms of arsenious acid, carefully mixed with two ounces each of the bisulphuret of mercury, and of the resin of Pterocarpus Draco; those of Frère Come and Dubois of the same ingredients in different proportions. When about to be used, these powders are mixed with a sufficient quantity of saliva to form a paste, which is laid on the surface (previously carefully cleansed) in a layer two lines thick. Dupuytren was in the habit of using a powder composed of ninety-nine parts of calomel to one of arsenious acid, increasing the latter to five or six parts in the hundred; or a liquid of somewhat greater strength, composed of the same ingredients suspended in distilled water.

"Generally speaking, in twenty-four hours after the application of the paste, this adheres closely to the subjacent surface, and a slough separates within a period varying from twelve days to six weeks. The new surface exhibits a sound aspect, and is capable of granulating in a healthy manner. At least such is the result in favourable cases, and numbers of these are on record. But in some instances a second and a third application are required; and the dangers increase to such a degree, that it is now matter of received doctrine that these preparations should only be used in cases of superficial cancer,—in ulcerations similar somewhat in character to those of lupus and noli me tangere. The powder of Rousselot possesses the advantage of being less readily absorbed—a point of vast importance, as fatal effects (cases of Fernel and Roux, for example,) have more than once ensued from the entry of the poison into the circulation.

"M. Grandpre has introduced, and successfully employed, the practice of fumigation of superficial cancerous ulcers with cinnabar and arsenious acid: a particular apparatus is, of course, necessary to prevent inhalation of the vapours.

"That arsenical preparations have with some frequency effected a cure of cancerous ulcers in the manner described, is a fact concerning which no doubt can be held. But the hazardous nature of the treatment makes it desirable that a caustic, possessed of similar destructive powers, and free from its poisonous properties, should, if possible, be found. Within the last few years the *chloride of zinc* has been introduced with these claims by M. Hänck and M. Cancoin. I have seen some superficial ulcers of an intractable character cured with this

substance in the Paris hospitals; and the experience obtained in this country is favourable to its employment. According to M. A. Ure, it produces a rapid and salutary change on the characters of corroding ulcers. In two cases of cancerous ulceration of the face, where the disease, though of long standing, was superficial, it acted most favourably in the hands of Mr Lawrence, and the cures have been permanent. Mr M'Clintock reports three successful cases of similar kind. The preparation employed by Mr Ure is a combination of one part of the chloride to two of sulphate of lime: M. Cancoin mixes the salt with various proportions of flour. The thickness of the layer of paste must be proportional to the depth of eschar required to be produced. Its immediate effect is that of a powerful stimulant, causing great vascular excitement, with swelling, bright redness, and severe pain, the last continuing twenty-four or forty-eight hours, or even longer." Pp. 217—219

PALLIATIVE TREATMENT.—"The objects sought by palliative treatment are: (1.) Modification of the course of the disease locally and generally; (2.) Relief of symptoms. And these objects are accomplished by local and general means. It is inferrible from what has been said concerning many alleged curative agents, that their strongest claim really amounts to no more than the possession of some palliative power; to these I shall make no further reference in the present place.

"(1.) *Local—Cold applications* and *evaporating lotions* are indicated when the affected part is hot, full, and tense. They remove these uncomfortable conditions, but are not otherwise serviceable; and the pretension that tumours may be arrested in progress by such topical means I believe to be utterly hollow.

"Almost all the dressings for cancerous sores have been devised with the view of relieving pain, or removing fetor. Some practitioners give the preference to *hemlock poultices*, made of the recent plant, as a sedative application; *bruised carrots* also ease pain, and correct fetor. The latter vegetable was first brought into notice by Sultzer in 1776, and *more solito* announced as possessing the power of radically curing the disease. *Boiled figs* (boiled in milk, Burns) and *vegetable charcoal* have been used with similar views; some practitioners simply cover the part with compresses steeped in *laudanum*, or better, the *aqueous solution of opium;* fomentations of *stramonium leaves* are mentioned by Dr Warren. *Dry lint*, simple *water dressing*, pledgets soaked in solution of *nitrate of silver*, or in some preparation of *iron*, may also be used. *Decoction of cinchona with tincture of myrrh* is found a serviceable application where the surface is flabby and disposed to bleed. The *chlorurets of lime* or *soda* are useful in removing fetor, and are said to produce a good effect occasionally on the surface of the ulcer. I have seen the condition of a cancerous ulcer improved greatly, but temporarily only, by the *biniodide of mercury* ointment.

"Particular indications will arise, rendering one or other of these substances more advisable than the rest; or mere change, for change' sake, will be advantageous from time to time. It is scarcely necessary to advert to the notorious fact, that the efficacy of local palliatives, no matter how great at first, soon diminishes in the majority of cases. The temperature of dressings should, as a general rule, be regulated by the patient's feelings; but I am persuaded of the correctness of the very prevalent opinion that warm applications (however agreeable they may be to the patient) are detrimental.

"Hæmorrhage is occasionally productive of temporary alleviation of pain, and when moderate in quantity, and of rare occurrence, may therefore prove rather favourable than otherwise. Under other circumstances it is of course necessary to stop it, which is often a task of much difficulty. Should the internal use of *acetate of lead, gallic acid,* or *ergot of rye,* combined with the application of *cold* or of the *oil of turpentine* externally, have failed in producing the desired effect, more active measures must be resorted to. When depending on capillary effusion, *pressure* is the most likely means of arresting the effusion; when from the perforation of an artery, *ligature of the vessel* is indicated. This should be practised outside the morbid growth. Mr Travers was in one instance obliged to tie the carotid to stop the bleeding from an encephaloid tumour at the angle of the jaw. Well-directed pressure will not only, in many instances, suffice to

stop the flow of blood; but, as has already been stated, the permanent prevention of hemorrhage is one of the advantages of the treatment by compression.

"(2.) *General.*—In conducting the general treatment of a cancerous patient, the attainment of as great an amount of invigoration of the system as is compatible with the absence of stimulation is the object to be constantly held in view. Many of the medicinal substances, classed as curative, will promote this end; drugs exhibited specially for the purpose are rarely successful, because their administration interferes with that of others, which experience has shown to be more directly useful in that disease. And as a general fact, the correct hygienic management of the patient will prove more serviceable than any species of tonic medication.

"The state of the different secretions must be carefully watched, and due alvine action regularly obtained; mild aperients or laxative enemata being, if necessary, employed for the purpose.

"The internal use of *opium*, and its preparations, must be had recourse to for the relief of pain and sleeplessness; nothing contributes more effectually to wear out patients than continued loss of rest. The salts of morphia, especially the hydrochlorate, constitute the most convenient form for exhibition. Squire's solution of the bimeconate I have used pretty extensively, and ascertained that it is in some instances borne, when the other salts of morphia disagree. The ill effects of opium on the stomach and bowels have led to the trial of the salts of morphia by the endermic method, and, as it is alleged, with excellent results. I have a high opinion of the efficacy of morphia applied in this way in various affections; but I have not employed the plan in cases of cancer, as I cannot believe its constant repetition to be free from danger, especially in the more advanced stages of the disease. Should peculiar circumstances determine the practitioner in adopting the method, it will be advisable, at least, not to raise the cuticle in the immediate vicinity of the disease, if this be external.

"I have no experience of the *Cannabis Indica* as a palliative in cancer; but the estimate I have been led to form, from a (perhaps too limited) trial of it in various other affections, would not encourage me to hope much from it in the former. *Stramonium* is useful as a change; and friction with ointments or liniments containing *belladonna*, *aconite*, *aconitina*, or *veratria*, will sometimes succeed in mitigating pain, where the internal use of narcotics has failed. The latter powerful alkaloids should only be employed when the cancerous disease is deeply seated; as, for instance, in friction of the epigastrium in cases of cancer of the stomach.

"*Counter-irritation* in the form of *blisters*, *issues*, or *setons*, has had its advocates, and has occasionally appeared to produce beneficial effects. But I cannot help believing, that the connection of the counter-irritation and the improvement must have been merely one of coincidence; and that the opinion of Mr Burns, who maintains it can never do good, and must often exasperate the disease, is not far from the truth. Positive and serious mischief may indeed result from the practice; M. Cruveilhier refers to a case in which a blistered surface became cancerous; the fact had already been noticed by Monteggia.

"The *diet* of cancerous patients should be regulated by their capabilities of digestion; the habit of cramming food into a stomach incapable of aiding in its assimilation is as positively deleterious as the system of starvation enforced by the practitioners of the Broussaisian school. The advantages of rigid abstinence have, it is true, been enforced on purely practical grounds. Ponteau flattered himself he had radically cured several patients by limiting their nourishment to five or six pints of iced water daily for a period of about two months; Pearson and Lambe in this country, and Hufeland in Germany, were also advocates for extreme restriction in diet. At the present day a system of starvation is, on the Continent, frequently enforced as an adjunct to the local antiphlogistic treatment; but though the frame be by these means rapidly reduced to a state of emaciation, the cancers, they were designed to destroy, flourish as luxuriously as though this additional torture had not been inflicted upon the sufferers. Such treatment promotes the rapid occurrence of debility and sinking, and (as a just consideration of the nature of carcinoma would lead us to expect) unfits the or-

ganism wholly for combating with the destructive influence of the disease. Suffice it to say, that both reason and unbiassed experience demonstrate the appropriateness of a light, easily digestible, succulent diet, where no *special circumstance exists to contra-indicate it.* Stimulants of all kinds are, as a general proposition, to be avoided; but particular states may arise in which indulgence in the use of small quantities of wine or of malt liquor (especially East India ale) will not only be allowable, but highly serviceable.

"The *hygienic condition* of the patient must be carefully attended to. He should be directed to take moderate exercise daily; cheerfulness of mind requires to be promoted as far as possible, and the cares of business, speculations, and intellectual exertion avoided; participation in public and private amusements, so long as circumstances admit of this, is advisable. In respect of dress, no special indication arises, except in cases of cancer of the breast, under which head I shall recur to the point. Free action from the skin should be promoted by the liberal use of cold water and dry friction.

"Whether *change of climate* possess any influence in staying the progress of carcinoma, when once established, is a question which, so far as experience goes, must be considered undecided. Unless at the very outset of the disease, and more especially as a prophylactic measure in the manner already described, little is, I fear, to be hoped from its adoption. In a small number of cases referred to by writers, where the patients removed at an advanced stage of the malady from a cold to a warm latitude, or *vice versâ*, no apparent amelioration resulted from the change; of these it may be said, '*Cœlum, non* morbum, *mutant, qui trans mare currunt.*' But no fair inference can be drawn from such cases. And it may be as well to observe here, that an *à priori* argument against the utility of early change of climate, frequently had recourse to, namely, that the disease it is proposed to relieve exists among the inhabitants of the very regions selected for the reception of our own invalids, is, in my mind, not altogether sound. In truth, it is not alone the special qualities of any given climate (though these, too, are highly important), but also the mere fact of its being a new and different one (provided it be not positively deleterious) from that in which in any particular case the disease has been contracted, that renders migration to foreign lands a remedial agent of value in the treatment of chronic maladies; *Pessimum ægro cœlum est, quod ægrum fecit,* is a maxim the general truth of which cannot be disputed. But it is clear, that the two conditions of total change of climate, and of removal to a land where the disease is almost unknown, would be best fulfilled by sending sufferers in this country to Egypt or Algeria.

"Courses of *mineral waters* (already considered as preventive) have been extolled by some writers as of material service in controlling the advance of the disease. Judiciously chosen they may, I doubt not, prove beneficial to the general health, if, be it understood, they are taken at their sources. In cases of incipient cancer of the breast or uterus, a course of the Kraenchenbrunnen at Ems, followed by another of the Paulinen at Schwalbach, would certainly be advisable, provided no particular contra-indication existed, and the treatment of the case could be, in other respects, steadily pursued at the same time." Pp. 220—224.

"A certain number of conclusions may be drawn from the facts so far brought before the reader.

"(1.) Undoubted cancerous tumours have, both before and after ulceration had set in, been cured, or rendered perfectly innocuous, by one or other of a variety of natural processes occurring spontaneously. (2.) An unbiassed survey of recorded experience does not warrant the notion of the invariable incurability of the disease by medicinal means at any stage of its progress. (3.) Testimony, which I am enabled fully to corroborate from my own observation, is not deficient to the fact, that growths, cancerous in essence, may at an early stage be totally removed by a persevering use of certain internal and external remedies. (4.) The efficacy of these remedies may be greatly increased by the adoption of well-directed compression, wherever the situation of the tumour permits this. (5.) Even in cases where treatment fails to free patients from the disease, it may not only alleviate their sufferings, but produce an ac-

tual suspension of its progress. (6.) In a certain number of instances, all medicinal agents not only fail in influencing the disease favourably, but, if persisted in, would infallibly exasperate it; this is true of even the most valuable among them—arsenic, iodine, and conium. (7.) It is an unsolved problem, but one of the last importance, to determine, what are the conditions, general and individual, which in one case render the disease more or less readily amenable to treatment, and in another (not obviously dissimilar to our perception) invest it with a character of complete intractability. (8.) When obvious dissimilarity exists, cases cease to be logically comparable; but it is well to bear in mind that encephaloid and colloid are less within the influence of medication than scirrhus. (9.) There is no medicine known having claims to the character of a *specific* in cancerous diseases, nor even endowed with the special attribute of invariably modifying the course of the affection. But this is no reason that such a medicine may not be found; the history of mercury and quinine teaches the folly of absolute scepticism in respect of the reality of specific agents." Pp. 220, 225. J. R. C.

Confessions of a Homœopathist. 12mo, pp. 399. Dublin: 1846.

The object of this work is to delineate the tricks and daring of an ignorant but successful impostor. We cannot compliment the author. The scenes are often far-fetched and too grotesque to be truth-like; and the story is withal tedious. The roguery displayed by the hero of Hahnemanism is very much of the same stamp and character as that exhibited by the whole herd of miscreants—homœopathic as well as non-homœopathic—who, having sacrificed integrity and all the better feelings of humanity at the shrine of cupidity, prey upon the health, the ignorance, and the credulity of the multitude. Physicians ever have had, and ever will have, such persons to war with. J. R. C.

Observations and Essays on the Statistics of Insanity; including an Inquiry into the causes influencing the Results of Treatment in Establishments for the Insane: to which are added, the Statistics of The Retreat, near York. By JOHN THURNAM, Resident Medical Superintendant of The Retreat, near York, &c. 8vo. London: 1845.

The Reports of individual Asylums, however excellent in themselves, are admitted to be of little use in furnishing general and comprehensive views of Insanity; but when it is known "that reports, either accidentally erroneous, or purposely falsified, have in at least some instances been circulated," we must indeed learn to be cautious as to the sources whence we derive our materials for numerically determining any given point in the Statistics of Insanity.

"That reports," says the author, "of the results of treatment have been, and still may be, *purposely falsified*, is sufficiently proved by the history of the York Lunatic Asylum, previous to its reform in 1814. It was at that time ascertained, from a minute examination of the records of that institution, that whilst 221 deaths only were officially reported, 365 had actually occurred during the thirty-six years which the asylum had been established, at the commencement of the inquiry into its management in 1813. The deaths of 144 patients had been suppressed in the published reports, and by this means the apparent annual mortality, for the thirty-seven years from 1777—1814, was reduced from 11 per cent., its actual rate, to 7·03 per cent.; or to a lower rate than that which has existed since the reform of the institution (1814—1840). Supposing, as there is every reason to believe was the case, that these concealed deaths were added to the recoveries, the effect must have been that of supporting the credit of the institution in a double manner. In proof of the annual reports having been

NUMBERS AND PROPORTIONS OF EACH SEX, OUT OF 71,800 CASES, ADMITTED INTO VARIOUS ASYLUMS.

Name of Asylum and Period.	Number of each Sex Admitted.		Proportions per Cent of each Sex.		Excess per cent. of one Sex over the other.	
	Male.	Female.	Male.	Female.	Male.	Fem.
1. Bloomingdale, New York, —20½ years, 1821-42,	1,692	906	65	35	86	.
2. Siegburg,—9 years, 1825-33,	404	226	64	36	78	.
3. Dumfries,—4 years, 1839-43,	147	92	61.5	38.5	59	.
4. Charenton,—11 years, 1815-25,[1]	1,245	804	61	39	54	.
" 8 years, 1826-33,	932	625	60	40	49	.
5. Schleswig,—15 years, 1820-35,	342	224	60	40	52	.
6. Licensed Metropolitan Asylums, for private patients, 1833-40,	1,419	1,028	58	42	38	.
7. Perth,—11 years, 1827-38,	190	141	57.5	42.5	34	.
8. Cornwall,—22 years, 1820-42,	407	310	57	43	31	.
9. Nottingham,—31½ years, 1812-43,	937	726	56.3	43.7	29	.
10. Armagh,—16½ years, 1825-41,	649	505	56	44	28	.
11. Clonmel,—7 years, 1835-42,	206	162	56	44	27	.
12. York Asylum,—25¾ years, 1814-40,	768	607	56	44	26	.
13. Lancaster,—26 years, 1816-42,	2,042	1,599	56	44	27	.
14. Maidstone,—5 years, 1833-38,	195	158	55	45	23	.
15. Glasgow,—28 years, 1814-42,	1,456	1,191	55	45	22	.
16. Richmond, Dublin,—5 yrs., 1832-39,	331	277	54.5	45.5	19	.
17. Lincoln,—21⅔ years, 1820-42,	467	391	54.5	45.5	19	.
18. Dundee,—22 years, 1820-42,	496	427	53.7	46.3	16	.
19. Gloucester,—20 years, 1823-42,	661	588	53	47	12	.
20. Frankford, U.S., Society of Friends, —25 years, 1817-42,	405	379	52	48	7	.
21. Worcester, U.S.,—10 yrs., 1833-42,	806	751	51.8	48.2	7	.
22. Hartford, U.S.,—19 years, 1824-43,	640	607	51.3	48.7	5	.
23. Wakefield,—23 1/10 years, 1818-42,	1,527	1,479	51	49	3	.
24. Belfast, 13 years, 1829-42,	621	622	50	50	.	.16
25. Woodbridge,—13 years, 1829-42,	499	500	50	50	.	.2
26. Carlow,—10 years, 1832-42,	247	250	49.7	50.3	.	1.2
27. Hanwell,—11⅓ years, 1831-42,	1,189	1,219	49.3	50.7	.	3
28. Cork,—13 years, 1827-39,	954	1,009	49	51	.	5
29. Licensed Metropolitan Asylums for paupers,[2]—6 years, 1833-40,	1,479	1,520	48	52	.	7
30. York Retreat, Society of Friends, —44 years, 1796-40,	282	333	45.8	54.2	.	18
31. Dorset,—11⅓ years, 1832-43,	184	224	45	55		21
32. Bethlem, "curables,"[3] —20 years, 1823-42,	1,782	2,622	40.5	59.5	.	47
Total and Average of the above (1796—1843)	25,601	22,502	53.2	46.8	13.7	.
	48,103					
Nine English County Asylums; 8, 9, 13, 14, 19; 23, 25, 27, & 31,	7,641	6,803	53	47	12	.
33. Bethlem, all cases, —46 years, 1748-94,	4,042	4,832	45.5	54.5	.	19
34. St. Luke's "curables," —82 years, 1752—1834,	6,037	8,786	40.7	59.3	.	45.5

For other Metropolitan Asylums, see also 6, 27, 29, and 32.

1 *Esquirol*, "des Maladies, Mentales," tome ii., pp. 663, 668.
2 *Haslam*, "Observations on Madness," second edition, 1089, p. 245.
3 *Webster*, "Medico-Chirurgical Transactions," vol. xxvi. 1843, p. 381.

designedly falsified, it is here perhaps only proper to state, that one set of books was kept by the apothecary, and another by the steward, both of which purported to be a correct account of the admissions of the patients, and of how they were disposed of; each of these being in the form of a debtor and creditor account; and thus, if the account was false in one place, it must have been false in more places than one, or else the sums total could not have agreed. The steward's record of the deaths seems to have been tolerably accurate; but, in the face of this, erroneous statements were year after year published in the York newspapers, which were only detected upon being compared with the parochial register of the burials from the asylum, in the churchyard of St Olave's.

"Had the annual reports of these institutions been regularly submitted, as it is very desirable they should be, to any sufficient examining and superintending body, the accidentally erroneous and purposely falsified statements which have been described must almost necessarily have been detected. Until some such plan as this is organized, we can only rely, as at the present day I confidently hope we are justified in relying, upon the good faith and integrity of the officers and governors of these public institutions." Pp. 5, 6.

We regret that we cannot afford space to give an analysis of this important work. As a specimen of the tables, we quote that on the opposite page.

J. R. C.

Retrospect of Practical Medicine and Surgery. Edited by W. BRAITHWAITE. Vol. xii. July—December 1845. 12mo. Pp. 414. London: 1846.

Half-Yearly Abstract of the Medical Sciences. Edited by W. H. RANKING, M.D., Cantab. Vol. ii. July—December 1845. 8vo. Pp. 472. London: 1846.

In a few remarks (published in the number for last September) upon the compilations of Braithwaite and Ranking, for the first six months of 1845, we took occasion to notice the cool manner in which the labours of other journalists were appropriated, frequently even without acknowledgment. We have now to repeat the charge with its aggravation, so far as Dr Ranking is concerned: Mr Braithwaite may be forgiven, as he generally cites with accuracy the sources of his information, and may be looked on—from his prior and long unchallenged occupancy of the field—as a somewhat privileged person.

At page 72 of Ranking, we find an article entitled "*Treatment of Scabies by the Veratria Alba.*" It is there said to be quoted from the "Annales de Thérapeutique," whereas it is not, but chiefly is a re-cooking and spoiling of what we ourselves wrote as a preface to a recipe, for hellebore in itch, from the above-named journal. It is amusing to observe that although our remarks are much mutilated and altered, our ugly misprint of "*Veratria Alba*" is adopted. If Dr Ranking had looked deliberately at our page when purloining the notice in question, he might have noticed the brackets, pointing at what was ours and what we had taken from the *Annales:* but granting, that in the hurry of compilation, he had conceived the article to be entirely derived from the French paper, he ought not to have omitted acknowledging his obligation to the MONTHLY JOURNAL, as it was through it alone, that he was acquainted with the *Annales.* In similar circumstances, Braithwaite would have made his citation run thus:—"*Annales de Thérapeutique,* as quoted in the Monthly Journal for July 1845."

At page 6—10 of Ranking, an article by Dr Corrigan on Digitalis in Epilepsy, is quoted as from the *Dublin Hospital Gazette,* but which we discover from internal evidence to have been reprinted at second hand from our pages. This we would not greatly quarrel with: but we do object to our little commentary on the article being printed as Dr Ranking's own commentary, without the remotest

allusion to the source whence it was derived. Braithwaite (p. 28—31) quotes Corrigan, and also part of our note; but to each author he gives his due.

Leaving the class of faults of which we have now given examples, we may illustrate another description of inaccuracies with which Dr Ranking's abstract abounds. Thus, Dr Henry Bennett's work on Inflammation and Ulceration of the Neck of the Uterus is spoken of (p. 295,) as "valuable *lectures*:" and Professor Pagan's paper on the Development of the Placenta within the Fallopian Tube, published as an original article in the number of this Journal for November 1845, is attributed to *M. Payan*—a French friend, we presume, of Dr Ranking. J. R. C.

London Medical Directory for 1846; *containing the Name, Address, Qualification, Official Appointments, Honorary Distinctions, and Literary Productions of every Physician, Surgeon, and General Practitioner resident in London, and its immediate vicinity; with a great variety of useful information.* 12mo. Pp. 270. London: 1846.

The Post-Office Edinburgh Directory, for 1845–46. Fortieth Publication. 8vo. Pp. 513. Edinburgh: 1845.

In the number for October, p. 301—304, we had occasion to make some strictures upon the above-named Directories. We have now much satisfaction in reporting that both works have reappeared in a greatly amended state.

The London Medical Directory for 1846 is really a creditable and valuable performance. The title, which we have transcribed in full, gives a general idea of the contents of the work, but does not by any means point out the nature of all the useful information which it contains.

The Medical Directory of Great Britain and Ireland for 1846 has not reached us. We believe it has not appeared. J. R. C.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

Slow Pulse from Cardiac Disease. By Dr Stokes.

[*Pathological Society of Dublin: Meeting of December* 6, 1845.]

Dr Stokes said, that the specimen which he had to exhibit was calculated to throw some light on the symptom of *slow pulse*. The society was aware, that until lately this symptom was considered as dependant upon cerebral disease; but the progress of pathological science had latterly demonstrated that slowness of the pulse frequently resulted from cardiac lesions.

The patient who manifested the symptom referred to on the present occasion, entered the Meath Hospital some months ago, suffering from debility, cough, and dyspnœa, but without any suspicion that he was labouring under an affection of the heart. He did not complain of cardiac pain or palpitation; and it

was only the character of his pulse which drew attention to the central organ of the circulation. The pulse beat steadily between 35 and 40 in the minute. He presented no cerebral symptoms whatever; and it was principally for the purpose of observing the peculiarity of his pulse that he was retained in hospital. He exhibited the yellowish anemic appearance of senile phthisis, and gradually sunk.

Dr Stokes was enabled to report the cardiac phenomena which accompanied this remarkable slowness of the pulse. There was an increased extent of dulness; and upon applying the stethoscope, a bruit could be heard precisely analogous to that usually ascribed to mitral regurgitation; but this bruit became more audible upon ascending the sternum, until it became loudest just at the junction of the cartilage of the second rib; with the sternum on the right side. This latter character seemed to indicate aortic valve disease; but then the bruit was confined to the first sound, the second sound being distinct and defined. On the whole, Dr Stokes was inclined to regard it as a case of mitral valve disease, and to account for the aortic bruit by the anemic condition of the patient.

The autopsy developed that the valves affected were really the aortic; the mitral valves were perfectly normal. But the lesion of the aortic valves did not permit of regurgitation; water poured into the aorta was perfectly retained, the disease consisted in a considerable narrowing of the orifice; the lining membrane of the artery was also to a slight extent diseased. The heart itself was soft and flabby; it could not be called a fatty heart, but evidently contained a greater quantity of fat than usual; it was manifestly a weakened heart.

In the disease of the aortic valves, so well described by Dr Corrigan, an aortal bruit exists in the second sound; the present was a disease of the aortic valves, but without any bruit replacing the second sound; but there was in this case no regurgitation, so that we may modify the diagnosis of aortic valve disease in the following manner:—When in organic lesions of the semilunar valves of the left side of the heart, regurgitation is not permitted, there may be a bruit confined to the first sound.

Dr Adams, in a paper published in the fourth volume of the Dublin Hospital Reports, mentions that slow pulse often accompanies fatty degeneration of the heart. In the weak and softened heart of typhus fever (first described by Dr Stokes), the pulse is not uncommonly very unfrequent. But a weak heart does not always produce a slow pulse; in the debilitated condition which frequently follows inflammation of the organ, the pulse is usually very frequent. In fact, we may lay it down as a pathological law, that when irritation accompanies a weak state of this muscle, the pulse is frequent and feeble; while a feeble heart produces a slow pulse. Dr Adams states in the paper alluded to, that patients affected with fatty heart are especially liable to apoplectic attacks, not followed by paralysis; a form of apoplexy which Dr Stokes believes seldom to occur under other circumstances. There was nothing of the kind, however, in the present case; and it was as an instance of slow pulse, unconnected with any cerebral disease, and manifestly depending upon cardiac lesions, that he regarded it as principally interesting.—*Dublin Hospital Gazette, 1st January* 1846.

SURGERY.

Vascular Tumour at the Orifice of the Meatus Urinarius. Clinical Lecture. By J. C. W. Lever, M.D., Lecturer on Midwifery at Guy's Hospital.

Sarah H——, aged 67, was a patient in Petersham Ward, five years since, with severe neuralgic symptoms, which were treated by ammonia, quinine, &c. and the topical application of belladonna; and after some weeks' residence left the hospital greatly improved. In early life she menstruated regularly but scantily, and married at the age of 34. After she left Guy's Hospital, she followed the employment of a sempstress, but was compelled to relinquish her work, from

severe pain in the urethra, irritability of bladder, and continued desire to void her urine, which she attempted every five minutes. Difficulty, but no pain, was experienced in passing her motions.

After the trial of various popular remedies, as well as submitting herself to the care of surgeons, she applied at a dispensary at the west end of London: where the cause of her sufferings was detected. Her general health is tolerably good, and there is no discharge of any kind. At the time of her admission she had constant calls to void her urine, the passage of which occasioned her great pain. Occasionally, the pains are of a shooting character, extending upwards to the abdomen, outwards to the hips, and backwards to the perinæum. On separating the external labia, a vascular tumour was seen protruding through the meatus urinarius, of a florid red colour, and about the size of a kidney bean. On minute examination, which was with difficulty accomplished, on account of the exquisite sensitiveness of the growth, it was found that it passed some little distance into the urethra, and was sessile. It bled upon the slightest touch; and the suffering occasioned by the examination was considerable.

The patient was placed on her back, and the tumour, with the lining membrane of the urethra attached to it, was removed. Nitrate of Silver was then applied, and she was desired to keep the part continually wetted with white wash.

Oct. 18.—Much pain followed the operation, and continued all night; the urine has passed; bowels costive. A Senna draught.

20th.—Less pain; micturition not so frequent, and pain during the passage of the urine slight.

22d.—The seat of the growth was again touched with the Nitrate of Silver.

25th.—The slough has not yet separated. She was ordered to keep a white wash poultice applied over the meatus.

Nov. 1.—The slough has come away, leaving a healthy granulating wound.

5th.—She makes water in a good stream, and without pain. The part is looking healthy.

8th.—Granulations are sprouting. Nitrate of Silver dissolved in nitric acid to be applied.

13th.—The application caused considerable pain; the stream of urine full; and the pain in micturition has ceased.

18th.—Presented.

I have chosen to bring this case before you, as it will illustrate that particular form of vascular tumour to which females are liable; and which you will find described by Sir C. M. Clarke, at p. 289 of the first part of his work on the *Diseases of Females*. It appears from the history of this case, that the patient during her residence in the hospital, five years since, suffered from anomalous neuralgic pains, which were found on examination not to depend on organic disease of the uterus. These pains were relieved by attention to the state of the bowels, by the exhibition of ammonia and quinine, and the local application of belladonna. Females at this period of life frequently suffer from such pains. By the inexperienced, they are confounded with those accompanying peritonitis; but a little caution will prevent your falling into this error. There is an absence of febrile symptoms, and the pulse is different. In peritonitis it is sharp and wiry; in neuralgia it may be quick, but it is small, and easily compressed. In peritonitis there is tenderness, and that is materially increased by pressure, while in neuralgia the patient makes complaint when pressure is first employed; but if such be increased while she is engaged in conversation she will not complain. The position of the patient varies in the two diseases: in peritonitis she lies with the lower extremities flexed; in neuralgia she can keep them extended without difficulty or pain. It is of importance to make a correct diagnosis, for the treatment of the two diseases vastly differs. If the inflammation of the serous membrane be treated as neuralgia, death may sooner or later ensue, and those pathological changes which we usually find present in the abdomen will be found. There will be a greater or less quantity of plastic or non-plastic effusion. On the other hand, if neuralgia be treated by

those heroic remedies which peritonitis demands, the patient's constitutional powers will be shattered, her strength reduced, and the attacks of pain rendered more frequent and enduring. The brief history of the treatment resorted to in this case will suffice to point out to you the necessary plan of treatment. The bowels should be thoroughly and daily evacuated; and tonics, such as quinine, ammonia, &c. should be given in full doses. The diet must be generous, and the pain allayed by the topical application of anodynes. I have seen in some cases great advantage arise from the exhibition of iron and arsenic; but caution is necessary where the latter medicine is exhibited.

This patient left the hospital much benefited; in fact, so well as to gain her livelihood as a sempstress. But after a time, the symptoms which prevailed on her admission commenced; viz. pain in the urethra, irritability of the bladder, constant inclination to void its contents, obstruction in the passage of the urine, and a sense of scalding during its passage; pain in the pelvis, coursing to the back, hips, and thighs, was also complained of; she was weak, dyspeptic, dispirited, and worn out for want of sleep. Application to various persons for relief was vainly tried, until the true nature of the case was detected at the Chelsea Dispensary. Many of you had an opportunity of seeing the growth at the time of her admission. It was of a florid red colour, and granulated. It protruded through the meatus urinarius, with the margin of which it was unconnected, but had rather a broad and short stalk attaching it to the canal, at the distance of about a quarter of an inch. The slightest pressure caused the tumour to bleed, and the most gentle touch occasioned her exquisite pain. These growths appear to consist almost entirely of vessels and their connecting cellular tissue. They must, however, be abundantly supplied with nerves, from the exquisite suffering they occasion. And here let me for a moment direct your attention to the varieties of these growths which we meet with, and most of which you have seen among our in and out-door patients. Sometimes we have one in form and size like a small mulberry, having a slender stalk protruding through the meatus; sometimes these growths are no larger than a pea. In some cases they pass inwards along the urethra as far as, and even into, the neck of the bladder. They seem to have their origin below the mucous membrane, and from the submucous cellular tissue. In forming our diagnosis of these tumours, we must not mistake for them simple polypoid tumours, which are occasionally found arising from within the urethra, and protruding through the meatus. It is true they dam the flow of urine; the water passes in a small and stifled stream; there may be great efforts to empty the bladder; and if the tumour be long overlooked, the bladder may become thickened, and vesical irritation may ensue; but there is not that exquisite sensibility, which is present where there are vascular growths, neither does the polypus so readily bleed. Again, we occasionally find malignant disease establish itself at the orifice of the urethra; and this may exist without malignant disease of the uterus and vagina. Two examples of this disease may be seen amongst the out-door patients: here also there is difficulty in micturition, pain and scalding during the passage of the urine; there is occasional bleeding; and conjoined with this, or in its absence, a mucous discharge. Ocular examination will, however, readily detect the one from the other. In malignant disease there will be found a hardened lobulated tumour, or a cluster of lobulated tumours, involving the urethra to a greater or less degree, diminishing its capacity, and almost closing its external opening. And if, in addition to this, malignant disease of the vagina be present, it will greatly assist our diagnosis. Frequently, too, the inguinal glands are enlarged; and the aspect of the patient is characteristic of malignant cachexy. There is another disease to which this part of the female urinary apparatus is liable; viz. thickening of the cellular membrane around the urethra, with an enlarged and varicose state of the vessels, in which there is a dilated state of the blood-vessels with an hypertrophied condition of the cellular membrane. The urethra for an inch or more behind the meatus is frequently so dilated as to hold some few drops of urine, which may be pressed from it, and which create continued irritation. This state of parts is accompanied by constant uneasiness. There may be pain in

sexual intercourse, although, for the most part, females labouring under this malady have their sexual desires exalted. The uneasiness is increased in the erect posture; there is frequent inclination to evacuate the bladder, both by night and by day, a small quantity of urine flowing at a time; and the patient generally feels as if there were more fluid to pass. There is also a slight mucous discharge.

The finger passed into the vagina feels the urethra to be swollen and spongy; and if the disease has lasted for some time, there will be a part from which a few drops of urine may be pressed. When inspected, the part will be found of a dark red colour; and in some cases there is tenderness. You cannot readily mistake verrucous tumours growing from the vestibulum for this disease; the former are insensible, their colour resembles that of the part from which they grow, their number varies, they may be solitary, in other instances there are many, but in all cases there is a mucous discharge.

Let me advise you, in every case in which you are consulted, where the patient makes complaint of symptoms similar to those detailed in this woman's history, not to prescribe or give an opinion without the privilege of a tactile and visual examination. A neglect of these I have known to lead the practitioner to commit sad mistakes, and involve himself in great disgrace. One instance I remember to have seen and treated, where the opinion given was, that there was calculus in the bladder. The patient as well as her friends were very properly alarmed; further advice was recommended; the case was investigated, no calculus was present, the sole disease being a vascular growth. This was removed, and the patient has had no return. I have on several ocassions seen cases in which carcinoma uteri was suspected, from the pain in micturition, the central pains attacking the pelvis, and stretching to the back, hips, and down the thighs; and even this disease in some has been declared by the medical attendant to exist, although he had not availed himself of an internal or visual examination. Be on your guard, therefore; in no case give a hasty or rash opinion; take care not to judge by mere symptoms, without employing the several means of physical diagnosis.

Let me now request your attention to the treatment employed in this case. The neck of the tumour was grasped by a pair of forceps, and by means of a pair of scissors the mucous membrane of the urethra involved, with the tumour itself, was removed. To effect this, the patient should be held firmly; for, if she move, the structure of the growth is so slender, that the tumour will tear away. The forceps employed should be broad, not the common artery forceps, for they will lacerate, and not hold firmly. The excision of these growths is frequently accompanied by a pretty copious bleeding; but it is rarely necessary to tie any vessel, a compress applied to the part for a time usually arrests the hemorrhage. This, however, should be looked to, especially if the patient call at your house, and has any distance to go after the operation. Some nitrate of silver was applied freely to the part from which the tumour was removed. After the slough separated, the wound looked healthy: there was no pain in passing the urine, which flowed in a full stream for some days. On the 7th, the granulations were sprouting: I then directed the clerk carefully to touch the part with nitrate of silver dissolved in nitric acid. This I have found to be more potent, and I think, less painful (if I may judge by the expressions of the patients), than the nitrate of silver: its effect has been good, and our patient will soon leave the hospital. In those cases where the tumour is of the form of a cherry or mulberry, I find the better plan is to tie a piece of dentist's silk waxed around the stalk, and snip off the tumour below. The silk should not be too thin, or it will cut through; neither should it be tied too tightly, for the same reason. When the ligature comes away, the stalk must be destroyed in the same way as in the case related. If the mucous membrane itself and the submucous tissue be not destroyed, the vascular tumour will most certainly reappear. The most troublesome forms of the complaint that we have to treat are those in which the tumour not only peeps through the meatus, but runs along the urethra, and in some instances passes into the cavity of the bladder. In such the symptoms of

irritation are intense; the stream of urine is as fine as a hair, and the suffering patient attempts to pass her water every three or five minutes. If the disease go on unrelieved, she wastes, becomes dispirited, dyspeptic, and may at last die, worn out by her long continued and aggravated sufferings. In such cases we cannot remove by scissors or knife the vascular growth within the urethra. The first thing to be done, therefore, is to pass a small sound or catheter, to establish a canal for the passage of the urine. However painful this may be, and agonizing it most certainly is, it must be done. Some nitrate of silver must then be passed along the track of the urethra, and by its agency the vascular growth must be destroyed. The sound or catheter must be passed every day or every second day, according to circumstances, and the nitrate of silver repeated as soon as the slough occasioned by its use has separated. It is as well to let the patient keep the sound or bougie in the bladder for half an hour after the application of the caustic.

This is certainly the most difficult form of the tumour to treat; and unless we succeed in effectually destroying the structure from which the tumour proceeds, we shall most certainly have it reappearing. While this treatment is had recourse to, the patient must be closely watched, for I have seen cystitis occasioned more than once by the caustic applied in the manner I have recommended. But this will depend on the constitution and susceptibility of the patient, as well as upon the state of the mucous membrane of the bladder itself.

Various other modes of treatment have been recommended,—the application of the tincture of iodine with savine powder, alum in powder, &c. I have tried all of them. With some I have occasionally succeeded; with all I have many times failed. The plan I adopted in this woman's case is the one which I believe to be the most successful in the majority of cases.

When the cause of the continued irritation was removed, this patient's health and spirits quickly recovered; and at the present time she looks remarkably well and lively for a woman of 64.—*Medical Gazette*, 9th Jan. 1846.

Excision of the Neck of the Uterus for Cancer.

Excision of the Neck of the Uterus, although proposed in ancient times, was first *actually performed* by Mr Osiander, in the year 1801. The operation acquired considerable popularity in still more recent times, first through the influence of Baron Dupuytren, and afterwards through that of M. Lisfranc, who, in 1834, read a memoir upon the subject to the Academy of Sciences, enriched with many interesting and important details. Many of the most celebrated operators of the day became advocates for the operation; and both in France and other countries, several memoirs and observations were published in its defence and commendation. But, notwithstanding, the time of favour and popularity was not of long duration, and now for several years the removal of the neck of the uterus has scarcely, if at all, been practised in Paris. M. Lisfranc himself, who had been its chief promoter, has finally renounced it, if not entirely, at least in the majority of those cases in which he was wont to employ it. And the causes of this are alike palpable and satisfactory. On the one hand, the results of the extirpation of the cervix uteri have not been so successful as were anticipated; and on the other, the complaint for the removal of which it was employed, has latterly received another and far more successful treatment, to which we are about to solicit attention. In fact, these excisions which, for a time, were considered as cures, were most of them followed by relapses, which proved fatal; and a considerable number of patients sunk under the immediate effect of the operation, from the effects of hemorrhage, inflammation of the uterus and peritoneum, from pelvic abscess, &c. &c. Besides, it is notorious, that some of the successful cases which have been adduced as proofs of a successful result, were nothing more than slight affections of the cervix. We have ourselves been witnesses of a case of this sort performed upon a young woman whose only complaint was a simple enlargement of the neck. We have carefully examined the excised portion, and have therefore no doubt of the fact we

are now stating. This individual might, without doubt, have been cured by very simple means.

In the present state of the surgical art, the excision of the cervix uteri must be pronounced to be insufficient and dangerous. Insufficient, inasmuch as cancer is *never* a disease so circumscribed about the os tincæ, that it can be removed by means of a cutting instrument. We say *never*, deliberately; because, irrespective of the constitutional affections on which we would now say nothing, the local affection invariably extends throughout the deeper vascular parts beyond the apparent limits. Besides, these limits are not themselves very apparent in the generality of cases previous to the operation, since the speculum and finger can explore within a very limited range. The condition of the cervix uteri does not differ from that of other regions in which cancer occurs, and in which the malady spreads to deeper tissues, where neither the finger nor the knife can discover it. We shall illustrate this remark by a case where the disease manifested itself on the surface. Within these few days, a man has come into *La Charité*, under M. Velpeau, for a small isolated cancer upon the sclerotic of the left eye, about the size of half a nut, the vision of the eye being still perfect. Thrice has this tumour been extirpated, and thrice has it re-appeared. M. Velpeau is, moreover, persuaded that the lymphatics of the corresponding antrum maxillare, and the neighbourhood of the parotid have been attacked. It is then clear, that the morbid action exists in an occult state, previous to its exhibiting itself. This melancholy attribute exists everywhere without exception, and becomes the cause of relapses, when the disorder is encountered by means of the knife only. In many of the articles in this journal which have been devoted to the subject of cancer, we have endeavoured to show that this insidious process, beyond the reach of the knife, may, at a certain period, be successfully modified by dynamic remedies, general and local. From all these considerations, grounded on clinical observation, the excision of the cervix uteri appears to be an operation altogether *unsatisfactory*, whilst it is not less manifest, that it is fraught with *danger*.

While time and experience have thus been teaching us the unsatisfactory nature of this operation, attentive observation has led some practitioners towards a more promising treatment. The use of the actual cautery as a remedy at once destructive of the cancer of the cervix, and beneficially modifying the occult disorder, has furnished results so satisfactory, that it may be advantageously substituted for a bloody operation. The occurrences which we have witnessed at *L' Hôpital Saint-Louis*, under M. Jobert, and the treatment of cancer of the cervix according to this method, have impressed us so favourably with an estimate of its power, that we do not hesitate to declare, that it is our only promising resource in the present state of the art. This very day, we have seen under M. Jobert's care, a woman, aged 40, whom we had examined eight months before at the time of her admission. She had then an encephaloid cancer upon the cervix uteri, of the size of a hen's egg, with bleeding ulceration, infundibular in its shape, horrible in its appearance, and accompanied with intense pain, frightful hemorrhages, and a fetid ichorous discharge; there was also emaciation, sleeplessness, and that waxy tint which indicates the presence of a deep-seated organic lesion in some part of the frame. Fourteen applications have now been made of the actual cautery—the one known as the Biscaian cautery. A considerable quantity of accumulated caloric was thus at each application concentrated upon the disease: a deep eschar was the consequence, which separated in ten days, when the remedy was again applied. The result of all was the complete destruction of the tumour, also the whole of the cervix uteri to the point of its insertion into the vagina. In other cases, small cauteries have been introduced into the interior of the uterus itself. The result of this practice is a white round cicatrice, of good constitution, and a large os, with a diameter of about five lines in the midst of a smooth and soft tissue. M. Jobert satisfied us to-day that a dossil of charpee, an inch thick, entered easily by this opening into the cavity of the uterus. As soon as the first cauteries were applied, the attacks of hemorrhage were arrested, the ichorous discharge gradually

changed its nature, becoming first creamy and then purulent, till finally it ceased. The pains and sleeplessness have disappeared; the appetite, flesh, and strength have returned, and the patient is now well in every respect. No doubt the malady may return; but it is certainly something to be able thus to postpone a fatal termination.

We have also at the present moment under our observation, another woman, aged 45, large, of a dark complexion, and strong, who came into St Louis eight days ago, and put herself under the charge of M. Jobert. She is suffering from incessant hemorrhages, which very much exhaust her; and from abdominal pains, and the sleeplessness which these produce. Examined by the speculum, the os tincæ appears to resemble a hog's snout—bloody, granular, and hard—presenting very much the appearance of a quartered pomegranate with large pips. Two Biscaian cauteries, at a white heat, were applied to these vegetations, and apparently without producing the slightest pain. From this moment the hemorrhage ceased, and the patient slept, and acquired strength. The eschar fell off to-day, the cancerous mass is smaller, and less vegetative; the opening of the neck may now be discovered, and is secreting a creamy laudable pus, which leads us to indulge the hope that the interior of the neck is healthy, and that the disease is confined to the os. This would be truly a fortunate circumstance, for we might then aim at the destruction of the neck only, as in the preceding case, and hope for a permanent cure.

As a hemostatic agent the remedy now introduced to notice is highly important; and we may say is the only one of any efficacy in cases of this sort. For this reason, we are anxious to bring it prominently before the profession. It gradually and safely removes the local disease. What is the object sought for in the excision of the neck? It is the removal of the disease, as far as to the sound part. Now this indication is best fulfilled by the cautery; because the destruction may thus be effected in the neck, by degrees, without hemorrhage, violence, or any danger of reaction. The method, moreover, can be continued till the end is attained, an object which cannot be accomplished with the knife. Cauterization is also preferable in that it is slow, temporizing, and allows the cotemporaneous use of those internal remedies which are most likely to fortify the strength.

That the cautery may be efficacious in cases of cancer of the neck of the uterus, it is important that the button of the instrument be spherical, as large as a musket ball, and heated to whiteness. It might probably be worth while to get it made of platinum, which, as is well known, has a greater capacity for caloric. It is always necessary in these cases, to employ a tubular speculum of ivory, to protect the parts during the application of the fire.—*Annales de Thérapeutique*, January 1845.

Calomel in Chronic Urethral Discharges. By Dr Mayor.

Calomel in powder is applied to the affected part by means of a straight hollow catheter, perforated *in its side*, but *close to its extremity:* the lateral hole is filled with calomel, and then the instrument is introduced into the urethra. By means of acting with a stopper, like a piston in a syringe, and, slowly turning the catheter upon its axis, the mercurial salt is brought into contact with the seat of the discharge.

By comparative experiments, M. Mayor has satisfied himself that his cures, —accomplished, he says, as if by magic—are really due to the topical application of the calomel, and not to the mere introduction of the instrument. The former cured many obstinate cases which the latter method did not improve.—*Letter of M. Mayor to the Medical Society of Antwerp, abridged from Encyclographie Médicale*, January 1846.

OPHTHALMIA OCCASIONED BY LARVÆ UNDER THE EYELIDS.
By ORMOND B. of Nogaro.

On the 24th of June 1844, I was consulted by a young country woman, regarding an acute inflammation of her right eye. It was very red, swollen, and tearful. The affection began on the 22d; and, on the 23d, she consulted a surgeon, by whom she was bled without benefit. A second bleeding being proposed, the patient refused to submit, and consulted me. Upon my asking her whether she could attribute her malady to the infliction of a blow, she stated that, at nine A.M. on the 22d, when engaged in reaping rye, she felt a slight but distinct blow on the eye, immediately after which her sufferings commenced. Having separated the eyelids, I observed a whitish spot, which, having removed, I placed on my nail to exhibit to the patient. In doing so, what was my astonishment to observe the foreign body in motion. It was a small worm. Recollecting that certain flies deposit their larvæ on different parts of animals, I thought that this little insect was not perhaps alone: having placed three drops of olive oil upon the globe of the eye, I was soon able to remove ten worms in succession.

These little animals moved with incredible alacrity. They were round, pretty long, and smaller than those deposited on meat by the large blue fly. Some, with a black spot on the head, seemed to move more vigorously than the rest.

About the end of the same month of next year, a woman brought me her son, a boy between 10 and 11, complaining of an acute itching in one eye, which had continued since the preceding evening. This itching had commenced immediately after a fly had come in contact with the part. I discovered small larvæ at the bottom of the superior eyelid, and removed six of them, by the method adopted in the former case. I afterwards extracted two more, after which the eye got quite well.—*Abeille Médicale*, as quoted in the *Encyclographie Médicale* for January 1846.

REMOVAL OF THE TONGUE BY LIGATURE. [NEW PROCESS.]

A woman, aged 30, apparently of good constitution, who had already been operated upon, by M. Chassaignac, for cancer of the tongue—is the subject of the following narrative.—In consequence of a return of the disease, she was re-admitted under the care of M. Blandin. On examination, it was discovered, that the tumour occupied the anterior three-fourths of the right side of the tongue, and that it exhibited all the characters of cancer. In consequence of the difficulty that would probably have been experienced from troublesome hemorrhage, M. B. preferred, for its removal, the ligature, instead of the knife. The following is the method he pursued:—A needle, with a fixed handle, and of the shape of a small spatula, slightly curved in its flat surface, and with the eye near its point, was armed with two ribbon-shaped threads, the one white and the other black, so as to be easily distinguished from each other in the course of the operation. The white thread was passed through the eye in such a way as to leave its two ends of equal length; whilst the black thread was introduced but a short way, leaving one end much longer than the other. The needle thus armed was passed below the tongue, or between the latter and the floor of the mouth. The index finger was introduced so as to serve as a conductor for the instrument, which was passed through the tongue in a direction from below upwards, and from before backwards, towards the healthy portion, that is to say, between the base of the tongue, and the posterior edge of the tumour. On the point of the needle emerging on the dorsum of the tongue, the operator seized the thread by the loop and drew it towards him, he then divided it with a pair of scissors, so that the thread, formerly in one, now formed two. These two threads, one end of which being under the tongue, and the other on its dorsal surface, were directed, the one, from before backwards, the other transversely, and the ends

tied in a firm knot, so that they thus constituted two ligatures, the one, antero-posterior, and the other, transverse to the healthy limits of the disease. During these manœuvres with the double white thread, the needle still armed with the black thread was allowed to remain in its place; the operator now withdrew the instrument half through the thickness of the tongue, and pushing it anew caused the point to emerge at the left edge on a level with the base, where he seized the small end of the black thread. He then withdrew the needle entirely, and, by means of a knot, fixed the two ends of the thread round the inferior surface of the tongue. In this way then, the tongue was strangulated in every direction, by means of three ligatures confined to the diseased portion, that is to say, one antero-posterior, a second transverse, a third horizontal to the inferior surface; and all this was accomplished by two threads, and two punctures of a needle directed in the same course in the form of the letter Y. This description, at first sight, may not be easily comprehended, but if followed out, with a needle in hand, it will be found ingenious, simple, and important; we have just repeated it on a fold of paper made so as to resemble the tongue; and thus a clear idea of it may be obtained. The three knots were fixed between the dental arches. On the third day the tumour had become mortified; on this, the tenth day from the operation, the ligatures have not yet separated, the tumour is mortifying in the mouth, and the patient suffers much. Chlorinated washes have been prescribed.

In France, at this time, the generally admitted theory in regard to cancer, is, that it is a disease local in its origin. And thus the treatment is confined to the locality by means of cutting instruments or caustics; whilst the constitutional state is almost wholly overlooked. And what happens? In the course of a short time there is a relapse. An operation is again had recourse to, if this be possible, and so on after each new relapse, till the constitutional effect becomes evident. It is then said there is a cancerous diathesis, and the patient is declared lost. We have always protested against this mode of viewing the subject; and relying on the authority of celebrated men, and facts easy of verification, we have stated clearly the general therapeutical indications required in the different periods of such cases. Most practitioners, however, disrelish such reflections, and prefer wandering in blind routine, to adopting and applying the new dynamic views. This is very sad; for the question is one of life or death to a number of unhappy beings, who might be either saved, or, at least, relieved. We consider it unnecessary to repeat the facts and reasons we have so often dwelt upon; surgeons do not believe them, have never tried them, and prefer doing nothing.—*Annales de Thérapeutique*, Dec. 1845.

[From the next number of the *Annales*, (January 1846,) we find that the subject of the preceding case has made a good recovery.]

The portion included within the ligature has come away, the wound has healed, and no hardness can be felt either in the cicatrix or elsewhere. Nearly a third of the mass of the tongue has been removed. In consequence of the operation, the healthy portion of the tongue is now firmly adherent to the floor of the mouth, at the spot where the ligature was passed; its point is turned laterally towards the cicatrix, so that the organ, when lying in the mouth, has the appearance of the letter S: it is nearly immoveable. Its point, however, is free towards the extremity, and is capable of executing certain motions. Deglutition is not in the least impaired, but the voice has lost its clearness; the alteration in this respect, however, is not great, and the patient is too happy to be freed from her painful complaint, to pay much attention to these slight inconveniences, which will, no doubt, diminish with time. We know indeed, from many previous facts, that after removal of the tongue, the voice is, in the first instance, somewhat altered, but that it afterwards regains its clearness: in consequence of a particular modification which the larynx undergoes in its position, the organ rises with the pharynx, and the posterior stump of the tongue is carried forwards, and thus adapted to the purposes of deglutition and articulation.—*Annales de Thérapeutique*, January 1846.

ERYSIPELAS OF THE HEAD.—CLINICAL REMARKS.

Erysipelas of the Head is, at this time, very common in many of our hospitals, (Paris,) and of a character so severe as to merit the attention of practitioners. The disease appears sometimes in the face, and sometimes in the scalp. Young women are more subject to it than others. There are several such cases in M. Chomel's wards in the Hôtel Dieu; and as he has devoted one of his clinical lectures to the subject, we shall now give its principal heads. In most of the patients, the affection commences with shivering, followed by fever and delirium. In some the disease is preceded by a painful swelling of several of the glands in the neighbourhood of the jaw. When this appears in a subject, otherwise well constituted, and in good health, an attack of erysipelas in the course of three or four days at most, may, with certainty, be predicted. This remark, which we owe to Frank, has been verified by M. Chomel. In others enlargement of the glands comes on *after* the appearance of the erysipelas. To these preliminary symptoms there succeeds a swelling of one side of the face, with redness, tension, and pain, as in other kinds of erysipelas. The disease invades, by degrees, the whole of the face, and then extends to the scalp. The delirium and fever continue for several days. In some cases the disease commences in the scalp, and from that extends to the face. When confined to the scalp, the nature of the disease is easily overlooked; it may be mistaken for a rheumatic or neuralgic affection, in consequence of its not presenting the same characters as in other regions. The importance of a correct diagnosis, in relation to treatment, will be readily understood; for erysipelas of the scalp may terminate in death. Two or three cases of the kind have occurred to M. Chomel: the erysipelas originated spontaneously, could be traced to no traumatic cause, and in healthy well-constituted individuals, who had never previously been subject to the disease. It is generally believed that in such cases the disease extends to the membranes of the brain, as there are usually head symptoms from the commencement. This, however, according to M. Chomel, is not the case, because in the cases just alluded to, nothing whatever was found within the cranium: the brain, as well as its membranes, were healthy.

The following are the characters by means of which erysipelas of the scalp may be recognised. If there are enlarged glands at the roots of the jaw, there is a presumption that erysipelas is present, as has been already remarked. On separating the hairs as far as their roots, over the swelled and painful parts, the skin is found of a grey colour, slightly tinged with rose-red. This hue is not the same as that of the skin of the face, or any other part affected with erysipelas; but neither is it that which the scalp exhibits in the normal state. The difference may be recognised by examining of those portions still free from the disease, which are of a whitish hue. The second character to which M. Chomel attaches importance, is that of œdema. On making pressure with the fingers over those portions presumed to be attacked with the disease, pain and pitting of the tissues are produced; the impression remains as in all other kinds of œdema, and its presence may be ascertained by passing the flat part of the finger over the spot, when the elevated and circular edge, and the hollow of the impression, will be felt. The disease progresses from one part of the scalp to another, the fever and delirium continue with more or less severity, and the face, in its turn, becomes affected. Should the disease not have been previously recognised, its nature now becomes evident. These observations are, no doubt, interesting; yet, it is difficult to comprehend why there should be delirium for such a length of time, and of so serious a character, unless we admit an affection of the membranes of the brain. M. Chomel endeavours to explain the fact by referring it to the irritation experienced, by the numerous nervous filaments, of the face and scalp. Dissection in other cases, however, has incontestably demonstrated the existence of a series of small abscesses within the orbit, the cranium, and in the neighbourhood of the orbit:—and the membranes, moreover, injected. (Piorry.) It must not be forgotten that in tissues where the ramification of the vessels is so minute, as in the membranes of the brain, inflammation does not always leave

appreciable traces in the dead body, more especially if the disease has continued for any length of time, and bloodletting has been practised. Erysipelas, in its essence, is nothing more than a vascular inflammation, a capillary artero-phlebitis, which is transmitted to the lymphatics, or originates in them, as the latter have communications everywhere with the veins, whatever M. Serre may say to the contrary. We know, moreover, that external erysipelas itself does not always leave well marked traces of its existence in the dead body, and for the very reason, we repeat, that the disease is one of vascular inflammation, whose intensity may be sufficient to produce death, but not great enough to leave morbid secretions, as in other inflammations. We have thought it necessary to enter into these details, in order to account for the negative dissections of M. Chomel.

Another fact, of no less interest, adduced by M. Chomel, is one having reference to a symptom which is precursory to the extension of the disease. Every time the disease shows a disposition to extend from one point to another, there is produced, at the limit of its extension, a red elevation of the skin, of the thickness of a line and a-half, which is easily recognised. This kind of conterminous swelling indicates a disposition to extend, and, by means of it, the periods of shifting may be recognised, and, in its absence, the period of definite fixation. This double character is of importance, especially when we wish to determine the value, says M. Chomel, of certain remedies reputed to possess the power of limiting the progress of erratic or wandering erysipelas. With the view of determining the value of flying blisters, nitrate of silver, and mercurial ointment, M. C. applied them in those cases in which the elevation, of which we have just spoken, was present, but he never found them either limit or arrest the progress of the affection. The erysipelas, he says, always cleared the limits drawn by the blister, nitrate of silver, and mercurial ointment, and continued its progress. Whence he concludes, there must have been some illusion; and that the success attributed to these means was the mere effect of coincidence, no attention having been paid to the condition just spoken of, and that, in such cases, the disease would have stopped naturally. M. C. has witnessed cases of erratic erysipelas, where the inflammation progressed as freely over surfaces which had been accidentally covered with a blister, as elsewhere. M. C. takes no account of the dynamic action of these remedies. They may, however, be useful by their antiphlogistic action, although they produce no effect in checking the progress of the disease.

At this point M. C. took a general view of other inflammations, particularly pneumonia, and taxed those who pretend to *strangle* (juguler) such inflammations at their birth, by means of repeated bleedings, as labouring under a gross delusion. Every acute inflammation, he remarked, whatever treatment is pursued, has four distinct periods through which it must pass, and which nothing can prevent;—viz. a first stage of more or less intensity; a relative progressive stage or period of increase; a stationary period; and a period of decline. The intensity and duration of these four periods may no doubt be abridged by efficacious treatment, but the disease can never be completely cut short, or strangled, as has been pretended. The same argument applies equally to erysipelas.

The treatment adopted by M. Chomel, in erysipelas of the head, consists in venesection, repeated or not according to the intensity of the fever and the delirium; in saline purgatives repeated every day; blisters to the feet, flying sinapisms on the legs, and cooling drinks. One condition of great importance is that of keeping the patients nearly in a sitting posture in bed, so that the head is elevated; it is also kept uncovered for the purpose of preventing an accumulation of heat, and consequent congestion. All the patients so treated at the Hôtel Dieu have been cured. M. Rayer has adopted nearly the same principles, and has also found them to answer well. M. Chomel disapproves of the application of leeches either to the diseased region or its neighbourhood, in consequence of their bites favouring the extension of the erysipelas. He also disapproves of tartar-emetic, in consequence of the vomiting caused by it, and the augmentation, according to him, of the cephalic congestion thereby. In M. Chomel's eyes, tartar-emetic is a mere evacuant remedy; its dynamic action,

the only intrinsic and efficacious one, he holds to be of no value. The neutral salts and castor oil appear to him preferable.

We may here mention, that we have seen M. Bouillaud treat erysipelas by means of repeated bleedings, and the free application of axunge to the inflamed tissues with good success. M. Mojon has found tartar-emetic in solution very efficacious as a topical antiphlogistic, when applied continuously by means of compresses. Its application in this form whitens the tissues, and abates the inflammation. If preferred, the solution may be used tepid, but it is better cold, and no risk is incurred by its application.—*Annales de Thérapeutique*, January 1846.

PHLEGMONOUS ERYSIPELAS.—ETIOLOGICAL REMARKS. EXPOSITION OF A NEW MODE OF TREATMENT.

For some time past, M. Gerdy has devoted considerable attention to the interesting question of the Etiology of Phlegmonous Erysipelas in the extremities, in consequence of his having met with several cases in his wards at La Charité. In the cases in question, the erysipelas originated from a traumatic cause,—a contusion with or without a wound in the fingers, hand, elbow, foot, and leg. A simple erysipelatous redness first manifested itself round the wound, then the part began to swell, and assumed a phlegmonous character, the erysipelatous redness extending with the swelling. M. Gerdy attributes the disease to the naturally declined position of the extremities, to the stagnation of the blood in the peripheral capillaries of the latter, in consequence of which the contused part first becomes superficially inflamed under the form of erysipelas, and, subsequently, more deeply under that of phlegmon: and, if not speedily remedied, by the means we are about to indicate, the disease passes into that of suppuration, the consequence of which is, the formation of dissecting abscesses, and separation of the integuments to such an extent as to necessitate amputation or produce death. Erysipelas seldom assumes the phlegmonous or suppurating character in the head or neck; and for the reason, says M. Gerdy, that the cause we have first indicated does not operate there, the venous circulation being free and descending. Thus, then, according to M. G., erysipelas of the extremities readily passes into that of phlegmonous suppuration, in consequence of the weight obstructing the progress of the circulation upwards, and to the same circumstance may be attributed the peculiarly serious character of punctures of the fingers, which are apt to terminate in panaris or phlegmon. Dupuytren endeavoured to explain the difference, in course, of erysipelas in the head, from that in the extremities, by a peculiarity in the anatomical distribution of the nutritive vessels in the two parts. The true reason, however, says M. Gerdy, is to be sought for in the laws of gravity as applied to the circulation.

As a consequence of these views, M. Gerdy considers that an essential part of the treatment consists in keeping the extremity in an elevated position, so as to prevent stagnation of the blood, and assist its circulation upwards. The good effects from this mode of treatment are most striking. In fact, under the influence of position alone gradual amendment will be observed, or even a complete cure; should the disease have a tendency to descend, a too elevated position may cause it to retrograde, as we lately witnessed in the wards of M. Gerdy, in a case of phlegmonous erysipelas of the fore-arm, the result of a contusion of the elbow; the disease was descending, and had invaded the superior half of the fore-arm, when the patient had the resolution to keep the arm for a long time suspended, by means of a cord attached to the roof of the bed. Next day the disease had disappeared from the fore-arm, and had extended to the posterior part of the arm; the member had then to be placed in a less elevated position. It must be observed that we are not now speaking of simple erratic erysipelas, for we know that phlegmonous erysipelas extends, without leaving its primitive place of origin, and does not become displaced. We have seen a great many cases of this kind undergo great amendment in M. Gerdy's wards, from the simple fact of putting the limb into an elevated position, by means of pillows, and properly adapted inclined planes. All this does not, of

course, supersede the application of both local and general means of treatment. M. Gerdy has recourse, at an early period, to deep incisions, by which means he relieves the engorged tissues, and predisposes them to speedy resolution; but, we repeat, these remedies are of little avail, unless the position of the limb be, at the same time, attended to. By an early recourse to this mode of treatment, sinuses, and the formation of large abscesses, are avoided; or if suppuration does occur, it is confined and circumscribed, and has more the character of that which takes place in the head and neck, under similar circumstances. These remarks are the result of lengthened clinical observation, and may be verified by any one, such cases being of every day occurrence. The chief point is the influence of gravity in aggravating the disease, and the indications which may be drawn from this in the way of prophylaxis and cure.—*Annales de Therapeutique*, January 1846.

Lithotrity. By Sir Philip Crampton, Bart., F.R.S.

[Sir Philip Crampton has published a very important and elaborate essay on Lithotrity, occupying fifty-nine pages of the first No. of the *Dublin Quarterly Journal of Medical Science*. As the paper, however, contains no very *novel* views, we content ourselves by extracting the following summary of the results of the author's experience—referring for details to the memoir itself.]

The thirty-five cases of Stone in the Bladder which have applied to me for relief between the months of March 1834, and November 1845, have been disposed of in the following way:—

Two—the Rev. Gideon Ousley, aged eighty-one, and a gentleman who resided at Coolock, but whose case I did not note—were set aside as unfit for any operation; both had diseased bladder and kidneys.

Four were sent to Baron Heurteloup, and were cured by lithotrity. See the Baron's Treatise on Lithotrity, in which those cases are detailed.

Twenty were operated on by me (by lithotrity); and nine ditto by cystotomy. Total, 35.

Of those operated on by lithotrity all were adults.

Of those operated on by cystotomy three were under twelve years of age, two boys and a girl.

Six were adults and males.

All that were operated on by lithotrity were cured, with the exception of Clarke, and in his case the operation cannot be said to have failed, because it was performed for the express purpose (as stated in a clinical lecture which preceded the operation) of bringing the stone into a condition to be removed by lithotomy, and this the operation fully effected; the man lived for three months after the last operation by lithotrity, and died of rupture of the stomach caused by an excess in drinking.

In the case of the Rev. Mr Druett, the operation (as far as it went) was perfectly successful; the cure was not completed, from causes that had no reference to the operation.

All that were operated on by cystotomy recovered. Major Percival, it is true, died three months afterwards, of inflammation of the kidney and testicle, but the wound had nearly healed. It is right to observe that six months previous to the operation, Major Percival had suffered a similar attack of inflammation of the kidney, attended with suppuration, which reduced him to such a degree that no expectations were entertained of his recovery.

It appears, then, that of the thirty-three patients operated upon, nine only were submitted to cystotomy (about one-fourth). It is not, however, to be inferred from this statement, that out of any given number of cases of calculus only one-fourth should be operated on by cystotomy; such a conclusion would be manifestly erroneous; for if ten or twelve of the twenty-four operated on by lithotrity, instead of being adults, were children and old persons, the proportions might probably be reversed, and the cases suitable to lithotrity might be reduced to ten or twelve, and the difference placed to the credit of cystoto-

my—and this affords a striking illustration of the utter uselessness (not to say absolute mischief) of drawing any inference, favourable or unfavourable, to lithotrity from a statement (however accurate) of the mere *numbers* operated on, without reference to the *circumstances* of each particular case. It is on this account that I have ventured on the somewhat unusual course of giving a detailed and authenticated list of every case of calculus that has been presented to me within a period of eleven years (commencing at the time at which I began to practise lithotrity,) with the circumstances of each case and the result, up to the present day. The numbers (I admit) are very far from being sufficient to justify any general conclusion being drawn as to the respective values of the old and new operations, but they are sufficient to establish some points of great practical importance upon which surgical opinion is still much divided.—*Dublin Quarterly Journal* for February 1846.

LIGATURE OF BOTH CAROTIDS. BY DR ELLIS, of the Grand Rapids, Michigan.

The patient, 21 years of age, was shot by a comrade, who mistook him for a bear. The ball struck him near the centre and immediately above the spine of the scapula of the left side, passing out, after making a flesh wound of about two inches and a half, towards the neck, and after about the same space, it entered the neck over the centre and posterior edge of the sterno-cleido-mastoid muscle, passed up through the centre of the tongue, and out of it, to the right of the mesian line, struck the lateral incisor, cuspid, and bicuspid of the right side, knocked them out, and the alveolar process external to them; and passed then through the upper lip, leaving a ragged opening through it. At the time there was little or no hemorrhage. During the night of the seventh day, secondary hemorrhage from the wound in the tongue occurred, but was readily subdued by compressing the left carotid and the orifices of the wound. The bleeding recurring the next night, Dr Ellis applied a ligature to the left carotid. The patient then appeared to be doing well, until the eleventh day after the accident, when there was a return of the hemorrhage, which was arrested by compression of the right carotid. The loss of blood again occurring, it was decided, on consultation, that the lingual artery should be tied, or else the right carotid. The latter vessel was selected, as it was uncertain whether the hemorrhage was from the right lingual, or from the un-ligatured end of the left carotid, and also because there was considerable tumefaction under the angle of the jaw, so as to prevent the corner of the os hyoides being felt. The ligature of the right carotid did not cause any disagreeable feelings. There was not any fainting, no unpleasant sensations about the head; all the perceptible change was a slight paleness, and a cessation of pulsation in both temporal arteries, and of the hemorrhage. The pulse soon increased in frequency; but did not maintain itself at the high number (140) it first reached. Some difficulty of breathing afterwards came on, with a hacking cough, which was treated with aconite and belladonna. The ligature of the left carotid came away on the seventeenth day, and that from the right on the fourteenth from its application. The wound on the left side continued to discharge for several weeks, when the portion of the artery between the ligature and wound sloughed, and came away in three pieces at different times. The patient, at the date of the report, was in comfortable health, and attending to business.

Dr Ellis, in remarking on this case, says there are several reasons which make the above case very interesting. It shows the comparative safety with which both carotids can be ligatured, so far as the brain is concerned, and the danger of pulmonary congestion. It shows with what rapidity the anastomosing branches of the opposite vessel supply blood enough to give rise to pulsation in the temporal artery, and the danger of hemorrhage from the un-ligatured end of the artery, where it is not possible to tie both ends of the wounded vessel. —*New York Journal of Medicine*, as quoted in *British American Journal of Medical and Physical Science*, January 1846.

Gum Arabic, or Iodine for the Removal of Certain Foreign Bodies from the Eye.

A German writer has recently proposed, that when a foreign body, such as a particle of straw, gets between the eyelids and globe of the eye, but without being impacted, a solution of gum arabic dropped into the eye may be advantageously employed for its extraction. To use this means, the patient's head should be thrown back, so that a drop of the mucilage may be permitted to fall between the lids, or introduced by the aid of a feather, care being taken not to touch the globe with the latter. This solution does not produce any disagreeable sensation: it instantly removes the pain and pressure by enveloping the foreign body, softening it, and sliding it out of the eye. On the whole, the author affirms, that there is no means better or more sure.

Probably the white of egg, more easily procured than mucilage of gum, may afford analogous results.

We have little to say on the employment of this remedy. Most usually in the cases in which it is counselled, the tears alone suffice to remove the foreign body; but there is nothing to prevent its employment, as it is perfectly innocuous. It is not altogether thus with respect to *iodine*, employed by Dr Reiniger against scales of iron imbedded in the cornea; and it is more simple and more sure to extract at the time the foreign body with the point of a bistoury or of a needle. We have not yet found any case rebellious to this slight operation; and to speak truth, it seems to us difficult to comprehend how an accustomed hand can fail to conquer all obstacles. However, many practitioners find a difficulty in the employment of sharp instruments with the eye, and the resource imagined by M. Reiniger may, therefore, be found very valuable. The following case will be read with interest:—

A cutler had received in the eye, while working, a particle of steel, which became deeply fixed in the thickness of the transparent cornea. It was vainly attempted to extract it by a forceps and needle, and the surgeon who had been first called in, was obliged to renounce the attempt. Eight days afterwards the eye was very red; the bit of steel was visible without the aid of a lens—it had preserved its brilliance. The patient complained of a sensation of itching and heat, and vision was no longer distinct.

It was at this time that M. Reiniger was consulted. This practitioner commenced by applying to the patient's eye a very powerful artificial magnet, but without obtaining any advantageous effect. He now saw no other resource than to employ some chemical method for dissolving the particle of steel, which had the dimensions of a needle's point. He could not venture to employ any dilute lotions of hydrochloric acid, recommended for this purpose by MM. Krisner and Andrew, because the patient could not bear the application of mere cold water during entire hours to the open eye. He therefore resolved to prescribe the following collyrium:—

R. Iodinii,	gr. 1,
Iodid. potassæ,	gr. 10,
Mell. rosarum,	℥10½.

M. et fiat solutio, sec. artem.

Upon the first application of this collyrium, the bit of steel became oxidized! and its lustre disappeared. Very soon the redness of the eye diminished, the heat and itching became alleviated; and by continuing the use of the collyrium, the particle of steel diminished to that degree, that it was no longer capable of being distinguished without the aid of a lens. The patient finally recovered completely the visual faculty.

This process has for its object to transform the iron into a soluble iodide; and it appears to be much preferable not only to the employment of diluted hydrochloric acid, but also to acetic acid equally diluted as a collyrium, which was proposed some time ago.—*Journal de Chirurgie*, June 1845, as quoted in the *Dublin Hospital Gazette* for 1st December 1845.

CHEMISTRY AND MATERIA MEDICA.

COMBINATIONS OF UREA WITH SALTS. BY DR WEBSTER.

The Combinations of Urea with the Salts are merely held together by a very weak affinity, and appear to exist only with salts whose solubility in water or alcohol does not differ much from that of the urea. Nevertheless, however, most of the double salts formed are not decomposed by boiling, and some not even by nitric and oxalic acids.

THE NITRATES AND UREA.—I. $AgO, NO^5 + C^2 H^4 N^2 O^2$.—When concentrated aqueous solutions of equal equivalents of urea and nitrate of silver are mixed, either cold, or heated to 122°, a compound immediately crystallizes in large shining rhombic prisms, with oblique terminal surface. The crystals are soluble in cold or hot water, as well as in cold or hot alcohol; but if the aqueous solution be boiled for some length of time, it becomes turbid, and deposits, on cooling, long prismatic crystals, which, on being boiled with a solution of chloride of ammonia, yielded chloride of silver. The decanted liquid, when evaporated to dryness, and extracted with absolute alcohol, yielded large crystals of urea. The long prisms are therefore cyanate of silver. From the liquid filtered from this salt, unaltered crystals of the compound employed are reobtained on cooling, if it be sufficiently concentrated; and the author could not succeed, even by frequently-repeated boiling, in converting the whole of the oxide of silver into cyanate, as asserted by Liebig; the other product of decomposition, which could not be distinctly ascertained for the above reason, is undoubtedly nitrate of ammonia. When the salt is heated slowly in a test-tube, it gives off no water, fuses, and disengages at first ammoniacal and subsequently red acid vapours. On being heated quickly, it is decomposed with evolution of light, detonation, and formation of red vapours, metallic silver being left behind. If the finely-pulverized crystals are allowed to remain for twelve hours in a water-bath at 212°, they do not alter; but after eighteen hours, the powder caked into a moist mass, which, on being heated longer, became dry, but immediately moist again on cooling; this appears to indicate the formation of nitrate of ammonia. On extracting the mass with water, however, very little cyanate of silver is left on the filter, and the liquid again yields crystals of the undecomposed salt.

An excess of nitric acid produces a precipitate of nitrate of urea, but the whole of the urea is not separated. Oxalic acid only throws down oxalate of silver. An alcoholic solution of pure soda produces in the solution of the double salt a yellow precipitate, which gives off ammoniacal vapours when heated, and becomes black on boiling with water. This body appears to contain a compound of urea with silver, for when frequently boiled with water, the residue on the filter nevertheless constantly gives off ammoniacal vapours on being heated in the dry state. At all events the precipitate is a mixture of carbonated alkali which adheres most tenaciously, and the silver compound in question; undecomposed $AgO\ NO^5 + C^2 H^4 N^2 O^2$ does not appear to form part, for when the body is decomposed by muriatic acid, the filtered solution gives no signs of the presence of nitric acid. The black body obtained from the yellow one by boiling with water appears to be a product of decomposition mixed with metallic silver, for it no longer dissolves in cold nitric acid.

The analysis of the above combination yielded—

Oxide of silver,	49·4	50·019	49·46	1	50·42	
Nitric acid,	...	...	50·45	1	23·48	
Urea,	...	...		1	26·10	

II. $2(AgO, NO^5) + C^2 H^4 N^2 O^2$.—This compound is formed by mixing 3 to 4 atoms of nitrate of silver with 1 atom of urea. On evaporation under the air-pump, the compound $AgO\ NO^5$ + Ur separates in the first two crystallizations; but in the third, fourth, and fifth, the compound $2\ AgO, NO^5$ + Ur; and finally pure nitrate of silver. This compound forms large shining rhombic prisms with plane terminal surface. The analysis yielded 83·00–83·67 per cent. nitrate of silver; the above formula requires 84·9 per cent.

III. $CaO, NO^5 + 3(C^2 H^4 N^2 O^2)$.—This compound separates from an aqueous but better from an alcoholic solution, on slow evaporation over sulphuric acid in well-formed deliquescent crystals, which have a vitreous lustre, fuse on ignition, give off first ammoniacal and then acid vapours, and, on being heated, quickly explode violently, leaving behind carbonate of lime. Dissolved in water, and treated with an excess of oxalic acid, oxalate of lime and oxalate of urea separate, but a great deal of the latter remains dissolved in the liquid. Nitric acid produces no precipitate in the solution. On combustion it yielded 10·65–10·4 per cent. lime; the above formula requires 10·9 per cent.

IV. $MgO, NO^5 + 2(C^2 H^4 N^2 O^2)$.—If a solution of nitrate of magnesia and urea in absolute alcohol be slowly evaporated under the air-pump, very soon large, shining, oblique, rhombic prisms, with oblique terminal surfaces, form, which are deliquescent, and melt in the water bath at 185° to a transparent liquid, which, long after cooling, exhibits only an incipient crystallization at some points. The melted mass, dissolved in alcohol, yields the original crystals. At a higher temperature it is decomposed like the lime-compound; the residue is magnesia. This compound is not decomposed on boiling either its aqueous or alcoholic solution; when boiled for a long time with water, and treated with nitrate of silver, it yields no precipitate. Nitric acid does not separate the whole of the urea even from a concentrated solution of the salt; oxalic acid, even in large excess, produces no precipitate, nor does a solution of pure potash. The analysis of the salt yielded 10·594 to 10·24 per cent. magnesia; the formula $MgO, NO^5 + 2(C^2 H^4 N^2 O^2)$ requires 10·6 per cent.

V. $NaO, NO^5 + C^2 H^4 N^2 O^2 + 2HO$.—On mixing very concentrated hot aqueous solutions of nitrate of soda and urea in single equivalents, a compound of the two bodies separates on cooling in long prismatic crystals, which are permanent in the air, begin to melt at 95°, but are not quite liquid even at 212°. At 284 they begin to be decomposed, and on the application of a stronger heat they behave like the compounds previously described. The salt may be boiled in water without any precipitate being subsequently occasioned by nitrate of silver. Heated to melting and then dissolved in water, it is not decomposed, but crystallizes unaltered from it; but if first deprived of its water of crystallization and then dissolved in water, at first pure nitrate of soda crystallizes on slow evaporation, and then urea. If this mixture be dissolved in a little hot water, the combination of the two bodies separates on cooling. An aqueous solution, treated with a large excess of nitric acid, yielded no precipitate, which was also the case with oxalic acid.

The analysis, which is somewhat difficult to make, from the salt exploding on being heated, yielded—

Soda,	17·67	18·90	18·00	19·06 1	19·13
Water,	11·00	10·08	...	10·90 2	11·01

The crystals become gradually opaque on exposure to the air, and part with some water.

Nitrate of potash, nitrate of barytes and strontian, mixed with urea, gradually crystallize separately from the solution; protonitrate of mercury, added to a hot solution of urea, is partially reduced to mercury; and on evaporating the filtered solution, a basic mercurial salt, containing no urea, separates. The solution on which the ammoniacal salt existed with the urea yielded some prismatic deliquescent crystals; it could not however be decided whether they contained any urea.

Combinations of Urea with Chlorides.—I. $NaCl + C^2H^4N^2O^2 + 3HO$. From a cold saturated solution of single equivalents of sodium and urea, very shining rhombic prisms, with oblique terminal surfaces, separate on evaporation; they deliquesce in the air, melt between 140° and 160°, part with water, and on stronger heating give off ammoniacal vapours, leaving chloride of sodium. They are very readily soluble in water, are decomposed in boiling or cold absolute alcohol, a small quantity of NaCl being dissolved with the whole of the urea. But if a tolerably concentrated aqueous solution of the crystals is mixed with 10 to 12 volumes of alcohol, nothing separates even after a considerable length of

time; indeed, a certain excess of nitric acid then no longer produces any precipitation. This circumstance is important in the determination of urea in urine, as this constantly contains chloride of sodium. From a concentrated aqueous solution the urea is immediately precipitated by nitric acid, with the exception of a very small quantity. Oxalic acid forms only after a long time a precipitate of oxalate of soda, and on further concentration also of oxalate of urea. When the crystallized compound of urea with chloride of sodium is melted and then boiled in water, it is not decomposed. Analysis yielded—

Chloride of sodium,...	42·24	42·60	43·0	42·80
Water, ...	...	12·55	...	12·57

II. $2HgCl + C^2H^4N^2O^2$.—This compound is immediately formed when the mixture of boiling solutions of perchloride of mercury and urea is allowed to cool; it forms very flat crystals of a faint mother-of-pearl lustre, which are sparingly soluble in cold water, and are immediately decomposed on boiling. If the aqueous solution be allowed to evaporate over sulphuric acid, crystals of the perchloride of mercury are first obtained, then of the undecomposed compound, and lastly of urea. In boiling absolute alcohol they dissolve more readily; but if the solution be evaporated even at the ordinary temperature, it is partially decomposed; the crystals begin to melt at 257°, at 263° they are perfectly liquid, at 266° they solidify to a thick paste, from which corrosive sublimate and a trace of chloride of ammonium may be extracted by absolute alcohol; on boiling the white residue with water, a small quantity of chloride of ammonium and corrosive sublimate is removed; it is converted into a yellow powder, which heated when dry does not melt, gives off ammoniacal vapours, becomes transitorily red, while a sublimate of calomel and metallic mercury is formed. The white residue behaved therefore like the chloro-amidide of mercury.

A solution of the perchloride of mercury compound is not precipitated by nitric or oxalic acid, not even when they are added in large excess. A yellow flocculent powder is precipitated from the alcoholic solution by pure potash, which, washed with water until it no longer reacts alkaline, is insoluble in water and alcohol, becomes grey on the surface by exposure to light, and then dissolves in hydrochloric acid with separation of a small quantity of a white sediment, gives off strong ammoniacal vapours, heated when dry yields a sublimate of chloride of ammonium and mercury, and leaves in the residue a very minute quantity of a solid body (chloride of potassium).

The above compound of urea with perchloride of mercury yielded, on decomposition with sulphuretted hydrogen and nitrate of silver, 60·38 per cent. mercury and 20·944 chlorine. The formula $2HgCl + C^2H^4N^2O^2$ requires 60·73 of the former and 21·24 per cent. of the latter.

The author did not succeed in obtaining crystalline compounds with urea and chloride of potassium, chloride of ammonium and chloride of barium; chloride of strontium yielded a very deliquescent compound, which on being heated gave off but very few ammoniacal vapours, so that this might readily depend upon a mere admixture of urea.

From the composition of the above compounds urea may be regarded both as CH^2 and as $C^2H^4N^2O^2$; however, the two compounds with nitrate of silver speak very much in favour of the composition $C^2H^4N^2O^2$, as otherwise, if the second silver salt were considered as $AgO, NO^5 + CH^2NO$, the first would become $2(AgO, NO^5) + 2(CH^2NO)$, and the lime and the magnesia compounds would have a still more complicated composition.—*Journ. für Pract. Chem.*, xxxv. p. 51, and *Chemical Gazette*, 1st February 1846.

Preparation of Alcoholic Tinctures. By J. Personne.

The objects of the present memoir, for which the author received the prize proposed on this subject by the *Société de Pharmacie*, were,—1st, To ascertain whether the proportion of alcohol at present employed is sufficient to dissolve the whole, or at least the greatest possible amount of the principles contained in the substances, and if not, to determine the best proportion to be used; and 2d, To ascertain the most suitable degree of strength the alcohol should possess to

dissolve the active principles of the materials. In order to determine the amount of alcohol requisite, it was necessary to macerate the substances under examination with variable quantities of spirit, then to obtain the entire amount of the tincture, and to evaporate it in order to obtain the weight of the matters in solution. To accomplish this, pressure was first tried; but this was soon found to be insufficient, the same operation, repeated several times with the same proportions of solvent and substance, having constantly yielded widely different results. The author found the following process to answer best:—A weighed quantity of substance was macerated during a suitable time in a given proportion of alcohol; the maceration being completed, the whole was brought upon a filter, the quantity of filtered tincture accurately weighed, then evaporated in the water-bath, and finally the extract obtained dried in a chamber heated from 158° to 194°, until it no longer altered in weight. The weight of this extract, subtracted from that of the evaporated tincture, yielded the weight of alcohol contained in that quantity of tincture; a simple equation then suffices to ascertain the total weight of extract which the whole of the tincture would have yielded.

15 grms. of cinnamon, for instance, were macerated with 5 parts or 75 grms. of alcohol of 0·865 spec. grav.; the weight of the tincture which passed through the filter was 27·08 grms.; that of the extract obtained from this quantity of tincture, and dried completely, was 0·04 grm.; subtracting this from 27·08, we obtain 26·14 for the weight of alcohol contained in the quantity of tincture evaporated. Tho following proportion, $26{\cdot}14 : 0{\cdot}04 :: 75 : x$, then gives the total weight of the substance which the whole of the alcohol had dissolved : $x = 2{\cdot}69$ grms. extract.

In order to ascertain the strength of the alcohol most favourable for the preparation of tinctures, the author determined the quantity of the active principles contained in the substances where they were well-defined and characterised principles; such, for instance, was the case with the barks, nux vomica, and jalap. These determinations were made in the following manner:—For the barks and the nux vomica, the tincture was evaporated in the water-bath, and the extract obtained treated with acidulated water; the filtered liquid was precipitated by subacetate of lead to remove all foreign matters; and the excess of lead having been separated by sulphuretted hydrogen, the alkaloids were thrown down by a solution of pure tannin, and estimated in the state of tannates.

In the case of jalap, the resin was extracted from a given quantity of tincture.

But although, for the above substances, the results may readily be checked, it is not so for the greater number, the active principles of which do not possess well-defined chemical properties. How, for instance, in the case of hemlock, belladonna, rhubarb, gentian, &c., is it possible to determine whether the tincture prepared with alcohol of 0·865 contains more active principles than that prepared with alcohol of 0·923? Among these substances, there are some, the properties of which reside in a bitter principle, as rhubarb, gentian, wormwood. In such cases the author took two fixed quantities of tinctures, prepared with alcohol of different degrees, and ascertained by diluting them, which required the greater quantity of water for the bitterness to disappear.

Unfortunately these means of investigation cannot be employed for a very large number of substances, a defect which it has not been found possible to remedy; it is only by reasoning, founded on the chemical analysis of these substances, that the author has selected the degree of alcohol suitable. The only method, in his opinion, of arriving at the desired object, would be to experiment in practice with tinctures prepared from such substances and alcohol of different degrees of strength.

The degrees of alcohol employed in these experiments are five in number, viz.—alcohol of 0·833, 0·865, 0·889, 0·923, and 0·942 spec. grav.

From the experiments detailed, amounting to no less than 300, upon 32 different substances, the author considers himself justified in drawing the following conclusions:—

1. The different degrees of strength of alcohol prescribed by the French Codex (0·848, 0·865, 0·923) are not always the most favourable for dissolving the greatest quantity of the principles contained in the substances employed in the preparation of tinctures.

2. These degrees can scarcely be admitted in a general manner except for a certain number of substances; experiment alone can show which is best suited for each.

3. The proportion of 4 parts of alcohol to 1 of substance, as prescribed in the Codex, is scarcely sufficient in any single case to dissolve all the soluble parts of the substances.

4. The quantity of alcohol sufficient to exhaust a substance entirely is in general 5 parts of alcohol to 1 of substance. In certain cases, however, which are nevertheless rare, this proportion is not quite sufficient; but the quantity of matter dissolved is so slight, that it may be neglected for the sake of making the rule general.

5. The quantity of alcohol is always sufficient to exhaust a substance when this vehicle is in sufficient quantity to moisten it thoroughly, and when the substances are of an herbaceous nature, as leaves, &c.

6. The alcohometric degrees most suitable for the preparations of the different tinctures are alcohol of 0·865, 0·923, and 0·942 spec. grav.

These alcohometric degrees are arranged in the following table with the substances for which they are suited. To each of the tinctures is added the quantity of substance equivalent to 1 grm. of tincture.

In concluding, the author mentions a singular fact which occurred in nearly every experiment; almost every time that the proportion of alcohol was greater than required to exhaust the substances, he always obtained less extract than when the proportion was just sufficient; that is to say, the quantity of extract diminished in proportion as the quantity of alcohol was increased.

This fact is analogous to that which is equally observed when water is added to a concentrated solution of opium, and the substances which were previously held in solution are precipitated. It shows that it would be highly inconvenient to increase to any extent the proportion of alcohol in the preparation of tinctures; for besides the density of the tincture being diminished by this addition of alcohol, it would likewise be so from a precipitation of a certain quantity of matter, as occurs with the solution of opium.

Table of the different Degrees of Alcohol to be employed for each Substance.

				In round numbers,	
Take 1 part of substance and 5 parts alcohol of 0.865 spec. grav. for the tinctures of.....	Yellow bark.....	1	grm. equiv. to	0·20	powder
	Jalap, ...	1	...	0·19	...
	Cinnamon,.....	1	...	0·20	...
	Pyrethrum,.....	1	...	0·20	...
	Castor,.....	1	...	0·18	...
	Myrrh, ...	1	...	0·19	...
Take 1 part of substance and 5 parts alcohol of 0·923 spec. grav. for the tinctures of	Rhubarb, ...	1	...	0·18	...
	Grey bark,.....	1	...	0·20	...
	Ipecacuanha, ...	1	...	0·19	...
	Nux vomica, ...	1	...	0·20	...
	Gentian, ...	1	...	0·18	...
	Red bark,.....	1	...	0·20	...
	Digitalis,.....	1	...	0·18	...
	Senna,.....	1	...	0·19	...
	Squills, ...	1	...	0·17	...
	Black hellebore,.....	1	...	0·18	...
	Contrayerva, ...	1	...	0·20	...
	Polygala,.....	1	...	0·18	...
	Ginger, ...	1	...	0·20	...

			In round numbers.	
Take 1 part of substance and 5 parts alcohol of 0·942 spec. grav. for the tinctures of	Valerian root,.....	1 grm.	equiv. to 0·19	powder
	White hellebore,.....	1	... 0·18	...
	Colchicum (corms), ...	1	... 0·19	...
	Aconite, ...	1	... 0·19	...
	Hemlock,.....	1	... 0·18	...
	Belladonna,.....	1	... 0·19	...
	Hyoscyamus, ...	1	... 0·18	...
	Stramonium, ...	1	... 0·18	...

With respect to the mode of preparing these tinctures, the author considers that it has been clearly proved, that of all the methods proposed that of cold maceration is the most suitable.—*Journ. de Pharmacie*, Dec. 1845, and *Chemical Gazette*, 15th January 1846.

Gratiola Officinalis, and its Active Principle Gratioline. By Eug. Marchand.

Gratiola Officinalis is known as a violent purgative, and is considered in France as one of the most injurious of the wild plants. In 1809 Vauquelin published an examination of it. He found it to contain a bitter resinous substance, animal matter, brown gum, a vegetable acid (acetic or malic acid), combined with potash, soda, and lime; further, phosphate of lime and iron, oxalate of lime, chloride of sodium, silicic acid, and vegetable fibre.

From Marchand's investigation, it results, that the bitter resinous substance which Vauquelin considered to be the active principle of the *Gratiola* is not a simple chemical body, but consists of several substances, of which only a portion produce the energetic effect of the plant. One substance which Vauquelin overlooked is the tannic acid, which occurs in the resinous body in combination with several substances, of which one at least must be placed near digitaline. If the resinous body be treated with alcohol, a solution of persulphate of iron then added, and the free acid saturated with lime, diluted with some water, digested with charcoal and filtered, a white substance of an excessively bitter taste is obtained, on evaporation of the liquid *in vacuo*. This is treated with some water, in which it dissolves with difficulty, in order to remove the saline admixtures. The residuary substance is a white powder, which swells in æther and partially dissolves, while a purple substance remains undissolved. If this liquid be separated from the supernatant æther, and alcohol added to it, it is not rendered turbid. On evaporating the alcoholic solution, small crystals grouped in warts are obtained, for which the author proposes the name *Gratioline*.

This substance is very sparingly soluble in water, to which it however imparts a very bitter taste; readily in alcohol, from which it is partially precipitated by water; it is very sparingly soluble in æther. Boiled in water, it becomes soft, and floats in the form of oily drops on the liquid. Heated in a platinum spoon, it puffs up, melts, burns with a smoky flame, and leaves a black cinder, which it is very difficult to burn entirely, and leaves a slight residue of white ash. Sulphuric acid is first coloured yellow by gratioline, and subsequently, purplish-red; the solution, on the addition of water, does not become green, but only somewhat turbid, and after a time perfectly colourless. It dissolves in nitric acid without any change of colour; and in hydrochloric acid with a yellow colour. Caustic potash imparts to gratioline a dirty green colour, which subsequently becomes yellowish-green, and finally white. Caustic ammonia colours it at first blue, then white, without however dissolving it. Tincture of galls precipitates gratioline from its alcoholic solution; but if this is very acid or strongly alkaline, the reaction does not occur.

The above-mentioned æthereal solution leaves on evaporation a non-crystalline substance, which has a faintly bitter taste, is insoluble in water, but soluble in alcohol and æther. On being heated, it behaves like gratioline; in sulphuric acid, which dissolves it with difficulty, it assumes a pale yellow colour, having a reddish tint.—*Journ. de Chem. Méd.*, 1845, p. 513, as quoted in *Chemical Gazette* for 15th December 1845.

DETECTION OF SPURIOUS MUSK-PODS. BY J. MOORE NELIGAN. M.D., M.R.I.A., Physician to Jervis Street Hospital, Dublin, &c.

Owing to the high price and great demand for Musk, both as a medicine and a perfume, it is very generally much adulterated. This fact is so well known to apothecaries and to druggists, that those who have even a moderate consumption of the drug, prefer purchasng it in the unopened musk-bag, or, as it is technically called, *musk-pod*. This precaution, however, is often found not to be a sufficient protection against fraud, as spurious musk-pods are not uncommon in commerce, and so well prepared, that even the most experienced eye is often unable to distinguish the true from the false.

It is now very generally known, that musk is the peculiar secretion of a small sac situated immediately in front of the preputial orifice of the male musk animal, the *Moschus moschiferus*, and that it is principally imported into the British market from China. The Chinese, finding a greater demand for musk than they are able to supply with the genuine article, squeeze out some of the secretion, which is fluid in the recent state, and mix it with, it is believed, the dried blood of the animal. This compound, which presents the same physical characters as true musk, they put into small sacs made of pieces of the skin cut off from other parts of the animal's body, and prepared with the usual ingenuity of this people, so much so, indeed, as almost to defy detection with the naked eye.

The method hitherto adopted for detecting this sophistication, has been the peculiar position of the hairs, which are arranged in a circular manner around the orifice in the genuine musk-pod, and also the absence of any remains of the penis in the artificial pods. But those characters are not invariable; and I have seen some spurious musk-pods, which were so skilfully prepared, as to be undistinguishable from the genuine article when compared with them.

The plan which I propose, depends on the microscopic characters of the hairs, which grow on the preputial sack of the musk animal, and which, as far as I have been able to detect by direct experiment, differ very remarkably from those of the false sacs which are met with in commerce. This test I have recently had an opportunity of pointing out to my friend, Professor Christison of Edinburgh, and of illustrating it to him from specimens in his own museum.

The difference appears to depend on the fact, that the hairs of this part of the animal are furnished in the interior with distinct, regular, colour cells; while in hairs taken from other parts of the animal's body, those cells appear to be obliterated, as is generally the case in this and the allied tribes of animals.

The method I have now proposed is a very simple one, and of easy application, and cannot be considered too scientific in the present day, when every pharmaceutist must be supposed to be provided with a microscope, at least of the power above spoken of, as without it he could not possibly detect the adulteration of arrow-root and of the other feculas of commerce.—*Dublin Quarterly Journal of Medical Science*, February 1846.

COPPER IN BILIARY CALCULI. BY DR HELLER.

Bertozzi examined a number of biliary calculi, and in all those which were coloured, from the presence of the biliary colouring matter, copper was found. Those which were white contained none of this metal, and the quantity appeared proportional to the depth of colour, or the amount of biliary colouring matter present. The author was unable to detect any copper in the bile.

Heller confirms these results. He incinerated the calculi; the ash fused, forming an opaque light blue mass. It was dissolved in water acidulated with nitric acid, the solution neutralized and tested with hydrosulphuret of ammonia, ferrocyanide of potassium, ammonia, carbonate of potash and an iron plate. These tests exhibited the ordinary reactions of copper.—*Heller's Archiv.* 1845, Heft. 3, and *Chemical Gazette*, 1st February 1846.

MIDWIFERY.

Acute Post-Puerperal Affections.—Clinical Remarks.

Acute post-puerperal affections exhibit so many peculiar characters of severity, that they imperiously claim the attention of practitioners. There is a patient labouring under a complaint of this kind at present in the Hôtel Dieu of Paris, who has afforded to M. Chomel an opportunity of making some interesting remarks, which we shall now submit to our readers. We shall first give the case which elicited them.

A young woman, aged 21, of good constitution, and habitually enjoying good health, was safely delivered at the Maternity Hospital. She voluntarily left it on the ninth day after her confinement, considering herself recovered, with the exception of a dull pain of which she complained in the left flank, or rather in the left iliac fossa. On coming out she was pale, in consequence, it was presumed, of the loss of blood, which, to a considerable extent, she had experienced during parturition. There was nothing the least remarkable throughout her pregnancy, with the exception of a certain unimportant painful sensibility which she had often experienced in the left hypogastric region, a phenomenon which is frequently observed, now on one side, and now on the other, in many women; and which is usually ascribed to a particular inclination of the uterus. This uneasiness disappeared after repose in bed, and still more after her accouchment. On returning home, the patient engaged in her usual domestic occupations, and fatigued herself during the first two days. She then felt the pelvic pain increase, and to such an extent that she was forced to betake herself to bed. Her trouble then getting worse and worse, she was conveyed to the *Hôtel Dieu*, on the 2d of December, the ninth day after she had left the Maternity. At the present time (December 4th) she is in the following condition:—There is extreme general wanness, especially of the face, the lips and conjunctiva of the eye being exsanguined; there is a marked expression of heaviness and indifference in the physiognomy; the skin is very hot; the pulse small and frequent, beating at 146 per minute. The left iliac region presents a general and painful tumefaction; the vaginal cavity is narrowed and furrowed, being encroached upon, especially on the left side, and near the pubis; the os tincæ is small, tightened, and scarcely admits the introduction of the point of a finger; the uterus is enlarged, mounting up to within a few inches of the umbilicus. To the left of the uterus, and in front of it, the bones of the pelvis cannot be distinguished as on the right side; in examining per rectum vel vaginam, a resisting body is felt, formed from a swelling of the softer parts, arising unquestionably from a swelling of the cellular texture of the part, and of the two laminæ of the corresponding broad ligament. In other words, there is in this region a post-puerperal phlegmon, accompanied with constitutional symptoms of the severest kind—symptoms which are not entirely dependent upon the phlegmonous affection, since this is not usually accompanied with such alarming phenomena; and which favours the presumption that there is probably present some other condition of which we have no distinct apprehension, but which in this as in many other cases seriously threatens the life of the patient. Is this disorder uterine phlebitis, or some other affections peculiar to women in the puerperal state, and which morbid anatomy does not always exhibit after death? These questions we may perhaps be able to solve by and by. The prognosis is a most serious one. Leeches have several times been applied to the groin of the affected side, general bleeding being inadmissible, on account of the preceding loss of blood, the paleness, and the miserable state of the pulse. Frictions with mercurial ointment have also been employed, and sinapisms to the limbs; but all to no purpose, her general state getting worse and worse. In all probability this patient will sink.

Among puerperal women, continued M. Chomel, maladies are more severe

the sooner they occur after parturition. When, immediately after delivery, or within a few hours after it, you find the woman seized with shivering, a feverish attack, or any acute disorder, you may be sure that she will sink under it. The danger is always as imminent, or very nearly so, when it occurs within two days of delivery; and becomes less so as it recedes from that epoch. In the case now before us the disorder did not commence till after the ninth day, and notwithstanding, it is attended with all the alarming accompaniments that you find in women seized with shiverings and fever immediately after their delivery. This woman had likewise repeated shiverings before her admission. Are these symptoms, then, the consequence of pelvic phlegmon, or of uterine phlebitis, or of still some other condition which produces the distressing symptoms which are present? At present, we cannot determine. Whilst at the same time it must be allowed, that in this case we find, as an exception, the same severity of symptoms at a considerable period after delivery, as in those instances where they appear almost immediately after that event. The great blood-vessels in the cervical region have been examined in this woman with the stethoscope, and no carotid murmur has been found. The day after this report was written, the clerk thought he perceived a murmur in the jugular veins, a circumstance attributed by M. Chomel to the unconscious state of the patient. M Chomel also observed that the pelvic swelling had diminished, and had become more circumscribed and less projecting, occurrences which, in relation to the advancing progress of the general disorder, lead to a most unfavourable prognosis. According to a general law, external affections speedily fade and disappear so soon as a serious internal disorder appears. Frequent examples of this are seen in cutaneous affections, which more or less disappear when the internal organs are seriously attacked, not because there is a revulsion or driving in of the external disorder, as is popularly believed, for this fading and disappearance does not precede, but succeeds to the internal disorder which has already declared itself; on the other hand, it is clearly owing to the whole organic economy being implicated, and as it were absorbed by the general constitutional disorder. This woman, as was anticipated, died. The autopsy displayed an abscess in the ovary, and various others in the spleen; the ovarian veins were in a state of phlogosis. No lesion was discovered in the liver, lungs, orelsewhere. The large blood-vessels were not minutely or extensively traced.

One of the diseases, remarked M. Chomel, peculiar to women recently delivered, and which we are often called to treat in the hospital, is that species of metritis which we have designated *Post-puerperal*. Many women who are confined at the Maternity, leave it, like the woman whose case we have been considering, at the end of nine days; others on the seventh day, the fifth, or even sooner. They are allowed thus early to leave the institution, partly because the regulations give no power to the directors to prevent them, and sometimes because it is deemed less dangerous to allow them to go, than for a longer time to expose them to the ravages which, at different times, epidemics are producing. Thus relieved from restraint, they resume their ordinary domestic avocations, or their more serious employments: they walk about, stand, and fatigue themselves, and at the end of a few days are compelled to take to their beds again, and to return to the hospital, where they are forced to remain for six weeks, two months, or more, under treatment. They are thus laid aside from their usual occupations much longer than if they had had the patience to remain a few days more in bed after parturition. The same accidents happen to those who are brought to bed in the town, whether at the establishments of *sage-femmes*, or in their own dwellings, and who are precipitate in considering themselves too soon well. The consequence is, that these women are attacked with post-puerperal metritis. The uterus instead of continuing to contract, diminish, and sink into the pelvis, remains upon the level of the superior brim, and even increases in size, and becomes painful, as we find in a patient now in *L'Hôtel-Dieu*. This state is accompanied with pains of the loins and haunches, sometimes with leucorrheal discharges, swelling of the hypogastrium, and inability to exert. Fever is very seldom present. A cure is generally ac-

complished in this complaint by repose, and antiphlogistic remedies. It is *cæteris paribus* slight, in the ratio of its late appearance after delivery.

The post-puerperal metritis to which M. Chomel has thus directed attention, is very frequently seen both in the hospital and private practice of Paris. In the town, the patients have sometimes an interest in concealing the cause of the complaint; and we might be mistaken regarding it, if we were not aware that in Paris there are women who, not till the commencement of labour, betake themselves to their *sage-femme*, get relieved of their load, and immediately afterwards return home, where they sleep, and rise next day, to resume their usual employments, so avoiding the suspicion of those with whom they are holding daily intercourse. No wonder, then, that uterine hemorrhage, metritis, prolapsus, phlebitis, pelvic abscess, &c., are the necessary consequences. M. Rayer has recently originated a practical question of much importance in connection with one of his patients labouring under post-puerperal metritis, whom he treated in *La Charité*. He wished to investigate if the science possessed positive data regarding the proportional daily decrease of the uterus after confinement. The doctor's patient, several days after delivery, had the fundus of the uterus very nearly as high as the umbilicus, and the question was: How far such a development was within the normal limits? and if the consecutive decrease of this organ, which was daily noticed at *La Charité* by exact measurements taken by M. Rayer himself, was greater or less than that which happened in ordinary circumstances of health? Many notes are found in works on midwifery upon the increasing dimensions of the uterus at the different epochs of congestion, but none upon the daily decreasing dimensions after delivery. A work on this subject would be of the greatest benefit in many instances. We examined Dr W. Hunter's splendid plates, without finding any allusion to the point, and have failed as much in other quarters. We trust that the want we complain of will not long continue.—*Annales de Thérapeutique*, January 1845.

Anomalous Case of Extra-Uterine Pregnancy. By M. Grossi.

A woman, aged thirty, of robust constitution and sanguineous temperament, had been married for nine years, but had no children. The catamenia had appeared regularly till October 1842, when they ceased; she had then nausea, vomiting, irregular appetite, and all the other rational signs of pregnancy, her general health, however, remaining good. On the 10th February she was examined by M. Grossi, who found the os uteri very high, and its lips exhibiting none of the softness it usually does during pregnancy. The movements of the fœtus were quite perceptible on applying the hand to the abdomen, but he could discover no *ballottement*. He again examined in the beginning of July; the os uteri was very high, and could not be reached with the finger; the movements of the fœtus were strong, and milk oozed from the mammæ, which were enlarged. The general health was still good. Fourteen months having now elapsed since the first suppression of the menses, and as matters continued much in the same state, it occurred to M. Grossi that the case must be one of extra-uterine pregnancy. In consequence of this idea, he called in two of his colleagues, and a more minute examination was instituted. The uterus had by this time become somewhat lower, and diminished in size. On measuring the abdomen, its circumference was found to be four feet three lines, while its length from the pit of the stomach to the symphyses pubis was two feet three inches. On internal examination, the cervix uteri was found swollen and hard at its extremity, and of the size of a small hen's egg; its length was the same as is usual in the pregnant state, and instead of being inclined backwards, it lay in the centre of the pelvis. The uterus was found empty in the right side, and full in the left; on raising it with the finger, it was light, no *ballottement* could be discovered; the movements of the fœtus were strong enough to raise the hand, and even the head, when applied to the abdomen for the purpose of auscultation.

On consultation a unanimous opinion was come to, that the case was one of abdominal extra-uterine pregnancy. Had it been tubular or ovarian, it is certain that abortion or death of the fœtus would have occurred about the seventh

month, in consequence of one or other of these parts being only capable of a moderate degree of development. It was also agreed that nothing should be done, but to leave the case to nature, and assist in the course she might indicate. The woman, moreover, continued to enjoy good health, and no change occurred till the 9th July 1844, when she was seized with abundant hemorrhage and slight pain of the left side. According to her own account, the movements of the fœtus had ceased for a month, and the abdomen had somewhat diminished in size. (A small bleeding was ordered, with rest, low diet, and lemonade for drink). The symptoms soon disappeared, and she regained her usual state.

M. Grossi visited her again on the 4th September. He found the circumference of the abdomen had diminished by half a foot, and the distance between the epigastrium and pubis by two inches. The cervix still remained in the centre of the pelvis, and as regarded size appeared similar to that of a woman who had never borne children. The body of the uterus was empty, light, and moveable. The body of the fœtus was found hard and resisting in the region of the colon and spleen, but no movement had been felt for a month. She has again menstruated regularly for the last three months, but less abundantly than before. For some months previous to the cessation of the fœtal motions, they had assumed a periodic character, and were only felt every three or four days.

A recent letter from M. Grossi states, that at this date (28th August 1845) the woman continues much in the same state.

Cases somewhat analogous to the above have been described by authors; but there is one remarkable circumstance which, if authentic, distinguishes it from any case hitherto published, and that is, the length of time during which the child continued to live. If the statement of the woman be correct, the movements of the fœtus did not cease till *twenty-three months* after the first suppression of the menses, and up till that time they continued strong and frequent! This is a feature in the case which strongly recommends it to the attention of Medical Jurists; for it is rare indeed that, in cases of extra-urine pregnancy, the fœtus lives to the normal term of nine months.

There is one other point to which we beg attention, as a model to be pursued, and that is, the course followed by the medical man in charge of the case. As the event has proved, temporising was the best course to follow; it was, indeed, the only prudent one, for before attempting to assist in the extraction of the fœtus, it was at least necessary to wait and follow the course nature might indicate for its expulsion.—*Gazetta Medica di Milano*, as quoted in *Gazette Médicale*, 17th January 1846.

INTRA-UTERINE PERFORATION OF THE PLACENTA. BY THOMAS TAYLOR, ESQ.

I was called yesterday morning at four o'clock to attend a young married woman in labour of her first child. The membranes had ruptured at four o'clock of the previous morning, but she suffered no pain until two hours before I saw her. On entering the room, I found her pains strong and effective; and on making an examination, I found a footling case with the breech in the pelvis. The pains becoming strong and expulsive, without a corresponding advance of the child, I brought down the presenting right foot, but was unable at that time to reach the other, the leg being in a position parallel with the body of the infant. The breech having been protruded, I again attempted to deliver the left leg, but on passing up my finger for that purpose, I found apparently a strong ligament, very tense, attached immediately below the knee, and which kept the limb in the position it was in, and incapable of being delivered; the arms, however, were easily brought down, and in a few minutes delivery took place, and with it the placenta: the child was still-born. On examination the placenta, which was lying on the chest of the infant, was discovered to be pierced by the right arm and left leg, the part round the leg being so firmly bound round it as to have destroyed the skin and cellular membrane by absorption; the calf of the leg was much swollen by the pressure during labour. There was no hemorrhage; on the contrary, the discharge was less than usual. The child

was small, and about three weeks before its time. The mother is doing well.—*Provincial Medical and Surgical Journal*, 7th January 1846.

HYGIENE.

Effect of the Mildness of the Season upon the Public Health.

The Quarterly Returns of the State of the Public Health, published by the Registrar-General, show an extraordinary diminution in the average amount of the mortality for the last quarter. From these returns it appears, that the mortality has been below the calculated number in the December quarter, during the last five years; but in the corresponding quarter of last year, (1845,) this difference is nearly double that in any previous year. The actual mortality for this quarter amounted to 31,178, the calculated mortality to 45,647, so that the number of deaths was less by 6,469, or nearly one-seventh, than the estimate.

This favourable condition is attributed in part to the mildness of the season. It is an interesting subject for inquiry—To what extent the greater or less severity of season acts on the public health generally? The Registrar-General's report says, that a fall of the mean temperature of the air from forty-five degrees to four or five degrees below the freezing point, destroys from three hundred to five hundred lives in the metropolis alone, and that it produces the same results on a larger scale all over the country. We are not, however, authorised to infer, that the public health benefits by mildness of season to an extent corresponding with the diminished mortality, nor indeed that the actual amount of sickness is at all lessened. Low degrees of temperature, and severe weather generally, may have a very prejudicial effect upon the delicate, the infirm, the aged, and those whose state of health is generally impaired, while the robust and the healthy may, on the other hand, derive additional strength from the stimulus of cold, and the active exercise which they commonly undergo in such circumstances.

The relaxing effects of undue mildness of season will in all probability also be felt by all; and although the mortality is for the time greatly lessened in amount, there may be, notwithstanding, a greater prevalence of sickness, and the constitutional state even of the healthy may be so far impaired as to render them more liable to the future attacks of disease.—*Provincial Medical and Surgical Journal*, January 1846.

Potato Failure—The Question of Famine and Fever.

What is the impending fate of the labouring population of Ireland? Hear what Dr Corrigan says on the subject.

"The people of Ireland are peculiarly liable to become the victims of pestilence. The effect of a competition among a population with little employment has been to reduce their wages to the lowest sum on which life can be supported. Potatoes have hence become their staple food. If this crop be unproductive, the earnings of the labouring class are then quite insufficient to purchase the necessary quantity of any other food. Corn is altogether out of reach of their means, and thus, with an abundance of it around them, so great as to admit of exportation, they *starve* in the midst of plenty, as literally as if dungeon bars separated them from a granary. When distress has been at its height, and our poor have been dying of starvation in the streets, our corn has been going to a foreign market. It is, to our own poor, a forbidden fruit.

"The potato has, I believe, been a curse to our country. It has reduced the wages of the labourers to the very smallest pittance; and when a bad crop occurs, there is no descent for them in the scale of food: the next step is starvation." P. 22.

It is the opinion of Dr Corrigan that famine is always followed by pestilence.

The converse of this proposition is advocated by Mr Chadwick in the sanitary report; but the object of that report is so obviously to furnish arguments for a lucrative hygienic commission, that its conclusions must necessarily be regarded with suspicion. Bad drainage, imperfect ventilation, insufficient supplies, argues Mr Chadwick, give rise to those conditions which engender pestilent diseases; and poverty, and therefore famine, follow in the train of those diseases. Dr Corrigan considers the question more philosophically. He gives a tabular view of the epidemic fevers which have occurred during the last century in Ireland, together with contemporaneous conditions of climate, harvest, &c. He afterwards continues;—

"I have thus thrown together, with a concise notice of the most remarkable preceding or accompanying circumstances, the principal epidemics of the last hundred years.

"It is a maxim in philosophizing to assign like causes to like effects; and if, upon a general view of all the *instances* adduced, we find some one condition invariably present, to that condition we give the name of cause. 'We give the name of cause to the object which we believe to be the invariable antecedent to a particular change.[1] Epidemic fevers are the like effects; we must if possible assign them like causes. Upon a general view of all the instances, with the accompanying circumstances, we find one condition invariably present, famine, which we therefore mark down as their common cause.

"Even a rapid glance over the table, as I have arranged it, will show, that however all other circumstances, as time, season, climate, might have varied, this one condition, famine, was never absent. No matter how climate altered, or seasons revolved, how summer or winter rolled on, so surely as want appeared, so certainly did pestilence follow. The two have also ever kept pace with one another; as the degree of want, so has been the extent of fever. In 1728, an epidemic appeared that lasted for four years. It was preceded by bad harvests: unparalleled distress, even among the middle classes of society, prevailed for nearly four years. Again, in 1734, after an unproductive harvest, fever set in, and after two years' duration, disappeared in 1736, when an abundant crop was gathered.

"In 1739 and 1740 there was a great dearth of provisions, which continued until the harvest of 1741, and so long, although there was every variety of weather, did the epidemic continue, defying alike the heat of summer, and the supposed fever-destroying influence of winter. As if to make the cause of Epidemic Fever so palpable as not to be passed over, unless by the most obstinate blindness, in the following year 1742, when bread was selling twenty-one pounds for a shilling, there was hardly a case of fever to be seen among the lower classes.

"The summer of 1797, was, as already noted, unpropitious to the fruits of the earth—constant rain prevented the laying up even of fuel. The state of the crop and of the country in 1798, was not such as to bring relief. The tempest of civil war was sweeping the kingdom; the gentry fled; all connexion, save that of party, between the higher classes and their dependants, was severed. The peasants were either in arms, or driven from their homes; tillage was neglected, and the scanty supply of food raised was further lessened by the ravages of the two contending parties. What Providence spared, man destroyed. Want increased, and with increased want came increasing fever.

"This epidemic, which appeared in the spring of 1798, was in the latter end of the year abroad as a plague. In 1799, the crop was again deficient, fever assumed now the worst form of typhus, but was still, in a great measure, confined to the poor. The summer of 1800 came; it was a strong contrast to the summers that had preceded it; those had been wet and cold, this was hot and dry. A burning sun withered the corn and the potatoes. Scarcity became so great, that distillation from grain was prohibited, and bounties were given on imported corn; but under such circumstances the mass of the poor were still in want. Fever assumed a malignancy that enabled it to burst from the poor

[1] Brown on Cause and Effect.

among the rich, and few in civil or military life escaped. It continued with unabated violence, until Providence sent, in 1801, a most abundant harvest, and then, and only then, a fever that had raged through all variations of temperature, of climate, and season, for a space of four years, began to subside.

"We may pause for a little on this epidemic. It arose in the commencement of the terrible, and never-to-be-forgotten year of 1798, continued through all seasons, uninfluenced alike by the wet and cold summers of 1799, or the tropical sun of 1800, or the again succeeding winter. The afflicted people looked to cold, to rain, to snow, to purify the air, or destroy contagion. Want continued, with want fever, until in the spring of 1801, at the end of three years, from its commencement, it assumed a malignancy that defied all human power.

"Was it stopped by change of climate? For three successive years every variety in climate had in turn existed; the summers had been cold, or unusually hot, dry, or pouring down torrents of rain; it would, therefore, be idle to charge climate with the production of the evil, or to attribute to climate its cessation. The epidemic had defied all its changes; in the autumn of 1801 came a plentiful crop, and then fever began to decline. The crop of 1801 was unequalled for goodness and abundance; and accordingly, before the end of the summer of 1802, the terrible visitant, that had defied every other power to remove it, disappeared before an abundant supply of food." P. 19.

Having thus, as we think, most satisfactorily shown the connection between famine and fever in Ireland, Dr Corrigan proceeds to consider the means best adapted to obviate the occurrence of the latter. He says, page 26—

"After the view which I have presented of epidemic fever and its cause, little need be said of the means best adapted to guard us against it. It remains for others than the physician to provide the preventive; it is to be found, not in medicine, but in employment—not in the lancet, but in FOOD—not in raising lazarettos for the reception of the sick, but in establishing manufactories for the employment of the healthy. This is the true mode of banishing fever from this country."

A paternal government has already put into train the prophylactics recommended in the foregoing extract. It is now admitted on all sides, that every human attempt to put a stop to the spread of the gangrene amongst potatoes was either abortive or injurious, and every experiment to extract nourishment from the rotten tubers, terminated in disappointment. Supplies of food from abroad, and lucrative employment at home, are the only remedies in which we can hope; and these the wisdom of our rulers is putting into active operation. But we must look further; and supposing even these measures to be ineffectual, and that only by eleemosynary assistance the helpless peasantry can be supported, what, under such circumstances, constitutes the best machinery for distributing food. On this subject we again extract from page 26.

"Some time might, however, elapse before measures, how well soever devised, could be brought into active operation, to enable our population to possess within themselves the means of obtaining sufficient supplies of food; and it therefore remains to be determined, what would be the most beneficial mode of distributing nourishment were we again to be visited by an epidemic such as that of 1817 or 1826.

"In some parts of the country, exertions have already been made to lay in a store of oatmeal, rice, &c., for distribution in the approaching spring and summer, should the dreaded failure in the potato crop leave the people without food. It will be useful to determine beforehand, and from past experience, the best mode of distributing food should it be required. In the epidemic of 1826, oatmeal, potatoes, and rice, were, in many places, distributed or sold to the poor in a raw state. This proved a bad arrangement. The poor who were unable to purchase food, were equally unable to obtain fuel to cook it. Moreover, raw food was readily disposed of. Impostors, who did not stand in need of food, contrived to obtain it, and found a ready sale for it in huxters' shops; and even the poor themselves, in need of food, were not always able to resist the temptation of money, but often were tempted to sell for a few pence the raw provi-

sions that were intended for their support for days to come. Even the tickets on which the raw provisions were obtained were made an article of sale by the impostors who procured them, to unprincipled persons who purchased them, and who thus managed to obtain provisions at a cheaper rate than market price. Such abuses should be guarded against.

"Food, when sold at a cheaper rate than market price, or when distributed *gratis*, should be always given out cooked, so as to prevent its sale, and to make its immediate use necessary. In this way the poor who really stand in need of it will procure wholesome nutriment, and the traffic in it by impostors will be effectually checked."

Again, page 28:—

"In country districts, however, the plan of supplying the food cooked could not be carried out. The distance would often be too great for the poor to travel daily, and the journey would take them from their work, and would, in severe weather, expose them to wet and cold. The provisions must necessarily, in such districts, be given out in sufficient quantity to last for a week, and in a raw state. The depôts for food should be in such districts as numerous as possible, in order to diminish the distance of the journey, and to bring all the applicants within the personal knowledge of the inspectors, and the day and hour of distribution should be the same in all, to prevent as much as possible the abuses of buying and selling the food."

One of the most perfect systems for the out-door dispensation of nourishment, was founded by certain charitable ladies, in a dispensary connected with the Sick Poor Institution in Meath Street, Dublin. Page 31:—

"In the year 1794, the Sick Poor Institution in Meath Street, Dublin, was founded for affording the usual dispensary medical relief to the sick poor of the district. But to combat *want* and *sickness*, which with the poor are most often together, *food* and *medicine* are both required. The Sick Poor Institution, like all other dispensaries, provided the medicine but not the food. On the 11th January 1816, seven ladies, Mrs B. Guinness, Anne Bewley, Mrs Baillie, Mrs J. Guinness, Mrs Ricky, Jane Gatchell, and Miss Hutton, ladies whose names should be ever honoured, who have left behind them good deeds that will never die, met at the Sick Poor Institution, and founded the Dorset Nourishment Dispensary, which has been now in unceasing operation for thirty years. It is supported altogether by voluntary subscriptions, and conducted by a committee of ladies, one of whom attends daily from twelve to one o'clock, to see the nourishment distributed. The medical attendants of the dispensary who visit the sick poor at their own homes are provided with tickets on the Nourishment Dispensary, which they distribute at their discretion, and which remain in force for as many days as they think necessary. These tickets, presented at the dispensary, entitle the holder to receive daily, for the time specified, so many pints of whey, gruel, or broth, as may be ordered, each pint of gruel being accompanied with half a pound of bread, and each quart of broth with one-fourth of a pound cut up in it. From forty to sixty poor persons daily receive that wholesome nutriment, which is so much required during illness, and which it would be quite impossible for them to obtain otherwise. There is hardly a possibility of abuse in the system. It has now been carried on for a period of thirty years, without one day's intermission. It has afforded incalculable relief; and as a system of out-door relief to the sick poor, I believe it is the most perfect that could be devised. Humanity owes a deep debt of gratitude to those intelligent, warm-hearted, and noble-minded women who originated and have untiringly carried on the good work; and if this institution for affording medicine and nourishment were made the model for every dispensary district in Ireland, it would form, perhaps, the most perfect and most economical system of out-door relief for the sick poor that could be devised, and would moreover form the most grateful link of union between rich and poor, the link of active charity. Years on years have passed over in inquiring into, and legislating for, the medical charities of Ireland. There is a model in the system above described which, in principle, I believe it will be found difficult to excel. I was for some time a medical officer of the Sick Poor Institution, and I can therefore bear testimony,

from experience, to the benefits conferred upon the sick poor by this two-fold institution, for supplying them with food and medicine."

All honour to the noble-minded Irish women who so generously devoted not merely their money but their time to this admirable institution!

The last extract which we shall give, alludes to a coincidence which we do not remember to have seen elsewhere noticed, p. 32:—

"I cannot conclude without noting a warning circumstance that has had some influence with me, in bringing out these observations at the present time. It has been remarked by all the observers of the epidemic fevers of Ireland, by Rogers, O'Connell, Rutty, Barker, and Cheyne, that SMALL POX HAS INVARIABLY PREVAILED, EITHER IMMEDIATELY BEFORE, OR WITH EACH VISITATION OF FEVER. The same connection between small-pox and the bad fevers which ravaged England in the 16th and 17th centuries, has been observed by medical writers. Sydenham has gone so far as to say, that, from their intimate connection, he doubts that the plague and small-pox may not be of the same nature, only with different forms of development. It seems as if the human constitution, under whatever influences have acted injuriously on vegetable organization, or have predisposed to epidemic fever, had lost so much of its energy, as to render it less able to resist infection. Small-pox has been of late very prevalent in Ireland. I subjoin a table of the admissions and deaths from it in the Hardwicke Hospital for the last four years.

	Total No. of Admissions.	No. of SMALL-POX CASES. Admitted.	Cured.	Died.
1842,	1553	22	17	5
1843,	1551	18	14	4
1844,	1769	5	5	0
1845,	2413	86	71	15

"This visitation should put us on our guard. It may come to us as a warning. With our previous experience we should not neglect it. We now know the danger that threatens us. We may combat it, should it come, but we can do more. We can prevent its attack. If there be no famine, there will be no fever; and if active and timely exertion be made to afford sufficient employment and wages to our people, I believe there will be neither FAMINE nor FEVER."

Much gratitude is due to Dr Corrigan for the opportune appearance of this pamphlet. It is, like every emanation from his pen, written in a masculine and eloquent style, adapted to the gravity of the subject. And what a subject! —To preserve a nation from famine; to save his countrymen from pestilence! —mighty interests, which he has ably advocated.—From a review in the *Dublin Hospital Gazette* for 15th February of a pamphlet by Dr Corrigan, entitled—"*Famine and Fever as Cause and Effect in Ireland: with Observations on Hospital Location, and the Dispensation in Out-Door Relief of Food and Medicine.* Dublin, 1846.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 139 of February Number.)

SESSION XXV.

FIFTH MEETING—*Wednesday, 4th February* 1846.—DR GAIRDNER, P., in the Chair.

EXTRACTION OF A FOREIGN BODY FROM THE CAVITY OF THE UTERUS. By DR IMLACH of Sittingbourne, Kent. [Communicated by PROFESSOR SIMPSON.]—In 1843, while Dr Imlach was attending Mrs H., she mentioned that her daughter, then a girl of about thirteen years of age, had been in the habit of wetting her bed since the age of nine or ten, brought on, it was supposed, by a fright. At this time there was a little discharge of matter from the vagina. Nothing more was heard of the case till a few months ago, when her friends sent her to a provincial hospital; but experiencing no benefit from the treatment, she returned home, and was then put under Dr Imlach's care. She is now sixteen years of age, and has menstruated regularly and copiously since May or June 1843, the time at which the purulent discharge first appeared. Upon examination being made with the glass speculum, the os uteri was distinctly seen, enlarged, irregular, and fungus-looking. The finger, however, proved the best explorer, and the os tincæ was discovered pretty high up, ulcerated, open, and of a very peculiar hardness. The point of the finger easily entered the uterus, and within it, was discovered a hard substance, which was recognised to be a reel or pirn. It could not then be dislodged; so in a few days, in company with another medical gentleman, the patient was visited again. The fluid could be felt flowing through the hole in the reel; it was then extracted with a pair of ball forceps, and a very careful examination of the parts made. Nothing like a pouch could be discovered, and both the gentlemen were satisfied that the reel had been actually within the uterus. The os tincæ was very irregular, and would easily admit two fingers; the cavity of the uterus was large, its walls thick, soft, and well lubricated with the menses. The reel is a common wooden one, one inch and a third in length, and five-sixths of an inch in the diameter of its ends.

Plenty of warm water was used with a syringe during the next two days, after which the patient was again examined with the speculum and the finger. The vagina was smaller than before, and healthy; the os tincæ much contracted, firm, rather irregular in shape, and would scarcely admit the point of the finger; the purulent discharge had ceased:—she still occasionally wets the bed.

The girl declares that she never introduced the reel, and was not aware of its presence, but that when she was between nine and ten, a man met her on the road, and committed, or attempted to commit a rape on her. She told her mother of this at the time. Ever since that time she has watered the bed, but does not know whether or not the man introduced the reel at that time. There never was any inflammation of the parts to excite attention, and no purulent discharge till puberty. The natural inference appears to be, that supposing the story of the rape to be true, she learnt bad habits, and from irritation at puberty, introduced the reel into the vagina, and could not extract it again: but still it is wonderful, how such a large substance worked its way into the cavity of the uterus of a person who never had a child.

LIGATURE OF THE SUBCLAVIAN ARTERY ON ACCOUNT OF HEMORRHAGE FROM A WOUND OF THE AXILLARY ARTERY. BY DR RICHARD J. MACKENZIE.—The patient, a man of 35 years of age, had fallen with his whole weight

on a red-hot poker which he held in his hand, the point, which was at a dull red heat, entering the right axilla. A deep and scorched wound was made, from which, on the separation of the slough eight days afterwards, profuse arterial hemorrhage took place. The bleeding was checked by the application of a compress and bandage, but was renewed two days afterwards, when the same measures were adopted. On the fifteenth day from the injury, after repeated returns of the hemorrhage, the arm was swollen and hard, and the patient complained of cold and a sensation of numbness in the hand and fore-arm; he was blanched and exhausted from loss of blood, and complained much of the pain produced by the pressure in the axilla. The bleeding was easily commanded by the compress and bandage, but the dressings again became saturated with blood, in twenty-four hours after their application.

On consultation, it was determined that a ligature should be applied to the subclavian artery, over the clavicle, which was done on the same day, (November 19th), fifteen days after the receipt of the injury, and seven after the first bleeding from the wound in the axilla. The compress and bandage were removed on the day following, and no return of the hemorrhage took place. The wound in the axilla speedily assumed a healthy aspect, and the patient made a rapid recovery. The ligature separated on the 20th day after the operation, a week after which both wounds were entirely cicatrised. On the 20th December, the patient had returned to his employment, and was quite well.

Professor Syme and Professor Simpson.—The Secretary read the following Letter to the President from Professor Syme, regarding Amputation at the Knee, and Popliteal Aneurism.

"Sir,—Having been informed that the Professor of Midwifery, at a late meeting of the Medico-Chirurgical Society, represented one of the cases in which I performed amputation at the knee as having proved unsatisfactory in its result, from exfoliation of the bone, and as calculated to deter from adopting the operation, I desired my clerk in the hospital, Dr Cameron, to write to the patient, and now beg that you will have the goodness to read the following extract from her reply, which is altered in no respect, except as to the orthography:—

"*Fettercairn, 24th January* 1846.

"I received your note of the 18th instant, wishing me to write you whether it be true or not that there were any pieces of small bone came out of my leg. I am very sorry to hear that such false reports should be given or received by any one, for there never was any small bone, or part of bones, came from my thigh after my leg was cut off. And I am happy to say that my health has been improving ever since I lost my leg, and the stump is quite whole.

(Signed) "Jean Marshall."

"I have performed amputation at the knee four times, and never met with either death of the patient, or exfoliation of the bone, to lessen the frequency of which results from the ordinary mode of proceeding, the Society may recollect the operation was originally recommended to their attention. I believe that it may be employed with advantage in the practice of surgery, and consider it my duty to prevent the Society from being prejudiced against it by erroneous statements. I send a patient who has been using his wooden leg for two months, that the Society may form their own judgment of the stump, which is afforded by amputation at the knee. [The patient was exhibited.]

"I further beg to call your attention to the following statement by the Professor of Midwifery, which has been published in the authorized account[1] of the proceedings of the Society at their meeting on the 17th December last. 'In the First Number of Dr Cormack's Journal, eleven cases of ligature of the crural artery for popliteal aneurism, are adverted to as having, within a limited

[1] The Editor is alone responsible for the reports of the proceedings of the Medico-Chirurgical Society of Edinburgh, which appear in this Journal. In making this statement, however, he begs to acknowledge the great obligation under which he lies to the Secretary, for affording him access to authentic documents, at all necessary times.

period, occurred in Edinburgh. It is well known, that in five of these eleven cases, the operation was followed, sooner or later, by a fatal result.' Now, as the author of the paper alluded to, I beg to say that the fatal cases did not occur in my practice, and that, as it is stated in the paper, only three of the eleven patients died from the effects of the operation, all the others having survived it, at least six months.—I have the honour to be, &c. "JAMES SYME."

"THE PRESIDENT OF THE MEDICO-CHIRURGICAL SOCIETY."

Dr John A. Robertson thought that Mr Syme attributed statements to Dr Simpson which he did not make, on the occasion referred to. Mr Syme's letter was uncalled for. Dr Simpson had never mentioned Mr Syme's name.

Dr Douglas Maclagan said that the matter stood thus:—Dr Simpson blamed Dr Cormack for publishing, in the same number of his journal, in which he objected to the accuracy of ovariotomy statistics, [the No. for May last,] an account of a case of "Amputation at the Knee" as a successful case, whereas it was not. Dr Simpson also mentioned that there were exfoliation and profusely discharging sinuses, after the patient left the hospital, &c. Dr Cormack remarked in reply, that Mr Syme, as author of the paper referred to, was the only person responsible for it.

It was of no moment, therefore, who actually named Mr Syme; as beyond all doubt Dr Simpson's charge of haste or inaccuracy in reporting the case, could apply only to Mr Syme.

The *President* and *Dr Martin Barry* said a few words; after which the Society adjourned.

BOOKS RECEIVED IN 1846.

1. Remarks on Medical Relief under the New Poor Law Act. Edinburgh: 1846.
2. Lectures on Deformities. By R. W. Tamplin. London: 1846.
3. Practical Treatise on Abdominal Hernia. By Thomas Pridgin Teale, Surgeon to the Leeds Infirmary. London: 1846.
4. Nature and Treatment of Cancer. By Walter Hayle Walshe, M.D., &c. London: 1846.
5. Quain's Anatomy. *Fifth Edition.* By Mr Quain and Dr Sharpey. Part II. London: 1846.
6. Abstract of the Medical Sciences. Edited by W. H. Ranking, M.D. Vol. ii. London: 1846.

[*The rest deferred for want of room.*]

TO CORRESPONDENTS.

IN OUR NEXT.—DR NELIGAN on the Therapeutical Employment of Electricity; and DR EDWARD'S Case of Poisoning with Strychnia.

DR SIMPSON mentioned his case of Ovariotomy at the Edinburgh Medico-Chirurgical Society, on 17th December last, though it was not noticed in the reported speech. The full details will doubtless, in due time, be published by the Professor.

TO SUBSCRIBERS IN THE WEST OF SCOTLAND.

It appears that from the change which took place in July last, in the commercial arrangements of the Journal, many subscribers in the West of Scotland have been uncertain as to whom they ought to pay their subscription. We beg to intimate that Mr Murray, bookseller, Glasgow, will receive all arrears on the special list, due prior to July 1845. From that date, he has been the agent in Glasgow. Some subscriptions for the last half of the year have, from the uncertainty referred to, been sent to Messrs Sutherland and Knox, and others to Dr Cormack. They will be handed over to Mr Murray.

THE

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OF

MEDICAL SCIENCE.

No. LXIV.—APRIL 1846.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Practical Observations on the Therapeutical Employment of Magnetic-Electricity.* By J. MOORE NELIGAN, M.D., M.R.I.A., Physician to Jervis Street Hospital, and Lecturer on Materia Medica and Therapeutics in the Dublin School of Medicine.

THE use of Electricity and of Galvanism in the Treatment of Disease had fallen into great neglect, chiefly in consequence of the large size and difficulty of application of the various apparatus employed for their administration, until within the last few years, when the discovery of a simple and very portable machine for the application of magnetic-electricity revived the employment of this powerful therapeutic agent. Few observations have, however, been yet made, as to the precise forms of disease in which this remedy proves most beneficial; and there is reason to apprehend, that its indiscriminate employment by self-styled electricians may tend to bring it again into disrepute.

In the following short report on its therapeutical employment, I intend confining my observations to its effects in those forms of paralysis in which it appears to me to prove most serviceable; and to illustrate its use, by the narration of a few cases in which I found it prove successful. The instrument which I have employed is that which consists of a small battery, in connection with a frame, on which is fixed an upright straight magnet, surrounded with a bundle of iron wires, round which are coiled some thousand yards of insulated large and small copper wire, divided into seven different portions, each of which terminates separately in a small brass nob, brought up through the bottom of the frame. The shocks are produced by the continuity of the stream of electricity being broken, by the alternate attraction and repulsion, by the magnet

of a piece of soft iron, which is kept in contact with a platinized screw, by means of a piece of watch spring.

This instrument possesses many advantages, from its portability, the great readiness with which it may be applied, and the facility with which the shock may be regulated; the latter being effected by taking in one or more additional coils of wire, which is done simply by moving a brass regulator attached to the frame to the different nobs, in which, as is said above, the coils of insulated wire terminate. The profession in Dublin are supplied by Mr Robinson, of 65 Grafton Street, the cost of the instrument being from £3, 10s. to £4, 4s.

The form of paralysis in which I have found magnetic-electricity prove most useful, is when a single muscle, or a certain class of muscles, have become paralysed from any special or local cause. Thus, I have derived peculiar benefit from its use in that particular form of paralysis of the muscles of the fore-arm, which is produced by the action of lead, and which is so frequent a sequence of painter's colic; as also in those cases where a single muscle becomes paralysed, either from exposure to a draught of cold air, or from continued pressure on the nerve by which the muscle is supplied. In the treatment of hemiplegia or paraplegia, even in their chronic stage, when, of course, the use of any plan of stimulant treatment could alone be had recourse to, I have not seen any benefit produced by the use of electricity; nor, indeed, in any instance where the cause of the disease could be traced to the brain or spinal marrow.

In short, I believe that electricity must be looked upon as a remedial agent applicable to *local* and not to *general* paralysis.

The following cases illustrate the peculiar forms of disease in which this remedial agent has proved most useful in my hands. They are selected from numerous others in which I have successfully employed magnetic-electricity within the last three years, both in hospital and in private practice; and are now published, chiefly with the view of guiding those who are as yet inexperienced in the use of a valuable remedy, and of restoring the direction of its employment to the regular practitioner.

CASE 1. *Paralysis of Sterno-Mastoid muscle of right side, in a girl aged nine years, consequent on Inflammation of the Cervical Fascia, produced by exposure to a draught of cold air.*

E. N., aged nine years, having, while sitting in a school-room, been exposed to a draught of cold air for some hours, was attacked with inflammation of the fascia of the right side of the neck in the beginning of the month of November 1843. The inflammatory attack was subdued in about three weeks, by confinement to the house and ordinary antiphlogistic treatment; but a state of *wry-neck* was left as a consequence of it. For this she was treated by

a general practitioner, by the continued application of relays of six leeches at a time, twice a-week, for more than five weeks. At the end of this time, the neck having become more crooked, and the health having suffered much, she was brought to me for advice.

When I first saw her in the beginning of January 1844, her head was almost reclining on the left shoulder, the face and chin being directed towards the right side of the body. She appeared very weak and delicate; and was almost completely blanched, from the effects of the repeated leechings:—her mother informed me that she had previously had a very florid complexion. By fixing the shoulders I was able, by raising the head with my hands, to restore it very nearly to its natural position,—not, however, without causing the child some pain; and after a careful examination, in which I could not discover any thickening or other remains of inflammation of the cervical fascia, I found that the deformity depended on paralysis of the right sterno-mastoid muscle; the muscle of the left side was in consequence not antagonised, and had acquired a state of spastic contraction: by its action the head was kept in the unnatural position described.

This was one of the peculiar forms of paralysis, in which I had previously imagined, that the use of magnetic-electricity would prove beneficial. I therefore determined on giving it a trial; but owing to the delicate and blanched appearance of the little girl, I thought it advisable to delay its application, until she should acquire more strength; and I therefore prescribed for her small doses of the saccharated carbonate of iron, at the same time directing that she was to have generous diet. After a continuance of this treatment for about three weeks, she again recovered her strength and her complexion; but the deformity was, if any thing, more increased.

I now commenced the use of the electro-magnetic machine with the child, by applying the conductors of the instrument in which pieces of sponge, moistened with salt and water, were fastened, one to the origin, and the other to the insertion of the right sterno-mastoid muscle. The application was at first continued for only a quarter of an hour, but was gradually prolonged until she could bear it for half an hour at a time, which period I never exceeded. The weakest power of the instrument was used, and it was applied only twice a-week. After the third or fourth application, a decided amendment was visible; the sternal end of the muscle being the first to regain its power, as was evident from its becoming fuller, and contracting more strongly under the shocks. The head gradually assumed its natural position, and was perfectly straight on the 20th of May, at which time, also, not the least difference in the development of the muscle of either side could be perceived.

In this case, the result of subsequent experience leads me to believe, that the cure would have been much accelerated had the electrical shocks been more frequently applied; but as it was the first case in which I employed the electro-magnetic machine, I was cautious in its application; and also as I was afraid that over-sti-

mulation of the muscle might cause a return of inflammation. Its termination, however, was so satisfactory that it has induced me to employ magnetic-electricity, both in public and in private practice, more frequently than perhaps I should otherwise have thought of.

As it is my intention in this paper merely to report a *single* case illustrative of each form of paralysis in which I have found this remedy prove decidedly beneficial, the next which I select from my case-book is one of painter's paralysis.

CASE 2. *Painter's Colic (fourth attack) succeeded by almost complete Paralysis of the Muscles of both Fore-Arms.*

James Devoy, a painter, aged 42, was admitted into Jervis-Street Hospital, January 3, 1845, labouring under a very severe attack of painter's colic, being the fourth attack which he had had within the last two years. He had been of dissipated habits for the last twenty years; but, with the exception of the attacks of colic, had enjoyed excellent health. The azure-blue line along the edges of the gums was very distinctly marked; and, according to his own account, this was by far the most severe attack he had had.

After very active treatment, the bowels were well freed. All colicky pains had disappeared on the 10th of January; but on the next morning, he found, on awaking, that he had lost the power of raising his arms, or of closing his hands; and at the hour of visit (nine o'clock A.M.) he presented the usual appearance of the *dropped* hands of lead paralysis. Although this was the first time that he had been thus affected, having never before felt even the least loss of power in his arms, the paralysis was very complete.

He was at once put under the use of the electro-magnetic machine, the brass conductors, moistened with salt and water, being placed in the palms of his hands; when the connection with the battery was completed, his hands closed on the conductors immediately, though previously he was unable to move them. The weakest power (No. 1) was at first used, but afterwards he was able to bear No. 2; and when the muscles had nearly recovered their tone, even No. 3 for a short time. The duration of the application was limited to thirty minutes, and it was used for that length of time daily, until the 8th of February, exactly four weeks, when he was dismissed from hospital completely cured; and up to the date of this communication he retains perfect power in both hands, although he has since had one attack, a slight one, however, of painter's colic.

The rapidity of cure in this case is remarkable, inasmuch as painter's paralysis is usually a most obstinate disease, and one from which complete recovery is very rare. The ordinary modes of treatment, as the application of splints to the fore-arm, shampooing, and the internal use of strychnia, have but little effect in a less period than five or six months:—and frequently, even when

their conjoint use has been persisted in for that period, fail to afford more than very slight relief; while in this instance, though the paralysis was as complete as I have ever seen it, the perfect use of the arms was restored in one month.

The third case which I select is one different from the two preceding, both as respects the cause by which the paralysis was produced, and the muscles which were affected.

CASE 3. *Paralysis of Muscles of Right Shoulder, from the continued effects of damp.* [Reported by Mr Farmer.]

Thomas Grange, aged 52, a sailor, presented himself at the Dispensary of Jervis-Street Hospital, December 10, 1845, in consequence of partial loss of the use of his right arm. On examination, it was found, that he was unable to raise his arm from his side, and also, that he had but very limited use of the hand. When told to raise his right hand to his head, he was obliged to lift it up with the left hand. The muscles surrounding the shoulder were very much wasted, and the loss of power was at once diagnosed to depend on paralysis of them, the deltoid being principally affected.

He stated that, about six months ago, while acting as a sailor on board a merchantman off the coast of Africa, during a continuance of very severe weather, he was exposed to constant wettings, and obliged to sleep for weeks together in his wet clothes; that about three months since, he first began to feel a numbness in his right arm, and a sensation of weight in the limb, so that it was painful to him to be obliged to make any use of it. From that time up to the present, he has been gradually losing all power of moving the hand or arm; and for the last six weeks, has been completely incapacitated from following his employment.

He was first treated by the successive application of blisters over the joint, and afterwards moxas were applied over the origin of the muscles, but without the least benefit. On the 20th, he was first seen by Dr Neligan, who directed the electro-magnetic machine to be used for him: the moistened conductors were to be applied to the origins and insertions of the muscles which raise the arm, and the application was to be continued for half an hour daily. On the 25th, he was able to raise the arm, on a level with the shoulder; and on the 30th, he could use the arm nearly as well as ever, although it still felt weak. The instrument was used with the patient only three times subsequently to this date, when it was discontinued, as he stated that he was perfectly cured. The appearance of the shoulder is much changed since the first application of the electro-magnetism, as the muscles have not only recovered their tone, but also, according to the patient's account, their original fulness.

From what I have already said, I need scarcely add, that I have employed magnetic-electricity in a great number of cases of hemiplegia and paraplegia, in their chronic stage; but my experience

leads me to place little reliance on its application in such cases. Indeed, so far from proving beneficial, I have seen it, in some apoplectic individuals, prove absolutely injurious by its effects in hurrying the circulation.

If the above short observations and cases lead to a more correct appreciation of a useful therapeutic agent—hitherto too much overlooked by the regular practitioner—my object in making them public will be completely answered.

16, LEESON STREET, DUBLIN, February 1846.

ARTICLE II.—*Report of a Case of Poisoning with Strychnia.* By JAMES EDWARD, M.D., Licentiate of the Royal College of Surgeons of Edinburgh.

ON the 7th of January 1846, about two o'clock P.M., a message was brought to me from Haig's House, Glen of Ogle, Forfarshire, requesting me to go immediately to inspect the body of John Findlay, gamekeeper there, who had been found dead in his bed, about ten o'clock A.M. When I arrived, I was shown into the butler's pantry, in the north wing of the house, where there were two beds. After turning down a covering and three pair of blankets on the bed next the door, I saw the body of the deceased lying on its back, and stretched at its full extent; it was covered with a cotton shirt, below which there was one of flannel.

Autopsy.—I observed, *externally*, considerable discoloration about the neck, chest, and depending soft parts of the body; and also, several scrofulous scars and pits about the neck, sternum, and back. The eye-balls were somewhat prominent; the pupils were dilated; the mouth was firmly shut; the arms were lying over the chest; and the hands were firmly clenched. The whole body was in a state of rigidity. The lower extremities were particularly stiff, and the left foot was concave. There were no marks of external violence.

John Anderson, farm-servant at Ogle, gave me a half-ounce phial, without a cork, containing a small quantity of a white powder; the phial was labelled strychnine, and had the word "*poison*" marked under it. He also produced a teaspoon, with some white powder adhering to it, which he stated to me was lying at the bed-side of the deceased, on a table beside the phial; a little of the white powder was lying on the table, which I collected on a piece of paper. I found a cork below the table, tarnished with white, which fitted the phial. By analysing the contents of the phial, the white powder on the table, the tarnish on the cork, and the powder adhering to the teaspoon, I found them all to be strychnia.

On the 8th—twenty-eight hours after death—agreeable to appointment, in company with Alexander Smith, M.D., and William Hutchison, Esq., procurator-fiscal of Forfarshire, I inspected the

interior of the body. Evident signs of putrefaction were present, and partial relaxation of the joints had taken place. The brain, its membranes, the skull-cap, and integuments of the head, seemed to be healthy; but there was general turgescency of all the vessels. The right lung was full of incipient calcareous tubercles; it was partially consolidated in the inferior lobe, and adhered to the ribs throughout. The left lung was studded with a few tubercles, but was free from adhesions. Both lungs were congested with dark fluid blood. The heart was considerably dilated, but was not hypertrophied: the substance, valves, and vessels were healthy; it contained a quantity of dark fluid blood. The stomach having been first secured with two ligatures, the one on the pyloric, the other on the cardiac opening, was removed from the body, for farther examination. The liver adhered strongly to the diaphragm, the adhesions being the consequence of inflammation, for which I attended him five years ago. The substance of the organ was healthy. The spleen was somewhat enlarged, and full of dark fluid blood. The large and small intestines were distended with flatus, but did not show any other appearance requiring notice. The kidneys and urinary organs were healthy. An emission of semen had taken place during the last moments of existence. The spinal marrow was not examined, from want of time.

Analysis of Stomach and its Contents.—The stomach and its contents were boiled for half an hour in common vinegar, and the decoction filtered, which was clear and transparent. On adding liquor ammoniæ to a portion of this decoction, a fine white precipitate was thrown down, to which, when nitric acid was added, a pale red colour was produced, and on dilution with water, and the addition of the tincture of the sesquichlorid of iron, a pale green colour was produced, which became more apparent on being allowed to stand for some time. A sample of strychnine from the shop, treated in the same manner, produced the same colours. The strychnine, however, found in the possession of the deceased, amounting to about half a drachm in a phial, on being treated in the same way, produced a much deeper red with nitric acid than either that produced from the stomach or the sample taken from my own laboratory, and on the addition of the tincture of iron, the colour was more of a pale yellow than a green. On adding the tincture of galls to another portion of the contents of the stomach, a white adhesive precipitate was produced. The strychnine found in the possession of the deceased did not dissolve in water, which I think proper to mention, as I consider that quality to be the best test of the lot, in so far as I treated hydrochloride of morphia in a similar manner to both specimens of strychnine and that procured from the stomach, and it was impossible to tell from the colours which was the strychnine and which the morphia; the two samples of strychnine differed more between themselves in colour than the morphia and strychnine when subjected to the same re-agents.

From what has been stated, I have no hesitation in giving it as

my opinion, that Findlay died from strychnia. He appears to have taken it wilfully, as it was intrusted to his care by his master, for the purpose of destroying vermin. The quantity swallowed cannot be exactly ascertained. The deceased was in his usual health at seven A.M., and was found dead at ten A.M. Judging from the report of his comrades, I believe about ten or twelve grains had been taken from the phial since it had last been seen by them.

FORFAR, 10th February 1846

PART SECOND.

REVIEWS.

Lectures on Natural and Difficult Parturition. By EDWARD WILLIAM MURPHY, A.M., M.D., Professor of Midwifery, University College, London, Obstetric Physician, University College Hospital, and formerly Assistant Physician to the Dublin Lying-in Hospital. London: 1846.

MIDWIFERY is not a neglected branch of our profession, if we may judge from the number of works in connection with it, which are constantly issuing from the press of this and other countries. We rejoice to know that this department is cultivated with zeal and energy; for its importance, and the responsibility connected with its practice, can hardly be over-estimated. The ordinary physician, in difficult and doubtful cases, has time to consult authorities, or take the opinion of a professional brother; and the same remark applies, to a certain extent, to cases which fall under the care of the surgeon; but in the practice of midwifery—in most cases of difficulty—there is little time for consultation, or even reflection, and a false step taken can often never be retraced. Hence the necessity of every one who practises midwifery being thoroughly versant both with its theory and practice.

The work before us is from the pen of a gentleman whose name is already familiar to those who cultivate this department. His practical experience, acquired while Assistant Physician to the Dublin Lying-in Hospital, and likewise as Obstetric Physician to the University College Hospital, must be very considerable; and knowing this, we opened the volume with the expectation of finding truly practical dissertations on Parturition. We have, to a certain extent, been disappointed. The practical is by far the least valuable part of the work. Important practical details are wanting in almost every section; while obviously, by a little care, every portion might have been rendered of a more useful character. While we thus express our sentiments regarding the general character of the undertaking, we must say, that we have found it is by no means an uninstructive volume.

The First Lecture embraces the ANATOMY OF THE PELVIS, so far as it is connected with the process of parturition. It is clear, concise, and accurate; and we have discovered in it nothing wherewith to find fault. We select a few passages, which we consider worthy of attention; and in the accuracy of which we perfectly coincide.

The first quotation we will adduce refers to the *Form of the Inferior Portions of the Iliac Bones, and the manner in which the head of the child is propelled through the lower part of the pelvis:—*

"The inferior portion forms a part of the true pelvic cavity, and principally consists of the ischium. Its internal surface is bounded by the obturator foramen on the one side, and the ischiatic foramen on the other; it is smooth, and corresponds to the acetabulum on the external surface. This surface is called (in obstetric language) *the plane of the ischium*, because the head of the child glides upon it in its descent, and passes forwards under the arch of the pubes; but if carefully examined, it will be found to consist of two planes, very slightly inclined in opposite directions, and divided by a line passing from the pectineal eminence to the spine of the ischium. In some pelves this is more obvious than in others; but when the soft parts are attached, this will be found nearly corresponding to the reflections of the peritoneum which form the broad ligaments. Thus, the internal surface of the ischium, before the soft parts are removed, presents two broadly curved surfaces, one anterior, the other posterior; these greatly contribute to facilitate the rotation of the head of the child in passing through the pelvic cavity. *The anterior plane* terminates at the obturator foramen, an opening nearly filled with membrane, giving support to the internal and external obturator muscles, and offering less resistance to the advance of the head forwards than if it consisted of bone. The obturator foramen is bounded by the ischio-pubic ramus, the pillar of the arch of the pubis. It presents a smooth surface, bevelled off towards the arch; and when the head passes from the obturator foramen upon it, this inclination greatly assists its exit under the arch of the pubes. *The posterior plane* terminates in the ischiatic foramen, and the portion of the head which comes upon it glides in a similar manner upon the coccygæus and pyramidal muscles, and shorter sacro-ischiatic ligament towards the hollow of the sacrum. Thus the inclinations of these surfaces oblige the head to pass through the pelvic cavity in a spiral direction. The pubic portion of the bone is smooth on its internal surface, which also greatly favours its advance." Pp. 2—4.

In describing a *Horizontal Section of the Brim of the Pelvis*, the author very properly remarks,—

"The lateral measurements are taken from the same point" (the promontory of the sacrum) "to the pectineal eminences on either side; these are about 3½ inches, but are very seldom found exactly equal. It is necessary to recollect these distances, because of the effect sometimes produced by their inequality. For instance, if the promontory be very much directed towards the right pectineal eminence, the head would be at once prevented entering the brim if it preserved its usual position, that is, with its anterior part opposite the right sacro-iliac synchondrosis; but if it took the other direction, so that the same part was applied in the same way to the left side, it would pass quite easily. Hence, in the same patient, one labour may be difficult and another easy, merely from the accidental position of the head." P. 12.

We concur in the following observation regarding the *Bi-parietal Measurement of the Head*:—

"The bi-parietal measurement of the head is generally stated to correspond to the conjugate or antero-posterior axis of the brim; and as the former is 3½ inches, the latter 4, only half an inch is allowed for the soft parts, even in the best-formed pelvis; consequently, the least diminution of the conjugate axis causes a difficulty: a greater one becomes an obstruction. Hence, among accoucheurs, it has been an anxious problem to determine the smallest conjugate diameter (as it is improperly called) through which the head can pass without destroying the child.

"Its solution has been attempted by comparing the bi-parietal measurement of the head with the conjugate of the pelvis; and it has been stated by Dr Joseph Clarke (a high practical authority), that if the conjugate be less than 3½ inches, a living child cannot pass the brim of the pelvis. But in all these discussions, it has been too confidently assumed, that these two measurements of the head and the pelvis exactly coincide. They do not; on the contrary, as the head is entering the pelvic cavity, the parietal protuberance next the pubes descends lower than that next the sacrum, so that the bi-parietal axis lies obliquely downwards, and so it remains more or less until the occiput escapes under the

pubes. The part of the head, therefore, which would be felt lowest in the pelvic cavity is this parietal bone. By this means nature avoids the difficulty which would often arise, if both parietal protuberances descended in the same plane.

"Thus you perceive, that the head slightly rotates on its longitudinal axis also; and in order to effect its passage through the pelvis, combines four distinct movements:—two of them upon the vertebral column, one in the lateral, and one in the antero-posterior direction:—two on the head itself, one on its longitudinal, and a second on its transverse axis. By the combination of these motions, the passage of the head is ultimately effected." Pp. 17, 18.

The Second Lecture discusses the VARIETIES OF THE FORM OF THE PELVIS, and the methods of ascertaining its dimensions. The exceptions to the standard pelvis the author proposes to divide into deviations and deformities,—

1st, The pelvis may be too large, and may lead to injurious consequences, although the process of parturition be not hindered. The uterus may pass into the vagina, or even appear at the vulva, predisposing to prolapsus uteri. The too rapid expulsion is certainly not one of the greatest evils of a pelvis of too large dimensions. The author believes that, when the parturient uterine action is called into operation, it must continue a certain time after the immediate exciting cause is removed, alternately contracting and dilating; hence the danger of hemorrhage taking place.

2d, The pelvis may be too small. The pelvic bones of a female otherwise well formed may be disproportioned to the size of the child's head; and,

3d, The development of the pelvis may be arrested from various causes. Illustrations are given of a child's pelvis, and that of an adult female, which show exceedingly well their comparative dimensions. There is much truth in the following statement, and at the same time we fear it is too seldom attended to in practice:—"The development of the pelvis may be almost completed, and yet be too small for the passage of the head; and as the difficulty may happen just at the time of puberty, it becomes an objection to early marriages. During the growth of the pelvis, the transverse and oblique measurements of the brim are constantly increasing, and the outlet becoming wider; but they do not begin to exceed the antero-posterior until after puberty, as may be readily perceived in the altered shape and carriage of the female at that time. At puberty, therefore, these measurements may only equal the antero-posterior: the outlet and perhaps the cavity being still in diminished proportions. Thus the young girl, although perfectly well-formed, but pregnant at too early an age, may be the victim of a difficult labour, simply from this cause." P. 25.

We agree in the following statements:—"The obstacles which the female pelvis may present to the passage of the head, when it approaches the characters of the male pelvis, deserve your attentive consideration. The triangular shape of the brim is not generally an impediment, because, although the transverse measurement is diminished, the oblique is sufficiently wide, and the head will usually pass into the cavity. But here, all the difficulties seem to centre; anteriorly, the symphyses pubis is narrower and more unyielding; even a deposition of bone is sometimes found behind it, which may be extremely dangerous, if the intervening soft parts are pressed against it by the head: posteriorly, the promontory of the sacrum offers no opposition, but the sacrum itself being straighter, there is less facility in the head performing the lateral rotation which has been already described to you, and this difficulty is still more increased by the convergence of the ischio-pubic rami. The head is obliged to descend much lower in the pelvic cavity before it can escape under the arch of the pubes, and it is prevented from doing so in consequence of the space being so much lessened by its funnel-shape. In addition to this, the tubers and spines of the ischia are more ossified, the one thicker and rougher, the other larger and more projecting; thus, as the head advances, its passage becomes more and more impeded, until it is ultimately arrested, perhaps close to the outlet. In women of this description, it is possible, also, that the head of the child may be more than usually ossified, and the action of the uterus is always strong, so that a most disadvantageous combination of circumstances

may take place in a healthy pelvis of this kind. On another occasion we shall have to refer to it; at present, we would only request you to notice its anatomical peculiarities, as it is important thoroughly to understand them; and here again we would observe, that the bones of the extremities will be a useful guide. The wrists and ankles are large, the phalanges thick and short; hence the old popular opinion amongst midwives, that 'a thick, short hand is a bad sign when a woman is in labour,' has a more just foundation than what, at first sight, might appear reasonable." P. 28.

Accurate representations of the varieties in the conformation of the pelvis, arising from *rickets*, *mollities ossium*, and similar diseases, are given, and their bearing upon practical midwifery explained. For the various measures which have been proposed from time to time to ascertain the dimensions of the pelvis, we must refer to the work itself.

PARTURITION IS DEFINED to be *the action of the uterus to expel its contents when the fœtus is sufficiently mature to sustain respiratory life*, and Denman's division is adopted:—the *first* being the dilation of the os uteri, the *second*, the expulsion of the child; and the *third* the separation of the placenta. The author's exposition of the action of the external layer of muscles we hold to be correct. "*The external muscular layer* slowly contracts for some time before labour has actually commenced, and draws the uterus gradually towards the pelvis. By this means, also, the fundus is maintained in its proper direction, and prevented from inclining too much to either side. This gradual contraction is unaccompanied by pain, and therefore is not taken notice of; but its effect in altering the size of the abdomen, and making it less prominent, has always been observed and noted as a premonitory sign of labour. These fibres also serve a useful purpose when the dilatation of the os uteri commences. The fundus being thus supported, the fibres on the internal surface contract more efficiently." Pp. 45, 46.

The author does not believe that the os uteri possesses circular fibres resembling, in their action and formation, ordinary sphincter muscles. He thinks the manner in which the os uteri dilates supports the opposite view. "Its expansion is very gradual, it yields slowly to the power described, and does not resemble the comparatively sudden relaxation of a sphincter muscle." P. 49. We beg, with deference, to tender our dissent from the unqualified language here employed; in general, the dilation of the os uteri is a gradual process; but there are numerous exceptions. It is by no means uncommon to find a very rapid dilation.

In the following passage the *Influence of the Liquor Amnii* is clearly pointed out, and at the same time not over-estimated:—"If the uterus exerted its full power upon the undilated os uteri, and if the unyielding head of the child were driven forcibly against it, the almost certain consequence would be, that the irritation would excite increased resistance, and ultimately terminate in inflammation of the mouth of the uterus. To obviate such an effect, nature interposes *a fluid medium* between the power and the resistance. The liquor amnii contained within the membrane occupies the cavity of the uterus, and when its parietes contract upon it, the force exerted is (as we have explained) by this means accurately conveyed to the os uteri. When the latter dilates in the slightest degree, the fluid insinuates itself within the smallest opening, and expands it by a direct lateral pressure against its edges. The power of the uterus is thus made to act in the most favourable manner for distending its mouth.

"Other advantages are also gained. The os uteri may dilate irregularly; but any attempts to overcome forcibly the undilated portion is prevented when the force is conveyed through a fluid, which, while it readily yields to an undue resistance, still maintains an equable pressure upon the edges of the os uteri. Any irregularity in the action of the uterine fibres is also, to a certain extent, obviated, because these contractions, although irregular, being still conveyed by the fluid, are thus equally communicated to the os uteri. Further, so long as the tissue of the uterus intervenes, it is necessary to moderate the great power which the uterus is capable of exercising to dilate it: this is effected by the

liquor amnii. The force conveyed by a fluid, you are aware, does not act in one direction only, but is distributed to every part of the surface to which the fluid is applied. The force, therefore, which is exerted to expand the mouth of the uterus, being communicated by a fluid, is not only directed against the os tincæ, but against the fundus and sides of that organ. The fundus, consequently, is opposed, not only by the os uteri, but by its own action reflected by the liquor amnii. Hence, so long as the fluid remains, and the os uteri is undilated, the more powerful the action of the fundus, the greater is the resistance to it. The actual force employed is therefore very moderate, and any sudden or violent effort at distension is altogether obviated. You may observe this in the character of the pains during this stage. You will find that however severely they may commence, they last but a short time, and the effect on the os uteri is comparatively slight. If these short though severe pains be contrasted with the long-continued and powerful pains which follow them, when the liquor amnii is discharged and the os uteri dilated, the difference in the effect will be sufficiently obvious. As a means, therefore, of conveying the whole muscular power of the uterus upon the os uteri—of moderating and equalising the force employed—of dilating the mouth of the uterus without exciting irritation—the liquor amnii is of essential importance." Pp. 50, 51.

We cannot give our assent to the following statement.

"The immediate effect of contraction, commencing at the fundus, would be to compress the liquor amnii, which of necessity forces its way before the head, on to the mouth of the uterus. The fluid, in this position, re-acts against the head with the same power that it is compressed, and therefore pushes it up until the increasing contraction of the fundus forces the head down again; so that you perceive the phenomena quoted are quite consistent with the statement that uterine contraction begins at the fundus; in fact, it could not be otherwise so long as the waters remain in the uterus." P. 52, 53.

Our experience leads us to believe that instead of the fluid reacting against the fœtal head, and pushing it forwards, that the part at which resistance is least gives way, or, in other words, the membranes are pushed further down.

We admire the author's exposition of the benefits arising from the unruptured membranes during the expansion of the os uteri; they are well calculated to expose the fallacy of a doctrine which, we fear, is too frequently embraced by young obstetricians, that by rupturing the membrane at an early period, the duration of their attendance will be diminished.

The following passage is worthy of attention:—"If the os uteri become inflamed, rigidity is the result of it; the os tincæ grows hot and tender, is swollen, and becomes rigid. This alteration may arise from any irritation; premature rupture of the membranes, for instance, by which the head is brought into direct contact with the undilated os uteri. It is also often induced, not by accidental causes, but by too much meddling, making too frequent examinations, attempting to dilate the os uteri artificially, &c. You cannot, therefore, be too cautious in this respect. Sometimes the head of the child presses so unequally upon the os uteri as to excite inflammation in it. The head may not be directed exactly in the axis of the brim, but may rather rest upon the pubic portion of it, compressing the anterior lip of the uterus with every pain. While the remaining portion of the mouth of the uterus expands, this remains undilated, and forms a band in front of the head. When the membranes are ruptured, the pressure is so much increased, that the anterior lip often inflames and grows quite rigid. Again, there are cases where the os uteri is driven down with the head into the pelvic cavity, and the whole circle of the os tincæ compressed so tightly against the pelvis as to produce inflammation; further dilatation is arrested, the os uteri is rigid, and if it remain long in this condition, slough may be the result; the whole os tincæ has been completely separated in this manner, and expelled with the head of the child." Pp. 57, 58.

The Fourth Lecture is decidedly good; but it is not quite so practical as we could have wished. We will content ourselves with a single passage, which we consider correct and well-expressed:—"In some instances, from an accidental

cause, the forehead is driven down too far, so that the head, becoming fixed in the pelvis transversely, its progress is thus arrested. It is essential for you to understand this cause of delay in the second stage, because it is very easily corrected; and any ignorance respecting it might lead you into the erroneous impression, that the head should be delivered by instruments, because it was so long fixed in its position. When this accident takes place, the anterior fontanelle may be observed to be remarkably distinct; you readily trace out its lozenge shape, and feel the four sutures distinctly at each of the angles. The finger also passes very easily between the pubes and the head, so that there appears to be rather more space in that situation than usual. Finding, therefore, this evidence of room in the pelvis, the anterior fontanelle perfectly within reach, and at the same time the head not advancing, you have sufficient proof of this deviation. It is described by many authors as the *premature separation of the chin from the chest of the child.* The mode of correcting it is sufficiently simple. The head should be dislodged from its position in the interval of a pain, and the fingers pressed against the frontal bone until the uterus again contracts; the occiput will at once descend, and the labour proceed without further difficulty. There are rare instances in which the forehead descends completely into the cavity of the pelvis, and becomes the presenting part; when this occurs, the displacement cannot be corrected, as in the former instance; and the position is so unfavourable that the head soon becomes arrested in its progress. It acts upon the pelvis something like a wedge, the forehead being the narrow end, and the occiput and neck of the child its broad base. The more the head advances, the more the difficulty is increased. When this accident takes place, the exploring finger feels the frontal bone traversed in the centre by the frontal suture; there is therefore some resemblance to the vertex position, but it may be easily distinguished, because the forehead is smaller than the occiput, and the anterior fontanelle being near, can be very easily traced. The inexperienced observer would imagine, that there was more space than usual in the pelvis for the passage of the head, and might not be able to explain why its progress should be delayed; but if the finger were passed sufficiently high, he would soon perceive, that the head was completely wedged in the pelvic cavity." Pp. 68, 69.

The Fifth Lecture embraces the management of NATURAL LABOUR. We are afraid the practical reader will find points of very great importance altogether omitted, or introduced in a manner little calculated to impress the mind.

We must tender our dissent from the following statement:—"This (diarrhœa) is always salutary, because it secures the important object of having the intestines unloaded." P. 78. Diarrhœa, instead of being, as is here asserted, *always salutary*, is, we maintain, *never safe* immediately preceding delivery.

The author should have stated, that the first consideration of the accoucheur, in making an examination early, is to ascertain that labour has actually commenced. The directions given are sound.

We fully concur in the accuracy of the following statement. Here, as everywhere else, *the best policy is to state the truth*, or at least not to raise false hopes, which most unquestionably diminish the confidence of both patient and attendants. The advice tendered here, and in other practical treatises, is too frequently neglected—sometimes, perhaps, through a mistaken kindness, with a view to soothe and tranquillise an impatient sufferer. Dr Murphy says—"The second question, as to the *duration of labour*, cannot be too cautiously answered. The friends may ask, 'Is everything right?' but 'How soon shall I be well?' is invariably your patient's anxious question. In order to tranquillise and encourage her, it might seem pardonable to state a period for the termination of her sufferings, earlier than what you know will be the case. But such a practice would be extremely injudicious, because when the time had passed in which she expected a relief to her anguish, her disappointment would lead to impatience of further suffering, if not to a secret dread that the delay arose from some cause dangerous to herself. The result might be a suspension of the uterine action, and a still further prolongation of her labour. Along with this,

being proved, as it were, a false prophet, your patient may lose all confidence in your opinion and judgment." P. 84.

In the Sixth Lecture the management of natural labour is continued. In our opinion, it is defective in many practical points, and several important directions are altogether omitted. Let us take an example.

"If you attempt to draw the perineum back over the head, it will be stretched too suddenly over the bi-parietal measurement, the widest part of the head. If, on the other hand, you push the head too much forwards, pressing with the pains from the sacrum towards the pubes, the same effect will be produced in a different manner; you force the parietal portion of the head too rapidly through the vulva. At this point, it is better to continue the same moderate counter-pressure, to make no attempt to hasten the delivery, and to allow the head to pass along the hollow of the hand, in the same manner as it moved along the curve of the sacrum. When the head is passing out of the vulva, you should then direct it forwards toward the pubes; and when it is delivered, examine carefully lest *the funis may be coiled round the neck.* If such be the case, and that it is only a single coil, it will generally be sufficient to draw down a little more of the funis, and loosen it. A single coil seldom retards the delivery of the child, or arrests the fœtal circulation; but two and even three coils are sometimes met with, and the child placed in great danger of strangulation. In these cases, as much of the funis as possible should be brought down, and the coils so loosened that one may be drawn over the head. There are cases where this cannot be done, and the only resource left is to tie and divide the funis, and extract the child as soon as possible, in order that respiration may be established. This operation is hazardous to the child's life, and can only be viewed as the lesser of two evils.

"If the funis be not found about the neck, the perineum must still be supported until the next pain, usually a tardy one, expels the shoulders. The same caution must be exercised as before, lest the arm or hand should lacerate the perineum as it is coming out of the vulva. This should be particularly attended to in the second positions of the head." Pp. 96, 97.

Now, the first statement is undoubtedly correct; but the second is erroneous. Pressure of the head from the sacrum towards the pubes tends to relax the labia, and contributes to a safe and easy delivery. We think every practical man will admit, that if the cord is of sufficient length to permit of its being drawn over the head, it cannot prevent the egress of the child; hence the direction is unnecessary. If various coils surround the neck, and the dimensions of the cord do not allow any portion of it to be drawn over the head, there is no necessity for tying and dividing it. A much more judicious method is to push it over the shoulder, so as to render the pressure less, and diminish the risk of strangulation.

In speaking of the EXPULSION OF THE PLACENTA, the author says—"A very moderate pressure on the fundus at this time is often sufficient to expel the placenta completely out of the vagina; but if not, it can be drawn out by the funis quite easily, directing the funis forwards in the axis of the vagina. But if the uterus should not obey the stimulus at first, do not persevere; it is always more advisable to wait for some time, than to use too much irritation. Neither should you attempt to remove the placenta by the funis alone. By great violence, it is true the funis may be broken, or the uterus inverted. I do not attribute to you such awkwardness; but by pulling frequently at the funis to ascertain if the placenta be separated, you may excite an irregular contraction of the uterus. Passing the fingers into the vagina is often sufficient to excite the action of the uterus; and drawing the placenta by the funis may excite it still more. If the uterus contract, and the order of its action be not secured by the means already pointed out to you, the great probability is, that being nearly emptied of its contents, the lower fibres will contract first, and retain the placenta. Thus, by pulling too much at the funis, the placenta may be retained. By a little caution, and by moderate pressure on the fundus of the uterus, you will generally secure its favourable separation. This being accomplished, the next and con-

cluding object of your attention is to preserve the uterus in that state of contraction which is so necessary to prevent subsequent hemorrhage. We have already explained to you the efficiency of the abdominal muscles, when they are strong enough to contract firmly upon the retiring uterus." P. 98.

We must protest against pulling at the funis under any circumstances. It is an unscientific method of completing delivery, and is replete with danger. Instead, therefore, of cautioning students against "pulling too much at the funis," the directions ought to be, that traction at the cord is never justifiable.

In the Seventh Lecture Dr Murphy discusses DIFFICULT LABOURS. He admits of two subdivisions. "1st, That in which labour is merely prolonged beyond the average period, without being at any time unusually severe. It is then called '*tedious labour.*' 2ndly, That in which, without reference to time, there is a powerful struggle carried on by the uterus to overcome some unusual resistance. This may be called by the expressive term '*laborious labour.*'" P. 105.

Over-distension of the Uterus by the Liquor Amnii is the first cause of tedious labour referred to. We quite agree with the author that the best plan in such cases is to puncture the membranes within the os uteri, as high as can be reached, so that the fluid may be allowed gradually to escape. As soon as the over distension is thus relieved, the pains increase in strength and frequency, and labour generally proceeds rapidly to its conclusion.

Extreme Obliquity of the Uterus is the next cause mentioned. We give a single quotation on the subject, because we believe both of the methods condemned by the author may be occasionally necessary. "The mouth of the uterus is often greatly displaced in these cases; it is directed very much towards the promontory of the sacrum; and hence, in order to correct the obliquity, some have advised, that the forefinger be passed within the opening, and the os uteri drawn towards the centre of the pelvis. How is it possible to alter the pendulous fundus by such means? But if, in order to correct the position of the fundus, it is also necessary that it be raised by the opposite hand, the introduction of the finger is not required, because then the mouth of the uterus will correct itself. Such means, therefore, should be avoided, because they are calculated to excite irritation. Some serious mistakes, however, may be made as to the cause of delay, when the os uteri is absent from its usual situation." Pp. 107, 108.

The gradual escape of the liquor amnii, hysterical excitement, and mental despondency, are the other causes enumerated under this division. Under the latter head, the first case which is detailed is unsatisfactory in the extreme. The patient was admitted into the Dublin Lying-in Hospital in a state of utter destitution, and died notwithstanding the most vigilant administration of stimulants and nutritious diet. An inspection would have cleared up the whole mystery.

Under the second division of causes that render labour tedious, is *Rigidity of the Passages.* "If the os uteri be much exposed to irritation, it is rendered rigid; the lips become swollen, hot, and tender: when these signs of commencing inflammation present themselves, the cervix is less disposed to yield to the action of the uterus, and becomes rigid. One of the most frequent causes of this kind of rigidity is the *gradual escape of the liquor amnii,* by which the head of the child descends upon and irritates the cervix. If this irritation be long continued, you have to contend, not only against the effect of inflammation, but also against a spasmodic contraction of the circular fibres of the body round the child. When this happens, an additional resistance is offered to the action of the fundus. In the treatment of it, therefore, promptitude is necessary. If the patient be strong, plethoric, and disposed to make violent straining efforts, a free depletion from the arm would be of much use; it diminishes the tendency to inflammation, and produces a feeling of exhaustion in the patient, which induces her to bear her pains more patiently. In order to ensure such an effect, depletion may be followed by tartarized antimony, in small doses,

so as to excite nausea. Women who may have been previously very violent and intolerant of their pains, are soon subdued when the sense of exhaustion that attends sickness is excited. If, on the contrary, your patient be of an opposite temperament, this treatment cannot be employed; local depletion is preferable; a dozen of leeches may be easily applied to the cervix uteri; warm emollient enemata may be given, and if the woman be much fatigued, or if the pains become feeble and irregular, an anodyne is often very beneficial; some sleep is procured, the irritation of the cervix is diminished, the spasmodic contraction of the fibres disappears, and the pains return with more regularity and strength." Pp. 114—115.

We doubt very much the utility of applying leeches to the cervix uteri during the progress of labour. However good it may be in theory, its practical benefits must be very limited.

The cervix uteri is frequently rendered rigid from the accidental compression of the head against the pelvis.—"The head of the child may rest on the pubic side of the pelvis in such a manner as to compress the anterior lip of the uterus, and prevent its dilatation. A band is thus formed before the head, which, when long pressed upon, is swollen, tender, and rigid. The treatment of the cervix, when in this state, has become a kind of *vexata questio* in obstetric practice. Some practitioners of station and experience have advised, that the anterior lip of the os uteri be pushed up by the fingers, above the head, in the interval of the pain, and there maintained, until the returning contraction of the uterus drive the head below it; while others of equal reputation deem such practice to be objectionable, and calculated rather to increase than to diminish the difficulty, by exciting more inflammation. I may mention the late Dr Hamilton, of Edinburgh, as holding the former opinion, and Dr Collins of Dublin, the latter, as a proof how men of very extensive experience often arrive at opposite conclusions on what would seem to be a simple practical point. It is my duty neither to draw you into controversy, nor to give you too dogmatic an opinion on a question so nicely balanced by authority. I must assume, on the evidence of Drs Hamilton, Burns, and Breen, that this kind of artificial dilatation may be accomplished in some instances with safety and success. My own experience, however, confirms that of Dr Collins, and is opposed to this practice. The opportunities I have had of putting it to the test have taught me, that success is by no means so easy as it is described to be; that the anterior lip may be pressed back again and again, and yet return to the same situation as before; that it is difficult to get the head to pass the introduced finger; and that these attempts, when unsuccessful, only increase the swelling and inflammation of the soft parts." Pp. 115, 116.

We do not agree with the author regarding the pushing up of the anterior lip of the os uteri. We have frequently succeeded most successfully in this practice, and we know it has succeeded admirably in the hands of others.* If we remember rightly, it is not exactly in this kind of case in which Drs Hamilton and Burns contend for dilation.

Considering the importance of the subject of this lecture, we expected, that when the acute and well-stored mind of Dr Murphy was turned to it thus particularly, a more complete account would have been given of it. Imperfect uterine action is the proximate cause of laborious labours; and many of the causes which induce this imperfect action are altogether omitted.

In Lecture Eighth are detailed THE VARIOUS CAUSES WHICH MAY RETARD OR ARREST THE PROGRESS OF THE FŒTAL HEAD IN ITS PASSAGE THROUGH THE PELVIS. We select a passage.

"*The Head may not be able to enter the Brim of the Pelvis.*—This may happen when the head is hydrocephalic, or the brim of the pelvis much deformed. In the former case, the moment it is ascertained, as we have al-

* See Vol. for 1843, page 387.

ready stated to you, the head must be perforated. In the latter, it is of importance to determine the degree of disproportion in the brim, in order to decide on the practicability of delivering the child. In the extreme deformity of either the ovate or cordiform brim, when the antero-posterior measurement is perhaps only an inch or an inch and a half, it would be impossible to do so *per vias naturales;* and therefore the Cæsarian section, or what might be called delivery *per vias præternaturales*, becomes a question for your consideration. But the deformity may not be extreme, and yet the head be prevented entering the brim. It is such cases as these that cause the practitioner the most embarrassment, and which present to him the greatest difficulty as to the course he should pursue. It is for the purpose of determining the rule in these cases, that our professional mechanicians have contrived an endless variety of pelvimeters. It is for this object that the profession have made many fruitless efforts, and even entered upon no little controversy, to determine the least possible space through which the child might pass. I shall not occupy your time uselessly with their discussions, but shall only point out to you the errors you must avoid. Recollect that the child must be delivered by destructive instruments, that its sacrifice is involved in the question you have to consider; and this remark applies equally to those who have the temerity to apply the forceps when the head is above the contracted brim of the pelvis. Whether the forceps or the crotchet be employed, the result to the child is the same; the only difference being, that in the former case the hazard to the mother's life is greatly increased. You must not, therefore, place implicit confidence in the accuracy of the measurement that you make of the pelvis, and at once proceed to operate, because it is, or you think it is, within the space through which the head may pass: you might be altogether deceived; and every experienced practitioner knows how often he is deceived in the estimate he forms of the space in the pelvis, although the utmost care may be taken to determine it. Do not, therefore, trust to pelvimeters, however ingeniously contrived; rather let time, and a close attention to the symptoms which present themselves decide your practice. When the character of the labour is changed, when inflammation begins in the passages, when the premonitory symptoms of exhaustion appear, when, after a reasonable time has elapsed (say six hours), without the head making any progress, although the os uteri is quite dilated and the pains have continued regular and powerful:—when any of these conditions are met with, and you have reason to think, from an examination of the pelvis, that the brim is too contracted, then, but not until then, are you justified in interfering. The simplest, and, we might add, the most efficient pelvimeter, is the hand of the practitioner. If it be the educated hand of the experienced obstetrician, the evidence is certain; but even the attentive student may acquire much accuracy by observing a few simple rules." Pp. 129, 130.

We recently met with a case where the head of the child was prevented from entering the pelvis on account of an exostosis arising from the promontory of the sacrum. It was hard and unyielding, and larger than a hen's egg. The fœtal head has, in three instances, required to be broken down; on the last occasion, delivery was accomplished with great difficulty, the obstruction having become larger. The patient died exhausted three weeks afterwards. She had unavailingly been urged to allow premature delivery to be induced.

The Ergot of Rye, we are convinced, is administered far too indiscriminately, especially by young practitioners. The number of children which perish from its influence is very great.[1] No remedy ought to be prescribed more prudently and more cautiously. Dr Murphy remarks:—"When there is the least reason to apprehend exhaustion, promptitude in delivery is imperative; but before interference is thus called for, much may be done to prevent its necessity. Rest is very important in these cases, because it is an evidence that the over-excited nervous system is tranquillized; therefore, when the pains are becoming weak, or return only at long

[1] For information on this subject, *vide* Monthly Journal, vol. for 1844, (June,) p. 536, (August,) p. 723.

intervals, a moderate dose of opium is often of great service: if the patient sleep, even for a short time, the uterine action is renewed with much more power. I have expressly stated a *moderate* dose of opium, because the case now under our consideration is that in which the same medicine has produced the most opposite effects, according to the dose administered, and, consequently, it has sometimes been discarded, because it has been misapplied. The object which it is intended to accomplish by opium, is to subdue the nervous irritation which precedes exhaustion, and to restore, by rest, the energy of the uterus. The effect produced by too large a dose may be to paralyze all nervous power, and thus at once to cause uterine exhaustion. You must therefore exercise proper caution in the use of it. Twenty to twenty-five minims is generally sufficient for the purpose. After a temporary rest has been thus produced, if the uterus still continues to act feebly, ergot of rye may be given in an equally cautious manner, carefully attending to its influence on the pulse, and especially on the circulation of the fœtus. If in either case, after giving this medicine, the rate of the pulsations be diminished, you must not persevere in its employment, otherwise the death of the child may be the result. It is also necessary to be careful to avoid the use of *secale cornutum*, if the delay in this stage arises from great disproportion between the head and the pelvis. It must be obvious to you, that in a case like this it would be very dangerous to use a means of exciting the action of the uterus, over which you can have no control. A preparation which exerts a specific influence on the uterus, which often causes the most violent action, and that not returning at intervals, as ordinary pains do, but which excites a *continuous* effort of the uterus to expel the child, is not the safest to employ, when there is much resistance opposed to this action. The remedy, when cautiously administered, is useful, however, in those cases where the delay chiefly arises from want of power in the uterus, which may be exhausted if not thus artificially stimulated to action." Pp. 139—141.

THE ACCIDENTAL OBSTRUCTIONS TO THE PASSAGE OF THE HEAD, enumerated by Dr Murphy, are *Ovarian tumours* and *Polypi*.

"*Ovarian Tumours* sometimes descend into the pelvic cavity, and obstruct the head of the child. If the tumour consist of several cysts, the smallest may pass down between the vagina and rectum: cases are also recorded where very large tumours are found in the same situation. One of these cases is given by Dr Merriman, along with a very accurate drawing of the tumour. Their contents vary so very much in their consistence and density, that they are not always easily recognised; but if there be any sense of fluctuation, or even if the tumour be very elastic, the probability is, that it is an ovarian cyst, containing fluid more or less deeply seated. Unless the size be great, it is possible, that the head may press the cyst against the sides of the pelvis, and pass below it; a small tumour also may be pushed back towards the brim of the pelvis, when the pains are absent, and perhaps be prevented from again descending when the action of the uterus returns; if by neither of these modes the removal of the obstacle can be accomplished, the only resource left is to puncture the tumour and allow the fluid to escape. This may be done, although there be no distinct sense of fluctuation, because the fluid is often thick, like honey, and may be deep-seated, which will communicate to the fingers an elastic feel rather than one of fluctuation. Besides, if a mistake be made, and you should puncture a polypus or a fibrous tumour, no great injury is done. It is when a sense of fluctuation is distinct, that caution is required, especially if the tumour should appear towards the pubic side of the pelvis. The bladder has sometimes prolapsed before the head of the child, and presented a fluctuating tumour. It is not necessary to tell you, that this should not be punctured. But the danger of these cases does not generally arise from the delivery being obstructed, but from the effect which labour produces on the disease; the tumour is necessarily exposed to a great deal of irritation; the patient is weakened, if not exhausted by the struggle which takes place; and, when labour is concluded, she is quite unequal to combat the effects of that irritation. Dr

Merriman has collected the history of eighteen cases of ovarian tumours obstructing parturition. One half of the mothers died, three recovered very imperfectly, and six only may be said to have escaped: sixteen of the children were still-born, and four were born alive." Pp. 165, 166.

A very interesting case of ovarian disease, preventing the escape of the head, was detailed, by Mr Lyon of Glasgow, in our volume for 1845, page 885. In that instance the tumour had found its way downwards, behind the rectum. The Cæsarian section was performed, but, as our readers may recollect, the patient unfortunately sank.

Polypus.—We coincide in the views of Dr Murphy regarding the treatment of this complication. He says—"If it be small, and detected early in labour, it might also be in your power to prevent the tumour descending. It might be pressed back when the pain ceases, and so retained until the head passes beyond it. But if neither can be accomplished, if the tumour remain an impassable barrier, it should be removed, not by ligature, but by excision. The polypus should be drawn down as much as possible by a forceps proper for the purpose, a temporary ligature applied, and the stem cut through." P. 168.

On the co-existence of pregnancy and uterine polypus, the author remarks:—"It is not likely that the ovum could be brought to maturity, if a large polypus occupied the cavity of the uterus; it is therefore fair to assume, that when a polypus is found to impede parturition, it must be attached to the mouth of the uterus, and therefore it can be the more easily traced to its origin, so that you have every facility to assist your diagnosis." P. 168.

An interesting case in point is narrated by Dr Macfarlane of Glasgow, in the late *Medical Journal* of that city, Vol. i., p. 416. The original being now scarce, we quote the narrative.

"Mrs S., aged about 30, residing with her father, a respectable farmer, about four miles to the south-east of Glasgow, was taken in labour of her first child, on the morning of the 13th October, 1825. On visiting her at 10 o'clock in the evening, I found the pains regular, but indicating only the first stage of labour; the os uteri dilated to the size of a dollar; its edges soft and natural; the membranes protruding slightly during uterine action, and the child's head presenting. About one o'clock of the following morning, the os uteri was fully dilated, the membranes had given way, and the bearing-down efforts were forcible. About four, the child was born; it was feeble, and from its premature appearance, tended to corroborate her own opinion, that she was hardly eight months gone in pregnancy. In half an hour, she had a slight bearing-down pain, by which the placenta was partly protruded. On attempting to remove it, by gently pulling the cord, a greater resistance was encountered than I expected, from its depending and apparently detached situation. This was ascertained, by introducing the finger, to arise from the adhesion of the placenta to a large, firm, globular tumour, which filled the vagina, and rested on the perineum. The centre of the placenta opposite the cord adhered to the apex, and the rest of the placenta embraced the sides of the tumour; from which, however, it was nearly detached. While making this examination, the placenta was wholly separated and extracted, and the hand speedily introduced into the cavity of the uterus, to ascertain the nature and connexions of this tumour. I imagined at first, that the uterus was inverted; but the absence of every bad symptom for half an hour after the birth of the child, and the circumstances of the cord having been free and of sufficient length, and no force employed, rendered this opinion less probable. The tumour was easily pushed up before the hand, when a firm polypus of immense size was found growing from the very centre of the fundus uteri, which, from its weight and descent with the placenta, had caused a partial inversion. When this point was rectified, I examined the tumour more minutely. It was of almost cartilaginous hardness, and intimately attached to the uterus by a pedicle as thick as the wrist. About two inches and a half from its origin, its size gradually increased, and the depending part was larger than a child's head at birth. It was smooth to the feeling, except at the apex, where the roughness was occasioned by the attachment of the placenta. I grasped the neck of the tumour, and by supporting the fundus

uteri with the other hand, applied to the parietes of the abdomen, while I made gentle attempts to move the pedicle, I ascertained the extent and firmness of its attachment. This was evidently such as to render any attempt to twist off the tumour, more likely to lacerate the substance of the uterus than the pedicle. During this examination, which did not occupy above a minute and a half, blood was profusely issuing from the apex of the tumour. It was prevented from escaping while the hand was in the vagina, but rapidly accumulated within the uterine cavity. The clots were scooped out, and the uterus excited to contract as much as was compatible with the presence of such a large body within its cavity. By this means I did not expect that the hemorrhage would be arrested by the pressure of the contracted uterus on the surface of the polypus, as the apex of the tumour, from which the blood flowed, was lying in the vagina, but only that general diminution in the size of the uterine vessels, which takes place after every natural labour, with a consequent reduction in the quantity of blood sent to the polypus. It was found, however, when the hand was withdrawn, that blood continued to flow freely from the vagina; and in a few minutes the pulse became indistinct, and she complained of approaching syncope. The pillows were removed from under her head, cloths moistened with cold water were freely applied to the vulva and abdomen, and the windows of the apartment thrown open. For half an hour a few ounces of fluid blood were discharged, after which there was no external hemorrhage. The symptoms, however, continued to increase, and became still more alarming. The lips were colourless, the body cold and clammy, the pulse feeble, fluttering, and sometimes for three or four minutes imperceptible, with laborious breathing, and great jactitation. About half-past five, in consequence of the alarming appearance of the patient, and the great anxiety of the friends, a messenger was dispatched to request the immediate attendance of Professor Towers. In the meantime, the cold applications were continued, pressure was applied over the fundus uteri, and with some difficulty she was persuaded to swallow a quantity of undiluted whisky, every three or four minutes. Some laudanum was procured in the neighbourhood, and ten drops of it, mixed with half a glass of whisky and an equal quantity of hot water, were given every ten minutes. Mr Towers arrived at half-past seven, and on introducing his hand, he found the tumour of the kind, and in the situation I had previously explained to him. He removed a few small clots on withdrawing his hand; but the hemorrhage had ceased for nearly two hours. At this time she was extremely exhausted, and had a most alarming appearance. The stimulants were regularly administered; either whisky or brandy, joined with laudanum or the black drop, (a bottle of which Mr Towers had brought with him), was given, as often as the pulse became imperceptible. She was at times insensible, and her anxiety and restlessness were uniformly aggravated for about half a minute after the stimuli were administered, when the pulse became rather more distinct. When she slumbered for a minute or two, she always exhibited symptoms of great distress when she awoke. Bottles of hot water were applied to the extremities and trunk, but her incessant restlessness prevented them from being effectual in raising the temperature; and hartshorn was applied to the forehead and nose. These means were assiduously employed during the whole day, with the effect of only rousing her at intervals, and rendering the pulse a little more distinct for a few minutes, when it again sunk, and the train of urgent symptoms immediately re-appeared. About four o'clock P.M., the pulse became more perceptible, the breathing more calm, and the countenance less anxious. I gave her then a drachm of laudanum in a glass of brandy, which in a few minutes procured sleep, that lasted for an hour. After this her pulse became fuller, and the colour of her face and heat of skin somewhat improved. At six, I left her in charge of one of my advanced and most intelligent pupils, Mr (now Dr) Hugh Wood of Dumfries, with orders to remain with her during the night, to administer small quantities of brandy for an hour or two till re-action was fairly established; and if for two hours the pulse continued to improve, to desist from the stimulants, but to give beef-tea at short intervals during the night.

"On the following morning, she was remarkably easy. The pulse was rather

full, and about 100 in the minute. She had considerable heat of skin; slight uneasiness in the hypogastrium; urgent thirst; headach and vertigo; the lochia were plentiful. She was enjoined to be kept quiet and cool; to have gruel; to omit all kinds of stimuli, and to take a dose of castor oil.

"On the 15th, she had severe pain in the hypogastrium, occasioned by inability to void urine. The catheter was employed with immediate relief, and had to be introduced twice daily till the 25th; and as the discharge was fœtid, injections of tepid water were frequently thrown into the vagina. The depending part of the polypus was within half an inch of the vulva. It completely filled the vagina, and pressed on the neck of the bladder. In a few days, from the acrid quality and abundance of the discharge, which resembled dark bloody serum, the vagina and labia became painful and excoriated. Frequently bathing the parts with a cold infusion of camomile, and injecting three times a-day a strong decoction of oak-bark and alum into the vagina, afforded her considerable relief.

"On the 21st, the discharge was less irritating and offensive. She had pain only when the bladder was distended, and the pulse had fallen to 90, but was weak. The antiphlogistic regimen was now a little relaxed, and she was allowed beef-tea, chicken-broth, arrow-root, and similar mild nourishment.

"From this period, she slowly recovered, and was able to be out of bed in about three weeks; but she was for some time longer much annoyed when in an erect position by the weight of the tumour, and she was only able to void urine when lying on her back, with the head low, and the breech elevated. In about three months, the tumour had decreased so much as to give her little uneasiness either from its bulk or weight. It was then about the size of a large orange; and I have reason to believe, from her own statement, as well as from that of her husband, that it has not been increasing; but although I have often seen her since that time, I have had no opportunity of making an examination. She has never enjoyed good health since her delivery; she continues pale and sallow; and altogether, she appears as if ten or fifteen years had been added to her age. She has at variable intervals had repeated attacks of hemorrhage, with an almost constant discharge of a thin dark coloured fluid like moss water, or of mucus more or less mixed with blood. I have often prescribed for the relief of these symptoms, but every attempt has hitherto failed in persuading her to submit to ligature of the tumour."—*Macfarlane, ut supra cit.*

In Lecture Eleventh, Dr Murphy discusses the OBSTETRIC OPERATIONS, AND THE USE OF THE VECTIS AND FORCEPS. We consider this one of the most imperfect lectures of the series; it bespeaks a want of experience in the use of the forceps.

Our limits permit us to attend to a few points only.—The author says—"*The Operation, when the Head is resting on the Perineum,* may be undertaken in cases similar to those in which the vectis is employed, and is preferable, if there be any diminution in the transverse measurement of the outlet. The preliminary steps of this operation are the same as for the vectis; but it must be remembered, that the temperature of these, as well as of all obstetric instruments, should be raised to that of the vagina, and they should be greased before being introduced into the passages. Having made these previous arrangements, the pubic blade of the forceps, with the lock looking upwards, must be passed over the head in a similar manner to the vectis, and when so placed, the handle may be raised towards the pubis, and there maintained by an assistant *in its exact position.* The handle should not be moved to the right or left side, because it is of great importance to observe the precise direction of the pubic blade when the sacral blade is being introduced. Taking, then, the lock of the former as your guide, as soon as the pain ceases, pass two fingers of the left hand between the head and the perineum, and holding the sacral blade lightly by the handle with the right hand, endeavour to guide it so along the introduced fingers, that the edge of the sacral may pass along the lock of the pubic blade." Pp. 177, 178.

Now, why speak of the pubic and sacral blades? Is the forceps never used except when one ear is to the pubes, and the other towards the sacrum? or, Is

the ear always to the pubes when the head is resting on the perineum! We think not.

In speaking of the *Treatment when the Head of the child is Arrested*, Dr Murphy says:—"It appears to me, that *four hours* would be quite sufficient to allow the head to remain in the same position, to authorise your interference. But if there be the least indication of pain, swelling, or heat in the passages, you should not delay one moment from the time that these symptoms present themselves, when you are satisfied that the forceps may be applied. Promptitude is the secret of success, and in nothing is it more evident than in the case we are supposing. It is possible the pains may be strong and frequent; and it is generally a safe recommendation not to interfere, so long as the uterus seems to have sufficient power, but rather to wait until the pains become feeble, or the action of the uterus is suspended." P. 180.

The first of the above directions we consider correct; but we certainly do not agree with the author in thinking that it is generally a safe rule not to interfere, so long as the uterus seems to have sufficient power, but to look on until the pains become feeble, or the action of the uterus is suspended.

We think the author right in condemning the doctrine laid down by Dr F. Ramsbotham in the following passage:—"Although agreeing with Dr F. Ramsbotham in many of the principles of his practice, I feel myself opposed to him on this question. The summary of symptoms which he gives, to authorise the use of the forceps, when labour does not continue twenty-four hours, seems to me to be founded upon a principle very hazardous to the safety of the mother. He states;—'If, then, the pains are subsiding gradually, or have entirely disappeared —if the strength is failing, the spirits sinking, the countenance becoming anxious—if the pulse be one hundred and twenty, one hundred and thirty, or one hundred and forty, in the minute, the tongue coated with white slime, or dry, brown, and raspy—if there have been two or three rigors—if, on pressing the abdomen, there is great tenderness of the uterus—if there be green discharge—if there be preternatural soreness of the vulva, with heat and tumefaction of the vagina—if the head have been *locked* for four hours, and made no progress for six or eight hours—if the patient be vomiting a dark, coffee-ground like matter —if there be hurried breathing, delirium, or coldness of the extremities—*then we are warranted in having recourse to the forceps, although the labour have not lasted the limited period of twenty-four hours, or even twelve;* and we should be acting injudiciously to allow the case to proceed until the last four symptoms appear, without relief being offered.' Dr F. Ramsbotham enumerates these symptoms, to authorise the delivery of the locked or impacted head—a case in which I have already stated, that I do not think the forceps can at all safely be employed; but to apply the instrument when inflammation has advanced to such an extent as to engage the constitution in an irritative fever, and only to deliver before the last four symptoms of exhaustion appear, and that, too, when the head is impacted, seems to me to be dangerous in the extreme." P. 181.

The OPERATIONS WHICH SAVE THE PARENT ONLY are considered in the Twelfth Lecture, and the HISTORY AND USE OF OBSTETRIC INSTRUMENTS in the Thirteenth. With neither of these lectures have we any fault to find. They are excellent.

A series of APHORISMS close the volume. We append a specimen.

"LX. The rules that govern the APPLICATION OF INSTRUMENTS are founded upon three principles—

"1st, *To preserve the lives of the mother and child.* If this be doubtful,

"2nd, *To preserve the life of the mother without reference to the child.* When this cannot be done,

"3rd, *To save the child if possible.*

"LXI. The instruments used for the *first object* are *the Vectis* and *the Forceps.* For the *second, the Perforator, the Crotchet, the Craniotomy Forceps, the Osteotomist, the Cephalotribe.* For the *third*, the Cæsarian section is performed.

"LXII. The vectis is intended to act as an extractor, to assist the feeble ac-

tion of the uterus, to correct mal-positions of the head, or to overcome any usual resistance of the perineum. It is not therefore an instrument of much power, and its use is limited to the removal of slight impediments to the passage of the head.

"LXIII. The forceps is more generally used in the practice of midwifery, and is an instrument of much more extensive application. It may be employed when the head is at the outlet, in the cavity, or in the brim of the pelvis. The *short forceps* is used in the two former operations; the *long forceps* in the latter.

"LXIV. The following general rules must be observed before these instruments are applied:—

"1st, It has long been established as a general rule, that instruments are never to be used in the practice of midwifery; the cases in which they are used are therefore to be considered merely as exceptions to this rule. [Denman].

"2nd, But such cases can very seldom occur in the practice of any one person; and when they do happen, neither the forceps nor any other instrument is ever to be used *in a clandestine manner*. [Denman].

"3rd, The first stage of labour must be completed, that is, the os uteri must be dilated and the membranes broken before we think of applying the forceps or the vectis. [Denman].

"4th, The difficulties which attend the application and use of the forceps are far less than those of deciding upon the proper time when, and the case on which, they ought to be applied. [Denman].

"5th, The lower the head of the child has descended, and the longer the use of the forceps is deferred, the easier in general will their application be, the success of the operation more certain, and the hazard of doing mischief less. [Denman].

"6th, Care is also to be taken that we do not, through aversion to the use of instruments, too long delay that assistance we have the power of affording with them. [Denman].

"7th, A rule for the time of applying the forceps has been from the following circumstances:—That after the cessation of the pains, the head of the child should have rested for *six hours* in such a situation as to allow the use of the forceps before they are used. [Denman].

"8th, But this, and every other rule intended to prevent the rash and unnecessary use of the forceps, must be subject to the judgment of the person who may have the management of any individual case. [Denman].

"LXV. Before the vectis is applied, you must first observe those preliminary measures necessary in all obstetric operations. The urine should be withdrawn with an elastic gum catheter of rather large size (No. 10), and without the stilette. It is always safer to use a catheter of this kind, because there is less risk of injuring the urethra, if it should be compressed, than if the unyielding silver catheter be employed. An enema should also be administered, and when the bowels are relieved, the patient, lying on her left side, must be drawn as near to the edge of the bedstead as possible. The pelvis must be raised more than usual, and if the patient has been lying on a bed, and not on a mattress, it would be advisable to place a hair cushion under the hips. The vectis should be placed in warm water, and anointed.

"LXVI. Introduce two fingers of the right hand between the head and the symphyses pubis. Passing them on either side of the symphyses, the tip of the ear will be felt without difficulty. The finger must remain applied to it while the vectis is being introduced. It should be held about the middle, between the two forefingers and thumb of the left hand, and the handle directed downwards and backwards towards the coccyx, in order that the blade may lie flat upon the head, when the instrument is passing between it and the fingers of the right hand. When the blade is so applied, press it gently forwards with a slightly oscillating motion, until the edge reaches the lobe of the ear, which is now placed exactly between the finger and the vectis. The handle must therefore be depressed still more, in order that the edge may pass over the ear. When

this is safely accomplished, the finger may be withdrawn, and the vectis passed forward to its proper position.

"LXVII. 'Then, grasping the handle of the instrument firmly in the right hand, wait for the accession of a pain,' [Denman], (which, although absent before, almost always returns when this new irritation is applied to the uterus,) and draw steadily with it. 'When the pain ceases, let the instrument rest, and on its return repeat the same kind of action, resting and acting in imitation of the manner of the pains.'" [Denman.]

"Carefully avoid using the vectis as a lever; and in order to do so the more certainly, it is better to pass two fingers of the left hand between the head and the perineum, and to grasp the shank of the instrument with the remaining fingers; counter-pressure is thus made similar to the forceps, and the vectis may be used solely as a tractor.

"LXIX. When the head begins to advance, and to press strongly on the perineum, the introduced fingers may be withdrawn, and the vectis maintained in its position, rather for the purpose of acting with if the pains should again become feeble, than to extract the head by its means, if the uterus be sufficient to expel it. Thus the perineum will be better secured from injury.

"LXX. When the vectis is used to correct mal-positions of the head, it is better to operate with one not too much curved. One blade of the forceps will often answer in these cases." Pp. 249—252.

We trust that the author will see the propriety of rendering the next edition of his excellent work more practical in its character: this, to so experienced a master of Obstetric Science as Dr Murphy, will not be a difficult task.

The work is illustrated with well-executed woodcuts. K.

Irish Watering Places; their climate, scenery, and accommodations, including Analyses of the principal Mineral Springs, by Dr R. KANE; *with Directions for Invalids.* By ALEXANDER KNOX, M.D. 12mo, pp. 336. Dublin: 1845.

WE are indebted, we regret to say, to the author's bad health for this useful and attractive guide to the Irish Watering Places. "The proposal to substitute a prolonged tour in Ireland for banishment to the continent having been acceded to by his kind and judicious physician, the next object was some suitable mental occupation; and this the author hoped to find in visiting and examining on the spot the most celebrated bathing places of his native country. He was the more confirmed in his purpose on reflecting that, whilst the mineral waters of every other part of the world have been amply described, those of Ireland have been almost entirely neglected, as they are not even mentioned by Christison or Pereira, and are only slightly alluded to in the Cyclopædia of Practical Medicine. In Thomson's Dispensatory alone we find a meagre and insufficient account, and that of only a few of them." *Preface.* Dr Knox has well supplied the profession and the public with what was wanting. Along with medical and hygienic details, there is agreeably mingled historical, geological, and botanical notices.

Dr Knox enriches his work with papers kindly furnished by medical friends in various parts of Ireland.

ISLAND OF COVE.

The Essay on the Island of Cove, near Cork (written by D. H. Scott, Esq., M.D., of Cove), is very excellent. It is the best account by far which has yet been given of this suitable retreat for the pulmonary invalid, and may be referred to as a good model for similar works. Like Madeira, the Cove has a particularly *equable* climate. We subjoin some of the most important passages, regretting that our narrow limits oblige us greatly to mutilate this admirable memoir.

"In an ovoid basin, about nine miles by five, formed by the main land stretching its promontories forward, and then approaching, and in nearly the most southern part of Ireland, is situated the island of Cove. Its extreme length is seven miles, from the eastern to the western end, and its greatest breadth is three miles and a half. On the north side, it is separated from the mainland by a narrow channel, and on the south a capacious harbour lies before it, whose Atlantic waters ebb and flow through a narrow outlet between the head lands. In the centre of this outlet is thrown the island of Spike, which, by apparently filling up the entrance, gives, from some points of view, the appearance of an inland lake to the harbour. At the north-west part of the basin alluded to, the river Lee enters, and at the north-east the waters of a comparatively small channel; the former flows round the western end of the island in its course to the sea, the latter contributes to the creek which bounds the eastern end. Situated in latitude 51°.50″ north, and longitude 8° 18″ west, this island has a high and in part mountainous ridge, separating it for many miles from the Atlantic to the westward, whilst at the opposite and south eastern quarters it is only a few miles distant from St George's Channel.

"The island is composed of two hills running parallel from east to west. * * * The streams are not numerous, and the only one that continues to flow during the entire year occupies the centre of the valley formed by the hills above mentioned. * * *

"The springs of a district, as connected with, or modified by its geological conformation, become next most important objects of attention. Of the inestimable value of pure water in the centre and neighbourhood of a large population it is unnecessary to speak. In this respect, Cove is very fortunately circumstanced, as it commands the most abundant supply, free from all accidental impurities. Owing to the position of the layers of rock just noticed, rains will descend very quickly through them, until arrested by some impermeable strata. Such springs as afford water during the entire year are of an uniform temperature; those which cease to flow during some of the months of a dry summer, and whose supply depends more upon the fall of rain than internal resources, vary in temperature; the former between 51° and 53°, agreeing pretty closely with the observations of Dr Shapter, in Devonshire, where the variation is from 51° 5 to 53°. In last December, when the thermometer stood at 30° on the high ground beside these springs, they indicated a temperature of 51°, and in July the relation was 76° to 52°. These waters have a source altogether distinct from external supply; and have uniformly flowed in the same quantities in the driest years. Atmospherical variations have no influence over their temperature. If we suppose, according to the views of Professor Kupffer, that springs rise with an uniform temperature throughout the year, beneath a depth of from eighty to ninety feet from the surface of the earth, their progress upwards must be rapid, as they experience only one degree of variation of heat from winter to summer. This temperature corresponds with the mean of our climate. The saline impregnations are traces of the sulphate and carbonate of lime, derived from the rocks through which the water passes; in none of them have I been able to detect any form of iron, though, as already observed, that metal is found in the soil in several places, and is here and there combined in the form of pyrites. * * *

"In an observation of three years, the mean annual temperature of Cove, which is made up of the mean maximums 56°.7., and mean minimum 46°.5., amounts to 51°.6. The mean dew point may be stated at 46°; the mean minimum temperature falls to 46°.5., and the mean of the dew point sinks only 0.5 below this. From the morning to the afternoon it rises 0.6 of a degree, from afternoon to night it falls 0.3; and beyond this again, supposing a midnight observation to have been taken, it falls 0.2. Thus, the temperature of the vapour where all influence is withdrawn, is nearly that of the air during night. The degree of dryness for this term is 5°.6 degrees expressed on the thermometer, and the amount of moisture, calculated on the hygrometric scale, is ·829. The mean weight of the aqueous vapour, suspended in a cubic foot of air, is 3.662 grains. The greatest degree of dryness is 24°; the least observed degree of

moisture is ·436; the mean weight of the atmosphere 29.996. The barometer has not observed a regular descent from morning to afternoon. On looking over the several columns, I find the mercury stood higher at 3 p.m., than at 9 a.m., during ten months of the whole period, yet the sum of each hour stands—9 a.m., 29.991; 3 p.m., 20.984; 9 p.m., 30.016; which gives a fall from morning to afternoon of ·007 inch, and a rise from afternoon to evening of ·032 of an inch. Its extreme range is 1.94 inches; from the absolute maximum 30.84, to the absolute minimum pressure 28 90 inches, the fall of rain is 32.799 inches, and the evaporation, which is calculated from the mean temperature and dew point, averages 25·643 inches. The duration of each wind during the three years was from the south, 96 days; south-west, 222 days; west, 159; north-west, 213; north, 132; north-east, 84; east, 78; and south-east, 111 days.

"Having thus given a general idea of the means of the year, I shall now proceed to those of the months, commencing with JANUARY. This month is the coldest in the year, and is made up of a mean maximum temperature 46°.6., and a mean minimum 40°.4., constituting a grand mean of 43°.5. The mean temperature of the moisture or the dew point is likewise less, with the exception of March, than that of the other months, being 40.3., and as nearly as possible corresponding to the mean of the maximum temperature of the month. * * *

"In FEBRUARY we have an increase of over one degree of temperature, but obtained during the day; the mean temperature is 44°.4., the mean minimum being 40°.5., and the mean maximum being 48°.4, and the range 7°.9. This want of progress in the minimum will arise from the less clouded and comparatively clearer sky permitting terrestrial radiation to go on more freely during the night. The advance made in the dew point is less than we should be inclined to conjecture from even the small increase in heat, the mean being 40°.4.; this retardation will depend on the particular wind blowing at the time, a subject which shall be adverted to in another place. * * * The amount of precipitation is 2.552 inches, and of evaporation 1.76 inches. The north-west wind makes up a total of nine days, exceeding in prevalence each of the others.

"The mean temperature of MARCH is 45°.3., an increase acquired while the sun is above the horizon; the mean minimum not advancing beyond 39°.7., while the mean maximum is 50°.8. This low degree of nightly temperature, as well as that of one or two other months, has been produced in the average by the severe winter and spring just past, and whose rigours were relatively felt here; the mean minimum temperature of the same month in 1836 was 40°.1., while that of March, 1837, was reduced to 36°.9. * * * *

"We have an advance of three degrees in the mean temperature of APRIL, chiefly acquired during the day, the mean minimum 42°.0., the mean maximum 54°.3., medium 48°.0. The solar radiation amounts now to 22°.3., its greatest force is 42°. * * * *

"In MAY the mean temperature of the months is fast advancing, as it then reaches 54°.7. The days and nights increase in nearly the same proportion, the mean maximum being 62°.1., while the mean minimum is 47°.2., and the mean dew point is 45°.9. * * * *

"JUNE commences the first month of summer, and has acquired a great relative increase in the dew point, the mean maximum temperature is 67°5., the mean minimum 52°.8., medium 60.°2.; the mean dew point 52°.8. * * *

"The mean temperature attains its highest degree in JULY, and is expressed by 61°9.; the increase is made by the nights chiefly, the mean minimum amounting to 55°0., whilst the maximum is 68°7. We find also that the dew point attains its greatest height, and approaches nearer to the mean of the air; it is 55°0., leaving a degree of dryness of 7°4., and increasing the hygrometric state to ·817; the mean minimum in point of saturation is ·520, thus commencing to rise over the lowest means of the year. The weight of moisture is the greatest in this month, and is raised to 4.858 grains in a cubic foot, the fall of rain is 3.272 inches, and the evaporation 3.069 inches. The mean weight of the atmosphere 30.081 inches, and mean of the greatest range 0.91 inches; of the various winds, the south-west exceeds in duration, blowing for a term of $9\frac{2}{5}$ days; the sun's heat is 26°0., and greatest force 39°, showing a decrease from

last month in its power. * * * In this and the next month, the accumulation of moisture in the air is large, the dew point is high, circumstances which greatly contribute to a particular interruption of the free passage of heat into space, and hence, the comparatively dull aspect of the atmosphere by night in these months will tend to keep up the temperature, which otherwise would be reduced. The difference between the mean temperature of July and the following month is trifling.

"The mean temperature of AUGUST is 61°7., the nights are even warmer than those of last month by half a degree, the mean minimum amounting to 55°5., the mean maximum is 67°9., the mean dew point 54°6., the mean degree of dryness 7°1., the degree of saturation is .791, and the mean degree of least saturation ·565; the weight of moisture in a cubic foot of air 4.706, and the sun exerts diminishing power, being 64°1., the greatest force 40°. The mean fall of rain does not exceed 2.168 inches, while the evaporation is 3.503 inches; the barometer marks as a mean 30.093 inches, while its mean range is one of the least of the year, not exceeding 0.88 inches. * * *

"The almost uniform temperature of the last three months is now interrupted; and we find a marked decline of the mean in SEPTEMBER which expresses only 56°8. * * *

"The mean temperature of OCTOBER declines in the same proportion, and in which the day is most concerned: the mean maximum 55°9., the mean minimum 47°2, medium 51°6.; the nights do not lose their warmth in the same progress as the days; the relation between the dew point and temperature is less. Mean dew point 47°8.; mean degree of dryness 3°8.; mean amount of saturation 873°; and mean of the least degree of saturation 636°. * * *.

"In NOVEMBER the nightly and daily temperature decreases in equal proportions; the medium 46°8. is made up of mean minimum 42°7., mean maximum 50°8.; the mean dew point has fallen several degrees, and stands at 43°9. * *

"DECEMBER is but a fraction over the temperature of January, and is 3° less than November. The mean is 43°8., the air approaches here nearest to the point of saturation. * * *

"MEAN ANNUAL TEMPERATURE WITH THAT OF THE SEASONS.

Places.	Mean An Temp.	Mean Temperature of Seasons.				Mean Tem. of Winter and Spring.	Authority.
		Winter.	Spring.	Summer.	Autumn.		
Cove*	52.3	44.6	50.4	61.8	52.5	47.5	Private Journal.
Penzance	51.8	44.0	49.4	60.2	53.3	46.7	Dr Forbes.
Torquay	..	39.3	50.8	..	..	45.1	Sir J. Clark.
Exeter	51.2	41.8	49.5	62.0	51.9	45.6	Dr Shapter.
Hastings	51.0	40.6	46.1	60.4	51.0	43.3	Dr Mackness.
Undercliff	51.1	42.5	48.5	69.0	52.7	45.4	Sir J. Clark.
Sidmouth	52.1	40.4	50.6	63.8	53.5	45.9	Sir J. Clark.
Bute	48.2	39.6	46.6	58.0	48.5	43.1	Sir J. Clark.
London	50.3	39.1	46.7	64.3	51.3	42.9	The Athenæum.
Liverpool	50.0	40.8	46.4	61.6	50.3	43.6	Mr Abraham.
Bedford	50.4	39.4	47.6	63.6	51.1	43.5	Captain Smith, in the United Service Jour.
Dublin	49.1	39.2	47.3	59.5	50.0	43.2	Sir J. Clark.
County Antrim	47.8	36.7	46.7	58.1	49.8	41.7	Sir J. Clark.
Cork	50.3	41.8	47.3	62.1	49.9	44.5	Register of Cork Institution.

"As contrasted with Cork, which is distant only eight miles inland to the north-west of this town, the distribution of heat throughout the seasons shows, in a striking manner, the advantages derived both from local situation and the presence of a large body of water.

* The temperature of Cove is the mean result of seven years.

"In winter, it is warmer by 2°8: this superiority still continues in spring, whilst it is cooler in summer, but again rises over that locality in autumn. The nights of summer are warmer than those of the city by 1°7., but the days of the latter give the increase to the mean, being 3° warmer than those of Cove; in the other seasons the days and nights are warmer. I have here selected, for the purpose of comparison, those places on the south and south-west coast of England most remarkable for their mild and equable climate, and in the above table it will be seen, that in the winter season Cove stands higher than Torquay by 5·3.; the temperature of spring is pretty equal, as is also that of Penzance, but the means of the two seasons are under that of Cove, the former place by 2°4. We are warmer than Exeter by over 2° in winter, and exceed Hastings to the amount of four degrees. In winter and spring we enjoy a higher mean temperature than Undercliffe by two degrees in the former season, and in the latter by nearly the same amount. In winter we are 5°4 warmer than Dublin, and in spring 3°1., this decrease chiefly taking place in May; our summers are also warmer, and the temperature of autumn is 2°5. over that city. I am induced to compare with our climate that of Bedford, as from its inland situation, and consequently to a great degree removed from those influences which the presence of a large body of water exercises, it offers a certain contrast, not only in the distribution of heat, but likewise in its hygrometric condition with places situated nearer the coast. It has an annual temperature 1°9 less than ours, the winter and spring are much colder, the former by 5°2., the latter by 2°8.; the same causes which in these two seasons affect the temperature will contribute to an advance over us in summer, and hence we find that inland town nearly two degrees warmer; in autumn it is under that of Cove. Liverpool is nearly four degrees colder in winter, four degrees colder in spring, of an equal temperature in summer, and 2°2. colder in autumn. The winters of London are 5°5. less in heat than those of Cove, spring is 3°7., and autumn 1°2., but the summers are warmer by 2°5.; the nights and days of this last season are warmer than here, the former by 2°2., the latter by 4°1. In the north of Ireland the spring season is 7°9. colder, and in the mean annual temperature there is a difference of nearly five degrees.

"The climate of the west coast of England differs, according to Sir James Clark, from the south in several particulars. Between it and that of the south of Ireland we shall also find a difference, to exemplify which we shall select Bristol, whose mean annual temperature at 8 A.M. is 46°6. The mean temperature of Cove, deduced from observations taken between 8 and 9 A.M. being 51·0. or 4°4. higher. Bristol in winter is 34°6, and in spring 46°0, a mean which is principally indebted to May, as the temperature in this month rapidly rises over that of April, which is 41°2., the former gaining over thirteen degrees. We may further state that the winter of Cove is 8°5 warmer, the spring three degrees, the summer is equal, but again in autumn Cove is over five degrees warmer. As far as I have yet been enabled to observe, there is an equability in the climate of Cove which gives to it a superiority over many places of resort, and more than compensates the invalid for any inferiority in the actual mean temperature, and in order to show the ranges of temperature in the seasons, as well in a few of the places above selected, as in some of the continental climates, this table is subjoined.

DIFFERENCE OF TEMPERATURE BETWEEN THE SEASONS.

	Cove.	Hastings.	Undercliff.	Bute.	Jersey.	Exeter.	Torquay.	Nice.	Pisa.	Rome.	Pau.
Wint. & Spring.	5°8.	6.1	6.0	·7 0	7.1	7.7	11.5	8.4	11.2	8.7	13.2
Wint. & Summer.	17°2	19.8	17.8	18.4	19.0	20.2		24.4	28.1	24.1	25.7

"Thus, in the first step of our comparison with the ranges of temperature of other localities, Cove stands in a very favourable position. Madeira is not included in this table, as it enjoys a remarkable equability of climate, exceeding in that particular any of the other places. We may add, that in Cheltenham the difference between winter and spring is ten degrees, and between winter and summer over twenty-three degrees.

"The mean temperature of the respective months exhibits in a still clearer manner the comparative superiority of Cove in the colder months of the year over the British places of repute, being only approached in its remarkable superior temperature by Penzance. When contrasted with that climate, we find it 1°3 warmer in January, the same in February, equal in March, but still lower in April and May. When further on, we come to examine the variations of temperature, the same distinguishing characteristic is prominent in this climate; than Cork, Cove is 2°9 warmer in January, whilst in June and July it is nearly two degrees cooler. In London January is 4°9 colder, and in March 4°3, while in July London is 3°9 warmer; in January Cove is 5°0, and March 4°1, warmer than Bedford, and in July 2°8 cooler; February in this town is 4°5, and March 6°7 warmer than Edinburgh. When compared with Rothsay, in Bute, we observe that in the winter months individually, we are five degrees warmer. When compared with the south coast of England, Cove is several degrees superior to Hastings and Undercliffe in the severer months of the year, and, on the south-west coast, Torquay is over six degrees colder in January, nearly four in February, and five degrees in December, whilst at Exeter the mean temperature of January is 4°8, that of February 3°, of March 2°, and December 1°6 below that of the corresponding months in Cove. This difference, in the most important months of the year, between the south of Ireland and the respective places in England and Scotland, is well worth the attention of all interested in the subject of climate. * *

"The *equability of temperature which Cove enjoys*, is further illustrated by contrasting its mean monthly and daily range of temperature with that of other places, as well as the difference of its mean temperature in successive months.

"Selecting Rome, as it is amongst the most equable of the continental climates, for the purpose of comparison, we find that the range of the thermometer there exceeds in the greater number of months that of Cove by an average of several degrees. Still further, on contrasting the successive daily variations of temperature with those of Penzance, the Isle of Wight, and Rome, we find them considerably less, and thereby place in an obvious light that equability which is the decided characteristic of Cove, and although several of the places of repute in the south of Europe exceed it in the mean annual temperature, yet in this essential and most important point, we possess an advantage: Madeira, however, in this quality is superior to it. On comparing the mean daily range of Jersey, as reported by Dr Hooper in his Topography of that island, we find it nearly two degrees greater than Cove, although, from the situation of St Helier, the contrary might be expected. To show how far this place resists the effects of cold, I may here mention that when in January the thermometer stood at 25° (the lowest point ever noted,) it registered 21° at Torquay, 17° at Exeter, 11° at London, 11° at Liverpool, and 15° at the Botanic garden, Belfast; so that, under all circumstances, the absolute annual range of the thermometer is less here than in any other British or continental climate. The annual range is also 11° less than at Rome, nine degrees less than at Nice, four degrees less than Undercliffe, twelve degrees less than Exeter, ten degrees less than Jersey and nine degrees less than Bute. * *

"From the topographical position of the Great Island, and the effect of the different winds and their variability, we shall find an almost daily vacillation of the mercury. Atmospherical pressure is in frequent fluctuation, and seldom beyond two or three days have I known the barometer to remain steady; even this term of duration is of rather rare occurrence, so that each day presents certain, and frequently very great changes. * *

BAROMETER.

	Cove	Penzance.	Exeter.
Mean pressure,	29.99	29.61	29.87
Mean of the highest pressure of each month,	30.52	30.09	30.34
Mean of the lowest do. do.	29.30	29.08	29.35
Absolute maximum,	30.84	30.42	30.90
Absolute minimum,	28.90	28.28	28.80
Absolute range,	1.94	2.14	2.10
Mean annual range,	0.12	1.68	1.59
Mean monthly range,	0.26	1.00	.98

"On contrasting the fluctuations of the aerial column at Exeter and Cove, they will be found to be greater in the former instance.

"The importance of inquiring into the HYGROMETRICAL CONSTITUTION OF THE ATMOSPHERE is readily admitted, while experiments have not been as generally made as the subject demanded;—hence, in drawing up reports of climate, we have only a few data on which to found our knowledge of its aqueous contents, attention having been paid in particular to the mere temperature of the air. The actual amount of the aqueous vapour entering into the composition of the atmosphere; its relations to the temperature; its distribution throughout the months and seasons, and days; and its variations and obedience to the winds, require as intimate an examination as any other meteorological subject. Many of the effects upon the living body which are attributed to temperature alone shall, I am persuaded, be found to have their origin in particular relations of the aqueous vapour to the air, and thus the medium in which the body is enveloped being altered, a variety of sensation is created. We know that a sense of chilliness is felt on a change in the hygrometric quality, while no reduction whatsoever takes place in the temperature of the atmosphere surrounding us. In health, and still more acutely in disease, its influence is felt. In the spring and autumn, when dry winds blow, though their mean temperature shall not differ from those of opposite points, we witness impressions on animal and vegetable bodies, which can only be referred to the hygrometric state of the air. So sensitive are invalids to variations in this respect, that I have frequently seen a reduction of only one degree in the dew-point occasion cough and local irritation of the larynx, when the patient suffered from bronchial or tubercular disease, while a depression of several degrees of temperature would not have produced the same effect. We have constant illustrations of the action of dry and moist air on the functions of the skin and lungs. That free and undissolved vapour acts in developing painful sensations of the nervous system, which in turn reflects upon the whole frame, will be obvious to any one who closely watches the human economy; and thus every medical man may have witnessed an altered hygrometrical state displaying its influence over the symptoms of disease. This, therefore, becomes not only an interesting subject, but one of practical importance—a knowledge of which will lead to a clearer understanding of the efficacy of climate, and its adaptation to particular cases. The actual amount of vapour entering into the air of Cove will be greater than in the interior, or in places removed to any distance from the coast, provided inland sources of moisture be cut off. . . .

MEAN STATE OF SATURATION OF THE SEASONS.

	Winter.	Spring.	Summer.	Autumn.
COVE,	·892	·753	·786	·881
LONDON,	·881	·812	·791	·881

MEAN STATE OF SATURATION AT COVE AND BEDFORD, AT 3 P.M.

	Winter.	Spring.	Summer.	Autumn.
COVE,	·864	·699	·695	·817
BEDFORD,	·753	·563	·423	·603

ABSOLUTE RANGE OF SATURATION AT COVE AND BEDFORD, AT 3 P.M.

	Highest extreme.	Lowest extreme.	Range.
COVE,	1.000	·491	·509
BEDFORD,	·905	·299	·606

"The range of the dew point for the whole year is only 0.9 at Cove, and at London it is 1.3, as deduced from the mean daily range. While the *absolute range* of the dew point, for corresponding periods, amounts to 35°, here and at London to 59°, making a difference of fourteen degrees.

EXTREMES OF DEW POINT.

	Highest extreme.		Lowest extreme.
COVE,	68°	-	23°
LONDON,	70°	-	11°

"Thus the evenness with which our vapoury atmosphere moves and maintains its regularity is evident in this comparison. On referring to the results, we may be at first rather surprised at the very high hygrometric state of the air of London, as compared with our locality; but when the relations of both are considered in respect to the sources of aqueous vapour, we can understand whence proceeds this amount in a densely crowded city, where exhalations from a variety of causes are constantly going on.

THE MEAN DEW POINT FOR EACH SEASON IS AT—

	Winter.	Spring.	Summer.	Autumn.
COVE,	40.2	41.3	54.5	47.8
EXETER,	39.2	43.6	54.1	46.9

"It may be of some interest to show the comparative quantity in grains of aqueous vapours which enters into a cubic foot of atmospheric air at Madeira and Cove. I have taken the former from Dr Heineker's observations:—

	Winter.	Spring.	Summer.	Autumn.
MADEIRA, 10 a.m.	5.11	5.23	7.49	7.60
COVE, 9 a.m.	2.98	3.06	4.70	3.78

"During autumn and winter the greatest quantity of rain falls; in spring the least. The annual fall of rain at Cove is 32.8 inches, at Exeter 31.9, at Rome 31.1, and at Penzance 44.7 inches; at the inland situation of Bedford 26.0, and at Cork, one year, 29.7 inches; in Bute the annual fall of rain is nearly 39 inches. Now, in order to judge of the comparative dryness of a climate, we cannot take the quantity of rain which falls as our sole guide; we have already quoted the hygrometric property of the air to assist us. Seasons may have light rains, or be remarkable for foggy and drizzly weather, and deposit a comparatively small amount of rain; on the other hand, it may be precipitated more at intervals than continuously, and thus, where there may be a large annual proportion of that fluid, there shall be a great deal of fair fine weather. To aid us in determining this point, we proceed to show the comparative number of rainy days; it is necessary to state that the fall of the least appreciable amount of rain, such as ·004 of an inch, is marked in Cove as a rainy day, and the term of observation was seven years, ending with December 1843.

NUMBER OF DAYS ON WHICH RAIN FALLS IN EACH MONTH—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.
COVE,	11	10	12	7	8	9	11	10	10	10	12	11
CLIFTON,	15	15	13	10	11	13	8	8	9	14	11	16
EXETER,	12	11	12	12	12	13	13	15	13	14	14	17
UNDERCLIFFE,	16	16	8	4	7	10	13	7	16	11	19	10
ROME,	13	9	11	9	10	7	5	5	8	14	12	13

NUMBER OF DAYS ON WHICH RAIN FALLS IN WINTER AND SPRING.

	Cove,	Clifton,	Exeter,	Hastings,	Penzance,	Undercliffe,	Bute,	Co. Antrim,	Rome,	Madeira,
Winter,	32	46	42	37	50	43	44	40	35	38
Spring,	27	34	36	26	40	19	32	37	30	11
Total,	59	80	78	63	90	62	76	77	65	49

"With the exception of Madeira, we here find that there are fewer rainy days at Cove than in any other British climate, or in one of the most celebrated of the south of Europe. * *

"The temperature of all the southerly winds, and those to which we have observed the town to be exposed, is 53° 4; that of easterly and westerly winds, 51° 7; and of all the northerly winds, 49° 8. Thus we find that the mean of the year of all the winds, as they affect this locality, varies very little—the difference between that of the warmest and coldest being only 3° 6. The westerly and easterly are the same, differing but by a fraction, and are only 1° 7 below the southerly. This remarkable uniformity in the average of the year is striking, and exhibits the peculiarities of the climate. * * *

NUMBER OF NIGHTS THE THERMOMETER FELL TO, AND BELOW THE FREEZING POINT—

	Cove.	Torquay.	Exeter.	London.
January,	8	17	21	23
February,	4	9	19	20

"These numbers show a remarkable resistance in Cove to the depressing influence of cold, and how strongly our equability of climate is maintained. * *

"Several thousands visit Cove annually, and numerous families make it their winter residence for the benefit of some one member. The localities at present suited to invalids are the Beach, Harbour-Row and part of White Point, in the lower division; Harbour Hill, the terraces, Spy Hill, &c., in the upper division; and should the contemplated enlargement of the town go on, there will be a corresponding extension of climate. * * The peculiar quality of the air, its *equability*, its mildness, its genial character in the very depth of winter, its purity, its freedom from all noxious exhalations, its comparative dryness, and the remarkable relation of the watery vapour to the temperature, must exert an influence on disease that can scarcely be over-valued, and cannot fail to strike the mind of the observant physician as constituting that happy union of elements best adapted to confer benefit on his patient. * *

"Diseases of the skin are benefited here; the soft and mild air of Cove, free from extreme changes, acts in allaying local irritation, allows the functional operations of that membrane more freedom, and where sea-bathing may not be exactly applicable to the case, assists most materially the influence and effects of medicine. * *

"Scrofulous and dyspeptic affections of children, and chronic croup, are remarkably benefited by a residence here. * *

"Chronic rheumatism is also a disease which our climate benefits; not only is it applicable from its particular hygrometric character, but also from its great equability of temperature. By no class of patients are atmospheric changes more quickly and keenly felt than by the rheumatic, and it is clear, that a residence in a place where they are least exposed to these, must be productive of good. Autumn and winter may be spent here with advantage in such cases, but the state of the digestive system ought not to be overlooked. Acute rheumatism forms a very small proportion of all the diseases admitted into our hospital, being in the ratio of three to one thousand, and fever is only in the proportion of four per cent. * *

"Some uterine disorders are also benefited. The physical properties of the atmosphere are well adapted to those suffering from dysmenorrhœa. Our equality of temperature, conjoined with sea-bathing, gives tone and vigour to the chlorotic frame, and the strumous habit so often met in young females is much benefited by the purity of the air.

"Another disease to which the climate is suited is asthma. No opportunity has presented itself to me to test its value in the pure nervous forms; but of the following varieties I can speak with confidence, as those in which the most marked good effect has been experienced.—*First*, asthma, the result of dry catarrh; *second*, asthma, complicated with chronic bronchitis; *third*, cardiac

asthma, or that form of it dependent upon disease of the heart; *fourth*, dyspeptic asthma, or that variety proceeding from deranged digestion, and where, by a translation of irritation, the bronchial membrane puts on a specific action. At the time I write, a remarkable instance of the benefit conferred on a subject of the second variety is under my observation, and in no other resort, English or Continental, has so much good been effected, by climate, in this particular case. Several others, who have travelled in pursuit of relief from this distressing malady, have at length found it here; and the cases are not few, which I can quote, of the happy results of the asthmatic invalid's residence in this locality.

"The best situation for a patient labouring under the first variety is in the lower parts of the town; and under the second and third, in the higher.

"It may be remarked, in passing, that the rates of LODGINGS vary, according to the size and accommodation of the houses. They may generally be stated from L.8 down to L.2 per month in the winter season, and higher in the summer. The furnished houses and lodgings are generally good—a few remarkably so.

"I would beg, however, not to be understood to say, that asthma will always be benefited. We know that these forms of disease are exceedingly capricious; but I wish to record the opinion, founded on long and anxious observation, that this climate has relieved and cured many who sought relief and recovery in vain elsewhere, and that it will agree with as large a number of cases as any other of the most celebrated places of resort. This disease is of rare occurrence amongst the inhabitants. During the past eleven years, seventy-two patients only were admitted to the public institution. This is in the ratio of three to one thousand of all cases, while at Hastings the ratio is over six to one thousand.

"In chronic laryngitis, the climate has acted beneficially, the exacerbations are diminished in frequency and intensity, and time is allowed for the efficacious employment of other remedies. The lower parts of the town are best suited to such cases.

"There are two varieties of bronchitis in which a residence here in the winter season is of the utmost value. The first is what by Dr Stokes, in his exact and lucid account of Diseases of the Chest, is termed chronic primary bronchitis, in which affection, it is of the greatest consequence, that the remission shall continue during the winter, for if its course be uninterrupted, the foundation is laid for several serious maladies, as described by that distinguished physician. The other variety is the ordinary chronic bronchitis, whether associated or not with secretion. Perhaps in no cases is a proper choice of position of greater value than in these. When the disease is attended with a comparatively small amount of expectoration, the lower parts of the town are most suited; when, on the contrary, the secretion from the bronchial tubes is large, the higher stations will agree best. There are cases where the secretion is *excessive*, and the constitution sympathetically *exhausted*, in which it becomes a question whether they ought to be sent to this climate at all, and which the age of the patient, and the duration of the illness, will assist to decide. The old bronchitic invalid so suffering will sometimes derive advantage, not from any decided check to the quantity of secretion, but by the protection he shall enjoy from fresh or acute inflammatory attacks being superadded to his chronic malady. In this view, our air has been beneficial, and has in some instances caused a decrease of the bronchial flux. Indeed, so much is this inordinate flow kept up by fresh irritation, that although the worn-out constitution shall not be well suited to our soft atmosphere, yet the bronchial membrane will be allowed a comparative state of repose, and enable general measures to be more freely adopted. In the most elevated parts of the town, the bronchitic invalid may pass a summer with advantage. Speaking of this class of diseases, Dr Williams remarks, that "in these cases, in spite of the most careful administration of remedies, the disease persists, but a perfect cure is effected by simple removal to a more genial clime." The comparative existence of bronchial affections, from simple catarrh to intense bronchitis, as shown by the registers of the public sick institutions, for over a period of ten years in Exeter, Hastings, and Cove. stands as follows:

—in Cove, they are four per cent. of all admitted; in Hastings, seven per cent; and in Exeter they amount to ten per cent. Such a comparative immunity from these affections of the mucous membrane finds, I think, an easy solution in the superior character of our climate.

"Before quitting this part of the subject, I would mention the salutary influence often exerted on affections of the lungs in children and young persons, who in the progress of an exanthematous disease shall have suffered from inflammation of the smaller bronchial tubes complicated with pneumonia. They have been brought here hectic, worn, exhausted, and presenting the physical signs of obstructed respiration in a large portion, amounting sometimes to the greater part, of either lung, combined with bronchial irritation. These cases recover remarkably, and are thus probably saved from the invasion of consumption, into which, to all appearances, they were rapidly falling. It is equally clear, that breathing a mild air is of the utmost value to adults who shall have suffered from extensive inflammation of the lungs, which has more or less destroyed the healthy respiratory function of the organ; remedial measures can with the best prospects of success be then employed, and, if uncomplicated with tubercle, very little doubt remains of complete recovery.

"In that deranged state of the general health, which has been so clearly described by Sir J. Clark, in his excellent Monograph on Climate, under the term tuberculous cachexy, a residence here will be of great use.

"'There can be no doubt,' Dr Stokes remarks, 'that as medicine advances, the cures of consumption will be much more frequent.' Dr Graves, in his Clinical Medicine, writes:—'I would impress on you strongly the necessity of never abandoning cases of consumption as hopeless, for I have known several apparently desperate cases cured.' Dr Williams, speaking of the prospect of curing the milder forms of consumption, adds, 'even others of worse aspect may turn out favourably: experience has proved it.' Sir J. Clark remarks:—'Even when tubercles already exist in the lungs, then climate affords one of our most valuable resources, and one which promotes the salutary action of all other remedies.' I need not quote the eminent Continental authorities who entertain nearly the same opinions on the curability of consumption. There can be no doubt of the efficacy of climate in that disordered state of the constitution previously alluded to, and which, in its unchecked action, leads to phthisis. But when tubercle has once been developed in the lungs, our prospects become modified or altered according to the extent to which the invasion shall exist. In general terms I may state, that all cases of consumption are more or less benefitted on removal to this place; in some, the benefit is of short duration; in others longer, and in a few amounting, as far as we can reasonably calculate, to a cure. The effects of the climate are these:—*first*, tubercular disease is arrested in its first stage—I mean conjointly with therapeutic agents; *second*, softening is retarded, except where that process has already commenced before the arrival of the patient, when, (particularly in subjects constitutionally liable to the disease,) it goes on unchecked; *third*, though softening has actually set in, it becomes arrested in those constitutions where the disease accidentally starts up; *fourth*, when softening and discharge of matter have taken place, the tubercular cavity is more or less protected from fresh irritation; and, *fifth*, an invalid arriving here with a cavity already formed, or, in other words, in the third stage, is placed in a most favourable position to confer quiescence upon that part of the lung. The successful cases, in which the curability of the disease may be demonstrated, were in the first and third stages. In the third stage of phthisis, this consolatory fact has been witnessed, as well as in the first. Of one of the patients considered as cured some years since, I have just heard, that 'her chest is quite strong, and she scarcely minds any change of season that may occur.' Of another, that 'he is in perfectly good health.' Of a third, that 'he is remarkably well, and engaged in the active pursuits of life.' The present state of health of others, who come immediately under this class, I cannot assert, as I have not had very late accounts of them.

"In some cases where cavities have existed, the individuals are now enjoying good health, and following their usual occupations. One of these is quoted by

Dr Graves, in his Clinical Medicine, p. 893. Would that I could enlarge the list of these recoveries, but unhappily they are few; they corroborate, however, the opinions above expressed, and they add to the encouraging numbers which suggest perseveranee to the physician, and inspire him with the hope that his efforts may be crowned with success. The comparative existence of this disease is *one-third* per cent. in Cove, *two* per cent. in Hastings, and *four* per cent. in Exeter. Now we find here a protection against a formidable disease very much greater than in the south and south-west coast of England; and fairly drawing our inference from this comparative rarity, we should be further disposed to consider Cove a most favourable residence for the pulmonic invalid. The winter quarters best suited for the consumptive are the lower parts of the town.

"Dr A. Thompson, in his 'Sketches from the Note-Book of a Physician,' writes thus:—'A question here suggests itself—namely, where should a consumptive patient pass the winter, when he cannot go abroad? In reply it may be stated, that there is no place within Great Britain or Ireland so well adapted for the winter residence of a consumptive person as Cove.'

"In closing these observations, I would beg to suggest to those who intend taking up their winter quarters in Cove, that it were well they arrive before November. In leaving distant parts of the country, for this climate, in the latter parts of the year, colds are readily contracted while travelling, and invalids are in consequence suffering from acute illness on the very day of their arrival."—Pp. 158—218. Z.

Practical Treatise on Abdominal Hernia. By THOMAS PRIDGIN TEALE, F.L.S., &c. With Numerous Illustrations. 8vo, pp. 383. London: 1846.

NOTWITHSTANDING the numerous valuable works on HERNIA which enrich the literature of Surgery, we augur for this treatise a most favourable reception, and an extensive circulation. The whole subject is discussed in a lucid manner; and the arrangement is so admirably systematic, that the young practitioner can at once find the information of which he may stand in need during any trying emergency. It is the best book for students with which we are acquainted; but as such, its value would have been greatly enhanced, had the anatomical descriptions been given more fully and satisfactorily.

We deem it unnecessary to follow the author through all of his divisions and subdivisions; and prefer selecting a few passages for the instruction of our readers, and for enabling them, to a certain extent, to form for themselves an opinion of the book.

In Statistics, the author relies chiefly on the inquiries of M. Malgaigne.

The following details regarding the MORTALITY OF HERNIAL SUBJECTS will be read with interest:—

"The great mortality of persons affected with hernia will be best shown by placing, in a tabular view, the relative number of hernial subjects to the whole population at different ages, according to the statement of M. Malgaigne:

Before 1 year, the hernial subjects are to the whole population of this age	as	1	in 21
From 1 to 2 years	„	1	29
„ 2 to 3	„	1	37
„ 5 to 13	„	1	77
At 20	„	1	32
„ 28	„	1	21
From 30 to 35	„	1	17
„ 35 to 40	„	1	9
„ 40 to 50	„	1	9
„ 50 to 60	„	1	6
„ 60 to 70	„	1	4
„ 70 to 71, one-third of the whole male population.			

From 75 to 80, the hernial subjects are to the whole population of this age	as 1	to	4
„ 80 to 83	„ 1		14
„ 83 to 86	„ 1		25
„ 86 to 100	„ 1		36

"From a comparison of the general statistics of hernia, with the relative mortality of the whole population at different ages, M. Malgaigne infers, that the hernial population, from the age of one to thirteen years, disappears four times more quickly than the general population.

"This can only be produced in two ways, either by cure or by death. Although radical cure is possible and frequently easy at this age, yet it must be admitted that amongst the poorer classes it is rare, on account of the imperfect construction of trusses and the careless manner in which they are applied, and, above all, the continuance of the causes of hernia. But even supposing that one-half of the hernial subjects of this age are cured, the statistical records show that death occurs twice as frequently in hernial infants as in others; and it is important to notice, that strangulation exerts but very little influence on the relative mortality.

"At twenty years, the proportion of hernial subjects has again ascended, and continues increasing to forty years, when it reaches one in nine. It remains nearly stationary until the fiftieth year, when it rises to one in six; and continues to rise until the age of seventy-five, when the hernial subjects form nearly one-third of the whole male population. After this period, the influence of herniæ in accelerating death among the hernial part of the community becomes very obvious. From seventy-five to one hundred years, men afflicted with hernia disappear quickly, and even exhibit a mortality nine times greater than that of others of the same age.

"M. Malgaigne further states, that the increased mortality of elderly hernial subjects is exhibited in women at an earlier age than in men, and that the proportion of females affected with hernia becomes obviously modified by the increased influence of hernia in causing death after fifty years of age; whereas, in men, on account of their more robust constitution, and greater power of resisting the destructive influence of disease, the diminution of numbers from hernia does not become very apparent until after the age of seventy-five." Pp. 38, 39.

The Chapter on the CAUSES OF HERNIA is perhaps the most meagre part of the work. It ought to be re-written when a new edition is called for.

It is of great practical importance that the terms *Incarceration* and *Strangulation* be retained; or Acute and Chronic substituted for them. Our author, as will appear from the following extract, thinks otherwise:—

"A hernia is said to be strangulated, when it is so constricted that the functions of the protruded parts are interrupted, or the circulation in their blood-vessels is materially impeded.

"To the slighter degrees of constriction, Scarpa and Sir Charles Bell applied the term *incarceration;* whilst they limited the term *strangulation* to the more severe forms. There is, however, no definite line to be drawn between them, and the former state readily passes into the latter. Such a division, moreover, is of no practical importance." P. 53.

FOUL SECRETIONS AND PUERPERAL FEVER.—The facts adduced in the latter part of the following quotation are well worthy of the solemn consideration of general practitioners, and especially of surgeons connected with general and hospital practice. No man who is daily occupied in dressing inflamed and suppurating sores, or in handling diseased surfaces, is justified in practising midwifery. In short, Surgeons and Dissecting Anatomists should not at the same time be Accoucheurs.

"The sac frequently participates in the inflammation, especially when serum is not effused in sufficient quantity to prevent the sac from lying in contact with the inflamed viscera. The inflammation soon extends from the sac to the structures external to it; the integuments become red and œdematous, and after some lapse of time, livid and emphysematous. Ultimately, gangrenous

patches, more or less extensive, are detached by ulceration; and a free communication is established between the already perforated bowel and the exterior of the body. Fæces are discharged by the preternatural opening, the symptoms of obstruction are relieved, the further progress of inflammation and gangrene is arrested, and life is occasionally, although rarely, preserved, under these trying circumstances, by the unaided efforts of nature.

"Whilst these changes are proceeding in the hernia and its envelopes, important alterations occur within the abdomen. At an early period of strangulation the peritoneum becomes inflamed. If the constitution of the patient is sound, the peritonitis is limited in extent, and of a healthy restorative character. In this case, the effusion resulting from the inflammation consists chiefly of plastic organizable matter, which agglutinates the portions of intestine in the vicinity of the hernia to each other, as well as to the mouth of the sac and neighbouring parietal peritoneum. But in subjects in whom the constitution is impaired or was originally bad, and even in healthy persons when they are exposed to unfavourable local circumstances, the inflammation of the peritoneum frequently assumes a diffuse character, and, instead of being limited to the neighbourhood of the ring, it quickly spreads over the whole extent of the serous membrane of the abdomen, rapidly exhausting the powers of life. Even in this diffuse form of inflammation, there is usually some plastic effusion in the neighbourhood of the ring, or between the coils of intestines; but the general product of inflammation is a turbid serum, containing soft flakes of lymph, prone to decomposition, and possessing acrid or even poisonous properties. The deleterious nature of the effusion in diffuse peritonitis, from what cause soever it may arise, is proved by the pustules which frequently form on the hands of the operator who has conducted the examination of the dead body, and the serious constitutional symptoms which sometimes follow. The following most distressing evidence of the pernicious influence of these morbid secretions has come within my own knowledge:—One evening, at the dissection of the body of a patient upon whom I had operated for strangulated hernia, several surgeons were present. Of these, two attended one case of midwifery each, during the following night, and a third three cases. The two patients attended by the first two surgeons died of puerperal fever. Two of those attended by the third surgeon also died; and his third patient escaped death from this formidable malady with the greatest difficulty, after having been in extreme danger several days. It is an important fact, that no other cases occurred in the practice of these gentlemen. Mr T. W. King, in the paper to which I have before referred, has shown that diffuse peritonitis, attended with unhealthy and unorganizable secretions, is the usual cause of death when hernia proves fatal." Pp. 60—62.

The Treatment of Reducible Hernia is admirably discussed. The remark of the Philadelphia Committee regarding the use of Dr Chase's truss is applicable to all good trusses. We have frequently known patients refuse to give up the use of the truss, in consequence of the agreeable support which it imparted.

"Hard pads of wood or ivory were used in the sixteenth century, and, after having been long discontinued, have of late been again employed. Stagner, in America, endeavoured to promote the radical cure of hernia by the use of rough wooden pads so applied as to excite irritation in the parts upon which they pressed, and thereby to produce the condensation and adhesion of the skin, superficial fascia, and the abdominal tendons. Their employment, however, was productive of severe pain and other evils; and, moreover, not only failed in effecting the radical cure of the hernia, but even in securing its temporary retention. These pads have been greatly improved by several American surgeons, more particularly by Dr Hood and Dr Chase, who have given to them a smooth surface, and have modified their form according to the different canals and apertures they are intended to support. The object of these surgeons in the employment of solid pads is not to promote inflammation and consolidation of the compressed parts, as was attempted when Stagner's blocks were used, but

merely to secure the perfect retention of the viscera, and thus not only effectually to palliate the evils resulting from the disease, but also to allow nature to effect the permanent contraction of the hernial aperture, which in many instances was the result. Dr Chase has extended his improvements to all parts of the truss. The Philadelphian Committee report of Dr Chase's truss, that it is 'worn with so much comfort, that patients generally relinquish it unwillingly, and sometimes absolutely refuse to do so, even when pronounced cured by the surgeon.'" Pp. 69, 70.

Mr Teale is an advocate for the OPERATION FOR STRANGULATED HERNIA WITHOUT OPENING THE SAC. Let him speak for himself:—

"In conclusion, I would again express my opinion, that the operation without opening the sac ought to be performed in all cases in which it is practicable, unless the local or general symptoms indicate the existence of gangrene or an advanced state of inflammation. In accordance with this opinion it may be stated, as a general rule, that the operation should be attempted—1st, in most cases of large herniæ; 2dly, in many herniæ of middle size; and, 3dly, in but few small herniæ, unless in the earliest stage of strangulation.

"As it is impossible, in most instances, to determine with certainty the seat of stricture before operating, the practicability of the operation must generally be doubtful. But, as has already been stated, if the attempt by this operation should fail, the sac may still be opened.

"I am informed by my friend Mr Key, that the advantages of this mode of operating have been fully borne out by his practice, and that he has not met with a single case in which any inconvenience or danger arose from not opening the sac. Mr Key observes, that he meets with but few cases of strangulated hernia, requiring operation, in which it is not desirable to avoid opening the sac, even when from some circumstance it is not practicable.

"Mr Liston, in an obliging communication with which he has lately favoured me, states that for several years he has been in the habit of *trying* in all cases of *recently* strangulated hernia, when the operation was required, to divide the stricture and return the protruded parts without opening the peritoneal sac. The risk to the patient he considers to be thereby greatly diminished.

"A modification of this operation has been successfully practised by Munro and Sir Astley Cooper in large herniæ, when the division of the stricture externally to the sac is impracticable, on account of the constriction being produced by the sac itself. In these cases a small opening only is made into the sac, and a director being introduced, the stricture is divided from within the sac; the direct manipulation, and the complete exposure of the viscera, being in this way prevented." Pp. 117, 118.

Here follows a tabular view of 32 cases of strangulated hernia, in which the stricture was divided externally to the sac. 27 cases recovered: 4 died: and in 1 case, the result is not stated. Of these, 18 were femoral hernia, 11 inguinal, and 3 umbilical.

On these statistics, we place little reliance; indeed, some recent events and publications have made us, with others, look upon most statistical documents with extreme suspicion. In recent papers on Ovariotomy, we attempted to give a fair view of the results of that horrible operation; but we were compelled to withhold fatal cases, regarding which we had *positive*, although only *private*, information. We called on those in whose hands unfortunate results had occurred, to come forward manfully for the public benefit and the information of their professional brethren; but we regret to find that concealment, even in head-quarters, is still the order of the day.

Let it not for one moment be supposed, that we suspect the trustworthiness of Mr Teale. He has taken the cases as he found them recorded; but, How many of an opposite character have been studiously kept from the public eye! When there is exhibited an aversion even by men of established reputation to publish unfortunate cases, can we wonder, that those who have a name to make, and perhaps poverty and envy to struggle against, should, through timidity, commit the same fault!

THE DIAGNOSIS OF OBLIQUE INGUINAL HERNIA is well treated by the author. We specially commend this portion of the work to the notice of our readers, as instructive, and as affording a very good idea of the author's powers of observation and description.

We again highly recommend Mr Teale's work, as an easy and accurate book of reference on Hernia. The only drawback is the indifference of the woodcuts, which are certainly inferior to those generally illustrating modern works. They are, in truth, a little better than those which garnish the medical literature of The United States. K.

Remarks on Medical Reform; being the Substance of a Lecture, Introductory to a Course of Anatomy, delivered to the Students of Anderson's University; to which are added Four Statistical Tables, showing the advantage of Glasgow as a Medical School. By M. S. BUCHANAN, M.D., &c. &c. 8vo, pp. 28. Glasgow: 1846.

THE distinguished teacher of Anatomy, to whom the profession is indebted for this remarkable pamphlet, has a well known pleasure in giving vent to his views in occasional "Introductory Lectures." This is now the *fourth* which has appeared in print. The first was published in 1832, and is entitled, a "Lecture Introductory to a course of Clinical Surgery, delivered to the Students of the Glasgow Royal Infirmary;" the second appeared in 1841, as a Lecture Introductory to a course of Anatomy, delivered to the Students of Anderson's University;" the third is a Lecture Introductory to a course of Clinical Surgery in 1843, (published in 1844,) and which we reviewed in our number for July 1845, p. 590; the fourth is that now under consideration. In noticing the third of the above lectures, we stated, that Dr Buchanan's great aim was to prove, that Glasgow is the best and cheapest Medical School in Europe;" and the object of the present discourse is precisely similar. The quaint and enthusiastic style in which he attempts to do this is always amusing, often severe, and occasionally instructive. We have culled some passages for the benefit of our readers.

SUPPLY OF SUBJECTS IN GLASGOW.—"The trial of Burke and Hare, in Edinburgh, for a series of the most cold-blooded and diabolical murders which were ever perpetrated in a civilized country, exhibits, I believe, a most correct picture of the deplorable state to which matters were reduced, in order to procure a supply of material, by some of the teachers of anatomy at the above period."

"If in Criminal Jurisprudence the resetter is held not only art and part in the guilt of the accused, but the great originator of the crime, then, (notwithstanding the Jesuitical argument that in some rare cases we must do evil that good may arise), I know of no crime more heinous than that of those who, with one-eyed obliquity, remarking the hardihood and blood-thirstiness of the above wretched culprits, and urging them on to further deeds of violence, by bribery the most unblushing, could all the while conceal themselves behind a veil of the most impenetrable obscurity." [What does all this mean?]

"Even here,[1] though no such scenes as those above alluded to were ever imagined to have existed, still, the insurmountable difficulties which presented themselves to the prosecution of dissection, compelled a vast majority of the medical students at the above period either to betake themselves to Paris, and there to make up for their lamented home deficiency, or engage in the practice of resurrecting, at the imminent hazard of life and reputation.

"How stands the case, as to supply of subjects, since the introduction of Mr Warburton's admirable Bill in 1834? If I may hazard an opinion on this deli-

[1] "Here"—*i.e.* in Glasgow.

cate affair, and draw my conclusion from what has been my own experience, as well as from that of the other Anatomical Lecturers in Glasgow, I may with confidence affirm, that the provision of subjects for anatomical purposes in the United Kingdom must have amounted, since the passing of the above bill, to upwards of 2000 annually—of which more than one-half have been interred untouched. The prices also have been (at least in this locality) such as the most indigent student can afford. I have heard much of the deficient supply in London and elsewhere,—of the exorbitant prices exacted, and the disgraceful quarrelling as to preference given to one school over another, which has in some Metropolitan establishments made a legislative measure necessary. In Glasgow, however, we know of no such childish squabblings; our regulations under Mr Warburton's Act are of the most simple kind—our supply always so abundant that, as I have formerly stated, we might, if free trade principles had the ascendancy, *export* to our dissatisfied neighbours all our superabundance."—Pp. 10, 11.

THE BEST MICROCOSM OF DISEASE.—"But it is not so much to the advantages, great as I have proved them to be, which you enjoy as students of Anatomy, that you have been induced to make choice of Glasgow, before every other locality, for the study of your profession. No—I regard our splendid Hospital, and the incalculable advantages you must derive from the study of disease in all its variety there, with the accompanying courses of Clinical Lectures by all the attending physicians and surgeons, as the principal cause of your preference of this locality. Averse as I do feel to draw comparisons, which must be always invidious, I cannot refrain from the expression of my candid opinion, after a most careful examination of every hospital of note, either at home or on the Continent of Europe, that the Glasgow Royal Infirmary presents to the eye of the medical and surgical pupil the BEST MICROCOSM OF DISEASE which is anywhere to be met with."—P. 14.

MUZZLING OF HOSPITAL FUNCTIONARIES.—GLASGOW *versus* EDINBURGH AS A CLINICAL SCHOOL.—"I know of no monopoly so baneful as that of teaching, more particularly as regards hospital instruction; and, therefore, I feel pride in holding up the example of Glasgow to our neighbours in Edinburgh, as worthy of their imitation in this respect. *All* the medical and surgical officers in our establishment, in their turn, *must be Clinical Lecturers;* they are elected to their office by a board of directors, in great part chosen by the subscribers; and, therefore, monopoly is out of the question: from this constitution, and from this variety of clinical teaching, the best results arise to the pupils. All the cases in hospital are, or may be clinical; every operation is brought under review, and every inspection properly explained. Having acted for twelve years as surgeon to this hospital—having seen the advantages of this method, and contrasted it with the MUZZLING OF THE HOSPITAL FUNCTIONARIES elsewhere, I can with confidence affirm, that if the above baneful system of monopoly in clinical teaching is much longer perpetuated by the above parties, they may soon bid adieu to their much-vaunted medical school, and find, when too late, that they have been supplanted by their more youthful, energetic, and mercantile rival of the west." Pp. 15, 16.

A CONTRAST.—"Notwithstanding all that a well-known Professor has written against the Faculty of Physicians and Surgeons of Glasgow, in his disingenuous article on Medical Reform in the Edinburgh Review, I must refer him to acts, not calumnious assertions, in proof of the liberality of our venerable body, and contrast these with those of the Royal College of Surgeons of Edinburgh. Dr Knox, who is not a member of our body, made application to the Faculty to have his tickets recognised, on his coming to lecture in Glasgow on Anatomy. The Faculty immediately informed him, that his request would be complied with. I made a similar application to the Royal College of Surgeons of Edinburgh, and the answer which I received from their President, after taking the sense of the College on the point, was, that unless I became a member of their

body, and paid them L.150 sterling, my tickets would not be taken, if I came to lecture in Edinburgh. What a CONTRAST!" P. 21.

The *Statistical Tables* appended to the Lecture are interesting; but our limits will not allow us to give farther quotations or comments. We therefore take leave of the racy lecturer, with our best wishes for his success in getting "unmuzzled" the Edinburgh Hospital functionaries, and in achieving all other needed reforms. J. R. C.

Second Annual Report of the Directors of the Edinburgh Maternity Hospital, 19th December 1845. 8vo, pp. 15. Edinburgh: 1845.

OUR attention has been drawn to the Second Annual Report of the Edinburgh Maternity Hospital, recently published. The document being brief, we submit it entire, before offering our remarks.

"The Directors, in presenting their Second Annual Statement to the Governors and Friends of the Maternity Hospital, are gratified in being able to report that the affairs of the Charity have been prosecuted, during the past year, with great zeal, perseverance, and efficiency.

"The extent to which the objects contemplated in the formation of the Institution have been carried out, will best appear by the Tabular Statement appended to this Report.

"From this statement, it will be seen, that while 836 patients have been provided with medical attendance during the period of their confinement, 175 of these have, in addition, received the shelter as well as the support and other comforts afforded within the walls of the Hospital. How truly wretched would have been the condition of many among them, had they been abandoned to their own resources, or to casual charity, without enjoying access to such an Institution!

"Besides this class of patients, it appears that, 2,122 individuals labouring under diseases peculiar to women and children, have obtained medical advice, and have been supplied with medicines at the expense of the Hospital; and that no fewer than 586 children have been vaccinated, many of whom, but for the assistance thus afforded, there is good reason to believe, would have grown up without such protection against a disease, which often proves as fatal, as it is loathsome and disfiguring to the human frame.

"In reference to the most important matter of pecuniary support, while the Directors gratefully tender their hearty thanks to those who have kindly contributed to the funds of the Hospital, it is proper that they should state, that the amount of contributions has been considerably smaller than those of last year. This may, perhaps, have been caused by the surplus which a year ago was reported as standing at the credit of the Institution. It is necessary, however, for the contributors and the benevolent public to be informed, that nearly all of that sum, as prescribed by the constitution of the Charity, must be invested in the name of trustees, and the annual proceeds alone applied to the ordinary expenditure of the Hospital. Besides, it is not to be forgotten, that the Institution is in great want of a commodious building, the present House being much too small, and badly situated,—which justifies the Directors in urgently appealing to the benevolent for funds, to enable them either to buy or build an Hospital more adequate to the purposes for which they are associated.

"While it is a fact, that many of the wealthy do not yet contribute to the funds of this Charity, the Directors are satisfied that not a few who are well able to assist such institutions, neglect to do so, merely from want of directing their attention to the matter; and they would fain hope, that many whose names do not appear in the present subscription list will allow themselves to be enrolled as contributors, before the Directors for next year are called upon to prepare their report.

"The thanks of the Directors are due to Mr Kemp, chaplain to the Magda-

lene Asylum, for the voluntary and unwearied attention which he has gratuitously devoted to the spiritual interests of the patients in the Hospital.

"The Directors cannot conclude this Report, without making special and grateful reference to the valuable services of the Ladies who have regularly visited the Hospital, and kindly ministered to both the spiritual and temporal necessities of the patients. May these Ladies, and all who engage in such labours of love, be encouraged and cheered in the path of benevolence, by remembering that 'He that hath pity upon the poor lendeth unto the Lord; and that which he hath given, will He pay him again."

"PRACTICE OF THE EDINBURGH MATERNITY HOSPITAL, FROM 10TH DECEMBER 1844 TO 9TH DECEMBER 1845, INCLUSIVE.

Midwifery, *In* Cases, . . .	175
„ *Out* Cases, . . .	661
	836

"In the *Out* Cases there has been a very great increase. Thus the number in August, September, October, and November of 1845, was more than double what it was in the same months of 1844.

"Of the 836 cases, delivery was effected by instruments in *only one*.

DISPENSARY FOR THE DISEASES OF WOMEN AND INFANTS.

Miscellaneous, ...	2122
Vaccinations, ...	586
	2708

"The Miscellaneous Cases have increased to several times their number in 1844. *See Table* B.

"The vaccinations in 1844 averaged less than eight per month. In 1845 they have averaged more than six times that number. *See Table* B.

TABLE A.—MIDWIFERY.

		In and Out Cases
1844	August .	32
	September .	48
	October .	61
	November .	38
	December .	62
1845	January .	64
	February .	62
	March .	73
	April .	96
	May .	81
	June .	58
	July .	58
	August .	55
	September .	66
	October .	94
	November .	66

TABLE B.—DISPENSARY.

		Miscellaneous Cases.	Vaccinations.
1844	September	115	12
	October .	101	6
	November	51	7
	December	72	6
1845	January .	73	20
	February .	82	18
	March .	117	25
	April .	122	83
	May .	153	49
	June .	168	30
	July .	204	99
	August .	283	77
	September	264	56
	October .	300	52
	November	223	57

"*Abstract of Treasurer's Accounts from 13th December 1844 to 13th December 1845.*

RECEIPTS.				EXPENDITURE.			
Balance from last year's account,	L.200	7	3½	Paid House Rent, Water Duty, Road Money, and Insurance,	L.34	3	2
Amount of Subscriptions received	354	4	2	,, Medicines and Instruments,	68	18	6
,, of Legacy by late Mr Paterson,	19	11	0	,, Bread, Butcher Meat, Groceries, Meal, Milk, and Vegetables,	115	16	8
,, received for Students' Tickets,	39	19	0	,, Coals and Gas,	30	18	2
,, of Payments by House Surgeons for Lodging,	51	10	0	,, Printing Report, &c.	17	16	9
,, of Payments from Patients for Board,	3	14	0	,, Stationery,	7	13	4
,, of Interest on Bank account,	4	0	5	,, Furnishings,	17	14	0
				,, Wright and Plumber Work,	9	10	6
				,, Salaries,	77	3	10
				,, Collector and Messenger's Wages,	30	11	0
				,, Lodging for Patients,	4	4	8½
				,, Advertising and Postages,	3	5	8
				,, Sundries,	7	6	10½
				,, Amount paid into Bank in name of Trustees for Building Fund,	250	0	0
					660	3	4
				Balance in Union Bank, L.6 0 0			
				,, in Edinburgh and Glasgow, 3 10 5			
				,, in Treasurer's hands, 3 12 1½			
					13	2	6½
	L.673	5	10½		L.673	5	10½

"*Edinburgh, 18th December* 1845.—We have carefully examined the preceding account, find it accurately stated, the disbursements properly vouched, and the balance in the Treasurer's hands L.3, 12s. 1½d. D. J. THOMSON.
JOSEPH H. STOTT."

The Report, as will be seen, gives a most favourable representation of the Institution, and the mode in which it is conducted. It begins by stating, that "The Directors, in presenting their second annual statement to the Governors and Friends of the Maternity Hospital, are gratified in being able to report, that the affairs of the Charity have been prosecuted, during the past year, with great zeal, perseverance, and efficiency;" and it refers to the Tabular Statement appended to the Report in corroboration, not only of this assertion, but also in proof of "the extent to which the objects contemplated in the formation of the Institution have been carried out."

We feel inclined to investigate into the grounds of such pretensions, as conflicting reports have reached us, in reference to their validity.

We shall, in the first place, inquire, what were the published intentions of those who originally suggested the establishment of the Maternity Hospital, and for the fulfilment of which, they asked and received the sympathy and support of the public? and, In the second place, we shall glance at the management and statistics of the institution, during the short period it has been open.

The intentions of those who proposed the hospital will be best shown by the following resolutions, passed at a general meeting held on the 18th December, 1843.

"1. The Old General Lying-in Hospital in Park Place, has ceased to exist; and Edinburgh is at this moment without a Charity of this most necessary kind.

"2. The consequence is, that many poor women are delivered amid the filth, squalor, noise, and often publicity, of their own houses, at the peril of their lives. One medical gentleman lately delivered a woman in a wretched lodging-room, crowded with fifteen persons of both sexes. This is no solitary instance.

"3. Many pregnant women, some of them actually in search of a lying-in hospital at the time, have fallen down and brought forth in the public streets. Some time ago, one of the directors, when returning from church in the middle of the day, assisted to have a poor houseless woman, who had been taken suddenly ill in the street, screened and covered with blankets, obtained from a neighbouring house, and saw her carried away by the police on a hand-barrow. Within the last few months, upwards of ten nearly parallel cases have occurred.

"4. A Maternity Hospital will embrace that most important and imperfectly provided-for class of patients, viz. those affected with the diseases peculiar to women and infants.

"5. Besides providing, by a proper classification of patients, for the necessities of respectable married women, the hospital, which of course will, on application, open its doors to all cases of labour, will, it is humbly anticipated, afford the means, by kindness and counsel, of impressing the misguided, the betrayed, and deserted, and, it is even hoped, the yet more degraded, at a time when judicious teachings are likely to have effect, with a due sense of the error of their ways, and a wish and resolution to return to a life of respectability and usefulness.

"6. The want of Clinical Instruction, on the great scale of a Lying-in hospital, is a blot on the medical school of Edinburgh, in other particulars one of the first in Europe. This great defect is known to have obliged students to transfer the whole or a part of their course of medical study to other places, where they can attend a Lying-in hospital,—to the injury of the University and the city; while a lower and less generally diffused obstetric skill among the students of this school may be the consequence, to the ultimate serious detriment of the higher, as well as the humbler classes of society.

"The directors cannot allow themselves to think that this appeal for the removal of so great a reproach, not only to a great medical school, but to a Christian community, will be made in vain. They confidently trust, that the subscriptions on the present occasion will be liberal, inasmuch as it is the *establishment*, and not the mere *maintenance*, of the hospital, that is to be accomplished in this the first year of its existence."

That the public approved of these resolutions, and gave great encouragement to their being carried into effect, is evident, from the fact that, although no great energy was exercised in collecting the contributions, the funds exceeded in a very short time the expenditure of the institution, for the year, by upwards of two hundred pounds.

Let us now turn to the Management of the Institution, and see what steps were taken for carrying out those resolutions to their full extent. A spirit of discord, it is said, early showed itself among the directors. This, we believe, occasioned the lukewarmness of some, and the complete withdrawal of others, from supporting the interests of the hospital. Indeed some of the most talented and influential of its friends have entirely deserted the meetings of the board.

In nothing has the effect of these unfortunate party dissensions been more deeply felt, than in the choice of accommodation for the patients. This was a most important step, and should not have been entered upon rashly, or without the most serious consideration; more especially, as there was really no necessity for a house at the time, as summer was then close at hand, rendering the abodes of those who usually apply for admission to an hospital much less objectionable than at other seasons.

A small, damp, ill-aired, miserable house was taken in St John Street, which, as the statistics about to be given will show, has proved little short of a *pest-house*. We would like to know the grounds upon which so extraordinary a locality as St John Street was chosen? and whether the selection was made by, or with the consent of, the medical staff? It has been remarkably unhealthy, as might have been foreseen; so much so, that the medical officers were obliged to urge the necessity of its being shut for many weeks, at a period when its shelter was most required; and its unfortunate inmates were scattered about the town in the most inclement weather. Besides this serious evil, the house is totally unsuited for the purposes contemplated in establishing the Maternity Hospital. Not only is there no room for "*that most important and ill-provided-for class of patients, viz., those affected with the diseases peculiar to women and infants;*" but even the accommodation for the lying-in-women is most limited, and it has been rendered still more confined in consequence of the bad arrangement, of admitting women to lodge in the wards for weeks before their confinement. By this very absurd regulation, parturition in the poor patient is

rendered very public; and from the turbulent disposition of some of the lodgers, more noisy than it would have been, had it taken place in their own houses. The same want of accommodation, we need scarcely add, puts an entire barrier to the classification of the patients; and the result has been, that all descriptions have been huddled together. The married and the single; the virtuous and the most worthless, have been crowded in the same wards. The pernicious effects of such an arrangement, on the virtuous and well-disposed, may easily be imagined, when it is stated, that comparatively few *married* women have been delivered in the hospital.

It was, it appears, intended, as the resolutions inform us, that means should be adopted in this institution "to impress the misguided, betrayed, and deserted, and, it is even hoped, the yet more degraded, at a time when judicious teaching is likely to have effect, with a due sense of the error of their ways." The report does not inform us, whether the opportunities of reclamation have been turned to good account. We hope they have. But we protest most solemnly against the mixing of the married with the unmarried pregnant women. The proper feelings of the poor on this point should be encouraged by the Directors, and not outraged. Distinct wards ought to be provided for the two classes.

The Dispensary department has been hampered in a most inconvenient manner, if one half of what is said be true. The particulars have been furnished to us, but we cannot venture to publish them. In passing, however, we may inform all concerned—those alike who have resigned, and those to whom the resignations were tendered—that in the Hôpital du Midi, and Ecole Pratique des Accouchmens of Paris, no one who cannot produce his medical diploma, is allowed to be present at the medical visit. We look upon the licensed *éntree* of a non-medical officer at the time of visit, as requiring explanation.

It would be difficult to imagine a more meagre and ill-concocted document than this Report; and it does surprise us, that so intelligent a board should give its sanction to the publication. The Directors of a Public Charity are bound to state the mortality which has occurred, during the period of which they profess to give a report to their constituents: but in the document before us, THE NUMBER OF DEATHS IS SUPPRESSED.

In the MEDICAL REPORT we are told, that there were 836 patients delivered by the officers and students of the Institution during the year. Of these 175 were delivered in the hospital. No further statistical information is given except that there was "only one case in which instruments were used;"—the *results* of all the cases being suppressed! This document, then, is worse than useless, as an account of the practice in the Maternity. Why this concealment! Is it for the paltry purpose of bolstering up the rotten credit of the hospital? The opponents of the Maternity allege this cause; it is for its friends—not for us—to disprove it. This concealment was not concurred in by all of the Officials of the Institution, we are happy to understand. It being a matter of some importance that correct statistics of such an hospital as the Maternity should be given, we shall now, from authentic sources, endeavour to make up in part for the imperfection in the official report, by stating what was the result of the practice, both in the hospital and dispensary department.

Of the In-patients, six died in the Hospital, and one on being removed to the Infirmary, making seven in all; thus, giving an average of one death in every twenty-five patients delivered in the hospital: or, deducting the infirmary death, one in twenty-nine, or rather more than 18 per cent. Among the patients delivered at their own houses there were only two deaths in 661, making an average of one to the 331½. These are most important facts, and demand the serious attention of the Poor-Law commissioners, who, it is believed, are going to sanction a grant towards the support of Maternity Hospitals. Whatever arguments may be used theoretically in favour of Lying-in hospitals, these results give most convincing proofs against crowding women, during their confinement in small and ill-aired wards; and show, in a striking point of view, the responsibility of those who take it upon themselves to choose an hospital for such a purpose; for, although it may appear a matter of small importance in

the estimation of some persons, on it depends, humanly speaking, the life of many individuals, in all ranks of society. To no class of patients is good ventilation so essential as to lying-in women. To the want of it in the hospital, can we alone attribute the great difference in mortality between the out-door and in-door patients. The question, therefore, naturally arises, whether it would not be better to improve the comforts of the poor women at home during their confinement, rather than induce them to enter an hospital. We have no hesitation in stating it as our deliberate opinion, that Lying-in Institutions ought only to admit those who are absolutely without a shelter. At best, they are of questionable propriety, as they are so apt to become foci of deadly disease.

The report asserts in one part, that 2,122 patients, suffering from diseases "peculiar to women and children," received medical aid. This statement is undoubtedly erroneous; for it is distinctly contradicted by the table appended to the report, where it is stated, that there were only 2,122 patients altogether, *including miscellaneous cases;* and *we know* that about nine-tenths of all the cases were catarrhs, or other maladies not peculiar to women and children. This remarkable fact ought to have been stated in the report; or, at all events, some attempt should have been made to classify the diseases.

The FINANCIAL portion is got up in the same imperfect and unsatisfactory manner as the rest of the report. Great and little items are huddled together, and given as single sums. There is one thing pretty evident, however, that the hospital is not conducted on economical principles.

It is remarkable, that in an Establishment so limited, and the income of which is so trifling, L.50 per annum should be given to a non-medical Secretary,[1] while the medical officers of the Charity receive neither thanks nor money for their labours; and the "unwearied attention" of the chaplain is remunerated only by civil words. Even thanks, it appears, would be too much to give to Maternity Doctors. The Infirmary Physicians and Surgeons get them *almost every year* from the Managers!!

In conclusion, in name of the profession, and in behoof of the charitable public of Edinburgh, we call on the Directors and Medical Officers of the Maternity to expurgate themselves, and reform their institution.

Z.

Illustrations of Modern Mesmerism, from Personal Observation. By JOHN FORBES, M.D., F.R.S., Physician to Her Majesty's Household. 24mo. Pp. 101. London: 1846.

DR FORBES gives no verdict for or against the truth of Mesmerism, his little book being simply an exposure of the deceptions practised by Alexis, and other worthies of the same class. It is a wholesome morsel for all quack-fanciers to digest; as it shows in a plain but stern matter-of-fact style, the flimsy foundation of belief in one of the favourite delusions of the day. It may lead them to inquire into the basis of other popular mock-medical sciences.

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[1] "Salaries" are huddled up, it will be observed, in the one item of £77, 3s. 10d.; and for "wages" we have £30, 11s. more; making together, £107, 14s. 10d.

Report regarding the Affairs of the Royal Infirmary of Edinburgh, from 1st October 1844 to 1st October 1845. 8vo. Pp. 47.

Our readers are aware, that we differ *in toto* from the medical policy which obtains in the Edinburgh Infirmary Board. We believe that it (in conjunction with gratuitous dispensaries), greatly depreciates the status of Edinburgh medical men, causes a stoppage of all attempts at adequate clinical teaching, and prevents the poor from having the best medical advice. On these points, however, we are not at present in a mood to dilate, as we have perused the pamphlet before us with a considerable admixture of satisfaction. Its explicit details contrast most favourably with the statements of the Maternity report. A faithful summary is given of the Vital Statistics: and the Financial Details are so clear and so copious as to disarm criticism. We think, moreover, that we can trace throughout the reports a judicious and determined spirit of economy and reform. We select one fact in illustration. Some two years ago, the lavish consumption of ginger beer and soda water by the patients was so scandalous, as to attract the attention of the managers; but now we find that, during last year, only £2, 3s. 9d. was spent in supplying patients with these beverages. Had we space, we would willingly transfer several of the money-accounts to our pages; as they are admirable specimens, both as regards construction and minuteness, of what the managers of a public charity ought to lay before their constituents. We must, however, satisfy ourselves both as regards the vital and financial statistics, with quoting the substance as given in the official summaries; and with afterwards glancing at one or two of the items.

"Abstract of the Daily Register of Patients admitted from 1st October 1844 to 2st October 1845.

Patients remaining in the Hospital at 1st October 1844,		283
Admitted from 1st October 1844 to 1st October 1845,		3252
		3535
Of these there were—		
Dismissed cured,	2047	
... relieved,	578	
... with advice, or at their own desire,	114	
... as irregular or improper,	89	
... having received no benefit,	81	
Died,	369	
		3278
"Patients remaining in the Hospital at 1st October 1845,		257

"Of the 3,535 persons who have received the benefit of the institution during the year which ended on 30th September last, 683 were fever patients, being 2,656 fewer than during the preceding year.

"During the preceding year the total number of patients under treatment in the Royal Infirmary and Fever Hospitals was 6,235, so that there has been a decrease of 2,700 during the last year.

"The daily average number of patients, during the past year, appears to have been 276. The daily average of the preceding year, including those treated in the separate Fever Hospitals, was 455.

"Abstract of the Accounts.

"The revenue during the past year was L.6,856, 14s. 3¾d., and that the expenditure was L.7,810, 8s. 2¼d.; thus showing a balance of expenditure exceeding the revenue, of L.953, 13s. 10½d.; so that it is only by applying a portion of the legacies and donations received during the above period that the Managers have been enabled to provide for the deficiency in the ordinary revenue of the year.

"The managers have continued their exertions to promote economy in the administration of the affairs of the Infirmary in every department, but without

these, head symptoms with convulsions suddenly supervened on the suppression of the diarrhœa by opiates and astringents; and death shortly followed. Post-mortem examination showed evident marks of inflammation of the brain, with effusion. In others, these symptoms were subdued by the treatment above alluded to, and the children eventually recovered.

In conclusion, the author observes that, in the fatal cases, the appearances after death will vary according to the duration of the disease. If the child dies suddenly, great congestion of the vessels (particularly of the veins and sinuses) will be the most remarkable appearance; but if the disease has been of long duration, fluid will be found effused on the surface of the brain and in the ventricles; the intestines being generally found healthy.

Discussion.

Dr J. Webster agreed with the author, that diarrhœa acted in many cases as a salutary effort of nature to relieve the system, and that great caution should be employed in suddenly arresting the complaint; but he dissented from the doctrine, that it was frequently produced by teething. No doubt, irritation of the gums and local complaints were often co-existent in children, but the former did not produce the latter affection, *improper feeding* being more generally the cause. Respecting the treatment, he (Dr Webster) considered the exhibition of astringents and opiates to children so affected, as a dangerous practice; and however general the opinions of the author appeared on this point, the two cases read to the Society were instructive. In the first, catechu was employed, which arrested the diarrhœa, but the little patient died soon afterwards. In the second case, syrup of poppies stopped the purging, but the remedy was not repeated, as it seemed injurious, and the child eventually recovered. Having seen many examples of the disease under discussion, when physician to an Infirmary for Sick Children, he (Dr Webster) could speak with confidence respecting the remedies he had employed; the most useful were, mercury with chalk, rhubarb, and magnesia, especially when combined with minute doses of ipecacuanha and castor oil; and also the strictest regimen. The author advocated strongly the utility of bloodletting, particularly by the repeated application of leeches; he (Dr Webster) differed from him in opinion, and would only employ such active treatment, in recent cases, which exhibited decided symptoms of local congestion and inflammation.

Dr Copland thought that the author was not correct in considering hydrocephalus as the result of the suppression of diarrhœa; he thought the cases described were simply those of congestion of the brain from the sudden arrest of the bowel complaint; and the effusion of serum which took place between the membranes was a mere accidental circumstance, and was small in quantity. This congestion occurred in the more acute cases, and unless subdued quickly, became fatal. When the diarrhœa was of long continuance, the child became anæmic, from being ill nourished. The effusion was then the result of the existing state of the brain, which was softened and anæmiated; the fluid effused merely supplied the place of the blood which was deficient. It was important that these cases should be distinguished, as they required different modes of treatment.

Dr Golding Bird fully corroborated the accuracy and importance of the statements of the author of the paper, regarding the great impropriety of suddenly checking a diarrhœa, occurring more especially in early childhood; but he differed as to the treatment indicated. In the vast majority of cases, infantile diarrhœa was a mere result of some cause active in the system. Excluding unhealthy ingesta, he regarded the functions of the liver and skin as most frequently in fault. The depurating duties of the former organ, which in infancy are hardly second in importance to those of the lungs, are often imperfectly performed, and a vitiated, unhealthy secretion is poured out, which, acting as an irritant, becomes an active cause of a wasting diarrhœa. In such cases, a few grains of mercury and chalk, by goading the liver to an effective performance of its duties, often better relieve the patient than a shopful of astringents. The green or chopped spinach motions, so common in the more severe and ob-

stinate cases of bowel-irritation, too frequently regarded as made up of bile only, had, as he (Dr Bird) believed he had elsewhere proved, been shown to be chiefly composed of modified blood.[1] All, in his opinion, that was required to produce these green stools was a congested condition of the portal system, producing a slow and scanty exudation of blood from the intestines, which being acted upon by acid secretions, becomes altered in colour and general character. Green stools were, in fact, to be regarded as mild melæna.

In these cases, a direct appeal to the function of the skin, by determining blood to the peripheral capillaries, and relieving those of more central organs, constitutes the only effective treatment. The warm bath and ipecacuanha were invaluable; and were often competent to avert the serious and much-dreaded sequelæ of infantile diarrhœa.

Dr Theophilus Thompson alluded to cases of diarrhœa, accompanied by hydrocephalus, but in which neither disease had any connection with the other. The seat of effusion was different from that commonly observed. A child was brought to us with symptoms of meningitis, accompanied by diarrhœa, which, though not averted by remedies, was not sufficient to produce head symptoms. This state was followed by occasional screaming fits and excessive sensitiveness of the surface; the pupils in the early stage of the disease were contracted, but became afterwards dilated. The patient became lethargic, and death ensued. The serum, after death, was not found in the ventricles, but under the arachnoid. The course of this disease differed in many points from hydrocephalus; there was not constipation but diarrhœa, and there were alternations of lethargy and excitement. He thought both the diarrhœa and head affection were independent of each other, and had their origin in some peculiarity of the system. Was it not probable, that this state of the system might be dependent on a granular condition of the kidney?

Mr W. O'Connor.—In children, during the period of dentition, there frequently occur symptoms like to those of hydrocephalus, and when those symptoms—which were only symptomatic of dental irritation—were treated as of cerebral origin, a state of prostration supervened, under which the hydrocephaloid disease noticed by Dr Marshall Hall was induced. The author of the paper made some allusion to the views of Dr Hall, but it was evident he misunderstood or knew nothing of them. Dentition, and the general irritation accompanying dentition, including intestinal irritation, had been noticed, if he (Mr O'Connor) did not mistake, by Dr Marshall Hall, as illustrative of his theory of the reflex function.

Dr Copland said, the discussion was not on the forms and treatment of diarrhœa, but on the connection of this disease with hydrocephalus. He had seen cases similar to those mentioned by Dr T. Thompson; they occurred generally in scrofulous children, and were accompanied by softening of the brain.

Dr Chambers remarked, that one point of practical importance had not been alluded to in the discussion:—he meant the condition of blood which resulted from the absorption of foul secretions which were the cause of diarrhœa. This showed the necessity of clearing away all foul secretions, for, if allowed to remain, they were often the cause of secondary head affections.—*Abridged from the Lancet.*

Two Cases of Disease of the Brain following Ligature of the Carotid Artery. By J. P. Vincent, Esq., Surgeon to St Bartholomew's Hospital.

[Communicated to the Royal Medico-Chirurgical Society of London, 13th January 1846.]

Case 1. James M——, aged 48, in July 1829, was admitted into St Bartholomew's Hospital with an aneurismal tumour under the right ear. It had been forming eight months, and was about the size of a small orange. On July the

[1] Dr Bird's valuable Memoir on the Green Alvine Evacuations of Children was given at p. 133 of the Monthly Journal for February last.

18th, the author tied the common carotid artery. In about an hour and a half after the operation, the patient was discovered to be slightly convulsed on the right side. He afterwards sunk into a state of stupor. He was bled to thirty ounces. After this he became more sensible; he had twitchings of the right side; he was again bled during this and the two succeeding days, and altogether lost eighty-four ounces; his left side became paralyzed; his urine and feces passed off involuntarily; he swallowed with difficulty; and on the 24th he died.

Autopsy.—The veins of the right side of the brain were not so filled as on the left. The substance of the brain on the right side was quite soft and cream-like. There was no deposition of blood in any part, but a little more serum in the ventricles than usual.

CASE 2. On the 9th of April 1845, William B——, aged 28, was admitted into the hospital, having stumbled, a few hours previously, against a door whilst smoking a pipe, which penetrated the tongue anterior to the right tonsil. The patient felt a portion of the pipe in the wound, but was not able to remove it. There was some bleeding, which gradually subsided. The voice was husky. He complained of pain, which was increased on his attempting to swallow, or to open his mouth. On introducing a probe into the wound, no foreign body could be detected. The parts around the wound were greatly swollen. During the next five days the swelling gradually increased, and impeded deglutition. On the morning of the fifth day, his breathing became difficult. On the 16th, hemorrhage took place, to the extent of twenty-four ounces, which was arrested by pressure. The author was sent for, and fearing that if the pressure was remitted the hemorrhage would prove fatal, he proceeded to tie the carotid artery. This could not be accomplished without much difficulty, arising from the swollen and sloughing state of the parts, and from the effusion of pus and blood, and also from the excessive restlessness of the patient. It was observed during the operation, that the patient made violent efforts with his right side, but that he never moved the left extremities. During the night the left extremities were frequently convulsed. His pulse, which had been 132, sunk to 96. During the next two days, the twitchings of the right side and paralysis of the left side continued. bout midnight of the 18th, whilst coughing, about an ounce of arterial blood flowed through the nose and mouth, and from the wound in the neck. He was sensible. On the 21st a fit of coughing, with hemorrhage, to the extent of two or three ounces, from his nose and mouth, terminated his existence.

Autopsy.—The wound in the neck presented a sloughing appearance. At the bifurcation of the carotid, on the right side, there was a large and firm coagulum, in the middle of which was the extremity of the tobacco-pipe, which had penetrated the artery at the point of division into external and internal carotids. The convolutions of the brain on the right side were flattened and softened. On dissecting the brain, irregular-shaped cavities, filled with ash-coloured effusion, with shreds and particles of a greenish hue, were discovered. One of these encroached on the corpus striatum.

The author adds, that if the portion of tobacco-pipe had been detected at the time the patient was brought to the hospital, and withdrawn from the wound, he must have died instantly from the gush of blood that would have taken place, as this body seemed to have plugged the artery. The author understood that a sudden fatal event had occurred under similar circumstances.

DISCUSSION.

Dr Copland remarked, that in most of the cases in which the carotid was tied, hemiplegia, or more partial palsy, ensued. From the great loss of blood which had taken place in the first case, he should have been inclined to combat the symptoms, *with other remedies than the lancet.*

Mr Bransby Cooper thought the quantity of blood taken in the first case was excessive, but Mr Vincent, no doubt, saw good reasons for this proceeding. In the second case, the patient died from the irritation kept up by the tobacco-

pipe, and not from hemorrhage, although twenty-five ounces of blood were lost from the wound in the common carotid, just at its division.

He (Mr Cooper) had tied the common carotid twice; once in a gentleman from Barbadoes, who suffered from an aneurismal tumour near the parotid gland; it was of little inconvenience to him, but he wished to be operated on. Sir B. Brodie recommended the proceeding, as the patient was about to return to a hot climate, where he would be subjected to arterial excitement. Before the operation, the patient was kept low, and blood to a moderate extent abstracted. The operation was followed by no ill consequences whatever; the patient making a complete recovery. In the second case, a ligature was applied to the common carotid, for a wound of one of its branches, inflicted in an attempt at suicide. The patient did well after the operation, which was followed by no cerebral symptoms; but he expired at the end of three weeks, from mental disturbance and irritation in the wound.

Dr George Burrows, in reference to the effect of large depletion in causing disorganization of the brain after ligature of the common carotid, stated, that the conclusion he had arrived at, after referring to a number of cases on record, was, that large blood-lettings, either before or after the operation, were not followed by paralysis. In support of this view, he alluded to several cases in which the artery had been secured, large losses of blood following or preceding the operation. In one of these instances, Mr Preston of Calcutta tied the common carotid for the cure of epilepsy. Bloodletting was resorted to freely, both before and after the operation; there was no subsequent paralysis, and for three months the patient did not suffer from epileptic attacks. In another instance, both the carotids were tied by Dr Hohl of Leipsic; the first operation was for aneurism of one side of the head, resulting from a fall, attended by much hemorrhage. After the first operation, the patient became insensible and convulsed on the opposite side, but eventually recovered; aneurism, however, on the opposite side presented itself, and the corresponding carotid was tied; no bad symptoms resulted, and the patient got well. It was remarkable, that no bad symptoms ensued in those cases in which there was much hemorrhage.

Dr Copland observed, that there was only a word of difference between himself and the last speaker, and that was, the word *excessive*. Bleeding might be requisite to forty or fifty ounces, but not to eighty or ninety.

Mr Bransby Cooper—And also the difference between loss of blood prior to, and following the operation. In Dr Burrows' cases, the bleeding might be considered as preparatory, as it occurred previous to the operation.

Dr Snow said that the convulsive twitchings on the side of the body on which the carotid artery had been tied in these two cases, showed that the operation produced disorder of the opposite side of the brain. The brain did not receive the atmospheric pressure on all sides, but chiefly through its blood-vessels; and it would seem, that when one of the carotids was tied, in some cases, the increased quantity of blood flowing through the other arteries caused a congestion on the other side of the brain proportional to the deficiency of blood on the side of the operation, and that this congestion was the cause of the twitchings in these two cases. He conceived it was for this congestion that the venesection was adopted in the first case, and of course not for the paralysis of the other hemisphere, which resulted from its supply of blood having been cut off, and which caused the paralysis of the other side of the body.

Mr Blizard Curling narrated the case of a sailor, who came under Mr Hamilton, at the London Hospital, in consequence of a penetrating wound of the tongue, produced by a tobacco-pipe. Mr Hamilton probed the wound, and extracted a piece of tobacco-pipe four inches in length; a gush of blood ensued, and the patient sank. On examination, it was found that the tobacco-pipe had traversed the tongue obliquely, penetrated the throat below the left tonsil, and transfixed the jugular vein and carotid artery, to which wound it had acted as a plug, until its removal.

Mr Solly recommended, for the perusal of members, an article by Dr Norman Chevers, in a late number of *Guy's Hospital Reports*, on the subject under discussion.

Mr Arnott said that in cases where tobacco pipes had wounded even the internal carotid, and had been withdrawn, death did not necessarily result. This had been illustrated in a case which had been in the Middlesex Hospital some time since. Two of these pipe cases had come under his observation. A man, smoking and drinking in a public house, went out to make water, and falling forwards, the extremity of his pipe was driven into his mouth. He was brought to the hospital, and it was ascertained that the pipe had penetrated under the tongue, from which situation it projected, and a piece of it, three inches long, was withdrawn. Tumefaction, considerable inflammation, and dyspnœa came on, and the man expired. On examination, another piece of pipe, two inches in length, was discovered deep under the base of the tongue, and the lingual artery was ulcerated. In the second case, a man had met with a similar accident, but the tobacco-pipe had passed into the velum near the right tonsil. A bulging being observable at this point, the surgeon pushed his lancet into the swelling, but failed in detecting the foreign body. Some hours afterwards, the house-surgeon, seeing some substance near the wound, drew it out with his forceps; it was a piece of tobacco-pipe. A quart of blood immediately followed; but the hemorrhage was promptly arrested by placing the thumb on the carotid. This was tied, but hemorrhage recurred; and on the supposition of its being recurrent, it was attempted, but of course without success, to secure the internal carotid, above the injured part. The patient afterwards died, but not of hemorrhage; and as the parts were in a state of decomposition, it was not clearly discoverable, but there was every reason to believe that the wound was of the internal carotid. With regard to palsy resulting from the application of a ligature to the common carotid, in addition to the paper mentioned by Mr Solly, another had been, ten years since, published in the *Lancet*, in which several cases in point were related. Mr Arnott recollected one case in which the carotid was tied in consequence of hemorrhage from a deep wound inflicted under the angle of the jaw; palsy occurred. An "abscess of the brain" was found after death. Individual experience of these cases was insufficient to enable us to speak confidently, but he had always considered, that the disorganization of the brain which ensued in these cases was not the result of excited action, but the consequence of cutting off a supply of so large a quantity of blood, and analogous to mortification, and other changes which sometimes followed in a limb from tying its main artery; and was not therefore to be benefited by the large bleedings advocated by Mr Cooper.—*Abridged from the Lancet.*

PRESBYOPIA OCCURRING SUDDENLY. By the late JAMES HUNTER, M.D., One of the Surgeons to the Eye Dispensary of Edinburgh.*

On the 17th of April 1840, a person from the country brought his son to me that I might examine his eyes. He was a strong well-conditioned-looking boy, eleven years of age, of a nervo-bilious temperament, very active, and fond of out-door sports; but withal a good scholar, and fond of reading. Fifteen days before I saw him, he was at school, and in his usual health; but about seven o'clock at night, when he set to prepare his next day's tasks, he found he could not read common-sized book type, nor distinguish accurately any very small and near object. There was no pain, nor any apparent symptom of disease in either eye, both of which were equally affected. His general health was unimpaired, and he had not received any injury of the eyes, or of any other part. During the two following days, the sight became rather worse; but from that time till I saw him, it had been quite stationary. Excepting the administration of some laxatives, no treatment had been adopted. Previously to the invasion of this attack, his sight had been extremely good, and he had never before experienced any similar affection, nor been subject to fits or other ner-

* An Obituary Notice of Dr Hunter appeared in the MONTHLY JOURNAL for 1841, page 461.

vous diseases, although his father described him as of a very excitable disposition, nor had he been troubled with intestinal worms, at least since infancy.

The eyes appeared perfectly healthy in every respect; in particular, the prominence of the cornea, the shape, size, and motions of the pupil and iris, the size and configuration of the images of a lighted taper reflected by the cornea, and the surfaces of the lens, were perfectly normal, as far as could be judged by a careful examination. The only complaint was the inability to read common-sized print, or to see minute and near objects; for distant ones he thought were as distinct as ever, but I afterwards ascertained that his distant vision was very slightly affected. To ascertain the state of his sight, I gave him a printer's specimen-sheet, containing a series of paragraphs in all the various sizes of book type, from "English" to "Nonpareil", and the smallest "Diamond." He could read the "English" type, though not very fluently, and saw it best at 11 inches from his eye. Of the paragraph printed in "Pica No. 1" he could make out a word here and there. The paragraph "Pica No. 2" was almost quite illegible, and the smaller sizes of type could not be read at all. Directing his attention to a dark green stable-door in my back garden, he could distinguish the key-hole, which was 2 inches long by $\frac{5}{8}$ of an inch wide, the distance being 71 feet; but he could not see some black iron spikes about 7 inches long and probably $\frac{1}{4}$ to $\frac{1}{3}$ of an inch in thickness, in a dovecot at a distance of nearly 78 feet; but which, even to a good eye, were not very perceptible, from their being in contrast with a slated roof. The power of the two eyes seemed to be perfectly equal. In order to know the effect of different kinds of glasses, I first gave him *concave* spectacles of different foci, but they rendered his sight much less distinct. I then tried him with *convex* ones, beginning with a pair of 12 inches focus. These improved his sight very much, so that he could read any size of type, from the largest to "Brevier No. 1" inclusive. With a pair of 10 inches focus he could read "Minion No. 1." With a pair of 9 inches he could read "Nonpareil No. 2," and even a few words of a still smaller type, "Diamond," though with difficulty. With glasses of 8 inches focus he saw better; but with those 7 inches focus he saw better still, and could distinguish the smallest type I could procure. Still he could not count a series of black spots, 0·007 of an inch in diameter, placed on a white ground, without using a glass of 6 inches focus, and with this again he could not see ordinary sized type so distinctly as with glasses of 9 inches focus.

When he looked at a distant object through any of the above-mentioned glasses, it appeared less distinct. With convex spectacles of 14 inches focus, objects at 19 feet were seen very distinctly, but at a greater distance, as from 80 to 150 feet, he saw best with glasses of from 16 to 20 inches focus. When his eyes were fitted with convex spectacles of a focus best suited to the size of any one near object, the point of most distinct vision was at the distance of 12 inches; but 6 inches nearer, or 10 inches farther off than this, vision became very indistinct. With the naked eye he could not see to read "English" at less than $5\frac{1}{4}$ inches, or beyond 19 inches, and then only imperfectly, the range of distinct vision being from 8 to 17 inches; whereas an eye whose power of accommodation is unimpaired can read the same type, though with difficulty, at any distance from $3\frac{1}{2}$ to 85 inches, and quite easily from 5 to 43 inches; thus proving that the eye of a healthy person in the prime of life has a mean power of accommodation to distances from 5 to 6 times greater than was possessed by the patient.

From the favourable term of my former similar case, I resolved to adopt an expectant treatment, after first of all administering some anthelmintic remedy, with the view of ascertaining if the patient was infested with intestinal worms. I therefore recommended that the boy should get two doses of a mixture of ol. terebinth. and castor oil; that his evacuations should be carefully examined; and that if no worms were found, he should be kept from school, made to take active out-door exercise, with a rather spare diet. I strictly prohibited the use of spectacles on any account, as being very likely to confirm the disease, whilst,

if it should become a permanent affection, they could always be resorted to. Along with this regimen, I prescribed a weak solution of sulphate of quinine with compound tincture of valerian to be taken twice a-day, more as a *placebo* than with the hope of any specific benefit from its action; and at the same time I gave a favourable prognosis, and warned his friends that the cure might probably be tedious.

I heard nothing more of this case from the 17th April to the 26th June, when I had a letter from his father, informing me that the castor oil and turpentine were administered twice according to my directions, and had acted powerfully as a purgative, but that there was no appearance of worms in the evacuations; after that, he had rigidly pursued the regimen and taken the medicine I had prescribed, without any apparent benefit, till about the last week of May, when the sight began to improve.

This improvement increased daily, and in about ten days after, the eyes were as well as ever, and the boy had returned to school, where he had been for three weeks without any recurrence of the disease.—*Northern Journal of Medicine*, May 1845.

SUFFOCATION IN AN INFANT, FROM RETRACTION OF THE BASE OF THE TONGUE, CONNECTED WITH DEFECT OF THE FRENUM. By P. FAIRBAIRN, M.D.

Mrs H., aged 35, a stout robust woman, was delivered of her fourth child, a female, at the full period, on the 6th of May 1844. Her labour was natural, but rather protracted. In her former confinements she had severe and protracted labours; the children being very large. Her first boy weighed fourteen pounds avoirdupois; her second thirteen pounds; her third twelve and a-half pounds; and the subject of the present notice was twelve pounds. She was seized with pains on Sabbath about bedtime, and was delivered on Monday about eleven o'clock at night. The placenta separated and was removed shortly after the birth of the child. The baby was large and apparently healthy; it cried lustily. The face presented a peculiar conformation; the superior part projected forwards, and gave a sharp appearance to the countenance; while the lower part was much depressed, the chin presenting a small flattened surface, instead of the rounded and projecting natural form; the expression of the countenance was similar to that observed in individuals who have had the body of the lower jaw excised. From a case somewhat similar, which occurred to me some years before, I suspected that there was malformation about the throat; and, on looking into the mouth, detected a fissure in the soft palate, which allowed the posterior nares and the vomer to be seen; the alveolar processes of the lower jaw were opposed to the back part of the hard palate above; and the tongue, which appeared short, and thick at its root, lay posterior to the palate, the apex alone projecting. On dropping a little sugar and water into the mouth cautiously, it was readily swallowed; but whenever it was given in any quantity it got into the nares and produced much irritation, with cough, and a sense of suffocation. A tea-spoonful of castor-oil was administered on the Tuesday, with a little sugar and water, which acted upon the bowels. Early on Wednesday morning an attempt was made to apply her to the breast, but it was found that she could not suck. Shortly after this, her breathing became oppressed and irregular, with occasional heavy sighing. On my visit in the forenoon, I was particularly struck with the change; and on examining the body of the child I found that the face and extremities had assumed a purplish tint; the heart was beating irregularly and tumultuously; my little patient lay in a state of profound sleep, from which she could not be roused. I then supposed that there must be some malformation of the heart to account for the change which had supervened. The child died at two o'clock P.M., on the 8th of May, without any apparent struggle. Some time before death, a little sack-whey was dropped into the mouth, but she could not swallow.

Sectio Cadaveris.—On opening the mouth, the posterior nares, the posterior border of the vomer, the upper wall of the pharnyx, and the inferior apertures of the Eustachian tubes were readily seen; the anterior surface of the lower

jaw lay posterior to the hard palate in the closed condition of the mouth; the soft palate was almost entirely deficient; the tongue was short and thick, retracted into the cavity of the pharynx, its convex dorsal surface resting upon the posterior wall of that cavity, and its base pressed upon the epiglottis and arytenoid cartilages, so as completely to obstruct the entrance of air into the larnyx; the apex alone could be seen on looking into the mouth, while the jaw was forcibly depressed. Towards the apex, the margins were rolled inwards and upwards, so that the anterior part presented a deep furrow superiorly. The frenum appeared to be wanting, or was so slightly developed as not to bind down the lower surface of the tongue to the usual amount. The lower jaw was nearly flattened, forming a small segment of a circle, with a greater diameter than that of which a naturally formed jaw is a segment. The following measurements were made of this jaw, and of a normally formed jaw of the same period.

Breadth between the angles, including the thickness of the bone on both sides in a natural jaw, ... 2 inches
Breadth between the angles, including the thickness of the bone on both sides in a deformed jaw, ... 2⅜ ...
Depth of the arch, including thickness of bone in a natural jaw, 1⅛ ...
Depth of the arch, bone not included, ... 1 1/10 ...
Depth of the arch, including the bone in deformed jaw, . ¾ ...
Depth of the arch, bone excluded in deformed jaw, . . ⅝ ...

The rami were somewhat smaller and less oblique; there was no malformation of the heart or other viscus; but the thoracic viscera presented the usual appearances in those dying from asphyxia.

Mrs M'A. was safely delivered of a boy, her fourth child, on the 6th October 1839; the labour was natural, but slightly protracted. The face of the child presented a peculiar conformation; the upper part was prominent, while the region of the chin was much depressed: this arose from the flattening of the lower jaw, the upper projecting considerably beyond it. A little sugar and water was dropped into the mouth, which was swallowed, but when given in any quantity it caused considerable irritation, sometimes passing out at the nostrils, producing sneezing, coughing, and a sense of suffocation. On looking into the mouth, a cleft was seen in the soft palate with a bifid uvula; the posterior borders of the palate bones formed an acute angle in the mesial line. From this malformation it was found that it could not suck. I directed that he should be nourished by dropping into his mouth cautiously milk procured from a wet nurse. The milk thus obtained was rather old, and being diluted with water did not nourish the child. His bowels became irregular, and he had an attack of convulsions: these ceased on getting his bowels into a better condition with the use of the warm bath and cold applications to his head. I suggested the trial of ass's milk, which was procured and regularly given him; he continued to thrive well, and became a fine healthy child.

About the third month, he began to suck the thumb of the left hand, the palmar surface being carefully applied to the deficiency of space in the soft palate, whilst the fore and middle fingers were applied to the left side of the nose. This showed a very remarkable and striking provision of nature, by which the defect was remedied, and he was enabled to take in his nourishment and swallow with perfect safety, without any feeling of irritation in the nostrils or sense of choking. His food was given him with a spoon, or more frequently with a bottle furnished with a teat, which was conveyed by the side of the thumb into the mouth, and allowed to be sucked in. When he felt hunger, he never failed to apply his thumb and commence sucking. During the whole period of infancy, great care was necessary in the preparation of his food; it consisted of ass's milk, smooth gruel, arrow-root, and other farinaceous substances reduced to a pulp. He continued in this way until he began to feed himself about his second year, when the use of the thumb was discontinued; however, if at any time he was incautious in taking too much food into his mouth, or swallowing hurriedly, instantly a sense of choking would supervene, the face would get livid, and to

all appearance he would seem as on the eve of being attacked by convulsions. After birth he was not permitted to get out into the air for six months; he suffered much from sniffers, being particularly liable to attacks of cold from the slightest exposure even within doors, and had a constant discharge of saliva from the mouth. He is now five years of age; there is a considerable defect in his speech, and what he says has a decided nasal tone. The family know every word he says, unless he speaks rapidly. His faculties are equal if not superior to those of any boy of his age; he sings well, and is highly musical.

REMARKS.—The cases related present a striking similarity in their general features, while the results proved very different. This may be accounted for from the malformation exhibiting nearly the same characters in both cases, with the exception of the inferior maxilla of the one being less depressed, and somewhat more angular than the other, and also from the defective condition of the frenum, so that the tongue was retracted and the upper part of its root covered the rima glottidis, which obstructed the passage of the air and caused death. In surgical operations about the throat, accidents of the kind are apt to happen; great care is therefore necessary, should there be any threatening of the accident, to secure the tongue by ligature to some adjacent part. Were a similar case ever to occur to me again, I would never hesitate to transfix the apex of the tongue, and to attach it by ligature to the gum of the lower jaw. M. Petit details a case where the frenum had been divided shortly after birth, and the child died five hours afterwards. He says, "I found it turned like a valve upon the fauces, and the point actually swallowed into the pharynx." Another case is mentioned by the same author, where the frenum had been incised two hours after birth, and where the apex of the tongue had been reversed, but not entirely swallowed. M. Petit introduced his finger, and brought it back into the mouth. On the child attempting to suck, it was again swallowed. Several times he reduced it, and at last contrived a bandage to preserve it in its place; but from the carelessness of the nurse the accident recurred, and the child was suffocated during the night.—*Northern Journal of Medicine, March* 1845.

INSANITY COMPLICATED WITH GENERAL PARALYSIS:—DESCRIPTION OF THE COMPLICATION.—[CLINICAL LECTURE.]—By JOHN CONOLLY, M.D.

This remarkable affection was probably called General Paralysis, in consequence of its character not being to affect one side of the body, or one limb, or the lower limbs only, or the tongue only, or to distort the face, or to draw the tongue to one side; but gradually, especially, and almost always in a certain order, to invade the whole voluntary muscular system. If not previously unnoticed, it was certainly only first distinctly described in 1826, in the works of MM. Bayle and Calmeil. The admirable monograph of M. Calmeil on this subject ought to have been translated, and deserves to be carefully perused by every practitioner interested in this class of cases.

The first symptoms of this complicated malady are often slight, and somewhat variable; and it is difficult in many cases to ascertain when, or in what manner it really commenced. M. Calmeil thinks the paralytic state sometimes precedes the mental aberration; but of this I have never seen an example. When the patient comes to the asylum, or becomes sufficiently ill to cause his medical adviser to be consulted, it is usually, I think even invariably, the mental peculiarity that has excited anxiety, the bodily malady not having attracted notice. Something has been observed in the manners and habits of the patient, differing from his usual manners and habits; perhaps a striking change in some particulars, or only a kind of exaggeration of the natural character in others. In the higher ranks, these peculiarities may be, a disposition in the patient to take more exercise than usual, to drink more wine, to expose himself more heedlessly to cold; he is disposed to exaggerate the value of his property, or to think more about money; or to take an unwonted interest in trifles, talking with unaccustomed energy, or arguing with unusual vehemence. Men

of business and tradesmen become sanguine, speculative, talk of large sums of money, and neglect a prudent attention to the means of acquiring moderate profits; they make foolish purchases, and sell inconsiderately, believing that they are making a fortune; and sometimes fancy the property of others to be their own, and pass to the asylum through the hands of the police. Perhaps none of these incipient symptoms are observed every day; but on some days only; and there are better days, in which the anxiety and fears of the relatives are allayed. Alternations of good and bad symptoms may continue long, and give rise to hopes which the physician alone knows to be delusive. Even the physician frequently partakes of this hope, because few physicians often see the malady. The patient perhaps looks well, and is extremely cheerful; but a peculiar tremor is observable about the angles of the mouth, and a slight tardiness of articulation. It may seem strange to you to be told, that these few symptoms are, in such combination, ominous in their character, and indicate a hopeless and fatal malady.

Although you may be ever so positively assured, before you see a patient thus affected, that he has not the slightest symptom of paralysis, if you find these symptoms, you may as positively conclude, that the worst form of paralysis has already commenced. To an ear practised in such sounds, the first few words uttered by the patient reveal the exact character of his malady. There is a little trembling, and a kind of imperfect obedience of the lips to the will; and the speech is rather hesitating than stammering; a kind of delay or lingering between the syllables being its chief characteristic. The intervals both between the syllables and the words are increased, and this imperfection is contrasted with an earnest, joyous manner, together with a slight expression of fatuity. If you ask the patient to let you see his tongue, you will find, that although it is not drawn to one side, or moved from side to side, it is protruded, and kept protruded, by small successive efforts, and, in old cases, with much difficulty and repeated attempts. At an early period, this sign may be wanting, although if the patient, even then, tries to keep the tongue protruded for a few seconds, it becomes tremulous, and you will see that continued protrusion is accomplished in the same way.

When there is an extension of the paralysis, it is usually next observed in the lower limbs. If you ask the patient, if he can walk well, he answers, "Oh, yes; quite well;" and jumps up and sets off with great alacrity. But you may discern an imperfect movement of the legs, a certain appearance of awkwardness and heaviness, or, perhaps, a planting of the feet more apart in walking, as if there were some little difficulty in balancing the body successively on each knee. The hands are sometimes tremulous, and the patient is observed to lose his manual dexterity; or his handwriting has become much altered. As the hands are less often employed, the infirmity of the legs always attracts the most attention; but the hands are soon observed to tremble when exerted, and to have become feeble. Meantime, the patient makes no complaint of any kind; he even tells you that he is in particularly good health, and much stronger than he used to be. Perhaps he adds, that he has just been appointed to the command of the army, and is to have a million a-year. The mental delusion may be very great, and the paralytic appearances slight. Or in those who have led regular lives, or who have always been of a tranquil disposition, the mental malady has rather the character of that loss of power which accompanies old age; but with the addition of delusions not always present in natural decline. The mental delusions may, in all cases, lead to occasional fits of irritability, or of extreme restlessness and excitement; the patient declaring that his presence is urgently required somewhere, and manifesting the greatest anger and violence when he finds his wishes opposed. He accuses those about him of injuring his prospects, and obstructing his advancement; and it is very difficult to pacify him, or to prevent his escape by the door or the window.

We almost always hear from the friends that the patient became extravagant, sanguine, boastful, or intemperate, contrary to his usual habits; and on this state they often describe as having supervened some kind of convulsive fit, after which, the patient became evidently insane. In many cases, no convulsive fit

has been observed, but the patients have now and then cried out suddenly, perhaps in the night-time, without known cause. The mental malady, and its paralytic complication, may rest in the early stages for a long period, particularly in persons previously healthy; the mind, with proper treatment, becoming calmer and even clearer, than when treatment seemed first to be required; but the peculiar character of the mind, its exaltation and its feebleness, and the significant speech, are never removed; and whatever fair prospect seems to arise, is still delusive.

The progress of the malady is *uncertain in all but its result.* After a considerable truce, a rapid deterioration is perhaps perceived, preceded, probably, by an attack of giddiness, or by a flushed face, with some excitement, some confusion, and some additional tremor, such symptoms lasting a day or two, and leaving the poor patient evidently further damaged. In other instances, epileptiform attacks supervene, which I had never observed until I lived among the insane, although Esquirol notices the circumstance of such convulsions in connexion with paralysis; and his description nearly accords with the form of malady to which M. Calmeil gave the name of general paralysis. After such epileptiform seizures, the patient's state is always found to have undergone considerable deterioration. If these disturbing accidents do not occur, a very slow change for the worse takes place; the mind becomes weaker, and the body more helpless; but nutrition goes on well for a long time, and the effects of good food, and warmth, and care, and cleanliness, and kindness, are quite remarkable, prolonging life even for years, the patient becoming fat, and passing his days in a state of perfect mental satisfaction.

In a patient not long since admitted, P. L., the power over the sphincters, which appeared to be lost, had been recovered since admission, affording a proof of what care will effect in apparently hopeless cases. He is only thirty-two years of age, and his physical and mental state has improved; but the result mentioned is probably to be ascribed to the improved condition of his mental faculties, for muscles truly paralyzed seldom recover their power. Intemperance was assigned as the cause of the malady in this case, and the patient was said to have been insane only three months.

All through the course of this malady, one of the most curious circumstances is the perfectly happy state of the patients. I have known very few exceptions. They speak of themselves as gaining strength, and as having had all their worldly business arranged quite comfortably. Reduced to poverty, with their families in the workhouse, they observe that we shall be glad to hear that their affairs have been wound up so well as to leave them a very good income. The placid happiness of some of them might even be envied by the healthy. Others are more excited; their houses are described as vast and magnificent; their carriages are the most elegant, their horses are matchless; they are people of Royal lineage, and have hundreds of thousands in the Bank of England. When unable, at length, to walk without help, or even rise from a chair, they exult in their strength, and long to compete in the race with the swift, or to contend in the ring with the strong. Their accomplishments are equally great and various. Only a few weeks ago J. P., who is now lying in a padded room, unconscious and scarcely able to move, tottered up towards me by the fire-place, in the male infirmary, and with imperfect speech, but with the grave and deliberate air of one making an important communication, told me that he was the finest singer in the world; that he meant to marry an equally gifted lady, and after converting her to Catholicism, to commence a public career. His own voice, he assured me, was precisely that of Braham—hers, that of Malibran; and that he should call on all the nobility, and give ten per cent. of all that he made to the poor. All this, and more, he uttered quietly and slowly, begging me to understand that this was "no wild scheme, but fact."

This state of complacency causes an entire disregard of their real affairs, their property, or their business, and often an almost complete indifference to their relatives and friends, and all domestic and social relations. It seems to be partly the result of a physical condition free from uneasy sensations; the appetite being good, the bowels not generally disordered, and what is remarkable in

relation to the appearances after death, the ordinary senses not being impaired; there being neither loss of sight nor strabismus, nor affection of the hearing. The appearance of the tongue, and the state of respiration, indicate no disorder. In the earlier stages, the pulse is very little affected; being only feeble and rather quick, as in other forms of insanity; but in the advanced stages it varies more from day to day, and is sometimes 140. Sometimes the pupils are dilated; and in some instances the patients suffer from a feeling of general debility; but upon the whole, they seem to be protected by the nature of this malady from all ordinary mental or physical discomfort. It seems as if all sexual feelings were early extinguished; as well as all care, ambition, rivalry, and other disturbing influences. Fits of impatience occur, but under proper management, soon subside. The sphincters lose their power, or the mental infirmity leads to a neglect of cleanliness assigned to that cause; but the patient seems unconscious of any distress; he cannot walk, but he never complains; every function gradually grows weaker, but he never seems to imagine that he is seriously ill. In some protracted cases, the hands and feet, or the knees, become bent and contracted, particularly, I think, where women are the subjects of the malady; but the patient never refers to the inconvenience that results from this; and gangrenous ulcerations take place in parts pressed upon, or where no pressure exists, as on the top of the feet, healing and breaking out in succession, which yet rarely produce any suffering. To daily inquiries about the health, the patient's answer is, almost uniformly, "quite well."

Nothing struck me so much, when I first saw these cases at Charenton, in 1827, as the contrast between the joyous manner of the patients and their utter helplessness; and I still remember a poor creature, unable to rise from his chair, who, on being asked how he was, replied, after a short pause, with all the emphasis of his nation, "*content.*" The senses become at last duller, and the patient weaker; he does not recognise those about him; but he sinks as from the mere decline of old age, with some of its irritability, but exempt in almost every case, even from the first, from all other perturbations.

Some exceptions, however, there are, in which the patients weep and are distressed, and others in which paroxysms of restlessness and excitement come on, and the patient runs wildly about, if able to do so, laughing, crying, complaining, exulting, and urgently begging to be allowed to go home. An intolerable sense of heat, or a morbid coldness, forms the occasional torment of others, and they all bear extremes of temperature with difficulty. Even when moribund, a painful state of restlessness is now and then observed, and death, in some cases, is preceded by a series of convulsive attacks, and subsultus of one side of the body, or of both sides, continuing for days.

When going round the asylum this morning, you had opportunities of seeing examples of all the stages of this malady. You would observe, that whilst I pointed out many cases of it to your notice on the male side, there were but two or three shown to you among the female patients, the malady being far more frequent in men than in women. But some examples were found on the female side of the house. M. C——, a stout good-humoured woman, who spoke to us in the kitchen, and expressed herself so confidently about going home to her friends, is in the first stage of the malady. She is twenty-eight years of age, a widow, and has been a cook. No cause is assigned either for her mental or bodily illness. She became insane about seven months since, (1844); has some delusions about possessing property, is always very quiet and orderly, and is actively and usefully employed, sometimes in the kitchen, and sometimes in the bakehouse. At present, her walking is just perceptibly affected, but when she speaks, you distinctly observe a tremor of her lips and about the angles of her mouth; she protrudes her tongue by several little efforts, and her delayed words and syllables betray the first indications of a malady which will surely proceed to the worst consequences. Even now, she is occasionally confused and awkward in her work, and by and bye she will become unable to move about, and probably linger long in a helpless state. (Within a year she became unable to walk, but she is yet living, lying always in bed; frequent gangrenous ulcerations appearing and healing; her speech very tremulous, the motion of

her hands very unsteady; but she is still cheerful, hopeful, and looking well. Her malady has now lasted three years—1846.) In the male ward, No. 11, you noticed a stout, fresh-coloured Irishman, T. C——, who has only been with us three months, (1843.) He showed, on admission, the incipient symptoms of the malady. He is a labourer, thirty-five years of age, and reported to have been only four months insane. His mind is full of ideas of grandeur: he is the Duke of Stratford, in Essex, near to which place he was employed. He says he has chests of money, hundreds, thousands, millions; but says, at the same time, that he is only a labourer at the docks. His speech is lingering; the legs are little affected, but from his appearance it is probable that his disorder will make a rapid progress. (He died within a year from the time of his admission.)

In ward No. 9, T. S——, a good-looking man, of very respectable appearance, also manifests the earliest symptoms of the malady: he talks confidently of his property, and is anxious to go and look after it. He is stout, and his complexion is good; his age is only forty-five, and he has been two years insane; but you may detect, in the motion of his lips, the signs I have already spoken of; and when he walks, you see a kind of stiffness in the lower limbs; and the same may be observed of a tall young man, in ward No. 8, T. M——, whose age is only twenty-two. A further progress of the disorder is exemplified in J. H——, in the male infirmary; he is thirty years of age, has been insane two years, and was affected with general paralysis on admission three months ago. He looks fat and comfortable, and is very busily employed as a helper; but his gait is unsteady; his feet are planted wide apart in walking; there is very little flexure of the knee-joints. He speaks with much hesitation, and much trembling of the muscles about the mouth, and his tongue is protruded with difficulty; but whenever you ask him how he does, his answer is, "quite well." In a year and a-half afterwards, (1845,) he became rather suddenly worse, emaciated, feeble, scarcely able to walk or to speak, and sunk rapidly.

The symptoms of this combination of insanity and general paralysis are in its middle stages so nearly the same, that I need not dwell on the numerous cases of which the impression must be fresh in your memory. In all of them you noticed the cheerful countenance, the hearty manner, the trembling speech, the tottering walk. It is by no means improbable that you may note changes in some of these cases before your visits to the asylum are concluded; for great alterations for the worse often occur rather suddenly in them; and the change is perceptible in all that the patient says and does: the lively expression of countenance becomes lost, the mind is oppressed and confused, and activity grievously diminished. In a great proportion of the cases I believe life is extinguished within two years from the appearance of the malady; but we have some patients who have survived four or five years.

There is in the male infirmary a patient now fast sinking under the malady, but who has survived its first appearance nearly six years. This patient, R. L——, was admitted to Hanwell in 1840, having been previously at Bethlem; he was said to have been only six months insane, and slight symptoms of general paralysis were already established. In successive years his state has curiously illustrated the gradual advance of the disorder in a man of naturally robust constitution, and in the prime of life. When admitted, he was forty years of age: he had been a clerk in a public office, and had lived freely and gaily. He appears to have inherited a predisposition to insanity, and he has a brother who is insane. A blow on the head was received some years ago, which is thought to have brought on his malady. For a year after his admission he was generally lively, talking and often singing vociferously; he was then also active, prone to mischief, and subject to sudden fits of violent passion; but at times he conversed rationally, and frequently made witty observations. His state then began to change for the worse; he became dirty in his habits, and tore up his clothes and bedding; his speech about the same time became more imperfect, and his mode of walking unsteady. He was seen in this state when I gave the first course of clinical lectures in the asylum (1842); being indeed then scarcely able to support himself on his legs. At that time he had also a propensity to chew and swallow pieces of his torn clothing, and we were obliged

to put on him a dress made of ticking, which he could not easily tear. Although he walked with extreme difficulty, he was fond of putting pebbles, broken earthenware, crusts of bread, bits of wood, or anything else which he could find, into his shoes or into his stockings. His head is large and bald, and at that time both his face and head were generally red from excitement. In a few months after that time, the disorder seemed to have made rapid progress. He had become almost unable to walk; and he moved with difficulty from one chair to another. He had lost his liveliness; his wit had left him; he made no more attempts to sing. After that there was a truce, of the kind so often observed in this complication, but of longer continuance than usual; for when the lectures were given in 1844, he had become more lively, although very feeble: his state was indeed more comfortable than at first, for he was less irritable, and usually highly contented, sometimes still inclined to be jocose. Although scarcely able to rise from his chair, he boasted of possessing extraordinary strength and courage; and exultingly said, that his father was a cooper at the place where they lived in the country, but was George the Fourth when in London. At irregular intervals of a few months, he had fits of confusion and bewilderment, lasting for a few days, in which he seemed to have become slightly more paralyzed: he still knew everybody, and could amuse himself with a newspaper, and had sometimes a disposition to talk, and related some of his past adventures with considerable glee. From that time there has been a gradual decline both of mental and bodily power: he talks little; he cannot walk at all; and he cannot feed himself: his vivacity is quite gone; he scarcely recognises any of us: but still, when asked how he is, he summons all his strength to make his old hearty reply of "quite well."

You here see the last stage of this malady, and it consists of a mere aggravation of the symptoms of the first: there is no contraction of the hands or feet, or deafness or blindness, but simply a general loss of power. The patient died in August, 1845, without pain or apparent suffering of any kind. All the stages, which have required years for their evolution in this case are, in other instances, run rapidly through in a little more than a year. A female patient was admitted in December, 1839, E. W——, only thirty years of age, married, and reported to have been insane one year: she was already slightly paralyzed. No cause of the insanity was assigned. In a month or two she became highly excited, but spoke with difficulty; she ran violently about, and followed us as well as she could through the ward, always exclaiming that she was going to be married to the most beautiful young man in the world, who was excessively rich, and had sent her all kinds of fine clothes, and had given her the most beautiful rings. After a time, these ecstasies were succeeded by total silence, which was preserved until she died in April 1841.

As the addition of general paralysis to insanity seems to constitute one of the many diseases which, when once established, are incurable, the best advice to give the student concerning it is, that he should do what physicians are beginning to do with respect to many of the affections they are compelled to acknowledge as incurable, and what mankind will in time be wise enough to do in relation to all diseases—namely, to endeavour to find out the cause of this calamitous complication, with a view to guarding patients from its invasion. There are several peculiarities of character about it, which may assist the investigation of its origin. It is far more common in men, than in women. It is far more common in societies of nations of great cultivation, activity, and enterprise, than in others; and, apparently, more common in temperate, than in cold or hot climates. It seems more frequently to affect well developed than ill developed brains; and although epileptiform seizures supervene upon it, it does not appear among the epileptic. Lastly, although the condition of the brain is in some degree that of chronic hydrocephalus in most of the cases, the ordinary senses are not impaired. Some of these circumstances have attracted attention in different countries; and others have offered themselves to my own observation, in the course of a somewhat careful notice of a malady always, for several years past, before me.

Its greater frequency among men than women seems to be observed wher-

ever the malady has been recognised. Out of 500 female patients, M. Calmeil only reports ten cases of general paralysis; but out of 1,200 men, he reports 80 cases; being in the proportion of one to fifteen in men, and only one to fifty in women. In this asylum, we have at this time about thirty-two cases of it among 400 male patients; and not more than four or five women affected with it out of 560 cases. It seems to me remarkable, also, that I have never myself met with a case of it in a female patient, except in the poorer classes; whereas I have seen several examples of it in men of the higher ranks and in professional men. In England, in France, in Belgium, in Germany, and perhaps generally in the north of Europe, it is met with in every asylum. Throughout Italy, according to the observations made by Dr Guislain of Ghent, in his instructive Medical Letters on Italy, it is extremely rare, although inflammatory affections of all kinds are common; and it has been ascribed to mere inflammation by some of the Continental physicians. At the celebrated asylum of Aversa, containing 360 patients, it has seldom been observed; although intemperance is acknowledged there, as a frequent cause of insanity, and has in our own country been most erroneously considered to be the general cause of the combination of insanity with general paralysis. M. Guislain found it to be rarely met with in the asylum at Florence, containing 300 patients; and the same was remarked at Turin and Milan. In the asylum at Genoa, containing 270 patients, he found no example of it. M. Guislain's mode of accounting for its greater frequency in the north of Europe is, by supposing it to depend on the same disposition which, in his opinion, makes it more frequent in men than in women—"a more humoral, serous, lymphatic, sanguine" temperament, and a more "humid, albuminous" encephalic character.

I have sometimes thought I saw reason to conclude, that general paralysis was most frequent in those cases of insanity which arose from what are vaguely termed moral causes, meaning violent impressions made on the mind, disturbing the sentiments and affections, and often leading to mis-government of the propensities. I think a cause of this kind has existed in several cases seen by myself in the asylum and in private practice; and it is frequently assigned in the histories of the cases given by M. Calmeil. Losses at play, disappointment of ambitious expectations, irregular habits of life, anxiety in business, loss of relatives, sudden reverses, are among the causes of this kind often assigned in his work. These causes may in some cases, and more in some countries than in others, become associated with intemperance; but I have found a very small proportion of cases, in any class of life, in which this has existed; and I am equally doubtful of the malady originating in sexual excesses. All men are more or less actively virtuous, or prone to faults, in different states of health, and at different periods of life; and the moral aberrations unexpectedly appearing in persons previously of regular life and moral habits may generally be suspected of having their origin in some change taking place in the brain.

I have seen several examples of insanity and general paralysis appearing in men between forty and fifty years of age, men of education and high character, never guilty of excess of any kind. In all of these, some modification of the character first attracted notice; and in three remarkable cases no probable cause could be assigned, excepting severe falls on the head sustained some years before. An hereditary tendency to cerebral malady clearly existed in one of these cases only; and in a malady only accurately observed for twenty years, materials for deciding on its hereditary character are scarcely yet possessed. In one case, in which no cause of this kind could be recollected, and no other cause, accidental or hereditary, two violent mental shocks had been sustained—one in consequence of the patient having been aroused in the night by the house being on fire; and one, a few months before that event, on seeing a child with its clothes in flames on the bank of a river opposite to his house, on which occasion he rowed across, calling to the child to throw itself into the water, which it did. He took it out of the river himself, but the child died soon afterwards; and this accident produced a very painful impression on the patient's mind.

In the humbler classes of life, I have met with cases which appeared to have

ensued on loss of work, or on some fluctuation of affairs affecting particular employments.

My observation in this asylum and in private practice has convinced me, that in almost every case in which this form of paralysis is complicated with insanity, the head is well developed. A defective form of the head is very general among the insane; a want of symmetry in the two sides of the head, great narrowness, or breadth and great flatness at the top or behind the head, and other malformations, are frequent; but there is also a form of the head which unquestionably, in various degrees, exists with, and characterises a great majority of the insane, and of those disposed to various forms of mental disorder. A deficient development of the forehead, especially of the upper portion of it, and a large occiput, surmounted by a high vertex inclining backward, is a general description of this peculiar form. A reference to the partitions of the phrenologists may enable you more clearly to understand, that the whole of that part of the head in which they have placed the organs of eventuality, time, wit, causality, comparison, wonder, imitation, benevolence, hope, and veneration, is especially defective, and the portions assigned as the seat of firmness and self-esteem are largely developed, and the occiput generally, whilst the sides of the head are somewhat flattened. But it is not in these heads that the peculiar complication of insanity and general paralysis usually takes place. In the greater number of such heads, mania, with or without delusions, soon passes into an almost constant state of imbecility or dementia, with occasional violence. But in the subjects of general paralysis, together with a better formed head, a greater portion of sense and understanding long survives, and only yields at last to the general debility, which spares no function, mental or corporeal.

The Causes of this distinct form of malady are, it must be confessed, obscure; and I cannot think that we are much assisted in the investigation of them, by the appearances found in the brain after death. These appearances, in the cases examined here, have been somewhat uniform, and they agree with what I have found in a few cases examined elsewhere. In five cases lately inspected after death, all cases of a few years' duration, in men of middle age, the cerebral vessels were full of dark-coloured blood, the substance of the brain was remarkably firm; the arachnoid membrane was thickened throughout, and especially in the ventricles and septum, where it had an almost flocculent appearance; and the ventricles were quite filled with serum. In one of these cases there was also much lymph beneath the arachnoid, over both sides of the brain; in the others, merely a milky effusion. Precisely the same appearances have been reported to me in three other cases. In another, a male patient, sixty years of age, there was milky effusion beneath the arachnoid, and the ventricles were full of serum, but the brain was not unusually firm; and in this case the cerebral arteries were dotted with atheromatous deposits, or points not so hard as to be termed osseous. There was also atrophy of the cineritious matter, which was in some parts pale and reduced to extreme tenuity, and in several portions of a pink colour.

In several of M. Calmeil's cases, the medullary substance of the brain is described as being firm; but in the twentieth case recorded in his book, it is mentioned as having been in a state of general softening. Dr Delaye, who is cited by Calmeil, found induration in almost every case. The numerous examinations described in M. Calmeil's book are nearly uniform, in exhibiting serum in the great cavity of the arachnoid; it is also often mentioned as filling the ventricles; the cortical substance was generally injected, and the white substance occasionally firm. A morbid condition of the membrane lining the ventricles is also sometimes noticed, and induration of the spinal cord; but the last was only a rare appearance, as the cord was usually unaffected, except by the presence of serous effusion.

It appears, therefore, as if the only appearance constantly met with, or almost constantly, is that of serous effusion, to the extent of several ounces, under the dura mater, or in the great cavity of the arachnoid. This circumstance led M. Bayle, and also Esquirol, to ascribe the whole malady to membranous

inflammation, and consequent effusions. But every day shows us the same effusion in cases of chronic insanity without paralysis. Effusion beneath the arachnoid, separating the convulutions, accompanied by a thickening of the membrane, are equally common in insanity with and without general paralysis. Effusion into the ventricles, to a considerable extent, with a thickening and roughness of the lining membrane and septum, are more frequent in general paralysis than in insanity, and seem in some way to belong to the complication of insanity with general paralysis. I have not myself noticed such frequent or marked alterations of the colour or consistence of the grey matter, as to attach so much importance to them as is done by M. Calmeil.

I confess that these statements of what the morbid appearances have actually revealed is not at all satisfactory; but I believe we are only on the mere threshold of this kind of knowledge. Our present disappointment may be lessened by remembering M. Esquirol's remark, that chronic inflammation of the brain produces compression and paralysis, which are also the consequences of effused blood; and that tubercles, cancer, and softening of the brain, produce peculiar symptoms, distinct from mental alienation. Nor can we forget the singular but well attested facts, to which the same experienced physician alludes, that sudden restorations to mental health have taken place after long and severe attacks of insanity; and that in some long existing cases, no morbid change has been found in the brain; whilst every kind of morbid change has been found to exist without insanity.

Doubtless there are morbid changes or deteriorations which the eye cannot see, or the hand feel, but which the mind can appreciate; actions may be deranged, concerning the mode of which we cannot form a reasonable conjecture; or the structure of the brain may be complete, and the material itself defective. The unquestionable affinity between the constitution prone to phthisis, and that prone to mental disorder, is one of several facts illustrative of such possibilities; and cases of daily occurrence give support to them. As especially regards general paralysis, I find a most apposite observation in Dr A. Sutherland's lectures in the *Medical Gazette*. He mentions that "a patient under his care, who died of general paralysis, was the only one of ten children who did not die of phthisis." It will at once occur to you, that the morbid appearances so generally found in the brain after death in insane persons may have no other relation to the original cause of the disease than that of its effects; and this explains why they often explain nothing. [*To be continued.*]—Abridged from the *Lancet*, 28th February 1846.

CEREBRAL APOPLEXY IN THE FŒTUS AND NEW-BORN CHILD. By Dr LASSERRE, Physician to the Hospital of Montauban.

The subject of the following considerations being still involved in considerable obscurity, engaged the author's attention; and has been long made by him the topic of special investigation. The cases which he has seen clearly prove, that we may find in the fœtus and in infants every form of cerebral hemorrhage which is to be met with at more advanced periods of life.

CASE 1. *Meningeal Apoplexy in a full term Fœtus which died during Labour.*—Prot, aged 21, a primipara, was admitted into the Maternity of Paris, on the 12th of January 1841. Labour began on the evening of the same day; and at nine P.M. the membranes ruptured. On the 13th, at five A.M., she was taken to the Delivery-Room. On examination, it was then found that dilation of the cervix was complete, that the vertex was presenting, and that a loop of umbilical cord (in which no pulsation could be detected) protruded into the vagina. The beating fœtal heart could not be heard. Labour was allowed to terminate without being interfered with; and a well-made dead child was born.

Autopsy, twenty-six hours after birth. — The *face* was swollen, and of a violet hue; the eyelids were œdematous, the lips thick, and two small ecchymotic spots were observed at the internal angle of the left eye, under the conjunctiva. *Head.*—There was slight sanguineous effusion into the sub-epicranial

cellular tissue, corresponding to the postero-superior angle of the left parietal bone. The vessels of the cranium, as well as those of the dura mater, were gorged with very black blood. The arachnoidal cavity having been opened with great care, was found to contain six grammes of viscous blood, mixed with some clots; this formed a thin layer on the convexity of the hemispheres, as well as at their base, where, especially behind, it was in notable quantity. The sub-arachnoidean cellular tissue presented several small ecchymoses upon different points. All the cerebral vessels were gorged with blood; and the choroid plexuses formed two large, black, and prominent bands. The substance of the brain was soft, and rosy coloured; in some places, the "grey" matter was almost *red*. *Chest.*—The lungs were of a ruddy brown hue. The pericardium contained a small quantity of bloody serum. The cavities and vessels of the heart were gorged with black viscous blood. *Abdomen.*—The large intestine was filled with meconium.

Remarks.—Meningeal apoplexy is the most common form of sanguineous effusion into the nervous centres of the fœtus or infant. The effusion sometimes takes place into the cavity of the arachnoid; sometimes, into the sub-arachnoid cellular tissue; and at other times, into both at once. The only difference between the lesion, as met with in the infant and the adult, consists in this, that in the former, it is almost invariably the result of a mechanical obstruction to the circulation.

Case 2. *Hemorrhage into the Ventricles, occurring in a Fœtus of five-and-a-half months, which was born putrid.*— On the 3d of July 1841, a well-formed, tolerably robust woman, who had not met with any fall or blow on the belly during gestation, was delivered at the Maternity of a fœtus of about five-and-a-half months, and which had been dead about fifteen days.

Autopsy.—I examined the body along with Dr Danyau. The *skin* presented a decided brown discoloration: in most places, the epidermis was raised; it was thick, blanched, and furrowed on the hands and feet. All the tissues were soft, and of a brownish hue. In the thoracic and abdominal cavities were found sero-sanguineous effusions, resulting from putrefaction. The cranium and its coverings offered nothing particular. The brain was of an almost rosy hue; in some places it was brown. Whenever the dura mater was cut into, there issued forth a gelatinous fluid, ("*bouillie.*") The ventricles were filled with clotted blood, which looked as if cast in these cavities as in moulds. The different portions of this clot were united by means of prolongations. The clotted blood was smooth, tolerably consistent, and in some parts it exhibited a degree of fibrinization; it did not adhere in any place to the lining membrane of the ventricles. The brain was so much softened, as to render it impossible to determine the point whence the hemorrhage had proceeded.

Remarks.—This case is without a counterpart in the annals of science.

From the firmness of the clot, its polished surface, and fibrinous consistence, the author concludes, that several days had elapsed between the hemorrhage and the death of the fœtus. The latter event, he thinks, took place about eighteen or twenty days before parturition.

Case 3. P., aged 28 years, after a natural labour of fourteen hours, brought forth, at the full term, in the Maternity, a robust well-formed child. For the first eight days, the infant enjoyed good health, and sucked without difficulty. On the 9th day, it refused to take the breast, moaned, and was restless.

The following is an account of its condition, upon the morning of the tenth day:—The face was pale; the eyelids were closed, and could only be separated by using a certain amount of force; the pupils were contracted; the jaws were strongly clenched, and although great efforts were made, it was found impossible to introduce the point of the little finger between them. These attempts appeared to cause pain. The extremities were slightly stiff; the mouth was not twisted; sensation seemed to be entire; and the mother had not remarked any convulsions. At this time, the little patient had been three hours in a state of coma. The pulse was small and excessively frequent; the skin of the trunk

was very hot and very dry; the extremities were cold. There had been no stool since the previous day. Sinapisms, and a purgative enema, were ordered. The infant sunk rapidly, and died without presenting any other symptoms worthy of notice.

Autopsy, twenty-four hours after death.—The temperature of the body was moderate; there was slight cadaveric rigidity; and no putrefaction.—*Head.* The vessels of the brain were engorged with blood. In the cavity of the arachnoid, there was a little turbid serum. The arachnoid presented a very marked opacity over a space of from 35 to 40 square millimètres, situate at the posterior part of the convexity of the left hemisphere, close to the interlobular fissure. This opacity was slighter at the circumference, than at the centre; and it entirely concealed the subjacent cerebral convolutions. In other places the membranes were extremely friable, and very much injected; on a level with the opacity, they were thickened and white; on raising them, a very considerable layer of cerebral substance was dragged up along with them. The cerebral substance was coloured like the lees of wine; and softened in a space somewhat smaller than that covered by the opaque membrane. The whole of the grey matter presented a similar alteration; and the subjacent white substance was diffluent, and of a dirty white colour. At the centre of the softened part, and at the base of one of the diseased convolutions, there was found a bloody clot of the size of a filbert, pretty regular in form, and presenting in some points a fibrinous appearance. All the other parts of the nervous system were much injected. There was a pretty large proportion of rachidian fluid. The *thoracic* and *abdominal viscera* were healthy.

Remarks.—This case appears to be one of apoplexy, with consecutive inflammation of the brain and membranes, excited by the presence of the clot.

CONCLUSIONS.

1. Cerebral apoplexy is met with, though rarely, in the fœtus and new-born infant.

2. The causes which give rise to apoplexy in the fœtus are obscure; but it seems to depend on a mechanical obstacle to the circulation, such as prolapse of the cord.

3. The functional disorders caused by effusions of blood in the nervous centres of fœtuses and new born children are slight. The effusion which in the adult would cause instant death, permits the fœtus to live for several days: and sanguineous effusion excites in the new-born child no such notable consequences as would result from it in the adult.

4. The diagnosis of apoplexy in the fœtus and new-born infant is almost impossible.

5. Bloody deposits in the brains of fœtuses and new-born children may occasion all the consecutive disorders, observed as consequences from them in subjects of more advanced age.—Abridged from the *Encyclographie Médicale* for February 1846, which quotes from the *Journal de Médecine et de Chirurgie de Toulouse.*

CEREBRAL APOPLEXY IN A CHILD ELEVEN DAYS OLD. BY ALEX D. CAMPBELL, M.B., Oxon.

"From the researches of M. Rochoux and others, it appears, that Cerebral Hemorrhage seldom occurs till after fifty. However, cases of it have been observed at all ages. M. Billard mentions one where it occurred three days after birth, and M. Serres another in a child three months old." (Andral's Pathol. Anat. Trans., vol. ii. p. 723.) The following instance came within my own observation, through the kindness of a friend.

The infant was a stout healthy male; and, until the morning of the day on which he died, had shown no symptom of disease. About seven A.M. he vomited frequently, and in an hour and a half afterwards, was suddenly seized with violent convulsions, tossing about the head and limbs, rolling the eyes, and accompanying these movements with loud shrieks; in this state he was found by the gentleman who was requested to visit him. The pulse was at this time ex-

tremely rapid and hard, the pupils were contracted, the head hot; but the body and legs, especially the latter, felt cold to the touch, and attempts to vomit were occasionally made. The child was immediately placed in a warm bath: cloths dipped in cold water were applied to the head; and a powder composed of calomel and scammony exhibited. When the infant was removed from the bath, leeches were directed to be applied, and the other treatment usually employed in such cases was judiciously and energetically resorted to. In two hours thereafter, a second powder similar to the first was given, as the bowels remained unmoved, and the symptoms continued unabated. At noon, the child was again seen; it then appeared to suffer under all the symptoms of compression of the brain, precisely similar to those generally observed in the last stage of acute hydrocephalus; the convulsive movements of the limbs had subsided; it emitted occasionally a low moan, the pupils of both eyes were widely dilated, and the pulse was frequent, small, and feeble. A blister was now applied to the head, and two grains of calomel with five of jalap ordered to be given every second hour until the bowels were moved. In spite of the treatment, however, the child never showed the slightest signs of amendment, and died between six and seven of the same evening, after an illness of rather less than twelve hours' duration. On examination of the body after death, its external appearance presented nothing unusual. On opening the cranium, and reflecting the dura mater from the circumference of each hemisphere towards the mesial line, I found the superficial vessels of the organ distended with blood; and on the surface of the middle lobe of the right hemisphere a small ecchymosed spot, of about three-eighths of an inch in diameter, situated under the arachnoid, which was quite transparent, and not clouded by any lymph effusion. On making a vertical section through this spot, I saw that it was the apex of a clot, nearly of the size and shape of half a small walnut shell, with the concavity directed upward. The blood was of the consistence and colour of thin currant jelly. The substance of the brain in contact with the clot was of an ochre colour, much softened, reduced in fact to pulp, to the depth of about an eighth of an inch all round. This pulp was examined with the microscope, and consisted of the tissue of the brain, numerous blood-globules, and fluid, but contained none of the corpuscles characteristic of inflammatory softening. The other parts of the brain when cut into were less firm than usual, especially in the affected hemisphere, which seemed as if infiltrated with colourless serum. The quantity of fluid in the ventricles was not greater than natural, and the brain exhibited no other abnormal appearance. The examination of the other cavities of the body was not permitted. On account of the unusual occurrence of the affection in so young a subject, the scalp, bones of the cranium, and external surface of the body, were again carefully inspected, but no mark of violence was discernible thereon.

The extravasation most probably originated from arrest of the cephalic venous circulation. In a recent French work on the diseases of children, it is stated, that of the cases observed by MM. Lombard, Pauchaud, Ouibert, and others, in some the sinuses of the dura mater were found obstructed by sanguineous, and in others by purulent concretions; in one instance, out of eight that came under the observation of MM. Rilliez and Barthez, the obstruction to the cephalic circulation was situated in the thorax, and consisted in the pressure exerted by an enlarged and tuberculated bronchial gland on the vena cava superior. It would have been in the highest degree difficult, perhaps impossible, for any one to have diagnosed the existing lesion in the foregoing case, no distortion of the features nor paralysis of the extremities being observed. One point, however remarkable, was the rapidity of death; and this agrees with what has been recorded of similar cases. Acute hydrocephalus occasionally, yet rarely, terminates so rapidly; but as far as practice is concerned, the differential diagnosis is of little importance, as the treatment either for acute hydrocephalus or for acute apoplexy in young infants must be exactly alike. From the microscopic examination of the softened tissue surrounding the clot, I am inclined to regard its pulpy condition, neither as resulting from previous inflammation, nor as arising from the irritation produced by the clot as a foreign

body, but as caused by the effused blood having forced its way into, and broken up the tissue immediately adjacent to the extravasation.—*Northern Journal of Medicine* for January 1845.

VALERIANATE OF ZINC IN NERVOUS DISEASES.

In our volume for 1844, page 427, we detailed the processes by which this remedial agent may be obtained, and M. Cerulli's experience of it in practice. In three cases of supra-orbital and infra-orbital neuralgia, he effected a cure, by administering it in doses of one and a half grain daily, divided into two pills, and administered at the moment of the accession of the paroxysm. In one case, the cure was complete in thirty days; in forty in another; and in fifty in the third.

In the *Northern Journal* for February 1846, Mr Bell of Glasgow details the results of his experience, in the use of this medicine. He has been particularly fortunate in finding cases of neuralgia, having been called to two in September, one in January, and another in December, 1845. In his hands the remedy has proved infinitely more successful than when administered by the physician we have already quoted. Indeed, its beneficial effects, as reported by Mr Bell, are somewhat startling, hours having accomplished cures which the Italian physician rejoiced to see effected in as many days. To our mind, the query is forcibly suggested—*Post hoc ergo propter?* We have given the medicine a fair trial in several cases, and we must confess that its effects have been very problematical. It is certainly inferior to other well-known agents usually prescribed in such cases.

PECULIAR FORM OF GASTRO-ENTERITIS RESULTING FROM THE USE OF DISEASED POTATOES: WITH REMARKS. BY JOSEPH O'BRIEN, M.D., NAAS, Physician to the Ballymore Eustace Dispensary.

CASE 1. Patrick Carragher, aged 17, on the 29th of November 1845, complained of rigors, headach, and pain in the abdomen; the pulse was quick, tongue white, skin harsh and dry, and the bowels confined. In forty-eight hours, the face presented an erysipelatous appearance, puffed and bloated, and every four or five hours becoming perfectly pale; at which time he complained of great nausea and tenderness in the epigastric and right hypochondriac regions. He was exceedingly restless, and shouting with pain in every joint; the tongue was coated, white, and bore the cast of the teeth; bowels freed. In three days the symptoms were,—tongue dry, parched, with erect papillæ, and resembling a beefsteak; excruciating pain in the muscles of the neck, large joints, and shoulders; very scanty loaded urine; quick, small pulse, and œdema of the eyelids. He was not convalescent until the 25th of December.

The treatment consisted of saline purgatives in the early stages; subsequently, opium and calomel; and lastly, iodide of potassium in infusion of gentian.

CASE 2. John Neale, of Newton, aged 33, was attacked with symptoms of fever on the 16th December. I saw him for the first time on the 18th, when he complained of great debility, pain in the region of the kidneys, obstinately confined bowels, hurried respiration, and abdominal tenderness. The face and eyelids were so swollen, that my first impression was that he had been severely beaten. The deltoid and biceps muscles were tumid, and so tender that he could hardly allow the bed-clothes to rest on them; and he was totally unable to raise either arm to the head. He complained loudly of pains in his bones; the quantity of urine was very scanty; the pulse was 105, and small. On returning from seeing Neale, one day, I was met by the farmer for whom he worked, who asked me, "Was it the sickness he had?" I asked what sickness, and he said, "The pains in the arms, with swelled forehead and eyelids." He assured me that eight of his men were seized at the same time with Neale, all presenting symptoms similar to his.

CASE 3. Thomas Fegan, aged 35, living near Neale's house, was attacked on the 17th December with vomiting and purging. I visited him on the 19th,

and found him labouring under feverish symptoms, pain in the muscles of the neck, shoulders, and large joints, œdema of the eyelids, and lassitude so great that he was perfectly helpless. The urine was scanty, and deposited brick-dust sediment. He attributes his illness to eating diseased potatoes: and is recovering slowly.

Case 4. James Tracy, aged 27, applied at the dispensary for some medicine to relieve "hives," as he called them. He was very poor, and acknowledged having eaten a large quantity of diseased potatoes for supper the evening before. He was attacked in the course of the night with pain in the bowels and diarrhœa. I saw him in the morning, and his face had the appearance of being stung with nettles. He discharged from his stomach, while speaking to me, about six ounces of a clear, glairy fluid, which deeply reddened litmus paper; the pulse was quick and wiry. I saw him in two days afterwards, when he was completely jaundiced.

The treatment consisted of alterative doses of blue pill, with magnesian aperients.

Case 5. Thomas Dunfield, aged 16, complaining of "hives." His entire body, from head to foot, bore the nettled appearance. On its retropulsion, which took place two or three times a-day, deadly pallor of the countenance and nausea followed; the bowels were constipated. On the third morning, he could barely see, from the state of the eyelids; and complained much, during the day, of strangury, the few drops of urine which he did void being dark-coloured. I saw about twenty cases more, not so well marked as the preceding, and which it is unnecessary here to detail.

Remarks.—On examining closely the cases here described, I am disposed to consider them a new form of *gastro-enteritis*, caused by the use of diseased potatoes. The well-known sympathy existing between the gastro-intestinal mucous coat and the external skin would go far to account for the nettled appearance of the skin and face; and I also think that, independent of any erysipelatous diathesis, idiopathic erysipelas is very frequently caused by the morbidly deranged state of the secretion in the canal alluded to. The pain of the muscles of the arms might be accounted for, by some irritating substance coming in contact with the ganglionic nervous system of the stomach; and, in this way, I am inclined to think, diseased potatoes act.—*Dublin Hospital Gazette*, Feb. 1, 1846.

Hereditary Brittleness of Bones. By Dr Paull.

Many instances are recorded in which individuals have been affected with a sort of constitutional brittleness of the bones, and in whom fractures have happened with an unfortunate degree of facility. But we are not aware, that this disposition has been observed in several members of the same family, so as to be in a manner hereditary. This has induced us to republish entirely the following article, extracted from a work of Dr Paull, of Landau.

"In the commune of Offenbach, there resides a family, all the members of which have already had fractures. Three of them have each had two fractures; another three, either of the arm or of the leg; one has even had so many as five fractures of one or the other extremity; and to produce these injuries no considerable violence was in general requisite. The father and grandfather before them had fractures of the limbs. This family, moreover, is a very healthy one; there does not appear to be any scrofulous or other taint in operation. It is remarkable, that not one of them suffered a fracture before the age of eight, so that one might suppose, that this particular fragility of the osseous matter was developed only towards the age of puberty. It would seem, however, that the condition of this fragility consists in some change of the chemical constituents of the bones in their relations to each other.

"It has been frequently observed that men addicted to the use of brandy often experience fractures, (in consequence of a degree of brittleness induced in the bones,) which requires a long course of treatment to insure their consolidation. I met with this great fragility of the bones in a subject of this kind, a

man 64 years of age, who hung himself three years ago at [illegible]; the ribs particularly, snapped like glass; and a very moderate force sufficed to fracture the long bones. But if fractures in these old drunkards are cured only very slowly, precisely the contrary is the case in the family above mentioned; for in every instance which occurs in it, the fracture is very speedily consolidated, so that generally the callus is perfectly firm at the end of three weeks. I should add, too, that when the same bone has been broken a second time, the fracture has never occurred at the seat of the callus."—*Journ. de Chirurgie*, Jan. 1845, as quoted in *Dublin Hospital Gazette*, 1st February 1846.

Case of Idiopathic Tetanus. By Abraham C. Swayne, Surgeon, Carrick-on-Shannon.

John Hall, a private of the 49th regiment, performing detachment duty in our barracks, aged 25, of a spare and firm habit of body, was suddenly seized, while undressing for bed, on the night of the 20th instant, with convulsions. I was called to see him, immediately after the onset of the attack.

The following symptoms presented themselves:—Violent and frequent convulsive movements of the upper and lower extremities, with occasional bending of the body so as to form an arch, (the extremities of the arch being formed by the occiput and heels,) alternated by the other forms of tetanus, viz., emprosthotonos, and pleurosthotonos. Strabismus was also present, with dilation of the pupils. There was foaming at the mouth, and the patient, in the extremity of the spasm, hawked up tenacious white and frothy sputa. The head was naturally cool; the angles of the mouth were drawn upwards and outwards; the abdomen was remarkably hard; the pulse was natural, except during the paroxysm, when it became quick, and had a wiry feel. His comrades could give me no information concerning him, except that he had lately joined the detachment here, having previously been in hospital, under treatment for a palpitation of the heart. Having examined the body generally, to detect a wound which might account for the very urgent symptoms, and nothing of the kind appearing, I came to the conclusion, that it was a case of idiopathic tetanus, occasioned by irritation of the bowels; and also (as indicated by the great fulness over the regions of the transverse colon and cæcum,) from the lodgment of abundant fæces.

I immediately bled him from the arm to 24 ounces. This had the effect of checking the convulsions in a remarkable manner. During the ensuing fifteen minutes, there was no spasmodic movement. He sat up in the bed, and called for *a drink of water*, which he swallowed in a draught, without any difficulty. I asked him, if he felt any pain, when he referred me to the region of the heart, and said he feared "it was all up with him." On examining over that region, I could detect no abnormal sound. His bowels, he said, were very much confined. At the termination of 15 minutes, he had another convulsion, but in a much slighter degree. Previous to the bleeding, scarce two minutes intervened between each attack. The following medicine was then given:—

R. Calomelanos gr. x.
Pulv. scammonii gr. iv.
Ext. hyoscyami gr. iv.

M. ft. bolus.—Four hours afterwards he had a turpentine enema.

I saw him early on the following morning, and was much surprised at seeing one of his comrades deliberately shaving him.

After getting the enema, he passed an enormous quantity,—or, to use the quaint expression of his barber, "a bucketful and a half," of a dark greenish slimy matter,—of a soft consistence, with a few scybala intermixed. From that moment he had no convulsions, and has continued in good health ever since.—*Dublin Hospital Gazette*, 1st February 1846.

Paralysis (from Arsenic) Lumbago and Sciatica—Cure by "Firing."[1] General Remarks on Firing. By Dr Corrigan.

William Murphy, aged 26, a labourer, was admitted into Whitworth Hospital

[1] Scorching, (superficial burning), as contra-distinguished from blistering, would,

under Dr Corrigan's care, December 7, 1845, labouring under paralysis of upper and lower extremities. He cannot shut his hands firmly, but the paralysis is greater in his lower extremities, which are unable to support the weight of his body. The muscles of his thighs and legs are flaccid and wasted, but sensibility is not impaired. The instant he feels an inclination to pass urine, he must obey it, although he passes it only two or three times in twenty-four hours. His intellect is unimpaired, the pulse is quick and rather compressible, the bowels regular, and the appetite good.

He attributes the present attack of paralysis to a dose of arsenic which he took by mistake for flour. On having taken it, he was brought to an hospital in Liverpool, and the stomach-pump was used. Immediately afterwards, he began to feel disagreeable prickling sensations in his hands and in the soles of the feet. He soon began to totter in his walk; his limbs then became unable to support the weight of his body, and in this state he was admitted into hospital.

Five grains of blue pill were given three times a-day, until the 13th, when the mouth became sore.

17th. No improvement. The firing iron was applied along the spine, thighs, and legs.

20th. He has regained considerable power over the arms, but not over the lower limbs.

The firing is applied every day, along the spine, thighs, and legs.

24th. He is now able to walk. Firing to be continued daily; and $\frac{1}{12}$th grain of strychnine three times a-day.

January 5, 1846. Limbs rapidly regaining their strength.

On the 8th instant, all treatment was discontinued.

He was retained in hospital until the 23d instant, lest any relapse should occur. He occasionally calls at the hospital, and is, at the date of this report, February 25, in the possession of perfect health and strength.

Observations.—I wish now to point out to you the mode of using this application, and the reason for giving it a preference over other counter irritants. The iron used is, you observe, very portable, consisting of a thick iron wire shank, of about two inches long, inserted in a small wooden handle, having on its extremity, which is slightly curved, a disc or button of iron, a quarter of an inch thick, and half an inch in diameter—the whole instrument being only six inches in length. The face of the disc for application is quite flat. This, trifling as it may seem, must be attended to. In the French cauterizing irons, as they are sold by the cutlers, the buttons for cauterizing are spherical; and the consequence is, that they must either be pressed long and deeply into the skin, to bring them in contact with an extent of surface equal to their diameter, or they can be made only to touch at a single point. Another objection to the French iron, is the great length of its iron handle. This is necessary in the French instrument, as the iron is intended for being heated in the fire; but it terrifies the patient, whereas the little instrument you see here will hardly attract attention. The only other portion of apparatus required, is this small brass spirit-lamp, so small that it can be carried in the waistcoat pocket. Mr Milliken, of Grafton Street, made the apparatus for me. To use the instrument, it is only necessary to light the lamp, and hold the button of the instrument over the flame, keeping the forefinger of the hand holding the instrument at the distance of about half an inch from the button. As soon as the finger feels uncomfortably hot, the instrument is ready for use, and the time required for heating it to this degree, is only about a quarter of a minute. You have seen it repeatedly applied. It is done as quickly as possible, the skin being tipped successively at intervals of half an inch over the whole affected part, as

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perhaps, be the more correct term, but the patients themselves universally designate the operation "firing," from its similarity to a well-known application in veterinary surgery, and I have therefore adopted the term.

lightly and as rapidly as possible, always taking care to bring the flat surface of the disc fairly in contact with the skin. In this way the process of firing a whole limb, or the loins, making about one hundred applications, does not occupy a minute, and the one heating by the lamp suffices. You can ascertain at once whether the heat be sufficient. If you look sideways at the spots as you touch them, you will observe that each spot the iron has touched, immediately becomes of a glistening white, much whiter than the surrounding skin. In the course of a quarter of an hour, or sometimes of a very few minutes, the whole skin becomes of a bright red, and the patient feels a glow of heat over the part. The iron, I need hardly observe to you, is never rendered red hot. It is, indeed, very little hotter than boiling water, and I never make an eschar with it, and very rarely indeed raise a blister. There are merely seen upon the skin next day, a number of circular red marks, the cuticle not even being raised, and the surface being ready, if required, to receive a fresh application, and what is of no trifling consequence, where such an extent of counter irritation has been used, there being no discharging surface to interfere with the motion of the limb, or the comforts of the patient. Indeed, in most cases, the patient is quite unconscious of what has been done. Even in the case of a medical friend of mine with whom I used it, he could not even guess what the application was; he merely knew that a not disagreeable smarting, or heating sensation was suddenly produced, but could not say how until I showed him the instrument. This you will at once see is a considerable improvement on the actual cautery, whether as regards the horror of the patient on seeing a red hot iron drawn out of the fire, or the deep ulcer produced by its application. The thickness of the disc or button of the instrument is not a matter of indifference. If it be thinner than the measure I have given, it will cool too rapidly; if it be thicker, it will take too long a time in heating. Of the little pain produced by its application, you can form an estimate, when I tell you that some of our resident clinical clerks here have preferred it in their own cases, when suffering under local muscular rheumatism, to any other method of counter irritation, as being the least troublesome, the most rapid, the least painful, and the most effectual. I can certainly recommend its application in the way here directed, as one of the most useful of our counter irritants; it can be applied so rapidly, so extensively, and, as I have already said, without even the patient knowing very often what has been done. Its superiority over blisters may also be owing to the suddenness of impression produced. The effect is often as instantaneous as the application. My friend Dr Mitchell, Master of the Victoria Lying-in Hospital, consulted me some months since for a severe attack of lumbago. I applied the firing, and he was in one minute quite free from pain. He has since used it himself extensively in practice, and, I believe, he will shortly publish the results of his observations.

A gentleman, in leaping from a railway carriage, strained the muscles of his loins. He used liniments for two or three days, and took a warm bath. He continued to suffer so much that he at length called on me. He could not sit down on a chair without much inconvenience, but to rise was a labour of great torture. While conversing with him, and drawing off his attention, I heated the iron and fired him over the loins. He was instantly well.

In another case, a gentleman, from riding a hard-pulling horse, began a year since to feel numbness in the little and ring finger of the left hand. This gradually crept up along the ulna, to the elbow, and at length there was such loss of muscular power, and so much numbness whenever the bridle pressed upon the fingers of the left hand, that he became very nervous about riding. I fired him along the forearm inside and outside from the elbow to the hand. He has felt no inconvenience since, and a period of a month has elapsed. I consider this mode of firing a most valuable aid in our treatment. It may, however, require several applications before permanent relief is obtained. I have also used it with the greatest advantage in cases of neuralgia of the fifth pair of nerves, and in paralysis of the portio dura of the seventh. Even delicate females will not object to its frequent repetition when required. I will conclude my observations on the subject by reading for you the following short

statement of his own case, by a friend of mine, a member of the profession. I requested of him yesterday to give it to me that I might read it for you to-day. He drew it up for me in a moment of hurry, but I shall give it to you unaltered.

"Early in the month of May 1845, I was rather suddenly attacked with severe pain in the right thigh, extending from the hip to the knee. Having never suffered from any similar affection, and generally having enjoyed good health, I hoped this pain would have yielded to rest, and the warm bath, which last remedy I had recourse to after a week's suffering. This was not the case; I only obtained temporary relief; the pain now became more fixed, and was so increased in intensity, that I could not walk the shortest distance without being obliged to stand at every twenty or thirty paces to obtain ease, which I did the moment I stopped. The entire of the thigh participated in the affection, but I felt the pain principally along the course of the sciatic and anterior crural nerves; I could not endure to lie on the affected side, as doing so considerably increased the pain. I continued to suffer in this manner for a period of six months, during which time I had recourse to the usual remedies of warm baths, frictions, strong stimulating liniments, hyd. potassæ and morphia in combination, tinct. aconit. electro magnetism, and all without any effect more than temporary relief. Change of temperament produced very little, if any effect I then applied to Dr Corrigan, who immediately applied the hot iron, from which application I received considerable relief, so much so that in two days I was more free from pain than I had been for the entire period since the commencement of the attack. The first day that the last remedy was tried I had a distance of about half a mile to walk to Dr Corrigan's house, which occupied me nearly an hour, being obliged to stand at least fifty times to obtain relief. I did not go to Dr Corrigan until after a week, and on my second visit I was able to walk the same distance without once resting. After about eight applications of the hot iron, in the space of four or five weeks, I became perfectly free from pain, now being able to walk a considerable distance without much inconvenience, I discontinued my attendance on Dr Corrigan. Several weeks passed without my being at all troubled by any return of the pain; but within the last fortnight I have had some temporary attacks. I think it right to say I feel satisfied that if I had continued the application of this remedy some time longer, the cure would have been complete."—*Dublin Hospital Gazette*, 1st March 1846.

SURGERY.

Lithotrity and Lithotripsy in the United States; with a successful Case. By Paul F. Eve, M.D., Professor of Surgery in the Medical College of Georgia.

A brief historical notice of the operations for Crushing Stone in the Bladder, which have been performed in our country, it is thought, will not be uninteresting or unacceptable to the profession, and be also a suitable introduction to the first case of the kind, in which, it is believed, this method has been successfully practised in the south-west.

The first successful case on record, in the United States, was operated upon by Dr Depeyre, then of New York, and may be found in the February number of the *New York Medical Journal* for 1831. His operation was essentially that of Mr Civiale. In the *American Journal of the Medical Sciences*, for September 1834, Dr Randolph claimed to have performed the first operation of this kind in America. But in a subsequent number of the same Journal, November 1836, he gives to Dr. Depeyre full credit for being the surgeon who first successfully operated by lithotrity in this country. Dr Randolph was not even the second, nor indeed did he succeed in any one instance that he reports with Civiale's in-

thontripter alone as did the two surgeons who were in reality the first and only ones of our country to employ it.

The second successful case was by Dr P. S. Spencer, of Petersburgh Virginia, and the operation was performed on the 20th of May 1832. The instrument used was that of M. Civiale; the stone was perforated three times, then crushed by closing the three branches forcibly; and the whole proceeding occupied but twenty minutes. No second sitting, or operation, was required. In three days, the patient, an adult, passed off fragments and particles, weighing sixty-five grains, and he soon completely recovered,—being reported well ten months afterwards. This case is reported in the August number (1833) of the *American Journal of the Medical Sciences*; but being placed under the head of *Medical Intelligence*, seems to have escaped attention.—Dr Randolph does not even allude to it, though he publishes his own cases the very next year, and in the very same Journal. These are the only instances, two successful cases, I find recorded, wherein lithotrity alone was resorted to in our country.

The first series of cases successfully treated by lithotripsy, or crushing of urinary calculi, are reported in the November number (1834) of the Journal just named, and were operated upon by Dr Randolph, of Philadelphia, the son-in-law of the late Dr Physick. Dr R.'s first case, the third of the kind in America, was commenced on the 22d of September 1832, and was considered well on the 26th of November following; but subsequently to this period, a fragment had to be crushed. Civiale's instrument was employed in four sittings; and then Jacobson's, to complete the disintegration of the calculus. The second and third cases of this series were females, and the same course of treatment was pursued in them as was adopted in the first one, viz. the lithontripton and then the *brise-pierre*, or stone crusher. The same operations were performed on the fourth and fifth cases; and in the last one, the sixth, Jacobson's instrument was alone used, because the enlargement of the prostate gland prevented the introduction of a straight instrument. Dr Randolph now abandoned his attempts at lithotrity, and with good reason, performs lithotripsy alone and at once. He was the first to execute this latter operation in America, and has now operated a greater number of times than probably any one on this side of the Atlantic. He selected Jacobson's instrument at first, but we are informed he now prefers that of Heurteloupe.

The next series of cases are by Professors Gibson, of Philadelphia, and N. R. Smith, of Baltimore, are close upon the heels of each other. Dr G. commenced his first operation in June 1835, and reports five cases. He gives the decided preference to Heurteloupe's preceuteur. Dr S performed his first operation in August of this same year, (1835,) and up to 1842, had succeeded in ten out of eleven cases. He operated successfully on a child only one year and ten months old,—the youngest patient on record cured by lithotripsy or lithotrity. Contrary to usual practice, Dr S. prefers the bladder empty, when he operates. He, too, first gave his unqualified preference to Jacobson's instrument, but, like Dr Randolph, it is said he now uses Heurteloupe's.

In the supplementary appendix to Cooper's Surgical Dictionary, edited by Dr Reese, of New York, in 1842, we learn, that Dr Goldsmith, of that city, known formerly as Dr Alban G. Smith, of Danville, Kentucky, and late Professor of Surgery in more than one college, has performed lithotrity three times, and lithotripsy six times, with success. A review of a pamphlet by himself, in which he gives the particulars of one of his cases, may be seen in the *New York Journal of Medicine*, and the *American Journal of the Medical Sciences* for 1843 or '44. From the same source, (Dr Reese,) we are informed that Dr George M'Lellan, late professor of Surgery in the Jefferson Medical College, Philadelphia, has operated thirteen times by lithotripsy, and had only one failure. Also, that Dr John Rea Barton, of the same city, has several times tried lithotripsy, but thinks few cases of stone adapted to it.

Professor Warren, of Boston, reports one case, in which he fully succeeded, with Heurteloupe's preceuteur, in relieving his patient, a lady aged about fifty years. He operated in 1840, and in publishing the account in 1844, says, he has had occasion to resort to this method two or three times.

In 1842, Dr Josiah C. Nott, of Mobile, Alabama, reported four cases of large sized stone, which he easily extracted, after having made the common incisions for lithotomy, by crushing them with Heurteloupe's instrument, introduced through the wound into the bladder. He recommends this instrument to be added to every lithotomy case, so that the bladder may not be injured, by improper efforts made to withdraw a large calculus through the incisions.

The case about to be detailed may be regarded as the first in this section of the country, and with the single exception of Dr Spencer's, the first south of Baltimore.

CASE.—*Calculus, measuring one inch and an eighth in diameter, and composed of Phosphate of Lime—destroyed in eighteen sittings by Heurteloupe's instrument, without pain, or the loss of one drop of blood.*

Mr James M. Layton, aged 34, of Early county, in this State, was kindly directed to me by Dr. Wm. J. Johnson, of Fort Gaines. He has been labouring under symptoms of stone for three years, and ten months ago was sounded by Dr J., and its existence clearly ascertained. Mr L. arrived here on the 14th of last November: on the next day, after introducing a large sound, and finding an ample urethra, and a good condition of the bladder, lithotripsy was proposed instead of lithotomy, for which he had come to consult me. On the 15th, the calculus was seized with Heurteloupe's crusher, and found to measure thirteen and a half lines, or one inch and an eighth in diameter; this was verified by Professor Means. Having made the necessary preparations, the operation was performed on the 17th, before the class of the Medical College. The patient was seated on the edge of a table, the instrument introduced, and the stone secured. By gradual forcible pressure with the hand, it suddenly yielded, with a crushing report, audible to many in the room. It gave the sensation of a pretty resisting shell, containing more friable materials. To the gratification of all present, the patient immediately voided some of the debris, one or two fragments being the size of buck-shot. The bladder contained about eight ounces of urine. The operation itself did not occupy five minutes. After it, Mr Layton amused himself with the students in the College Museum; he then walked home to the Surgical Infirmary, took a warm hip-bath, and passed a comfortable night.

On the 18th, at six A.M., I found his pulse 66 in the recumbent position. He had experienced no pain, and had passed other portions of the stone. I prescribed dilaent drinks, moderate diet, and the warm hip-bath twice a-day. Six P.M.—Had eaten some chicken from misunderstanding the directions; pulse at 84.

19th. Not so well this morning; feels some soreness along the urethra; has some fulness about the head; the pulse is still 84. To take a dose of calcined magnesia at once, and to use the bath. Three P.M.—Medicine has operated well, and to the entire relief of the patient. He came before the class again, when I injected $\frac{7}{3}$ of mucilage into the bladder, introduced the instrument, and crushed two fragments.

From this time, to December the 5th, the instrument was employed for a few minutes nearly every day. On the 27th of November, the fragments which had been preserved, (for many had been lost as the bowels had been evacuated at different places, and the smaller particles never were collected,) weighed 47 grains. On the 28th, those passed after one sitting weighed 15 grains. December 2d. What had been collected for the three past days amounted to 65 grains; and for the two last sittings we weighed 55 grains. Total weight of large fragments, exclusive of some known to have been lost, and of the finer particles, 182 grains, or upwards of three ounces.

On the 4th, I could detect no stone. On the 5th, I made a careful and minute exploration of the bladder, by all the ordinary processes, without finding a particle remaining—the patient insisting, he was entirely free of all symptoms. The next day, he was examined by three surgeons before the class, and pronounced free of calculous affection. He left the same day for his residence, distant about three hundred miles.

Besides the occasional presence of my colleagues Drs Carter, Hitchcock,

of the U. S. Army, A. Hammond, Jones, of Columbia county, and Stading of Tennessee, witnessed some of the sittings. On analysis by Professor Morgan the calculus proved to be bone earth or phosphate of lime, which is rarely met with, according to Leibig. Although it was first broken by the power of the hand alone, it was found necessary to use the pinion or screw to crush some of the fragments. It was ascertained, too, that the instrument could be held far steadier, when the latter force was applied.

During the whole treatment, the patient was up and about, even in the streets; he never complained once of the operation; the only uneasiness he experienced was from fragments lodging in the urethra or neck of the bladder; he was never confined one moment to bed, and never passed a single drop of blood.

Mr Leyton writes from Blakely, Early county, on the 17th of December—"I got home the ninth day after I left Augusta, and had to travel through very cold and rainy weather. I feel no symptoms of stone since I left you, and am in hopes I never shall."

Having thus been exposed under trying circumstances, and without any return of the old affection, I think the case may with safety be pronounced cured.—*Southern* (United States) *Medical and Surgical Journal*, February, 1846.

Compound Dislocation of the Ankle-Joint. By William Henderson, M.D., Corstorphine.

William Thomson, aged 12, on the evening of the 30th of May 1843, was riding at a rapid rate, when the pony stumbled and came down on a heap of mud. He tumbled over its head, and before he could recover himself, the pony falling over him, its head struck his right ankle on the inner side. The consequence was a compound dislocation of the outer ankle—the foot was turned in, the sole being nearly in a line with the inner side of the tibia—the ligaments were ruptured—the joint was open—and the anterior tibial artery torn across. When seen about an hour after the accident, the blood was running from the anterior tibial in a small stream; the skin was retracted over the outer malleolus. No attempt was made to replace the retracted skin, the foot was merely put straight, and tightly bound to the limb, to prevent further loss of blood.

On the second day thereafter, the bandages were taken off, and the skin brought down over the outer ankle and fixed to the foot with stitches. A tedious suppuration of five months followed, and for twelve months afterwards there were partial suppurations, with exfoliations of small pieces of bone from the outer ankle. The loose skin from the outer ankle ulcerated off, exposing it covered with luxuriant granulations. The foot had a great tendency to turn in, and from the raw state of the outer ankle immediately after the accident, counter-pressure could not conveniently be applied. When he began to use the foot in walking, an iron splint, adapted to the sole and inner limb, was worn for several months, so as to give firmness to the joint. The external malleolus is considerably enlarged, and the tendo Achillis is a little shortened, which latter defect might be remedied, but notwithstanding all these blemishes or defects, if they might be so called, he has now a good useful joint, possessing some motion, and far superior to any artificial apparatus.—*Northern Journal of Medicine, Dundee*, 1845.

In connection with the above, we refer to Mr Tennent's admirable "*Practical Chirurgical Observations on Dislocations of the Astragalus*," as abridged in the Monthly Journal for 1843, p. 742; also, to a notice of the Memoir by MM Roustan and Fournier Deschamps, on "*Extirpation of the Astragalus*," *ibid.* p. 745.

Ferguson [3d edition (1846) p. 293,] says—"The vast mass of evidence collected by Sir Astley Cooper seems to settle the line of practice to be followed in by far the greater number of injuries of the ankle joint. Whether the case be one of simple or of compound dislocation, or the latter complicated with extensive wound of the skin, contusion and laceration of the other soft parts, and even severe fracture of the bones in the vicinity, the surgeon is fully entitled to

give the patient a chance of having his foot preserved. The pulleys may be applied to facilitate reduction, where much difficulty is experienced; loose portions of bone must be picked away; projections may be cut off with the saw or pliers, or the aperture in the skin may be enlarged with the knife; in short, any reasonable expedient may be resorted to, in order to save the foot, which, whatever be its after condition, will in general be preferred by most patients to any artificial substitute."]

Gunshot Wound of the Heart, without Perforation of the Pericardium.

By A. F. Holmes, M.D., Professor of Medicine, M'Gill College.

In the month of December 1844, during the municipal elections, a riot took place, in the course of which, an attempt was made by some of the parties engaged, to force their way into a house occupied by their opponents. A young man of the name of Johnston, being the foremost of the assailants, was, while attempting to force his way up a staircase, fired at and mortally wounded. He lived but a very short time.

I was called to see him, and subsequently, at the request of the Coroner, and in conjunction with Dr Hall and Dr C. A. Campbell, I made an examination of the body.

Externally, several wounds were visible, (the musket having been probably loaded with buck-shot,) on the left side of the chest. Only one had penetrated its cavity. The shot had entered at the upper edge of the fourth rib, just at its union with its cartilage, carrying off the edge of the bone. With the view of obtaining a better view, the left ribs were sawed low down, and then the sternum carefully raised. The appearances presented, were a bloody ecchymosed condition of the anterior part of the left lung as it lays over the pericardium, a bloody and infiltrated state of the cellular substance lying on the pericardium, and an ecchymosis of the extent of about 1½ inch filling the anterior edge of the right lung, where it lies in contact with the pericardium. The pericardium evidently contained a large quantity of fluid, the nature of which was denoted by the colour of the membrane.

Feeling convinced of the perforation of the pericardium, I carefully cleared it of the adhering ecchymosed cellular substance, a proceeding which I afterwards regretted, as it prevented our tracing what must have been the track of the ball. We then examined the left lung, and found it had been struck near its anterior edge, and the pleura covering it torn, showing a circular aperture, as if the ball had penetrated the lung—no corresponding aperture for its exit could be found, and a probe could be passed but a very short way into the substance of the lung. Nearly a pint of bloody serum, but without coagula, was in the cavity of the pleura. The pericardium was then examined with the greatest care, every part showing the least appearance indicative of the passage of the ball being closely investigated. The sac evidently containing a large quantity of blood, it never occurred to us that the heart could have been wounded unless after the perforation of its envelope. Finally, supposing that the ball might have entered so as to produce a kind of valvular opening, I surrounded the pericardium with my hands, and squeezed it with considerable force. No fluid issued, and then, despairing of discovering the supposed perforation, I laid open the membrane, and gave exit to a large quantity of bloody serum and clots of blood. There was seen on the anterior wall of the heart, penetrating the right ventricle, a transverse linear opening without laceration of the margins, which were smooth and rather turned inwards, and sufficiently large to admit the finger. Feeling sure of now finding the ball, the finger was introduced. The septum ventriculorum was found uninjured, but no ball could be perceived.

The engorged portion of the right lung was then examined, and it was found that immediately within its edge, on the mesial aspect, a hole existed in the pleura, which did not, however, penetrate into the substance of the lung.

Finally, the lungs and heart were removed from the body, and there was then found lying in the right cavity of the pleura, a piece of lead of an irregular figure, about the size of a buck-shot.

Though unable to point out the track of the ball, yet the injury of the left lung, the bloody state of the cellular substance over the pericardium, the ecchymosis and wound of the right lung, the direction of the wound in the heart, and the discovery of the ball in the right cavity, can leave no doubt as to its course; but the wonder is, how the heart could have been perforated, while the pericardium was not. A question may be raised as to the possibility of the opening being caused by the spontaneous rupture of the heart, and not by the direct force of the ball; and in this view, the case may present a subject of interest to the medical jurist.

To support this opinion, but two circumstances can, I think, be adduced: *1st*, That the person was making strong exertion; and, *2d*, That the pericardium was whole. The force of the former of these facts, however, is entirely removed, when we find that the opening had taken place, under different circumstances from those in which spontaneous rupture occurs: *1st*, The person was not known to have laboured under heart disease, and the manner of his death makes it almost certain, that he was in good health at the time. *2d*, The heart was natural in size and consistence, perhaps below the average bulk. *3d*, The aperture was in the right ventricle, and towards the base, while in the very large majority of cases recorded of spontaneous rupture, the opening has been in the left ventricle, and towards the apex. *4th*, The margins of the wound were not softened or ragged, but smooth, linear, and slightly turned in. *5th*, The wound was longer on the peripheral than on the ventricular aspect.

With regard to the second ground for supposing the injury of the heart to have been caused by spontaneous rupture, viz. the integrity of the pericardium, I may remark, that however unlikely it might be, that the pericardium should be found uninjured while the heart within it had been perforated, yet the possibility of such an occurrence is demonstrable from the analogy furnished by gunshot wounds on other parts of the body. Military surgeons have frequently narrated examples where balls had penetrated to a considerable depth, carrying before them folds of the shirt, handkerchiefs, &c., without perforating them. Thus Guthrie states the case of an officer who was wounded in the thigh. "I saw," he says, "that the shirt had gone in with the ball, and on pulling at the shirt it came out from the depth of *four* inches, a perfect *cul de sac*, having the ball at the bottom of it." Hennen, Larrey, &c., relate similar examples. Now, if a shirt or a silk handkerchief can be thus acted on, there can be no reason why a tough, strong membrane like the pericardium should not be similarly affected. Indeed, such an occurrence is actually on record. In the article "Cas Rares," in the *Dict. des Sciences Méd.*, we have the following narration: "Un soldat ayant reçu un coup de feu à la poitrine, fut relevé presque mort: une hémorrhagie abondante faisait désespérer de sa vie. A force de soins, le sang commença à couler avec moins de force vers le troisième jour: insensiblement, les forces du malade revinrent, la suppuration succéda à l'hémorrhagie. Il sortit plusieurs esquilles d'une côte que la balle avait fracturée. Au bout de trois mois, la plaie se cicatrisa, et le malade, rétabli, n'éprouva d'autre incommodité que de fréquentes palpitations de cœur qui le tourmentèrent pendant trois ans. Il mourut d'une maladie étrangère aux palpitations, six ans après la blessure. M. Maussion fit l'ouverture du cadavre. Il trouva la balle enchatonnée dans le ventricule droit du cœur, près de sa point, *recouverte en grande partie par le péricarde* et appuyée sur le septum medium."

Meckel, in his "Manual of Anatomy," refers also to the fact of the heart being wounded, without injury to its envelope. His words (translated by Doane) are, "Contusions of the chest, or the forcible penetration of foreign bodies, *as of musket balls*, also tear the heart, even when the parts surrounding this viscus are uninjured."

Entertaining no doubt, therefore, that the wound was caused by the direct contact of the ball, driving the pericardium before it, I think the manner of its formation may be more readily understood, by supposing, that at the instant of being struck, the heart was in the act of contraction, its fibres being hard and rigid from their muscular action. In this state the ball suddenly impinging, produced an effect, similar to what happens to an over-braced harp-string when,

struck. The fibres snapped across. Allowing that the pericardium had been driven into the wound, it would probably soon have been forced out, by the efforts of the heart to expel the blood; but this might probably have delayed the individual's death, beyond the short time he lived after receiving the wound. It is, therefore, more probable, that the ball, being nearly spent, did little more than graze the heart, being deflected by the tough pericardium; while the principal part of the solution of continuity was owing to the snapping across of the fibres, in consequence of the shock. That the ball was nearly spent, is evident, from the little injury suffered by the right lung, against which it struck with only force enough to perforate the pleura, and then falling into the cavity of the chest.—*British-American Medical Journal*, December 1845.

MATERIA MEDICA AND CHEMISTRY.

Indian Remedies. By William Wisner, M.D., Montreal.

Although the Indians, being without the advantages of science to guide them in their choice of remedies in the treatment of disease, derive their principles from mere experience, it is certain, that we are indebted to their Materia Medica for many valuable articles of a vegetable kind. It is as certain, that they are frequently successful in the adaptation of these articles to complaints of a formidable character.

One of the remedies in great use amongst them is the *Geranium Maculatum*, which many eminent physicians of the United States rank as one of the most powerful vegetable astringents, being principally composed of *tannin* and *gallic acid*. In the second stage of dysentery and diarrhœa, after evacuations of the contents of the alimentary canal—and as a styptic in external bleedings, it rarely fails of giving relief. Its dose is from gr. xx to 3ss. of the powder, or 3ss. to 3j. of a decoction made with a drachm of the root to half a pint of boiling water. With the Indians it is a favourite external styptic, the dried root being powdered and placed on the mouth of the bleeding vessel. It is also much used by them as a wash in leucorrhœa. Internally, in doses of half a teaspoonful in cold water, they consider it very efficacious in hemoptysis, and in this opinion they are fully sustained by Tucker, Mease, Bigelow, and others.

The *Xanthoxylum Fraxineum*, or Prickly Ash, is one of the most valuable remedies of the Indians for the cure of rheumatism. It is said to resemble guaiacum in its properties, and is much used by the Americans as a remedy in chronic rheumatic complaints, and particularly in cases of syphilitic taint. Bigelow says he gave the bark of this shrub in doses of ten and twenty grains with great advantage.

The *Xanthoriza Apiifolia* is an excellent tonic, its composition as principles *resin* and *gum*; and the taste is intensely bitter. The dose is 3ij. of the powdered root. The Indians administer it as a diuretic in dropsy, and also use a cold, watery infusion for sore eyes.

A favourite and well-known remedy with the Aborigines is the *Eupatorium Perfoliatum*, having the familiar names, in the United States, of Boneset, Crowswort, Thoroughwort, &c. Its taste is intensely bitter, with a slight astringency, but no acrimony; and its operation is tonic, sudorific, cathartic, according to the mode of its exhibition. It is given in *cold* infusion in intermittents, continued fevers, and inflammatory diseases; to produce vomiting and catharsis in *hot* infusion; and as a tonic in substance. In the United States Pharmacopœia, there is an officinal formula—*Infusum Eupatorii*. The natives administer it with good effect in fever, and as a common drink in acute rheumatism, pouring a quart of boiling water on two drachms of the leaves, and drinking about three ounces three times in the day.

The *Cornus Florida*, Dog Wood, is also a different article in its chemical composition from the Peruvian Bark, and Dr John Wilkes states, that of all the indigenous tonics, this is the most beneficial in intermittents. Thirty grains of Dog Wood Bark are said to be equal to thirty grains of cinchona. The Indians use a decoction of small branches and buds, in want of appetite and debility of the stomach. It is valued also as a poultice to correct ill-conditioned sores.

The *Polygala Senega* is too well known, to need description. It is much used by the Indians, who give it in cold infusion during the remission of fevers, attended with great prostration of strength, and in diseases of the pulmonary organs. They also esteem it highly in female complaints, and in this agree with Dr Chapman, who considers it the most efficacious emmenagogue, and useful in all forms of amenorrhœa.

It is not a little remarkable, that among all the Indian tribes known to Europeans, the *production of increased perspiration* constitutes one of their principal remedies. A favourite and universal mode of procuring this is by the use of the vapour bath. The construction of this bath varies through the different nations of the north west. Mr Cormack, in his account of his expedition to discover the Aborigines of Newfoundland, or Red Indians, says, that he discovered, in a deserted village, the remains of a vapour bath. The method used to raise the steam was by pouring water on large stones made very hot. Over these, a hemispherical frame work, closely covered with blankets, was placed to exclude the external air. The patient then crept in under the blankets with a birch rind bucket of water, and a small bark dish to pour the water on the stones, and thus enable him to produce the steam at pleasure. He remains so long as the heated rocks retain sufficient heat to raise the vapour, when he retires, wrapped in a robe of buffalo skin. The bath is principally used in rheumatism, dropsy, and the cold stage of fever. Warm sudorific infusions are taken in the bath; and the debility induced is sometimes so great that the patient faints, which, however, followed by proper treatment, generally has a beneficial effect.

I have said that the Indian is guided by experience in the treatment of disease. For example, when suffering from acidity of the stomach, he takes some of the absorbent earths that are found on the banks of the rivers. Bleeding in their inflammatory diseases is also much used. But the simple native of the forest does not employ the former from any knowledge he possesses of the principles of chemistry, nor the latter with any acquaintance with the laws of physiology.

A modern writer states, that in their febrile diseases, they make the state of the skin and bowels the guide by which to regulate their practice. When the skin is moist for a considerable time, and the thirst ceases, they say there is no danger. When the evacuations from the bowels become less offensive, and change their colour, the tongue becoming clean, they stop purging and diaphoresis. If there be great debility, they commence giving tonics, which are commonly bitters. Should these induce costiveness or a return of the fever, evacuants are again had recourse to. There is something so rational, and yet so simple, in all this, that I hardly think we should find anything to improve upon it in Sydenham, or Cullen; and, as the great Boerhaave tells us, that "simplicity is the seal of truth," probably there is here as much practical, unsophisticated truth, as will be found in the elaborate treatises of ancient and modern professors.

That the Indians are acquainted with the mode of relieving inward pains, by treatment *similar to the Moxa*, is seen by their burning a piece of touchwood over the pained part, and suffering it to produce a blister. They are also aware of the advantage of relaxing the muscles in dislocations; for in cases where they do not succeed readily, they nauseate the patient to a most distressing degree, and then

find very little difficulty in reducing the luxation. Tumours and abscesses are allowed to suppurate, generally, without any application to them. When much inflamed and painful, plasters of bruised herbs, or warm fomenting poultices, are used. If matter forms, they make an incision for its escape, and continue the poultices to promote the discharge.—Abridged from *British American Medical Journal*, January 1846.

Simple Method of Causing Abundant Perspiration. By Dr Serre.

This method of obtaining a copious sweat is very simple, and may be used in all circumstances, without the aid of extra coverings or hot drinks.

Take a piece of burnt limestone, one-half larger than a man's fist; envelope it in some folds of linen, wrung out of water; and above this moist linen, roll a piece of dry linen. This packet must be so fixed, as to prevent it becoming at all loose.

Place two packets, formed according to these directions, in bed, beside the patient, one at each side, in the neighbourhood of the trunk. Close proximity is unobjectionable, in consequence of the dry cloth being the external layer. An abundant moist heat is speedily generated by the combination of the lime and water; which heat, diffusing itself through the bed, causes the patient to perspire profusely.

The apparatus remains efficient for about two hours. Upon unrolling the parcels, it will be found, that the lime has crumbled into powder.—*Bulletin de Thérapeutique*, for December 1845, as quoted in the *Encyclographie Médicale*, for January 1846.

FORENSIC MEDICINE.

Tying the Iliac Artery for a Wound of the Epigastric Artery.—The Late Fatal Duel at Gosport.—Trial of Mr Pym.

Mr Pym surrendered, on March 6th, to take his trial at Winchester (*Western Circuit*), as one of the seconds in the duel between Lieutenant Hawkey and Mr Seton.

The Clerk of the Arraigns.—Edward Lawes Pym, you are indicted for the wilful murder of James Alexander Seton, at Titchfield, on the 20th of May last; and the indictment states, that Henry Charles Morehead Hawkey, feloniously, wilfully, and of his malice aforethought, discharged a pistol loaded with gunpowder and ball, inflicting a wound of which the said James Alexander Seton languished and died, and you are indicted for being present, aiding, abetting, and assisting the said Henry Charles Morehead Hawkey in the committing of the said murder. [There were other counts giving different descriptions of the wound.] Edward Lawes Pym, are you guilty or not guilty?

Edward Lawes Pym.—Not Guilty.

Mr Rawlinson and Mr M. Smith conducted the case for the prosecution, and Mr Cockburn and Mr Serjeant Kinglake appeared for the prisoner.

The Jury having been sworn, were charged with the prisoner.

Mr Rawlinson opened the case on the part of the Prosecution. The jury would have collected from the indictment, that the prisoner was charged with an offence of the very highest nature—namely, that of being concerned in shedding the blood of a fellow-creature. The transaction out of which the indictment arose took place so far back as the 20th of May last year. The prisoner was charged simply with the offence, that on the evening of the 20th May, he went out with a brother officer, Lieutenant Hawkey, of the Marines, as second in a duel, in which the deceased, Mr Seton, the principal on the other side, fell, on Brown Down, leading to Alverstoke and Titchfield, three or four miles from

Gosport. He would take up the story on the evening of the 19th of May. Mr and Mrs Seton were residing at Southsea, and Mr and Mrs Hawkey and the prisoner were attending a ball or soiree at the Kings Rooms at Southsea, this ball being held every other Monday in the season. In the course of the evening a misunderstanding or quarrel occurred between Mr Seton and Lieutenant Hawkey; they retired to a card-room, the door was closed, and after some minutes they came out of the room; Lieutenant Hawkey entered the door of the ball-room, with the prisoner, and as Mr Seton left the ball-room, words passed between them, but what they were was not known. Early next morning, a person called upon Lieutenant Hawkey, who was said to be from Lieutenant Rowles, who was second to Mr Seton in the affair. Shortly as ten o'clock in the morning of the 20th, two persons, one of whom would be spoken to as Lieutenant Hawkey, and the other, who believed would turn out to be the prisoner at the bar, were seen proceeding to Portsmouth from Southsea, and words fell from them. He should then show that Lieutenant Hawkey went to Sherwood's shooting gallery, asked if he could have pistols, and fired a few shots. Finding that Mr Sherwood would not lend his pistols, he proceeded to Mr Fiske's, and purchased a new pair of pistols; and Lieutenant Hawkey returned to Sherwood's gallery, not then alone, but in company with a person whom, he believed, the witnesses would state was the prisoner at the bar. Hawkey practised there, firing four or five shots. This brought the transaction down to about 2 or 3 o'clock on Tuesday the 20th. He should show, from the evidence of Bearman, the servant of Lieutenant Hawkey, and Marsh, the servant of Mr Pym, that they crossed the water with their masters. Lieutenant Hawkey gave to Marsh a case in paper, and they proceeded up the road towards Alverstoke, to the preventive station; they passed the station, and the prisoner directed Marsh to go to the beach, and wait there till he was called for; he accordingly went down to that spot, leaving his master with Lieutenant Hawkey, and they proceeded out of his sight. After a short time, his master came running towards him, and when about 100 yards off, beckoned to him. He proceeded to the spot, and found three persons besides his master; one of them was lying on the ground, bleeding from a wound in the lower part of his body. The deceased, having lost a great quantity of blood, was taken to the Quebec Hotel. There was a lane running off from Bedwell Row to the Fountain hotel, and about half-past 7 o'clock on the 20th two gentlemen came in there in a hurried way, one of them carrying a square mahogany case, of the size and description of a pistol-case, and the prisoner, it would be shown, was the person who brought the case. The next day Marsh, the servant of the prisoner, took away the case, which the landlord of the hotel missed, was a pistol case, and Marsh would prove that he carried it to Lieutenant Hawkey's rooms. He should show that, within 20 minutes after they were at the Fountain hotel, Lieutenant Hawkey and the prisoner at the bar proceeded to Mr Ellis, the master of the Dreamyacht, whose house was a quarter of a mile from the hotel, on the Gosport side of the water. Both these persons in the presence of each other made statements to Mr Ellis, and if those statements were legal evidence, they would leave no doubt that the prisoner and Lieutenant Hawkey were concerned in the duel fought that day on Bedwell Down. Mr Ellis would state that they came to him again next morning, and he had never seen them since. The commander of the regiment would prove that on the morning of the 21st Lieutenant Hawkey and the prisoner were absent from the regiment, and that up to this time they had never been heard of.

To return to Mr Seton. He had been left with the medical men at the Quebec hotel. Every possible care was taken of him, and up to the 27th he was going on favourably, and it was then thought that there was a chance of his recovering; still he was in a state of great danger from the nature of the wound. The pistol ball had entered the right hip and meeting with some obstruction in passing along the hip, crossed the belly and came out at the left groin. The deceased was brought on board the yacht where his case seemed almost hopeless. The medical men watched with the greatest anxiety the progress of the wound, but its nature was such that it took time

before the obstruction occasioned by the coagulated blood could slough off; and there was danger of an aneurism forming. The passage of the ball to the lower part of the belly could be traced, and on the 21st, a tumour had formed in the right groin, the pulsation being distinctly felt. The medical attendants, Mr Jenkins, Mr Mortimer, and Dr Stewart, of Portsmouth, watched it with great attention. On the 29th, the tumour continued on the increase; they considered the danger of the patient imminent, and that his case required the greatest skill and boldness. In consequence of this, they sent for the best advice from London, and Mr Liston came down on the 30th, to be present at a consultation with the other medical attendants as to what ought to be done. They gave the subject the fullest consideration, and were satisfied, as they felt the tumour and pulsation, that, without an operation, the life of the deceased could not be preserved, and nothing but that necessity would have induced Mr Liston and the other medical gentlemen to perform an operation. That the operation was performed with the greatest possible skill no one could doubt; for as an operating surgeon, no man in the kingdom could compete with Mr Liston. The law upon the subject was this: if a party inflicted a wound upon another, and in consequence of it an operation became necessary, and the party died under the operation, the party who inflicted the wound would be answerable for the death. If, therefore, the jury were satisfied that an operation was necessary, there was no doubt that the party who inflicted the wound was answerable for the death of the deceased. The operation being determined upon on the evening of the 30th, on the 31st it was performed; there was scarcely any loss of blood, and the patient lived after the operation for sixty hours. On the Sunday, great fears were entertained for the life of the deceased; next day it was evident that his dissolution was fast approaching, and on Monday, the 2d of June, the deceased expired from inflammation, which had extended over the whole peritoneal coat of the intestines. The jury would find, from the evidence of the medical witnesses, that this result had never followed in other cases. The question was, whether the operation was not absolutely necessary, looking at the state in which the deceased was at the time of the operation. It was well known, that the law of this country was, that if persons went out deliberately to fight a duel, and one fell, the seconds as well as the principals were guilty of murder. There was one topic which he should not touch upon—namely, the statements made by the deceased at the time he was lying ill. The learned judge would decide whether those statements were admissible as evidence or not. Taking the facts from the witnesses, and the law from his Lordship, he was satisfied that they would do their duty to the prisoner, and to the public.

Henry Hollingsworth,—one of the proprietors of the King's Rooms, at Southsea. Mr Seton was a subscriber, as well as Lieutenant Hawkey and Mr Pym. I have frequently seen them at the rooms. There was an assembly on the 10th of May, at which these three persons were present. The prisoner is Mr Pym. I saw Mr Seton speak to Mr Hawkey as he left the room; but I did not hear what was said.

Cross-examined.—I did not hear angry words between Mr Seton and Mr Hawkey. I did not hear Mr Seton say, "You shall suffer for this." I did not see Mr Seton dance with Mrs Hawkey that evening.

Andrew Robert Savage,—Acting-adjutant of the artillery at Portsmouth. I acted as steward at that ball. In the course of that evening, Mr Hawkey made a complaint to me. I stated, that I had been told he had called Mr Seton "a blackguard and a scoundrel," and I had been requested to endeavour to arrange it. I told him I had refused to interfere: but, in my capacity of steward, I had no objection to do so. He told me no arrangement could be entered into, for he had received an injury, and not an insult. I expressed my regret that it could not be arranged. Mr Hawkey also said, that Mr Seton had told him that Light Cavalry could not meet Infantry.

By the Jury.—The language conveyed to my understanding a duel. The

next morning, Mr Hawkey told me Lieutenant Rowles had been sent to him to arrange a hostile meeting with Mr Seton. He said arrangements had been made for the meeting. He told me, he had chosen me as his second. I said, I was sorry he had chosen so young and inexperienced a person. He said he did not know who else to ask. I had observed Mr Seton dance with Mrs Hawkey that evening.

Cross-examined.—I had seen Mr Seton dance with Mrs Hawkey before I had the communication with Mr Hawkey. Mr Rowles told me Mr Hawkey had called Mr Seton a blackguard and a scoundrel. I would not allow Mr Hawkey to tell me the reason of his having called Mr Seton by these names. He was about to give me an explanation. I had seen Mr Seton and Mrs Hawkey walking together in Portsmouth, but whether they were alone or not, I cannot recollect.

John Lewis Town.—I am a merchant at Portsmouth. On Tuesday morning, the 20th of May, I saw two gentlemen walking in Green Row, Portsmouth. One was Lieutenant Hawkey; I don't know the other. They were in undress uniform. I heard Mr Hawkey say, "I'll shoot him as I would a partridge." It was either "I would," or "I will shoot him."

Dr John Mortimer.—I am a Doctor of Medicine at Gosport. I have been Surgeon of Haslar Hospital. I was called in to see Mr Seton on the evening of the duel. The ball entered within the fold of the belly, and passed out at the opposite side. I saw Mr Seton daily afterwards; the wound continued without alteration until the Tuesday following. There was then a pulsation in the tumour, which continued and increased. I then said to Mr Seton,—"Here is a new feature in the wound, which will render a further measure requisite." These appearances indicated a state of danger to life. I communicated this to Mr Seton on Wednesday the 28th. In my judgment, further measures were requisite to intercept the communication between the torn vessel and the false aneurism, and I stated this to the surgeons. Mr Liston arrived on Friday the 30th. There were five medical men present at a consultation. We stated to Mr Liston the state of the patient before his arrival. Our opinion was, that a branch from the femoral artery was wounded, that it was throwing out its blood with greater force into the aneurismal tumour, and required an operation. On the following morning, Mr Liston performed the operation. Not only did we agree that the operation was requisite, but as to the mode in which it should be performed. It was most skilfully done. Mr Liston is a very eminent surgeon. After the artery was tied, the pulsation ceased in a moment. There were no unfavourable symptoms from the operation till the evening of the following day. On Saturday morning, there was tenderness pervading the whole of the surface of the abdomen, which convinced me that peritoneal inflammation was coming on. In my judgment, the bullet wound did not give rise to the peritoneal inflammation. In my judgment the operation was the only chance of saving life. The cause of death was the peritoneal inflammation.

Cross-examined.—In my judgment, the patient would have died shortly without the operation. I think he would have died within twenty-four hours. I have never said he might have lived twelve months. He might, by possibility, have lived twelve months.

Re-examined.—There was no human probability of his living at all.

Dr Stewart.—I am a Surgeon in the Navy, and have seen many gun-shot wounds. I considered Mr Seton, from the first moment I saw him, in imminent danger from a gun-shot wound. He had lost much blood. In gun-shot wounds, unless an artery, or a branch of an artery is injured, there is but very little flow of blood. The danger of a gun-shot wound is, when the slough comes off; then hemorrhage might become considerable, and death ensue. On the 27th, I perceived the pulsation in the tumour, and then I had no doubt that an artery had been wounded. Nothing but the operation, which was so beautifully performed by Mr Liston, could have afforded a chance of saving life. I told Mr Seton of his danger, and his lawyer was sent for. On the Saturday morning, before the operation, he received the sacrament. On the Sunday morning, he was

worse. I sat up with him the whole of Sunday night. He was then fast sinking. He asked me if there was the least chance of his recovery. I evaded the question. He said, "I am not afraid of dying; do tell me the worst;" at the same time thanking me. I told him I had not the least hope of his recovery; he wept very much, and said, "I feel most grateful to you for all your kindness to me." He then made a statement relative to the wound he had received.

By Mr Cockburn.—This was on the Monday morning. There was great restlessness and gradual prostration. He did not say he was free from pain and better. He repeatedly asked me as to his state during the night. Two hours after he made the statement, he asked me if he was better. I shook my head, and told him the danger he was in, and that it was my duty not to deceive him.

By the Judge.—In my judgment, on the Monday morning, he believed that his death was immediately approaching from the wound.

Mr Cockburn and *Mr Serjeant Kinglake* objected to receiving the declaration of the deceased, upon the mere opinion of the witness as to the impression of the deceased with respect to his state. It had been held in Bonner's case, and another case, that to make a dying declaration evidence, it must be clear that the party did not expect to recover, and that if there was a lingering hope in the mind, as in this case, the declaration of the dying man is not admissible.

Mr Justice Erle was of opinion that the proposed declaration was admissible. The principle of the law is, that where a party speaks under the belief that his death is fast approaching, he speaks under a strong responsibility, and would adhere to the truth. In this case, it appears from the evidence of Dr Stewart, that Mr Seton had a firm belief that his death was fast approaching; and though a ray of hope, which rarely departs altogether, might have remained, still the man had such a solemn conviction of approaching death that his declaration is admissible.

Examination resumed.—Mr Seton said, "Well knowing your opinion, as I have told you before, I know not why I was shot. I went on the ground, and had I took the position that was proposed by my opponent, I then should have been in my opponent's state. I saw Lieutenant Hawkey present his pistol, which did not go off the first time. I saw him present the pistol, which did go off, and the ball from which passed through my body. I fired on each occasion. I asked if he was quite sure Mr Hawkey was the person who fired at him, and he said, 'No doubt of it.'"

James Allen.—I am one of the Surgeons of Haslar Hospital. I have had a fair share of experience in gun-shot wounds. I made a *post mortem* examination of Mr Seton's body. There were three wounds—the gun-shot wounds, and that made by the operation. I followed the line of the ball: an artery was injured, but I could not trace which, after its division. The artery had been severed, and a portion of it ligatured in the tumour. It was divided an inch from the trunk of the femoral artery. The line of the ball was through two inches of fat, which rendered the operation more difficult. That wound was dangerous to the life of the man who had received it. The false aneurism increased the danger. In my judgment, the operation was necessary. It is impossible to say whether death would have arisen if the operation had not been performed. Aneurismal tumours have been spontaneously cured. This was a diffused or false aneurism. True aneurisms are more easily cured spontaneously than false ones.

Cross-examined.—As long as a false aneurism keeps open, there will be a flow of blood from it. I don't think any one could say that such an aneurism would cause death. I have known instances of aneurismal tumour having been spontaneously cured by means of a coagulum of blood forming at the mouth of the artery.

Re-examined.—I think it vague to form an opinion upon the danger of life—of machinery you may give a decided opinion—but not so of animal life.

Mr Cockburn, upon the cross-examination of this witness, again raised the point he had argued before, adding, that if competent medical advisers set up a new cause of death, as in this case, how could it be said, that the original wound

was the cause of death? Here, the wound was neither the original, nor aggravated cause of death.

Mr Robert Liston.—I am a surgeon in London. On the 30th of May, I went to Portsmouth to see Mr Seton. I was informed by the surgeon, of the first discovery of the pulsation in the tumour, and of its progression. Mr Seton had all the appearance of having lost much blood. Some large vessel must have been wounded, from the effusion of blood. The danger to be apprehended from such a wound is violent bleeding on the separation of the sloughs. The bleeding might have been stopped by the formation of a coagulum—a false aneurism would be formed. The tying of the iliac artery was necessary. The danger from allowing the false aneurism to go on, would be from violent bleeding, which might have proved instantly fatal. From the condition in which Mr Seton was, the loss of a small quantity of blood might have been fatal. In my judgment, no other operation would have been prudent, than that of tying the iliac artery.*

Mr Cockburn objected to this question, as he was shut out from proving the contrary.

The Judge overruled the question, upon the principle he had before stated.

Mr George Sampson.—I am a surgeon of London. I went down to see Mr Seton. I saw and examined him, and I concurred in the judgment of Mr Liston as to the propriety of the operation.

Mr J. P. Potter.—I am a surgeon in London, and accompanied Mr Liston. I agree with Mr Liston in the evidence he has given.

Cross-examined.—I have been a pupil of Mr Liston.

Mr Thomas Hammond Fiske, a silversmith at Portsmouth.—Lieut. Hawkey came to my shop, betwen 11 and 2 on the 20th of May, for a pair of pistols. He directed the pistols to be taken to Mr Sherwood's. He had before asked if I had a place where he could try the pistols. I replied, I had not. He then said he would take them to Sherwood's.

Mr George Sherwood.—I am a gunmaker, living at Portsmouth, and have a shooting gallery there. I recollect a person (Mr Hawkey) coming to my shop on the 20th of May. He wished to be shown into the shooting gallery, to have a few shots. I showed him into the gallery. One of my men attends the gallery; his name is George Powell; he went into the gallery to the gentleman. I went back into the shop, and I then heard shots fired. I don't know how many; perhaps one or two, or something of that sort. The gentleman afterwards came down into the shop. He asked me if I could lend him a brace of pistols; I told him, No. He asked if I could tell him where to get a pair; I told him, No. The same gentleman came again between 2 and 3 o'clock that day. He was not then alone. I don't know who was with him, nor can I describe the person; but he was dressed in an undress uniform. Before they came in the second time, a parcel was brought to my shop. I opened it, when it came; it was a case of pistols; they were new duelling pistols. One of the gentlemen asked me if they were good ones. I said they were pretty good. He told me to cast a few bullets; he did not say how many. I understood two or three dozen. I cast about three dozen. The bullets were put into the case with the pistols, and the case, with its contents, was sent into the gallery, and the gentleman went up into the gallery. I can't recollect whether I heard firing on that second occasion. I did not receive money from the gentleman. My wife generally takes the money. My shooting gallery is thirty feet long. I don't know how many paces that is. I can't say that the prisoner is the gentleman who accompanied the other gentleman. To my recollection, I never saw the prisoner. I should not know the other gentleman.

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* Owing to the strong opinion expressed by the judge (Mr Justice Erle), that the necessity or expediency of the operation performed upon Mr Seton was not a fact relevant to the question as to the guilt of the accused—inasmuch as, if the medical men acted *bona fide* to the best of their judgment, the party who inflicted the wound was responsible for the consequences of the operation—the examination of Mr Liston was stopped. For the same reason, no medical witnesses, it will be seen, were examined for the defence.

Cross-examined.—I have been present when gentlemen practise. They practise both with deliberate aim, and with snap-shooting.

George Powell.—I am in the employ of Mr Sherwood. On the 20th of May, I recollect a gentleman coming there to practise. He was a young person, dressed in plain clothes. I had not seen him before, to my knowledge. He had a few shots.

Cross-examined.—There is a style of shooting called snap-shooting—*one, two, three*, said then they are standing sideways. I loaded the pistols myself. He tried both pistols.

W. Beamish, a private of Marines, and servant to Lieutenant Hawkey.—I saw Mr Hawkey on the 20th of May, near the common. He ordered me to go home, and stay there till he returned. I went to his house, but he never returned. At 8 o'clock on the morning of that day, a gentleman called to see my master. He sent a card up, upon which was written, "Lieutenant Rowles, R.N." I afterwards showed that gentleman into the drawing-room. My master went into the room to him. He remained about a minute. Mr Pym called that day.

Cross-examined.—Mr Pym was frequently at my master's house. I had seen Mr Seton at my master's house, but not in company with Mrs Hawkey. Mr Hawkey was absent every day upon gun drill, and twice a-week upon field drill. He was engaged upon gun drill from 10 to 12, and on field drill from 2 till 5.

W. Marsh, of the Marines, and late servant to Mr Pym.—On the 20th of May, I saw my master about half-past 4 in the afternoon, in his room. He told me to take my belt off, and go along with him. I followed him towards Point. Lieutenant Hawkey was with Mr Pym at Point. They met at the Sallyport. We all got into a boat. I had a brown paper parcel, which Mr Pym gave me; it was a little more than a foot long; it felt hard, as if it was wood. We crossed over to the Gosport side, and Mr Hawkey and Mr Pym landed on the beach. I followed about fifty yards behind them. They went through the town of Gosport by Stoke's Bay. We came to the preventive station, and to some railings. Mr Pym then took the parcel from me, and ordered me to remain there till he wanted me. The shingle was then higher than my head, and I could not see what was going on on the rough down. In about three quarters of an hour, Mr Pym came and called to me. I went, and followed him to where there was a gentleman lying on the ground, and two others standing up. The gentleman on the ground appeared to be bleeding. I did not know that gentleman. One of the other gentlemen I had never seen before. He ordered me to go for a surgeon. The other gentleman's back was toward me, and therefore I can't tell who that gentleman was. Mr Pym said nothing to me. I went off in haste for a surgeon. I found Mr Jenkins, and then returned to the spot, but the gentlemen were not there, and I have never seen my master since. On the next day, in consequence of orders given me, I crossed over to the Fountain Inn. I asked for a parcel that two gentlemen had left. I received a similar parcel to the one I had carried the day before. I took that parcel, and left it on a table in Mr Hawkey's room.

John Dennis, of the coast guard service.—I saw the last witness running past the station, and in consequence of what he said I went to Brown Down, and saw a gentleman lying on some boards, with two sculls underneath. There were other gentlemen. They asked me to assist in carrying the gentleman to the Dream yacht. He was bleeding. There was a bandage over the wound. I saw him put on board the Dream yacht. I knew neither of the gentlemen. It was between 6 and 7 o'clock in the evening.

James Churcher, of the preventive service.—An officer's servant came and spoke to me on the 20th of May. I looked through my glass towards Brown Down, and saw three persons, two standing, and one lying. I then went to the spot.

George Daniels.—I live at Alverstoke. On the afternoon of the 28th of May, I saw two gentlemen going towards Brown Down. I should not know them again. They appeared to have a servant behind them. Between six and seven I walked out on the Down and I heard one report of fire-arms, and in about

two minutes afterwards I heard two reports. A man ran up to me and asked for a surgeon, and I sent him to Dr Jenkins. The man Marsh is the servant who ran up to me. It is impossible for me to say that the prisoner is one of the gentlemen I saw. Directly I had seen the servant, I saw two men running from the scene of action. One of them had apparently a handkerchief in his hand, as if there was something tied up in it. I was 300 yards off.

Mary Wood.—My husband keeps the Fountain Inn, near Brown-down. On Tuesday, the 20th of May, two gentlemen came to my house about half-past six in the evening. One had a mahogany box in his hand. I think the prisoner was one of the gentlemen; but I cannot swear to him. They asked for a sheet of paper, to write a note. I gave them the paper, and one of them wrote upon it. They then asked for a sheet of brown paper, to seal up the case in. I gave them the paper, and they afterwards left a parcel with me directed for Lieutenant Hawkey, Marine Barracks. They said a person would call for it in the morning. Their dresses about the legs looked wet and dirty, and they brushed themselves. They remained about twenty minutes. A servant came the next morning, and took away the parcel.

Cross-examined.—I had never seen either of these gentlemen before. To the best of my recollection, I think one was taller than the other. I believe the prisoner was one, but he is much altered. He had a nice colour then.

Mr William Ellis Low, the master of the Queen's yacht.—I am well acquainted with Mr Pym, and knew Mr Hawkey. On the evening of the 20th of May, Mr Pym and Mr Hawkey came to my house about eight o'clock. Mr Pym spoke to me alone: he told me that an unfortunate affair had taken place, and that a gentleman of the name of Seton was wounded. He requested me to see if any assistance could be rendered. I went to the spot, but did not find the wounded man there. I returned. Mr Hawkey and Mr Pym remained at my house till eleven o'clock. Mr Pym returned to my house about nine the following morning, accompanied by Mr Hawkey. On that morning, Mr Pym said nothing to me about the affair. On the previous evening, he said no more than I have stated.

Mrs Stansmore.—My husband keeps a lodging-house at King's-terrace. Mr Hawkey lodged at my house. On Monday, May 19, Mr Hawkey said he had a favour to ask: he said, Do you know Mr Seton? I expect that gentleman to call, and I wish you would come frequently into the room, and don't leave Mrs Hawkey and Mr Seton alone, for she has been frightened by Mr Seton. I once saw Mr Seton come to the door, and I had Mrs Hawkey's orders to deny her to Mr Seton. She frequently called him "horrible old Seton." At the first part of her acquaintance she spoke highly of him, but afterwards seemed to be in great horror of him. I think I know Mr Pym, but he is very much altered; he was very intimate with Mr and Mrs Hawkey, and was treated as a brother. I have heard Mr Seton come often. Mrs Hawkey was left much alone on account of Mr Hawkey being at drill. Mr Seton used to come when Mr Hawkey was absent.

Mr John Jenkins, Surgeon at Gosport.—On the evening of Tuesday, May 20, I was called upon to attend a gentleman who was wounded on Brown-down. I was stopped on the road, and directed to go on board a small yacht called the Dream. I there found Mr Seton lying wounded upon a board. One man and two gentlemen were also on board. He was much exhausted, the pulse scarcely perceptible. The gentlemen were trying to reanimate him by throwing water in his face. I administered brandy and water. My attention was directed to the right hip; it was covered with a ligature. He appeared to have lost a large quantity of blood, but it had then ceased to flow on account of his fainting. On my road to the Quebec Hotel, I sent for Dr Mortimer. I conveyed Mr Seton to the Quebec. The wound was inflicted by a pistol ball, a little above the projecting part of the thigh called the trochanter major; it had passed from the thigh, through the walls of the belly, and made its exit by the left groin. There was considerable swelling in the right groin and scrotum. The ball had entered on the right side. I washed and dressed the wound, and made the patient comfortable, and remained two hours till he had rallied; that

was half-past 10 o'clock. I went again at 12; he was then warmer and more comfortable; no further bleeding took place. I continued to attend him till his death. Dr Stewart came in on the following day. He went on favourably till the 27th of May, he was never out of danger from the time he received the wound until he died. On the 27th of May, for the first time, we found a tumour pulsating. The tumour had existed from the first. We inferred that an artery of considerable importance had been wounded, and we were borne out in that opinion by what we had heard of the mode in which the blood had flowed at the time the injury had been received. The blood was thrown out in a jet to a considerable distance. Dr Mortimer, Dr Stewart, and myself consulted, and considered the danger imminent, and that from sloughing taking place, such a bleeding would come on as would destroy life immediately. I thought a false aneurism had formed; and the patient would be liable to that bursting at any time, upon sloughing taking place. The effect of the bursting would be immediate death. We agreed to wait 24 hours; the pulsation did not increase on the 28th. On the 29th, the size of the tumour had increased. We had applied ice and cold applications, which we continued. In my opinion, the patient was in great danger. On the 30th the tumour was much the same. On the 29th we communicated to the patient the increased danger he was in, and it was determined to have assistance from London; but we had decided that it would become necessary to tie the artery above the wound—the external iliac artery—which is a very serious operation, especially in such a subject. I should not have determined on such an operation unless, to save the patient's life, it had been absolutely necessary. In my judgment, on the evening of the 30th, there was no other mode of giving the patient a chance of life. Mr Liston arrived on the 30th: Mr Sampson, Mr Potter, and Dr Mortimer consulted with him, and all concurred in the necessity of the operation. The next morning the operation was performed by Mr Liston in the most skilful manner. The patient lost very little blood—not two table spoons full. After the operation was performed, pulsation in the tumour ceased. In the night after the operation, he suffered as much pain as he did on the following day. He died on the Monday evening.

Cross-examined.—This plate (one of Quain's) describes the front part of the human frame. I never could make anything out of plates; I never studied from plates. I can't say whether this plate affords a correct delineation of the human body. I should think these plates were considered authority in the profession; but the plate shows none of the integuments. I cannot draw the line the ball took, because I did not examine the body after death. I must understand the plate before I can do it. I conclude that the ball must have passed through the muscles of the belly, and did not enter the cavity; it went through the coverings of the belly. I do not know how deep the wound was. The deceased was a very fat person. The fainting had caused the bleeding to cease; nothing but the fainting saved his life; he would otherwise have died on the spot. They had plugged the wound. He went on favourably until the 26th. In the early stage, we used tepid applications, until reaction had taken place. Up to the 26th, he was doing well, considering the circumstances. He was not in the best habit of body for such an injury. I thought it possible the femoral artery had been wounded. One would then hardly expect a patient to get over it: but from fainting, a clot is formed, which prevents the blood flowing. If the femoral artery had been wounded, I should think that he would have died on the spot, but not perhaps if he fainted. In 99 cases out of 1,000 he would have died. The probability of life being saved, is so small that you could not expect it. I came to the conclusion that a material artery had been wounded, but I could not tell what artery. It must have been an artery arising from the epigastric artery or femoral. The artery tied was the external iliac, which is in the pelvis. The femoral artery is a continuation of that artery from the pelvis, through the thigh. Upon the witness being asked whether there are not two epigastric arteries, one a branch of the iliac artery, and the other a branch of the femoral artery, he hesitated, and

Mr Justice Erle interposed. The learned counsel no doubt preferred to ten-

der counter evidence. He had considered this part of the case; and, in concurrence with his brother judge, had come to the conclusion, that if a party received a dangerous wound, and medical men were called in, who treated him according to the best of their judgment, and death arose from their treatment, the party inflicting the wound was still responsible. The cross-examination of Mr Cockburn could get no more at the utmost than that death was the consequence of the surgical treatment, which he (the learned judge) should assume was *bona fide*, that is, with the best intention.

Mr Cockburn said, the jury were to decide whether the deceased had died in the manner laid in the indictment. It was a novel question, and a most important one in this case.

Mr Justice Erle.—The question had repeatedly arisen in this country and in Scotland. The only case he knew of, in which the rule was departed from was, that of a man who was wounded by another, and was put in an hospital, where he contracted a disease and died.

Mr Cockburn.—Suppose the wound was not dangerous, and the treatment of a surgeon caused the party's death?

Mr Justice Erle.—That would not avail you. The question is—Whether the gentlemen who were called in were *bona fide* of opinion that the operation was necessary? If they formed a wrong opinion, that is no reason why the party inflicting the wound should get off with impunity. There were only three or four points; there was a wound of this description which caused a pulsating tumour; the gentlemen called in were of opinion that, from that pulsating tumour, there was immediate danger to life, and in their judgment an operation was advisable, and this operation was the immediate cause of death. You propose to tender the evidence of other eminent surgeons that the operation was inexpedient.

Mr Cockburn.—With the view of getting the opinion of the jury, I contend that a man cannot be responsible for a result which is caused by the act of another man.

Mr Justice Erle.—You propose to refer this question of skill to the medical knowledge of the gentlemen of the jury.

Mr Cockburn.—I propose to show, from the statements of the medical witnesses, and from the evidence of other eminent surgeons, that the opinions of the medical attendants of the deceased were wrong, and that if they had let the deceased alone, his life would not have been shortened. Even if I only leave the matter in doubt, by the conflict of opinions, the prisoner is entitled to the benefit of it. [After a considerable discussion, and after the learned judge had conferred with Mr Baron Rolfe in the other court, who concurred with him, the learned judge adhered to the decision he had expressed; and Mr Cockburn was considered to have tendered evidence to show, that the deceased was not in danger from the wound, and that the operation was not necessary to save his life; in order that the point might, if requisite, be raised hereafter.]

When the case for the prosecution closed,

Mr Cockburn took an objection to the form of the indictment, which laid, as the cause of death, the pistol-shot fired by Lieutenant Hawkey; whereas, he submitted, it was necessary to set forth the real state of the facts, that is, the wound, the treatment of the wound by the surgeons, and that an operation, in the course of that treatment, had occasioned death. He supported his objection by referring to the cases of "The King *v* Kelly," Ryan and Moody's Crown Cases, 113; "The King *v.* Thompson," *ibid*, 139; and "The King *v.* Martin," 5 Carr. and Payne, 128. These cases showed, that the intermediate as well as primary cause of death must be set forth. In the present case, the wound inflicted by Lieutenant Hawkey might have been the primary cause of Mr Seton's death, but it was not the proximate or immediate cause; there was something, not the act of the prisoner, supervening, which was the actual cause of death, and this intermediate or supervening cause did not appear upon the face of the indictment.

Mr Justice Erle was of opinion that this was a good indictment. He had already laid it down, that the person who gave the wound was responsible for the

consequences of the medical treatment, provided that medical treatment was by men of competent skill. Thinking that to be the law, the medical treatment was to be considered as one of the ordinary consequences of the wound, and need not be stated in the indictment, which charged the act for which the prisoner was responsible, namely, the firing of the pistol-bullet into the body of Mr Seton.

Mr Cockburn then addressed the jury on behalf of the prisoner, in a speech of great power and eloquence, which lasted nearly four hours.

It was undoubtedly a rule of law, that where the party is at the point of death, and about to be called before the Great Judge, what he states as to the cause and manner of his death is received as evidence, without the sanction of an oath; nevertheless, only where all possibility of hope is extinguished in the breast of the party. If ever there was a case in which the wisdom of this condition of the rule was manifest, it was this. Hope was not extinguished in the breast of Mr Seton on the Monday morning, and the very declaration showed that at the moment he made it, he must have been insincere, or through disease or loss of blood, ignorant of what he said—"I know not why I was shot." Why, he was the challenger." Was Mr Seton, or was he not, the challenger?

He could not discharge his duty to the prisoner without laying before the jury all the facts and circumstances relative to the conduct of Mr Seton. Now, Mr Seton having been the challenger, did he, or did he not, intend to take away the life of his opponent? If they looked to his own language, it was clear that he did. What did he say? "If I had stood in the position proposed by my opponent, he would have been in my state and I in his." That could not have been, unless he had been determined to do his best to take away his opponent's life. As he was the challenger, Mr Seton was in a position to be the first to say, "I am satisfied;" but what was the fact? They had Mr Seton's own admission, that Mr Hawkey fired but once, and he (Seton) twice.

Lieutenant Hawkey was the happy husband of a wife whom he tenderly loved —a lady of great personal attractions, though he (Mr Cockburn) had been told that sorrow and anxiety had worked a grievous change in one whose beauty was once the theme of every tongue. It happened in an evil hour, in the month of April 1845, that Mr Seton made the acquaintance of Mr and Mrs Hawkey, having met them at a ball, and they were introduced by him to Mrs Seton; for Mr Seton was also a married man. In the month of April, Mr and Mrs Hawkey went to a party at the house of Mr and Mrs Seton, and at that party Mr Seton made remarks to Mrs Hawkey which showed that, even at that time, he had conceived an intention of cultivating an intimacy of an improper nature. He did not wonder at the anxiety of his learned friend, that the conduct of Mr Seton should be covered with the veil of oblivion; but was his learned friend to lay the statements of a dying man before the jury, and was he (Mr Cockburn) not at liberty to show that his dying declaration was not true, because the facts were not strictly relevant to the issue? On Tuesday Mr Seton called on Mrs Hawkey and put a proposition to her in unambiguous terms. A knock was heard at the door, and Mr Seton thought it was Mr Hawkey; it was not; it was Mr Pym, who had called expecting to find Mr Hawkey. The interview was thus interrupted. Mr Seton came repeatedly again, and distinctly made to Mrs Hawkey the offer of a ring, and adverted to L.1,000, as the purchase of her person and virtue. She was alarmed; she dared not tell her husband, as she was fearful of the consequences. When Mr Seton left, Mr Pym came in; he observed her alarm and anxiety. She stated to him the cause, and some of the circumstances, though, from motives of delicacy, not the whole. Mr Pym felt that it was his duty to communicate the facts to Lieutenant Hawkey. A woman's fears interposed, and she extorted from him a promise to say nothing. On the ensuing Monday he called again, and on the evening of that day was the *soirée*. Mr Pym spoke to her respecting Mr Seton, and advised her to dance as little with him as possible; she promised she would, and requested Mr Pym to dance with her as often as he could. She danced once or twice with Mr Seton, who made some observation to her, utterly inconsistent with the position

of a married man. On Saturday, Lieutenant Hawkey heard something; and was extremely uneasy; and it was obvious to his wife, that his mind was not at rest. Next day (Sunday) Mr and Mrs Hawkey went to church, and after church they took a long walk in the country together: and after a time, Mr Hawkey's agitated feelings found utterance in words. He taxed his wife with being wanting in confidence; and told her, he was aware that something had passed between her and Mr Seton, which ought to have been communicated to him. When she found her husband's feelings were alive to Mr Seton's attentions to her, she told her husband of Mr Seton's importunities, of the language he had used, and the unequivocal offers he had made to her. Lieutenant Hawkey sought his friend Mr Pym, and passed in review before him all the circumstances which had attracted his own observation, and which bore out the representations of his wife. Next day they went to the *soirée*, where they found Mr and Mrs Seton, whom they passed without any other recognition than bowing, and it must have been quite obvious to Mr Seton that, right or wrong, Mr Hawkey had taken umbrage at his attentions to his wife. Mr Seton was a married man, and should have felt it to be his duty at once to do nothing further that might offend or irritate a husband to whom he must have been conscious he had given occasion of jealousy. Mr Seton adopted no such course. He sought Mr Hawkey and his wife, and he invited her to dance with him in a dance which brings the parties into the closest and most familiar contact,—he meant the Polka. She declined. He pressed her to dance one dance, and having danced with him on former occasions, she applied to her husband to know what to do. He said, "If it must be, dance one dance—a quadrille;" but this he said with reluctance and an ill grace, and would have recalled his permission if he could. He sat by, with his eyes fixed upon the couple as they were dancing. When it was ended, Mr Seton led Mrs Hawkey to her seat and seated himself by her side, entering into conversation with her. Mr Hawkey went up to his wife, and said, "I want to speak to you." Mrs Hawkey, alarmed and afraid of exposure, replied, "I am tired;" and Mr Hawkey said, "then let me sit beside you." Mr Seton was sitting by her. He had seen Mr Hawkey watching them; he had noticed his anxiety; yet he kept his seat immoveable, and fixed his eyes upon Mr Hawkey:—he stared him in the face. Mr Hawkey, his blood boiling within him, turned and said, "Sir, I shall be glad to have some conversation with you in a private room." Mr Seton's reply was, "That is what I wish myself." No one heard what occurred in that room, save the two then present; but the jury might readily imagine what passed. Could they wonder if exasperated feelings, and indignation boiling over, led Mr Hawkey to apply to Mr Seton strong terms, which according to the rules of society one gentleman was not entitled to apply to another?

See the situation of Mr Hawkey. If a man succeeds in seducing the wife of another, the law affords him a remedy, an inadequate one, in pounds, shillings, and pence; but if he fails in his attempt to do him this great wrong, the offender is beyond the reach of the law. Where the very want of success of the tempter proves the immaculate worth of the woman, there, although the wrong is one of the most grievous which one man can offer to another, the law affords no remedy. All that the injured husband can do, is to put the wrong and the affront into his pocket, whilst the world will point at him, as the fond, easy, and forbearing man!

Witnesses were then called to speak to the character of the prisoner.

Mr Justice Erle then summed up at great length. The jury had to find whether Mr Seton died of a bullet-wound; whether Mr Hawkey had fired off the pistol which gave the bullet-wound of his malice aforethought; and whether the prisoner was present aiding and abetting Mr Hawkey in committing that crime. With respect to the first part, whether Mr Seton died of a bullet-wound, it appeared in evidence that he was seen on the 20th of May with such a wound in the lower part of his belly; that the artery which had been wounded began to pulsate; that the best medical advice in Portsmouth was resorted to,

and that one of the best surgeons in London was sent for; that they performed an operation upon the deceased which would have had the effect of arresting the consequences if it had prospered, but inflammation followed, and of the effects of that inflammation Mr Seton died; and he (the learned judge) was of opinion, that if a party received a wound, and recourse was had to medical treatment under which he died, the man who gave the wound was responsible for his death, his death being the consequence of the wound. It was an unquestioned rule of our law, that if parties went out to fight a duel, and any one died in that duel, all who went out to be present at the fighting of that duel were guilty of murder.

The jury consulted in their box for a few minutes, and returned a verdict of NOT GUILTY.

This verdict was followed by an instantaneous burst of applause, clapping of hands, and huzzas.

[In the case of Mr Seton it is probable that the iliac artery was tied under an erroneous impression, that the femoral had been injured. The step so taken, however much to be regretted, is not a proper subject of reproach; and all the gentlemen concerned—so long as dissection had not revealed the truth—were quite entitled to say, that in their judgment, the operation was absolutely necessary to save the patient's life.

If it had been known at the time of the operation, as it was afterwards found, that the femoral artery remained entirely sound; that the ball had not penetrated beyond the subcutaneous fat, merely coursing under the skin; and that the only vessel injured was one (the superficial epigastric) not larger than a crow quill, we cannot suppose, that a surgeon of Mr Liston's experience would for a moment have thought of tying the iliac artery; and feel assured, that he would either have waited, in the hope of some salutary change through delay, or opened the cavity, turned out the effused blood, and either applied pressure or passed a needle through the integuments to check any bleeding that presented itself. Yet the report makes Mr Liston say "the tying of the iliac artery was necessary," and that, in his judgment, "no other operation would have been prudent than that of tying the iliac artery." Does Mr Liston affirm the novel doctrine, that when blood is effused under the skin, from an entry of the integuments, the main arterial trunk of the limb must be tied.]

VARIETIES.

MR LAWRENCE AND THE COLLEGE OF SURGEONS OF ENGLAND.—In delivering the Hunterian oration, Mr Lawrence, upon whom the duty for this year was devolved, took occasion to sneer at the status of the general practitioners. As most of these gentlemen are Surgeons and Members of the Royal College of Surgeons of England, they naturally felt injured and insulted. The Council of the College, as a placebo to the Members, have censured Mr Lawrence.

OBITUARY.—The late Staff-Surgeon Dr William Fergusson, after serving twenty-five years on the coast of Africa, was promoted in September 1839 to the rank of Staff-Surgeon of the first class. From September 1823 to the beginning of the present year, Dr Fergusson, with the exception of two short periods of leave of absence in 1830 and 1839, was constantly employed at Sierra Leone, devoting himself to the study of the causes, nature, and treatment of the diseases of that fatal station. The zeal and intelligence displayed on occasions when the peculiar circumstances of the colony brought him into communication with the Home Government, attracted the notice of the Secretary of

State for the Colonies, who first appointed him Member of Council, and after several times holding the responsible situation of Acting Governor, the following announcement appeared in the Gazette:—

"Downing Street, May 3, 1845.—The Queen has been pleased to appoint William Fergusson, Esq., to be Captain-General and Governor-in-Chief in and over the Colony of Sierra Leone and its Dependencies."

This valuable public functionary did not long survive the honour thus conferred upon him. In the hope of benefiting his health, which had much deteriorated of late, he embarked for England, and died on the passage, on the 19th of January 1846.

On the 10th ultimo, at his residence, 18 Bloomsbury Square, Dr Richard Pinckard, Physician to the Bloomsbury Dispensary.

On the 1st ultimo, at his residence, 10 Bedford Place, Russell Square, after a lingering illness, John Turner, Esq., surgeon, aged 46.

On the 17th ultimo, James Mellis, Esq., M.D., Fellow of the Royal College of Physicians of Edinburgh, and of the Royal College of Surgeons of England, and late member of the Medical Board, Bengal, aged 65.—*Medical Gazette.*

SAUNDERIAN INSTITUTION.—We have been requested to announce, for the information of medical practitioners and students, that Mr Battley will open this Institution, in Moorfields, on the 25th instant, for his annual exhibition of officinal drugs. Mr Battley intends to exhibit the finest specimens that are brought to this country, and to point out the sensible characters which indicate their value. The drugs will be exhibited, as heretofore, in classes, according to their ordinary action on the body; and one class will be replaced by another at convenient intervals. A complete museum of materia medica, consisting of superior and ordinary specimens contrasted, will be prepared for the use of medical students.

Mr Battley will also devote a portion of the day to the operations of the laboratory, consisting of the analysis of drugs, and the investigation and preservation of their medicinal properties. The most important of these analyses will be published occasionally in this journal. The preparation of the class of medicines, termed by Mr Battley "liquors," will be constantly open to inspection, that the medical profession may have the opportunity of seeing as well as of hearing the precise manner in which it is conducted.

In making this announcement, we are authorised to state that it is Mr Battley's wish to promote by every means in his power the improvement of pharmacy, and to increase to medical students the facilities of gaining information in this department of medicine. He is anxious to communicate the experience acquired by the labour of forty years passed in the laboratory, and to exhibit in operation the principles which his experience has led him to adopt.

Upwards of 2000 pupils have already availed themselves of this opportunity in former years. Admission to the museum and labaratory between the hours of 10 and 4 daily, will be given to any gentleman on application, to Mr Howard, at the Ophthalmic Hospital, Moorfields.—*Medical Gazette.*

TO CORRESPONDENTS.

In the course of a few weeks DR CORMACK PROPOSES TO REMOVE TO LONDON. Correspondents are therefore requested, after the 15th of April, not to send their letters to 131 Prince's Street, Edinburgh; but to the care of the London publishers.

COMMUNICATIONS have been RECEIVED from Dr Nicholson, *Antigua*, Dr Pagan, *Glasgow*, Dr Roberts, *Edinburgh*, and Dr Thomson, *Burton-on-Trent.*

The list of Errata has been mislaid, but will appear in our next.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*The Use, and the Abuse, of the Obstetric Forceps:* being the substance of a Clinical Lecture delivered on the 14th February 1846, to the Students attending the Glasgow Lying-in-Hospital. By JAMES WILSON, M.D., &c., &c., Glasgow.

IN using the OBSTETRIC FORCEPS, the object at all times should be to preserve both Mother and Child; and if either be destroyed, or in any degree injured by the operation, the damage must be considered an abuse or misapplication of a valuable instrument.

There is perhaps no instrument which possesses, to the same extent, the elements of perfect safety, and great destructiveness as the Forceps. These very opposite qualities depend, however, in a great measure, on the operator, and the nature of the case.

An opinion prevails unfortunately among students, and even among many who have entered on the active duties of obstetric practice, that little preparation, either by study or training, is necessary to acquire the method of using the Forceps with safety. But the time of trial will come, to dissipate this mistaken notion; and probably, it may come too late, to save the practitioner's reputation; or, what is still worse—the lesson may come too late, to preserve some poor sufferer.

About two years ago, a young practitioner was in the habit of ridiculing students for attending lectures on Midwifery, and particularly the weekly trainings to which they were subjected on the obstetric machines. He was wont to say, that no man possessed of common sense could have any difficulty in using the forceps. His day of trial was at hand: he was called in to assist another practitioner at a lingering case. The forceps were introduced, and the points of the blades thrust through the upper part of the vagina. The instrument was thus placed on the external surface of the uterus—a failure was the consequence, and the poor patient was ruined. The assistance of another practitioner, who estimated the

forceps differently, was requested, and he recognised and pointed out the two openings in the vagina. He introduced the forceps easily, and extracted without any difficulty a child which had been destroyed in consequence of too long delay.

The difficulties attending the use of the forceps are very greatly increased by the circumstance, that our object in using them is two-fold, viz.:—the preservation of parent and offspring. Were we merely required to save the mother, without regard or reference to the safety of the child, or merely to save the child without respect to the mother—the operation would be comparatively easy. It is *the duty of saving both* being combined, and the necessity of operating under cover, without the aid of vision, which puzzle and embarrass the practitioner who is not familiar with this operation.

Much difference of opinion has prevailed, and still prevails, respecting the advantages and disadvantages resulting from the use of the forceps. In the Dublin hospital the crotchet is reported to be more frequently used than the forceps; but the late Dr Hamilton has most conclusively shown in his review of Dr Collins's published cases, that in many of them, where the crotchet was used, and which terminated fatally, success would in all probability have attended the early use of the forceps.

In Glasgow, I do not think this instrument is so often used as it might be; and I am certain, that it is seldom employed prematurely. If there be a fault, it consists, in my opinion, in delay. The difficulties and dangers are thus increased; and the patient is deprived of the advantages which the operation might have afforded.

Perhaps much of the aversion which has arisen against the forceps may be traced to the manner in which the first Professor Towers was wont to speak of them. According to my recollection he used to state in his lectures, that he had never found it necessary to use the forceps above three or four times. Dr Burns at one time entertained a similar estimate of this instrument; but much to the credit of his candour, in the later editions of his *Principles of Midwifery*, he announces a change in his views. He says, "Many eminent men have placed an undue confidence in the powers of nature, and have been hostile to the use of instruments. For a long time, I was influenced by the high authority, and plausible arguments, as well as bold assertions, of those practitioners; but experience has compelled me to adopt the opinion I am now, with a firm and solemn belief of its correctness and importance, to maintain in this Chapter. From the strength of the recommendations of the partizans of nature, we would suppose that whenever the child could actually be born without aid, no hazard occurred; and on the other hand, that instruments must of necessity prove not only very painful in their application, but dangerous in their effects. Now, the first supposition is notoriously wrong, for innumerable instances are met with where the mother does bear the child without artificial aid, and much, doubtless, to the temporary exultation of the practitioner, but nevertheless death takes place, or at the least

a tedious and bad recovery is the consequence," &c., &c.* The second supposition is just as positively untrue; for in the majority of cases, if the practitioner be humane and gentle, the introduction of the instrument gives little or no pain; so much is this the case that in many books we meet with strong and just reprehension of the clandestine and unnecessary use of instruments, which could never possibly take place if their application were attended in such cases by much pain.

It cannot for a moment be denied, that much mischief has frequently been done by the forceps. Both mother and child have frequently been destroyed by them. The important organs within the pelvis have been so much bruised or torn as either to occasion sudden death, or leave the patient a miserable and loathsome object for life.

It is quite true that such misfortunes have frequently happened; but the injuries ought not to have been inflicted, and I am sure they never will be inflicted by any practitioner who knows when, and in what way the forceps ought to be used. It has been very properly remarked by some one, that "were the abuses to which anything is liable to proscribe its use, very few things would be left us for the exercise of our art." Improper motives too have been ascribed to those who have a partiality for the use of this instrument. It has been said that those practitioners are more influenced by the wish to save their own time, than to save or benefit their patients. Were this true, it would be a motive very unworthy of any medical man, but I am convinced that in a matter of so much importance, the profession are rarely so selfish as to be in any degree influenced by any such feeling. For my own part, I have always had a very high opinion of the benefits resulting from the proper use of the forceps, and that favourable opinion has grown with the opportunities I have so frequently enjoyed of using and seeing them used. Baudelocque says, "Those who regard the forceps as an instrument absolutely dangerous, and entirely useless, neither know the mode of acting with them, nor the difficulties of the art, and have doubtless judged them by the abuse they themselves have made of them, and have forgot, that the most safe, and useful instrument often becomes hazardous in the hands of ignorance and prejudice."

But, after all, very much of the mischief which has been ascribed to the use of this instrument arises from the delay which has occurred previous to its use. It is no unusual thing for a woman to have been in severe labour for several days, in consequence of which, general fever and great irritation are superinduced. The soft parts within the pelvis, by this time, are very likely to have sustained destructive pressure, and, in many instances, the child may be already dead. In such circumstances, would it be fair, to trace all, or any of these mischiefs, to the use of the forceps, which, in justice, ought to be attributed to the delay previous to their use.

* Principles of Midwifery, 8th edition, p. 433.

All may not agree about the forceps being frequently necessary, but I presume few will deny, that they are sometimes essential and useful: if so, let us consider, what are the best securities for their safe and efficient application.

These securities are, a perfect knowledge of the pelvis, and of the important and vital soft parts which it contains, the different axis of the pelvic cavity and vagina, and the relative proportion which should subsist betwixt the cavity of the pelvis and the child's head. We must have a distinct recollection of the most natural and easy way in which the head can pass through the pelvis: and we must also be able distinctly to ascertain the position of the head, and how far it has descended into the pelvic cavity. We must be well acquainted with the several properties of the forceps themselves; with the compression, traction, and lever power which they possess, and also with the best mode of introducing and employing them; and lastly, though not least, a natural turn for mechanics will give any one, who is to act with the forceps, a most decided superiority over another, who may not possess such qualification.

It is not my present intention to give any detailed account of the whole process of delivery by the forceps. My object is, to discuss certain points which may be considered as of chief importance, and which may afford some grounds for remark.

I. WITH REGARD TO INSTRUMENTS.—A very intimate acquaintance with their properties is indispensable to their successful use. I have been in the habit of using, for many years, a single curved instrument of considerable power, fourteen inches in length. Their length and power enable one to extract, without the exertion of much apparent force, which is always to be avoided in these operations. Their dimensions, however, require to be constantly borne in mind by the operator. I have frequently known individuals succeed with this form of instrument, who had failed with short double-curved forceps. I was in the habit of using the short double-curved forceps, but gave them up, from finding them more difficult to introduce. In consequence of this difficulty, I have known them introduced in the wrong way, and the inexperienced operator is apt to be embarrassed by them. I amfully convinced they possess no advantages whatever over the single-curved ones, except in those cases where the head of the child is above the brim of the pelvis, and where it becomes necessary to apply one blade over the face, and the other over the occiput: in such cases the double curve is of very decided advantage.

II. POSITION OF THE PATIENT, AND INTRODUCTION OF INSTRUMENTS.—When the patient is placed in a proper position, either on her left side or back, and the bladder and rectum emptied, the best method of introducing the instruments, I take to be that recommended by Smellie. The instructions given by most writers are, in general, confused, embarrassing, and defective. I would refer particularly,

to the directions given in a work which is very frequently consulted by those who find difficulty in introducing obstetric instruments.[1] If the directions there laid down, are followed implicitly and without variation, the forceps will, in the majority of cases, be misapplied, and failure will be the result. These directions would almost imply, that there is only one position of the head wherein the forceps are applicable, whereas there may be many; indeed, the position for which the directions are given, is by no means the most frequent which require the use of the forceps. The writer says, "All things being prepared, and the head being supposed to be placed in the same position as in natural labour, the operator, gently introducing two fingers, between the head and the pelvis, feels for the ear, that he may know the part of the head on which he has his fingers; then taking up the blade, he carries the extremity of it along the hollow of his hand, cautiously and gently, into the vagina, sliding it on between the two fingers and head."[2] And again, "In this introduction and application of the blade, however, we do not nicely manœuvre in order to describe any given line, *but are sure if we introduce it directly behind the pubis*, and fairly over the ear, onward till it rest, and the handle be brought forward, that it has gone almost, suâ sponte, *in a right direction*."[3]

It is quite true that this is the position of the head at the commencement of a natural labour, but as it descends, or, in other words, as labour advances, it gradually turns round, until the occiput is applied, or nearly so, to the arch of the pelvis. Between these two points—the occiput to the side, and ultimately to the arch of the pelvis—there is nearly a fourth of a circle, and when the forceps become necessary, the occiput may be found in any situation between these two points.

The directions for the introduction of the forceps may be given in a few words: having made sure of the position of the head, introduce the hand, well smeared with lard, within the os uteri; search for, and pass the fingers over the ear, so as to guide the blade over that organ, whatever may be its position. I have said, introduce the hand, and this seems to have been the uniform practice of Smellie. There are, no doubt, cases requiring the use of the forceps, which will not admit of the introduction of the hand; but it generally can be accomplished, and it is by far the best and safest practice.

It is true the passing of the hand gives some additional pain, by stretching the soft parts, but these must speedily be far more violently stretched by the instrument and the child's head. If the hand is not previously introduced, the blades are very apt to be pushed up at random, as the scalp is often so tumid as to render it quite impossible to recognise the sutures or trace their direction; and even when the sutures can be felt, an unusual depression or eleva-

[1] In Glasgow, and the west of Scotland.
[2] Lib. cit. edit. 8th, p. 448.
[3] Lib. cit. 449.

tion of the chin may mislead us in our calculations respecting the passing of the blades; for although they may be passed over the sides of the head, they may not include the ears, nor have their points placed on the sides of the chin, which is the only safe way of acting with them.

Another great advantage derived from the introduction of the hand, is the protection it affords to the soft parts of the mother, and the integuments of the head. There is in general a small portion of the os uteri which remains undeveloped, even when fully opened. When this undeveloped portion or small flap is closely applicable to the head, in passing up the blade without the hand as a guide, we are apt to pass the point of the blade on the outside of the os uteri; and the upper portion of the vagina being very tense, a very slight force will thrust the point through the vagina, and thus place the upper portions of the blades on the outside of the uterus, whereby the patient is likely to be destroyed, and the operator defeated. I believe this occasionally happens. I have often seen this exemplified, while my pupils have been operating on one of my machines, when they did not introduce the fingers so far as to pass them inside the os uteri. In introducing the hand, a certain wavering motion of the fingers will enable them to pass when the space is very limited; and with much greater ease than when this kind of motion is not attended to. On introducing the blade, if the point is passed closely against the palm of the hand, and surface of the fingers, with a wriggling motion as it passes upwards, it will be next to impossible either to injure the mother or child's head. If either be injured, it may be considered an abuse of the forceps. I have observed, that there is often great difficulty experienced in locking the instruments. This is a proof that one or both blades must be wrong; in this case they must be adjusted; and this in general is easily managed if one have a clear conception of the position of the head. No attempt should be made to extract till the locking is effected, otherwise destructive injury may be inflicted, and a failure may be expected.

When the instrument is locked, many are in the habit of tying the handles firmly with tape, and keeping them so till the delivery is effected. This is surely wrong. By doing so a greater degree of pressure is kept upon the child's head than is consistent with its safety. I never use any ligature of this sort; and in the intervals of acting, all pressure with the instrument may be, and ought to be removed from the head. I have no doubt this unnecessary pressure is occasionally the cause of the child's death.

With regard to the mode of acting with the forceps, many important points require to be distinctly remembered. If the head is pretty high in the pelvis, the different axis of the brim, of the cavity and outlet, must be constantly adverted to, otherwise we will throw insurmountable obstacles in our way. With this view, the handles of the instrument require to be kept constantly back to the perineum, till some part of the occipital bone has cleared the arch of the pubis; should we bring the handles forward before this time,

we will prevent the occiput from getting under the arch; or should the head, in defiance of our misdirected force, advance in the proper axis, the forceps would be thrown off at the back part of the head; or, on the other hand, should we forget the axis of the outlet, and neglect, as is very often done, to raise the handles towards the pubis, but continue to extract in the axis of the cavity, the result will be, either that the instrument is thrown off at the face, or if it retains the head within its grasp, there will be complete laceration of the perineum.

In acting with the forceps, we use their several powers of compression, traction, and leverage to a certain extent. The compression must never be carried to a degree inconsistent with the safety of the child. Dr Burns, very properly, in my opinion, remarks, that a child's head of ordinary size cannot safely be compressed below three inches in its transverse diameter, and the forceps are generally constructed to admit of compression to this extent only. In using traction, much caution is necessary. If, after repeated trials, and the exertion of moderate force, we find that no progress is made, it is surely better to desist, as the case may not be one adapted for the forceps; or we may, from our mode of acting, have thrown some obstacle in the way which some one better acquainted with the use of the instrument might easily obviate, in which case a consultation would be very desirable.

In using the forceps, some practitioners never avail themselves of the leverage power possessed by this instrument. Those practitioners exert whatever force they deem necessary in pulling directly towards them, without giving the instrument any lateral motion, or, in other words, without using it as a lever. This is surely wrong, when we consider the varying axis of the pelvis. In order to adapt our extracting force to the progress of the head through the pelvis, we would require to pull in a circle, which we cannot do. But when using the forceps as a lever, or moving the handles gently from side to side, or from blade to blade, the head may be brought down without almost any extracting force. This motion, however, requires to be very gentle, otherwise the soft parts lining the passage, or even the deeper-seated textures, are very apt to sustain injurious pressure.

There is another consideration, which, if constantly borne in mind and acted on, will contribute very materially to the safe and successful use of the forceps. I mean the quarter turn the head makes in its descent through the pelvis. For example, if we apply the forceps when the head is high, the one blade will be almost directly behind the symphysis pubis, and the other in front of the sacrum. Now should we inadvertently, in an extraction, continue the forceps without change in this position, as the head advances, we would find it next to impossible to deliver. If we would succeed, the instrument must be held in such a way (loosely) as to permit the head to make its natural and quarter turn.

If the head does not make this movement spontaneously, it will become our duty to assist it in so doing, and turn the occiput as the head advances from the left acetabulum, so as to bring it ultimately under the arch of the pubis: a very slight neglect of this particular will be quite sufficient to defeat our purpose of delivery, or if we persist and use greater force, we may destroy the child, and seriously injure the mother.

It was my intention to have described, at some length, those causes which I have found most frequently operating to defeat easy delivery with the forceps; but this I find would far exceed the limits of an ordinary lecture: I must therefore confine myself to the simple mention of a few of them.

First. We frequently fail with the forceps, because we are too long in using them. If the woman is exhausted, and the uterine energy quite gone, it will generally require more force to extract than can be employed with safety. The soft parts of the mother, and also the integuments of the head, are apt, by too long delay, to become inflamed, and so much tumefied, as to offer no inconsiderable obstacle to the delivery; and I am sure it will be found in any case where the forceps are used, that if we have not the active co-operation of the uterus, the delivery will be very difficult, if not impossible. I could adduce many cases in proof of this.

Second. When the child is dead, and the head softened, we will very generally fail with the forceps. This arises from the too great compressibility of the head, whereby the instrument cannot retain its hold. In such cases, the crotchet is the more appropriate instrument.

Third. Mal-position, or too great disproportion between the head and the pelvis. Mal-position, I believe, operates frequently as the cause of failure, or, what amounts to the same thing, we do not distinctly recognize the position, or we mistake, and consequently apply the forceps wrong. I fear they are often applied at random, and hence nothing but failure can be expected. When the head is morbidly enlarged, as occasionally happens, the forceps are quite inappropriate, and the crotchet is called for, otherwise the patient may be exhausted and lost.

Fourth. Ignorance of the nature of the operation, of the instrument, or of its objects: these objects are the entire safety of both the mother and child, so that if either is in any way injured, the forceps may be said to have been misapplied. Lastly, in this group of causes occasioning failure, are ignorance of the mechanism of labour, and of the various movements the head makes in passing through the pelvis. In every case, where these essential points are not borne in mind, complete failure, or some degree of injury, will be the consequence.

Fifth. A permanently contracted state of the uterus, or an irregular or spasmodic contraction of this viscus, are very frequent causes of difficulty and failure.

Sixth. The want of tact, or of sufficient manual training in this operation, will perhaps be found the most frequent cause of failure and disappointment. It is a great mistake, both in surgery and midwifery, to suppose, that perfect knowledge will insure success in the operative department of either branch. *The Head must be perfectly informed, but the Hand must be no less perfectly trained.* Operative midwifery, particularly this operation, is purely mechanical, and never will be properly performed without a long process of training. I will venture to assert, that there are more failures with the forceps than in any other operation the practitioner may be called upon to perform; and I am convinced, that the only way to acquire the tact and training so indispensable to success, would be the frequent and familiar use of obstetric machines. I would not, for any consideration, want these useful assistants, whereon I can test and try myself, when I meet with any difficulty, so that I may be prepared to meet and manage similar cases in future.

I have reason to suspect that this mode of training is not sufficiently appreciated; and there is, I fear, a lurking belief that many of the operations in our profession may be performed intuitively, particularly operative midwifery. But as soon may we expect the mechanic to perform any of the manifold operations of his craft by reading or listening to lectures on them, without the toils and training of a long apprenticeship,—or that the artist, from the knowledge alone of the principles of painting, should produce a finished picture,—or that the stone should, as if by magic, assume the figure and animated form of some ancient statue by the first rude touches of the chisel and mallet,—as to suppose the complex, and often dangerous operations of which we have been treating, and which generally involve the lives of two beings, can be either safely or successfully performed without a previous and sufficient manual training. I would not for a moment suppose, that the artificial expedient here recommended is at all to be compared to the use of the forceps on a living subject; but as the great proportion of young men cannot possibly have an opportunity of using, or of seeing the forceps used on women during their academic attendance, it is surely better to exercise them on these machines, than to go forth into the world to try their rude and untrained hands on delicate women, and thus bring discredit on a useful operation, and destroy those on whom they make their first attempts.

143 Hope Street, Glasgow,
30th March 1846.

ARTICLE II.—*Case of Hospital Gangrene—Amputation.*

By ADAM NICHOLSON, M.D., Antigua, West Indies.

Jeremiah, a young man of bad character, who had for many years laboured under an ulcer of the left leg, was admitted into the Infirmary of the Daily Meal Society, on Tuesday the 6th January, with the following symptoms:—The left foot was in a state of complete gangrene, attached only by the bones and a few tendons, and yielded a sanious discharge, exhaling a most offensive odour. The countenance of the patient betrayed great constitutional distress, and his pulse was quick and feeble. He was put on a generous diet with wine; a lotion of chloride of lime was applied to the leg; and camphor mixture, with carbonate of ammonia and tincture of opium, was administered, with a view of allaying the constitutional irritation and improving his strength, to enable him to undergo the operation of amputation. On Saturday the 10th, the limb was found considerably swollen, with large vesications or bullæ extending above the knee. The lower third of the thigh was completely emphysematous: the patient's countenance was expressive of great suffering: his pulse was extremely feeble: and the general surface was bedewed with a clammy perspiration. Death seemed to be approaching with rapid steps, and the propriety of immediate amputation was discussed in consultation. The general opinion was, that he would die on the table; and the operation was decided upon, in compliance rather with the urgent entreaties of the patient, than with any hope of ultimate success. The limb was transfixed, and two lateral flaps formed in the upper third of the thigh. The only arteries tied were the femoral and profunda. A few stitches brought the flaps into contact, and the stump was supported with a bandage in the usual way. A full dose of tinct. opii was administered, and wine and brandy were continued in liberal quantities. Next day his abdomen was slightly tympanitic, and he complained of a constriction of the œsophagus, occasioning some difficulty in swallowing. He made water freely. The camphor mixture with tinct. opii was continued, and the stump was kept wet with nitro-muriatic acid lotion. He improved daily. On Friday the 16th the dressings were removed for the first time, when it was found that union had taken place in nearly the whole extent of the wound. The ligatures came away on the 21st: and he recovered rapidly, without a single untoward circumstance.

The success which has attended amputations in this small Infirmary far surpasses that of any on record: not fewer than 6 or 8 amputations are performed every year, and in the course of 15 years, (or if I may include my father's private practice, 20 years,) only one death has occurred. The cases requiring amputation of the lower limbs are generally incurable ulcerations, combined with elephantiasis arabum; and of the upper limbs, injuries from fire-arms, and machinery.

ARTICLE III.—*Case of Meningitis with Obscure Symptoms following a Blow on the Head.* By ADAM NICHOLSON, M.D., Antigua, West Indies.

THE following case, which was the subject of a medico-legal investigation, presents some points of interest to the pathologist.

A young negro, about 20 years of age, had an altercation with his concubine on the evening of Thursday the 8th of January, in which the mother of the girl took part. In the scuffle, the old woman was thrown down, when her cries brought her husband to the spot, armed with a stick, with which he struck the young man on the head, and felled him to the ground. He was unable to rise till assisted by an acquaintance who happened to be passing, but he soon recovered himself, and walked home, complaining only of pain in the back of his head and neck. Next day, he went about his usual occupation, but in the evening he began to complain of a severe pain in his ear, to which the usual domestic remedies were applied. Next morning (Saturday) the ear-ach left him, but he was feverish, and complained much of his head. He took a dose of Epsom salts, which operated freely, without relieving the symptoms. In the night, he was said to be at times quite delirious, running into the street, and screaming from the violence of the pain. In the morning (Sunday) Dr O'Kearney was sent for, who reported the patient to be calm and collected, the state of his skin and pulse natural, exhibiting no marks of violence, nor any symptoms indicative of disease of the brain, except a slight convulsive movement of the arm. He ordered his head to be shaved, a blister to be applied to the neck, and some powders of calomel and jalap to be given. The medicine operated well. On the next day the Doctor considered the patient better, and on the following discontinued his visits. On Thursday the 15th Dr O'Kearney was again summoned to the patient, who still complained of excruciating pain in his head, and was desirous of being bled. Dr O'Kearney declined complying with his request, as he did not consider bleeding indicated either by the pulse or general symptoms. The man appeared to be in the perfect possession of his intellect in the presence of the Doctor, although his friends stated that he was at times delirious, and could scarcely be kept in the house. He died at 8 o'clock the following morning, so calmly, that two females who were sitting on his bed, did not observe when he expired. A few moments before the fatal event, he swallowed some sago prepared with cinnamon.

By desire of the coroner, Dr Nicholson assisted at the *post mortem* examination. The body was rather thin but muscular, there were no marks of violence discernible in the scalp, or any other part of the body. On removing the dura mater from the convexity of the brain, some spots of concrete pus or lymph were found between the arachnoid and *pia mater* on both hemispheres. At the

base of the brain this morbid product was more abundant, the *pons Varolii* being covered with a dense layer of it. The substance of the brain was firm, without exhibiting many bloody points; both the lateral ventricles were filled with serum.

In the chest, the lungs were sound, the pericardium contained about half an ounce of fluid, and the surface of the heart exhibited some whitish opaque spots.

The abdominal viscera appeared externally in a normal state; but the stomach, when removed, contained about half a pint of fluid having the odour of camphor or ginger, and its villous coat was of an intensely red colour, from the cardiac orifice along the greater arch, to within an inch of the pylorus. The bladder was distended with urine of a natural colour and smell, which was slightly alkaline. The large intestines contained a good deal of dark feculent matter.

The stomach and its contents were examined with Reinsch's test, sulphuretted hydrogen, &c., without betraying any trace of mineral impregnation. The fluid was also subjected to distillation, and the distilled liquor preserved the aromatic odour, but was not spirituous.

Dr N. concluded that the red colour of the villous coat of the stomach, which resembled that of Philip Nicholson, delineated in Dr Yelloly's paper in the *Medico-Chir. Transactions*, was not attributable to inflammation, nor to any poisonous agent. He was of opinion, that the deceased died from inflammation of the membranes of the brain, a disease which might originate either from natural causes, or external injuries, such as a blow on the head. The absence of a visible mark of the contusion in the scalp was no proof that a blow had not been sustained of sufficient violence to produce these effects on the brain. He instanced a case which occurred a few weeks ago, and which was known to all the jury, of a young man who had a fall from his horse, who, although there was a fracture of the frontal bone, and great extravasation into the anterior lobes of the brain, was able to ride home after the fall, and who did not exhibit the slightest mark on the scalp, to point out the situation of the injury. He quoted also the 65th and 66th cases of Dr Abercrombie. What appeared most puzzling in this case was, the absence of the usual symptoms of inflammation of the brain; and, according to the evidence of Dr O'Kearney, and the attendant, the absence of *coma*, a symptom which, in Dr N.'s experience, invariably had preceded death in these cases. In the case before us, the heart's action seems to have been arrested directly by the lesion of the brain, without an intermediate affection of the respiratory functions.

The jury returned a verdict of death from natural causes.

ARTICLE IV.—*Green Alvine Evacuations of Children.* By SPENCER THOMSON, M.D., Burton-on-Trent.

THE following remarks have been called forth by the very interesting paper of Dr Golding Bird, on the Green Alvine Evacuations of Children, reprinted in the MONTHLY JOURNAL for February. The subject has hitherto been strangely neglected, and certainly deserves further investigation. Generally speaking, the peculiar grass-green, or chopped spinach alvine discharge, has been attributed to depraved secretions, or to the mixture of vitiated bile with the ordinary secretions of the alimentary canal. This opinion, supported both by popular and medical authority, is condemned as erroneous by Dr Bird, who supports the judgment by his own analysis of an apparently most characteristic specimen of the discharge in question, in which he proves the almost total absence of bile or of its constituents. He likewise brings forward the analysis of Dr Simon, which apparently contradicts his own; but this is evidently only in appearance, if the very diverse nature of the specimens examined be considered, that of Dr Bird having been procured from a mercurialized hydrocephalic infant, whilst that of Dr Simon is described as a "calomel evacuation." In the former case, the mercury probably had little or nothing to do with the peculiar discharge, which is general in the disease mentioned, independent of medicinal agency. In the latter, we should naturally expect to find a large proportion of bile hurried through the bowels from the liver by the purgative. Under these circumstances, then, Dr Bird's analysis must be considered, as, to a certain extent, conclusive.

Having proved that the green discharge contains but a very small proportion of bile, Dr Bird proceeds to demonstrate its origin, tracing it to slow exudation of blood into the intestines, consequent upon partial congestion. He adduces the possibility of a green colouring substance being generated by the action of "certain matters upon the hematosine of the blood,"[1] such as, by the influence of sulphuretted hydrogen or nitric acid. Dr Bird is of opinion, that facts justify us in attributing the green discharge to the presence of altered blood; and he mentions, in corroboration, the frequency with which the evacuation in question is preceded, accompanied, or followed, by unchanged blood in the stools; and he also states, that in those cases in which stools voided of a "bright orange" colour pass, after exposure to the atmosphere, to a grass-green, the change is owing to the "oxygenating influence of the air." This peculiarity Dr Bird states he is unaware of belonging to mere bile under similar circumstances.

The foregoing short outline of Dr Bird's arguments will, it is imagined, be further borne out by the following remarks:—

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[1] See Dr Bird's paper, MONTHLY JOURNAL for February.

The non-bilious nature of the green discharge is very strongly confirmed by Dr Guy in his article on Hydrocephalus in the *Cyclopedia of Practical Medicine*. He dissents from the idea that these green evacuations are owing to vitiated bile: he says,—"The peculiar green colour of the stools in hydrocephalus has been attributed to their union with morbid bile. We were first led to entertain doubts of this opinion being universally correct, and to ascribe the appearance in question rather to a morbid secretion from the glands of the intestines themselves, by observing, that the peculiar porraceous tinge was not acquired in perfection till the feces had reached the lower part of the small intestines, the contents of the upper portion being of a pale drab colour, whilst the bile in the gall-bladder was of a yellow colour, and without any tinge of green."

Although in the above passage, the source to which the green matter is attributed be fallacious, the proofs of its non-bilious nature are strong; and further, it must have occurred to many, as it has done to the writer, to observe fæces displaying every sign of great or total deficiency of the biliary secretion, and at the same time exhibiting an abundant admixture of green matter.

Strong as the above evidence must be considered, against the current idea, that these discharges are owing to altered bile, the proof of their being derived from altered blood will be found still more conclusive: for this (in addition to Dr Bird's,) we must look to those other circumstances under which we find discharges similar to, or closely resembling, those in question, given off from the human body: it remains for analysis to prove the identity. In persons who are much debilitated by acute or chronic disease, how frequent a symptom, especially towards the close, is the grass-green vomit, which resembles the green stool, as closely as the difference in the seat of the discharge will admit, frequently answering to the account of the "supernatant fluid of oil-like consistence," which Dr Bird describes, as separating from the other excrementitious matters, in the specimen examined by him. Green vomit is also stated to occur in yellow fever, in infantile remittent, and in one of the diseases of dentition. Respecting the latter, Dr Joy in his article "Dentition," in the *Cyclopedia of Practical Medicine*, quotes the observations of M. Guérsent, Physician to the Children's Hospital at Paris, who, in describing Cruveilhier's "maladie gastro-intestinale des enfans avec desorganization gélatiniform," speaks thus: "The diarrhœa is extremely abundant, and the stools are sometimes yellow, but oftener green, like flocculi of confervæ floating in a transparent serous fluid. Vomiting is soon superadded,—first of a serous fluid, and, at a later period, of a porraceous matter." Here, it is evident, that the green secretion must have got to the stomach, by inverted action, or must have been formed there. Add to the foregoing examples, the green "turtle fat" motions of hepatitis, and there is presented an array of cases, in which a green discharge

from the alimentary canal, may, in accordance with reason and experience, be ascribed to blood exuded in small quantities from the mucous lining, in a state of congestion, ulceration, abrasion, or softening. Dr Bird's observations respecting the frequency with which the green discharge from the bowels of children is coincident with more or less of blood, must be confirmed by all who have paid attention to the subject; as likewise his remark, that the atmosphere produces the characteristic green tint in stools which, when passed, were of a totally different hue.

There remains to be adduced one other conclusive proof, that to altered blood, and to *that alone*, is to be ascribed the occurrence of the green colour: that proof is the green or bluish green stain which is so frequently to be observed upon the dressings of granulating lacerated wounds; it is impossible to account for this appearance, if it has not its origin in the constituents of decomposing blood; in these wounds there must always be lodged, amid the torn tissues, a certain amount of blood in small divided masses, subject to the action of the atmosphere whilst undergoing chemical change, and subject to the same influence as small quantities of blood would be in the stomach, from the action of oxygen conveyed to it in the saliva. In the bowels again, matters happen just as might be expected: the extravasated blood, at times, meets with sufficient oxygen to effect the required change, at others, sufficient oxygenation is not undergone, and the green colour remains undeveloped, until the secretions come in contact with the atmosphere. Lastly, may not the various hues and changes of colour which occur in the dead body, or in portions of the living body which have been severely bruised, be accounted for on the same principle? In the latter case, there must be small quantities of blood extravasated, which, in the course of time, undergo changes analogous to those which take place in blood existing in divided masses in the stomach and intestines, as in wounds, but much more slowly and imperfectly; this being plainly enough evinced, by the tardy appearance and imperfect development of the various shades of blue, green, and yellow, exhibited by a severe bruise, some time after its infliction.[1]

[1] In my paper on the Curative Powers of Castor Oil, published in the MONTHLY JOURNAL for February, I mentioned, how quickly the exhibition of the emulsion there recommended altered the colour of these green discharges; the uniform good effects which I have observed to follow the exhibition of that medicine, in all cases indicating the presence of ulceration or abrasion of the mucous lining of the bowels convinces me, that the power of so quickly changing the character of the discharge depends upon its curative effects, wherever such a state of the mucous membrane, as that described, exists.

ARTICLE V.—*Apparatus for Arresting Hemorrhage after the Extraction of Teeth.* By Dr ROBERTS, F.R.S.S.A., &c. Dentist Surgeon, Edinburgh.

(*Communicated to the Edinburgh Medico-Chirurgical Society by Dr A. Peddie.*)

IT is well known, from the published reports of cases, and from the experience of many surgeons as well as dentists, that alarming hemorrhage has occasionally followed the extraction of a tooth, even when so loose in its socket, as to require little force or dexterity for its removal. In the great proportion of such cases, the bleeding is the result of an hemorrhagic diathesis. In the same individuals, a slight scratch or an abrasion on any other part of the body might have evinced the morbid tendency; but the locality of the injured surface, with its heat and moisture, greatly favours the bleeding progress. The situation, also, presents no inconsiderable obstacles to the arrest of the hemorrhage; and hence the difficulty which has been experienced in so many instances, and the fatal result in not a few.

The actual cautery, caustics, and styptics, such as the sulphates of alumina and zinc, the acetate of lead, the protonitrate of mercury, turpentine, kino, &c. have, together with the constitutional treatment usually employed in hemorrhagic cases, been on too many occasions of no avail; and it now seems to be the decided conviction of the profession, that the speediest and most efficacious mode of arresting an alveolar hemorrhage is by *direct pressure upon the bleeding point.*

In some cases, I have succeeded in accomplishing all that was desired, by the continued pressure of the finger on a dossil of lint placed in the socket; and in others, by a cork placed over the plug, and a bandage round the head tying up the jaws. But while the former mode cannot always be continued for such a length of time as is required, the latter is attended with many disadvantages; it is a practice not without danger; and has proved utterly inefficacious, in several melancholy instances.

Since the death of a young gentleman in 1842, whose case was read to this Society by the late Dr Hay, and afterwards published in the MONTHLY JOURNAL, (March 1842, p. 264,) my attention has been strongly and anxiously directed to this subject, with a view to devise an apparatus, by which continued, steady, yet gentle pressure might be applied to the point from which the bleeding proceeds; and the compresses which I am now permitted the favour of laying before your Society are the result. As yet they are unproved; but I trust, that when an opportunity occurs for testing them, they will be found, with slight alterations at most, to answer the purpose for which they are designed.

The compress for the lower jaw, from the nature of the parts engaged, is simple compared with the one for the upper jaw. It is,

in fact, an artificial finger and thumb. In applying it, the first thing to be attended to, is a thorough cleaning out of the cavity of the alveolus from which the bleeding issues; it is then to be firmly filled with dry lint. The moveable cross bar being kept at the furthest extremity of the apparatus, the bolster or pad is brought to rest under the jaw, on that side of the mouth which is affected; and the branch is afterwards carried into the mouth, and the stopper or saddle made to bear directly on the plug of lint filling the alveolus. The cross bar is now moved towards the chin, and the screw at its extremity is turned to effect the necessary pressure, which should just be firm enough to maintain the steadiness of the apparatus.

The compress for the *upper jaw* is, of necessity, more complicated, and at first sight may appear somewhat formidable: it is, however, of very easy application. It may be divided into three parts—a shield or plate with straps, to be secured to the head;—a perpendicular bar, to be secured to the shield;—and a sliding transverse bar, bearing the stopper or saddle. The shield is to be placed on the side of the head, or over the forehead, as need be, or the side from which the bleeding proceeds, and made quite steady by the straps; but so as not to occasion painful pressure. The bleeding alveolus is now to be carefully cleaned out and plugged with lint, as recommended in the application of the compress for the lower jaw. The perpendicular bar is then to be slid through the groove or notch in the shield, and carried up, until its lowest extremity is brought in a line with the teeth of the superior maxilla; the cross sliding bar having been inserted in the mouth to a requisite length, so as to bear directly on the alveolar plug, the thumb screw attached to its extremity, and the one in the shield are then to be tightened, until a proper degree of pressure is obtained. I would recommend that the lowest screw should be kept at its greatest length, to allow increased pressure, if required; and in the case of either compress, (should any point appear to be insufficiently closed,) a small piece of lint may be introduced, without shifting the apparatus; or, should any slackness occur in the absence of the surgeon, the patient himself, or a friend, may firm the screw a little more with advantage. If thought necessary, a strap may be passed round the face, across the upper lip, and attached to the lowest extremity of the perpendicular bar, so as to effect a degree of counter pressure, and give additional steadiness to the apparatus.

All must be aware, that the ordinary method of applying pressure to stop an alveolar hemorrhage, is to fill the socket of the tooth with lint, to place a cork over the plug, and then to tie up the jaws immediately with bandages. If the bandages are firm, from the length of time during which they must be retained, the patient experiences much suffering and annoyance, for the constraint of the mouth and face frets him exceedingly; and the heat which is produced in the head, increases the tendency to a local determination

of blood. And besides, if sickness supervene, the act of vomiting cannot but be most painful, if not absolutely dangerous.

The great uneasiness thus produced must soon lead to a little slackening of the bandages, and thus, in some instances which I have witnessed, while to appearance, all seemed secure, hemorrhage was going on in secret, and blood was running down the throat in a full stream, or forming large clots in the mouth, which in turn served as a poultice to the bleeding vessel.

In the case to which I have already alluded, pressure *newly* applied always restrained the hemorrhage for a time; but the pain and annoyance which the patient suffered from the bandages induced an involuntary effort to obtain relief; and the bandages thus becoming loose, the blood flowed as much as ever, and this occurring frequently, much valuable time and strength were lost. Even in this case, I am inclined to think, that had an early gentle pressure been applied to, and steadily maintained on the precise point from which the hemorrhage proceeded, without the intervention of other means, the result might have been favourable.

But to conclude:—While I am so sanguine as to believe, that the compresses which I now recommend, are fitted to secure the kind and degree of pressure most desirable, I also anticipate a very great advantage from the freedom of the mouth,—a freedom which is most agreeable to the patient, and permits the surgeon at any time to inspect it. Thus, should hemorrhage be ascertained to be going on, an alteration in the plug, or in the position of the stopper, may be easily accomplished; and at the same time, other applications may be employed, and nourishment administered, without disturbing the apparatus in the least degree.[1]

POSTSCRIPT.

March 13, 1846.

Since this paper was read before the Society, I have had an opportunity of *testing* the compress for the upper jaw, and with perfect success. On the 11th of this month, (Wednesday,) one of my assistants removed a molar of the upper jaw from a

[1] Dr Peddie exhibited the two compressers to the Society, and explained the mode of applying them, making use of a skull for that purpose. He then stated, that the instrument had been laid before the Royal Scottish Society of Arts sometime since, when a very favourable report was returned, and the Honorary Silver Medal awarded to Dr Roberts. The instrument had been inspected by several eminent members of the profession, who had bestowed on the invention unqualified approbation. Since then, it has been made much more light and convenient.

Dr Peddie concluded by stating, that within the last ten years, he had met with three cases of excessive hemorrhage after the extraction of teeth; that he believed the dentists who had operated had done so with great ease; that he (Dr P.) in the after treatment of these cases, had experienced all the difficulties which Dr Roberts had described as attending the use of the ordinary local and general means; and was convinced, that the possession of such a compress would have enabled him to restrain the hemorrhage early and easily.

Fig. 5.

Fig. 1.

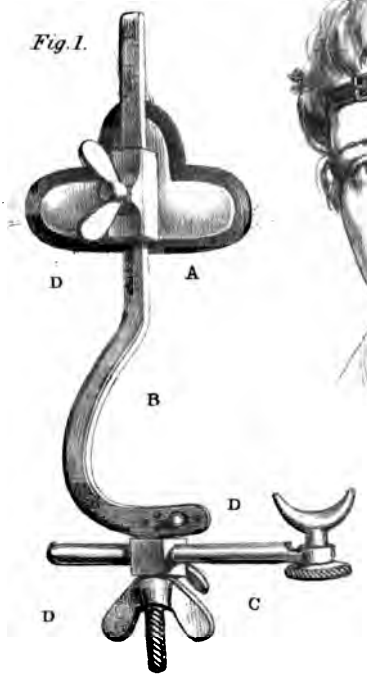


Fig. 3.

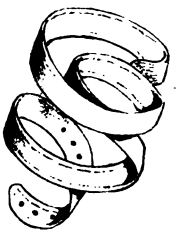
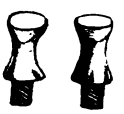


Fig. 6.

Fig. 4.



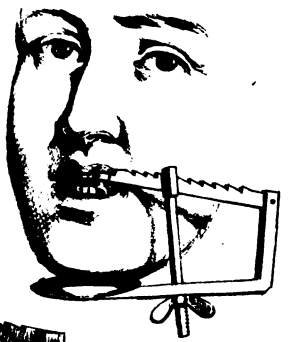
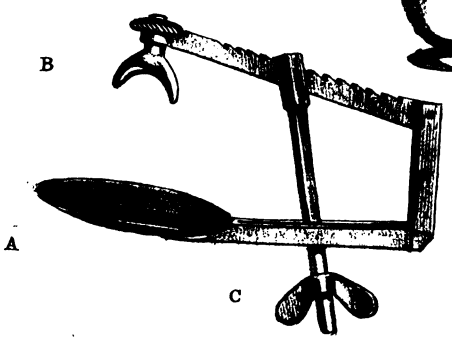


Fig. 2.



F. Schenck, Lith

ILLUSTRATION OF DR ROBERTS' COMPRESS.

morning patient, Thomas Russel, shoemaker, 116 Crosscauseway, about 30 years of age. The tooth came clean away, and the hemorrhage was nothing more than usual; but from that time to this, the 13th of the month, (Friday,) it had not ceased, and when he presented himself, the bleeding was very active. He had naturally become alarmed.

I plugged the bleeding alveolus firmly with lint, and then placed on it the compress. The hemorrhage was at once checked; nor did he lose a drop of blood afterwards, while the compress was on, a period of four hours, and when he left, there appeared no further cause of alarm. During the time the compress was applied, the patient felt no pain whatever from the pressure, and but little inconvenience otherwise; while I had perfect freedom in examining the mouth from time to time.

He informed me, that he had had two teeth extracted at a former period, and that after each extraction he had lost a great deal of blood, the hemorrhage continuing for several hours after each operation.

Saturday, 14*th*. No further hemorrhage.

DESCRIPTION OF THE PLATE.

FIG. 1.

A. Shield.
B. Perpendicular bar.
C. Transverse bar and stopper.
D.D.D. Regulating screws.

FIG. 2.

A. Bolster.
B. Stopper.
C. Regulating bar and screw.

FIG. 3.

Additional strap for counter pressure.

FIG. 4.

Stoppers.

FIGS. 5 and 6.

Method of application.

ARTICLE VI.—*Cases in Legal Medicine.* By J. B. WHARRIE, M.D., Hamilton.

Cases of common occurrence appear to me to be nearly as instructive to students, and those newly entered upon the field of practice, as those of a more rare description, or than accounts of difficult operations, which they may seldom or ever encounter.

In Number LXII. of this Journal, I communicated some cases of "*Fatal Fist Blows on the Head;*" and I now intend to detail briefly a few more Medico-Legal cases of a different kind, which may per-

haps not be altogether without interest to the student of Forensic Medicine, in so far as they bring before his notice some of the variety of cases, he may be called afterwards to investigate and report upon, to the law authorities of the Crown. In no situation in which the practitioner can be situated, need he expect to escape meeting with cases somewhat analogous in character; and there thus attaches to him a considerable degree of responsibility, for which it is his duty to be prepared.

I.—CONTUSIONS FROM KICKS, OR BLOWS ON THE ABDOMEN, are frequently followed by fatal consequences, by giving rise to inflammation, even although the internal organ do not appear to be seriously injured at the time; and from the elasticity of the abdominal parietes, in many of these cases, the contusion produces little, or no indication of violence.

CASE 1. M. M'Bride, pleaded guilty of the culpable homicide of his wife, at Glasgow, in September 1837, and was sentenced to transportation for life.

While in a state of intoxication, (as is usual in such cases,) the prisoner quarrelled with his wife, and kicked her and struck her on the belly. She was confined to bed till she died, a few days after the receipt of the injuries. I did not see her while in life, but was appointed, along with the late Mr Beveridge, to inspect the body.

The only *external* marks of violence were swelling and discoloration around the right eye, as if from a blow, and a small cut about a quarter of an inch in length, over the left eyebrow. She appeared to have been a healthy person, and of a full habit of body; she had been nursing a child for some months, and the breasts were gorged with milk. The abdomen was much distended, and the body generally was swelled from incipient putrefaction.

The contents of the head and chest were healthy. There were about two pounds of bloody serum effused within the peritoneal sac. The peritoneum lining the umbilical, pubic, and right renal regions, was highly vascular, and some patches of it over the lower part of abdomen, had a dark gangrenous hue. A space about two inches in length, within the fibres of the rectus abdominis muscle, near the umbilicus, was filled with extravasated blood. The remainder of the abdominal and pelvic viscera were healthy.

The opinion formed from the dissection was, that death had been caused by peritonitis, excited by *external* violence.

CASE 2. David Hamilton was found guilty of the culpable homicide of his wife, and sentenced to 12 months imprisonment, at Glasgow, in September 1838.

The woman, aged 62, was kicked on the belly by her husband, on the 24th June, and was never well afterwards. When seen on the 2d of July, she complained very much of pain, aggravated on pressure, especially over the right side, and the whole belly was considerably distended.

She had troublesome vomiting, but her bowels were open; the pulse was 100, and intermitting; the tongue was furred; and the skin was hot. There was an old inguinal hernia of the left side, which was reduced, and gave her no trouble. On a careful inspection of her body, there was not observable any mark of *external* violence. She lingered till the 26th July, and continued to complain less or more, during the whole course of her illness, of pain of her belly, attended with occasional fits of vomiting and sickness. A warrant was granted by the sheriff, for Mr Millar (whose patient she had been,) and myself to inspect her body, on the day after her death.

The omentum was found to adhere very extensively to the peritoneum lining the abdominal parietes, and in many parts to the intestines, by bands of lymph, by which they appeared in several places to be in a manner glued to each other. On the left side there were two cysts, each containing about 3 ounces of white purulent matter, one of these was close to the diaphragm, and surrounded by adhesions of intestines, so as to form a sac; the other collection of pus, was situated lower down in the left umbilical region, and formed by adhesions of gut to the peritoneum. On turning back the abdominal parietes, there was found on the right side, situated betwixt the peritoneum and muscles, a quantity of coagulated and grumous blood, covering a space of about four inches square, and having the appearance of being some time extravasated, the thin serous part being absorbed. It was at this part she complained of being most severely pained, when seen on the 2d July, and which she described as being the spot over which she received the kick from her husband.

The contents of the head and chest were examined, and found healthy.

The cause of death we ascribed to peritonitis, which had terminated in some places in suppuration, and in others by effusion of coagulable lymph. From the marks of extravasated blood, together with its being proved that she received a kick, there can be no doubt the inflammatory action had been excited by *external* violence.

II.—RUPTURE OF THE LIVER is very frequently produced by a carriage or cart passing over the body, without leaving *external* marks of violence.

CASE 3. The body of a carter was brought here by the Glasgow mail coach on the evening of the 15th December 1840. It was ascertained that he had left Glasgow at night in a state of intoxication, and by some accident, but in which the mail-driver was not implicated, his body was run over by the wheel of the coach; and of the injuries he sustained, he shortly afterwards died. Dr King, now of Glasgow, was appointed along with me to make a post-mortem inspection of the body. On a careful external examination, we observed the following marks of injuries: a bruised wound of

the scalp, on the right side of forehead, measuring ¾ of an inch; four contused wounds near each other, over the occiput, the largest being scarcely an inch in length. On the pelvis, and extending towards the abdomen, on the right side, there were marks of two slight abrasions, one being 1½ inch in breadth, and the other 1 inch. There was also a slight abrasion in the centre of back, over the spine. There was no fracture of the skull, nor of any of the other bones; and on opening the various cavities, all the viscera had a healthy and natural aspect, with the exception of the liver, the right lobe of which was very extensively lacerated, occasioning a considerable effusion of blood into the cavity of the abdomen. We of course could have no hesitation in ascribing the injury of the liver to have been occasioned by the passing of a heavy body, such as a carriage, over him, whilst lying on the road.

CASE 4. A girl 5 years of age, while lying upon the street, was run over by a loaded cart, and immediately expired. On inspecting the body, I found a slight mark of a bruise, commencing at the right groin, and extending above the umbilicus. On opening the abdomen, there was a considerable quantity of blood found effused into the cavity, which had proceeded from a large laceration through the right lobe of the liver.

III.—SUDDEN DEATH FROM DISEASE OF THE HEART is very apt to lead to suspicion of violence, particularly if there has been any quarrel going on at the time the fatal event occurs. The lower class are often obliged to continue at their usual employment, although labouring under cardiac disease to a considerable extent; and violent mental or corporeal excitement is very likely in these cases to occasion a suddenly fatal termination.

CASE 5. On the 6th August 1844, two Irish labourers, living in a temporary hovel, in the parish of Cambusnethan, and employed in the formation of a railway, quarrelled about the amount of lodging money the one was indebted to the other. Some masons who were working near saw the dispute. There were no blows given, but a sort of struggle took place, and according to their account, the one who died seemed to have "the best of it;" but they observed he suddenly fell back on an embankment of earth, so that his fall was trifling. On attempting to raise him it was ascertained he was dead, and the man with whom he had the brawl immediately fled, under the dread of being accused of having caused his death. The circumstance was reported to the procurator-fiscal, and (as in all similar cases of sudden death) a *post mortem* inspection was ordered, Dr Thomson and I being appointed to perform that duty.

He appeared to have been about 60 years of age; and upon inquiring at his acquaintances if he was in general healthy, they said he was often troubled with oppression in breathing. We observed no swelling nor lividity of the face, and the features did not appear distorted; the only *external* mark of injuries were a slight abrasion

on the right cheek bone, and one the size of a split pea above the outer angle of right eye. The wind-pipe, gullet, and other parts about the mouth and throat, along with the vertebræ of the neck, were all examined, but there were no marks of injury about them. We opened the thorax, and inspected the viscera within that cavity: there was not found rupture of any of the large vessels. The right auricle of the head was nearly half filled with blood, and the other cavities contained but little. Upon examining the structure of the heart, we found the walls of the left ventricle considerably thickened, and the aortic valves completely ossified, forming a bony circle around the orifice, narrowing the opening, and destroying in a great measure the natural use of the part. The commencement of the aorta, to the extent of four inches, was considerably enlarged. The lungs were in a healthy and natural state, with the exception of being more than usually congested with blood. All the abdominal viscera were in a normal state. We opened the head; there were no marks of injury about the scalp, nor bones of the cranium. On removing the dura mater, the vessels circulating underneath contained some blood, but the brain was healthy, and no extravasation had taken place.

Case 6. A man, who had been a soldier, and had been seen travelling to Glasgow, was found dead upon the road near the village of Bothwell, on the 16th of July 1842. From the cause of death not being known, an inspection of the body was very properly ordered by the sheriff. On a careful *external* examination of the body, the only marks of injuries observed were a very slight abrasion on the forehead, and at the angle of the under jaws, which might have been occasioned by a fall. The viscera of all the cavities of the body were examined, and found in a natural state, except those of the thorax. On laying open the pericardium, it was discovered to be filled with blood, which had escaped from the right auricle of the heart, by a rupture near the termination of the superior vena cava. The heart was generally enlarged, its substance thin, very soft, and easily torn. The circulation being increased from the man's having walked ten or more miles, may probably account for the sudden rupture of the heart; but in this case the same circumstance would very likely have taken place under violent mental excitement, and thus suspicion of violence would have attached upon any person with whom he might unfortunately have had any quarrel or altercation, till the cause of death could be ascertained by a *post mortem* inspection of the body.

IV. The most interesting and instructive case which has occurred in my medico-legal practice, is one of Fracture with Displacement of the Cervical portion of the Vertebral Column, an account of which (by my friend, Dr King of Glasgow, who assisted at the dissection,) is given at page 552 of the volume of this Journal for 1842; and is copied into the last edition of Taylor's Medi-

cal Jurisprudence. I refer to it now, as a case well calculated to impress upon the practitioner the propriety of examining the spinal cord. I have read cases, both before and since its occurrence, which convince me, that if a sufficiently minute examination had been instituted, the result would have been as fortunate as in that of Sinclair, and the cause of death would not have been left in uncertainty.

ART. VII.—*On the Qualitative Examination of Urinary Concretions.* By DAVID FORBES *and* ROBERT J. WELLS, *Analytical Assistants to* Dr GEORGE WILSON, F.R.S.E., *Lecturer on Chemistry, Edinburgh.*

IT will generally be admitted, that an accurate knowledge of the composition of urinary concretions is of the greatest importance to medical men, but it will be found, that, with few exceptions, this knowledge is confined solely to chemists, who, though they have published numerous and accurate analyses of calculi, have not given the physician any systematic process for their examination. Upon looking at the methods[1] published for the discrimination of calculi, it will be found that the rules there detailed will apply only where the calculus is entirely, or in greater part, composed of but one substance, which is a case of somewhat rare occurrence.

The best, and, with one exception, the only systematic plan, for the analysis of compound calculi, is that published by Rees,[2] and also by L'Héritier[3] (which, although precisely similar in principle, in details, and even in language, is given by each of these chemists without reference to the other.) On inspection, however, it will be found to be defective in several important points.

Whilst engaged in the examination of a very extensive collection of urinary calculi and deposits, we felt that a systematic, and, at the same time, accurate plan for their analysis, would be a desideratum. We accordingly devised the following process, as a means of enabling us to carry out our investigation, and now submit it to the examination of the medical profession, as at least more accurate than any method which, as far as we are aware, has yet been published. We are in hopes that, by a more general and extended knowledge of the composition of urinary concretions, some light may be thrown upon the causes of their origin, and the means of preventing their formation.

Before proceeding to the details of the method of analysis, we shall briefly enumerate those substances which we shall consider as entering into the composition of calculi, with a few observations on

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[1] Parnell's Elements of Chemical Analysis, p. 293. Scharling on the Discrimination of Vesical Calculi. Golding Bird on Urinary Deposits, &c.

[2] Rees on the Analysis of Blood and Urine in Health and Disease.

[3] L'Héritier Traité de Chimie Pathologique, page 707.

their occurrence. The substances in question amount to sixteen, and are the following:

Urate of ammonia.	Peroxide of iron.
„ „ soda.	Cystine.
„ „ potash.	Phosphate of lime.
„ „ lime.	Oxalate of lime.
„ „ magnesia.	Uric acid.
Phosphate of ammonia and magnesia.	Silica.
Carbonate of lime.	Organic matter.
„ „ magnesia.	Uric oxide.

Of these bodies, the first five are soluble in excess of boiling water, and we have a means thus afforded us of separating them from the other constituents of calculi; yet, as they are but sparingly soluble in cold water, the filtration must be performed whilst the fluid is hot.

The urate of ammonia is of rather frequent occurrence in calculi, and, in some cases, has been found to constitute the whole, or nearly so, of the concretion.[1] Upon examining a calculus which had been labelled as containing urate of ammonia, we were unable to detect even a trace of that substance, and, in fact, no portion of the calculus was soluble in water. We cannot attribute this error to want of skill on the part of the former analyst, but rather to the defect of the method made use of, which had probably consisted in boiling a portion of the calculus with caustic potash, when the evolution of ammoniacal fumes was regarded as sufficient proof of the presence of ammonia in the calculus, and, as uric acid was also present, the calculus was inferred to consist of urate of ammonia, whereas the ammonia had really arisen from the decomposition of organic matter, some portion of which is almost invariably present in calculi.[2]

Urate of soda is but rarely found in calculi, and the urate of potash is still more uncommon. The former, however, constitutes the greater part of gouty concretions, the analysis of which may be conducted in a precisely similar method to that given for the examination of urinary calculi.

Urate of lime frequently enters into the composition of calculi, and especially of those containing free uric acid. It has no doubt been frequently overlooked, by being considered as oxalate of lime, from the fact of its not effervescing before ignition, whilst it effervesces after it. This character is common to both, depending on their decomposition and conversion into carbonates by the action of heat. Urate of lime is, however, easily distinguished by its solubility in boiling water, and in the deposition of uric acid from

[1] Dr Golding Bird mentions five calculi in the Museum of Guy's Hospital, which were composed of nearly pure urate of ammonia. Guy's Hospital Reports, vol. vi. p. 178.

[2] This method is one which has been in very general use, and is given as characteteristic of urate of ammonia calculi. The ammoniacal magnesian phosphate also evolves ammonia when boiled with caustic potash, which decomposes it, forming phosphate of magnesia and phosphate of potash.

this solution, on the addition of a stronger acid. It is, however, considerably less soluble than the urates of ammonia, soda, potash, and magnesia.

From the greater solubility of the urate of magnesia, we find that this substance is not so generally met with, yet we have frequently observed it in calculi containing urate of lime, though in small quantity. Scharling makes mention of a calculus composed in greater part of this substance.[1]

Calculi composed of the carbonates of lime and magnesia, though frequent in herbivorous animals, are seldom to be found in man. These substances, however, exist in small proportion in most phosphatic concretions; and, in several of these latter, we have found the proportion of carbonate of magnesia to be considerable. A fine specimen of the carbonate of lime calculus may be seen in the Museum of the College of Surgeons, Edinburgh, which consists of several small white concretions, of from the size of a mustard seed to that of a pea, composed of nearly pure carbonate of lime.

In the analysis of a calculus given below, as containing cystine, it will also be seen that a very large proportion of carbonate of lime is present.

Cystine is seldom found in calculi, unless in a comparatively pure state; but Dr Golding Bird has described a calculus composed of two zones of cystine, separated by a layer of urate of ammonia, and deposited upon a nucleus of oxalate of lime.[2]

M. Rabenhorst has also published the analysis of a calculus from a man, which contained

Phosphate of lime,	67·43
Carbonate of lime,	21·62
Urate of ammonia,	7·21
Cystine,	2·30
Peroxide of iron,	1·12
Loss,	0·42
	100·00[3]

Peroxide of iron has generally been overlooked as an ingredient of calculi, being considered as arising from the introduction of steel instruments into the bladder, yet its frequent occurrence, though in small proportion, seems clearly to show that in most cases it does not originate from external causes; that it sometimes exists in notable quantities, may be seen from the analysis above referred to.

We shall pass over uric oxide and silica, the former on account of its extreme rarity of occurrence;—the latter, as it is seldom to be detected, unless a very large portion, or the whole of the calculus, is operated upon.

Organic matter is seldom absent from calculi, as may be found

[1] Scharling on the Discrimination of Vesical Calculi, pp. 4, 8, 50.

[2] A drawing of this calculus will be found in Dr Bird's Observations on Urinary Concretions and Deposits, Guy's Hospital Reports, vol. vi. p. 175.

[3] Archiv. de Pharmacie, vol. xxxiii. page 145.

by heating a portion of a calculus (not containing uric acid) upon platina foil, when it will be seen that carbonization almost invariably takes place; it is generally in small proportion.

The characters of uric acid, phosphate of ammonia and magnesia, oxalate and phosphate of lime, are so well known, and the substances themselves of so frequent occurrence, as to render it unnecessary for us to make any particular mention of them.

The observation of Berzelius, that fluorine exists in urine, which has been fully confirmed by the recent researches of Dr G. Wilson, and the discovery by the latter, announced to the Royal Society of Edinburgh at its meeting on April 6, 1846, that fluorine is present both in blood and in milk, warrants the expectation, as that gentleman has suggested, that fluoride of calcium will occasionally be found in urinary concretions, especially in the lime-calculi. It may be tested for by burning away the organic matter of the calculus, and warming the residue with strong oil of vitriol, in a platina crucible covered by waxed glass, with characters traced through the wax. If fluorine be present the glass will be permanently etched.

To these substances Dr Yellowly has added hydrochlorate of ammonia, and some chemists benzoate of ammonia, oxalate of ammonia and urea, but from the great solubility of these bodies, they cannot with propriety be considered as constituents of calculi, but rather to result from the evaporation of urine retained in fissures, and between the laminæ of the concretion.

For further information regarding the characters of these substances, and the urine containing them, we must refer to Dr Golding Bird's valuable and elaborate paper in the sixth volume of *Guy's Hospital Reports.*

In selecting a portion of a calculus for examination, its structure must first be observed; if in laminæ, it will be necessary, in order to have a perfect analysis, to examine each layer, otherwise the analysis will be of no value, as it neither gives the composition of the whole calculus, nor of any one layer; if, however, the concretion should have a uniform structure, it is not particular how the selection is made, and the dust made in sawing the calculus may be used to advantage.

We shall now enter into the details of the method of analysis, and, in order to render it more simple, we shall divide calculi into two classes.

I. Those which contain uric acid either in a free state, or in combination with one or more of the bases previously mentioned.

II. Those which do not contain uric acid.

The first point, therefore, which we have to determine, on submitting a calculus to examination, is to which of these classes it belongs, and in order to do so we proceed as follows:—A grain or two of the calculus or lamina, should the calculus not be of uniform texture throughout, is placed in a small porcelain capsule, or what is better, in a small porcelain spoon, a few drops of nitric acid are

let fall upon it, and the whole is cautiously evaporated to dryness over a spirit lamp.

If uric acid be present, a yellowish or pink residue will remain, which, on the addition of a drop of ammonia, changes to a magnificent purple, more or less deep in colour according to the proportion of uric acid present in the concretion.

Having in this way ascertained to which of these classes it belongs, we can now proceed with its analysis, and in the first case will suppose that the calculus under examination contains uric acid.

I.—ANALYSIS OF CALCULI CONTAINING URIC ACID.[1]

With the exception of uric oxide, the whole of the substances mentioned as constituent of urinary concretions, have been found in calculi containing uric acid, and taking into consideration the smallness of the portion operated upon, it will be at once seen that their accurate analysis is generally attended with considerable trouble, and requires proportionate care. We divide the examination into four parts, viz.

A. Aqueous solution, containing the urates of potash, soda, ammonia, lime, and magnesia.

B. Acetic solution. Phosphate of ammonia and magnesia, peroxide of iron, carbonate of lime, and carbonate of magnesia.

C. Hydrochloric solution. Phosphate of lime, peroxide of iron, cystine, and oxalate of lime.

D. Insoluble. Uric acid, silica.

We accordingly proceed with the aqueous solution.

A. A portion of the calculus, previously reduced to fine powder,[2] is boiled in a small flask or beaker glass, with about two ounces of water, for ten or twelve minutes, and the solution filtered whilst hot.

1. Acetic acid is added to a portion (about ½ oz.) of this solution, and the whole allowed to stand for a short time.

a. A precipitate falls, which is of a crystalline character. One or more of the urates, mentioned at page 345, are present, and the precipitate will consist of uric acid, resulting from their decomposition.

The residue which was not dissolved must be again boiled with successive portions of distilled water, until the latter ceases to leave a residue upon evaporation, and the liquid thereafter filtered; this solution is then examined according to 2. The portion not dissolved by water is to be preserved for examination, which is con-

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[1] Gouty concretions, containing uric acid in combination with soda, are to be analysed according to these directions, by which also the urine of serpents has been examined.

[2] As it frequently happens that some of the soluble salts of the urine are retained in the many fissures and interstices of calculi, it is advisable that the portion operated upon (which need seldom exceed 5 or 10 grains) should be well washed with cold water to remove them.

ducted as if no precipitate of uric acid had fallen from the aqueous solution upon the addition of acetic acid.

b. No precipitate falls. Absence of the urates of lime, magnesia, potash, soda, and ammonia. The digestion with water may be omitted, and the calculus at once examined, according to B, p. 349.

2. The aqueous solutions (A. 1. *a*.) after being mingled with the portion to which acetic acid had been added, (A. 1.) are to be rendered strongly acid by the further addition of acetic acid, and allowed to stand for some time, in order to deposit the uric acid, which must be removed by filtration. The clear liquid is then to be evaporated to the bulk of about $\frac{2}{4}$ oz.

To a small portion of this liquid, placed in a test tube, caustic potash is added in excess, and heat applied. If ammonia (recognisable by its odour and action upon moistened test papers) is evolved, *Urate of ammonia* has existed in the calculus.

3. The remainder of the solution is now evaporated to dryness in a small porcelain capsule, and the heat gradually increased to low redness, when the acetates resulting from the decomposition of the urates, by the addition of the acetic acid, will be converted into carbonates. After allowing the residue to cool, a small quantity of water is poured upon it, the whole boiled for a few minutes, and then filtered. Any insoluble matter which may remain upon the filter is treated according to 4. The clear solution is now divided into two portions.

a. To one portion bichloride of platinum is added, when if a yellow crystalline precipitate fall, *urate of potash* is present.

b. To the other portion antimoniate of potash is added: a white precipitate will indicate *urate of soda*. The deposition of both these precipitates is considerably promoted by stirring the solution with a glass rod.

4. The residue insoluble in water which remained upon the filter may contain lime and magnesia. In order to separate these earths, the insoluble matter is dissolved in hydrochloric acid.

a. The solution is neutralized by ammonia, and hydrochlorate and then carbonate of ammonia added, and the whole boiled: if a precipitate fall, *urate of lime* is present.

b. To the solution filtered from this precipitate, or to the clear liquid should no precipitate have fallen, phosphate of soda is added; if a precipitate fall, *urate of magnesia* has likewise existed in the calculus.

B. The portion of the calculus insoluble in water is now boiled for a short time in acetic acid and the liquid filtered. If an insoluble residue remain, it is well washed with water and its examination conducted as c directs.

1. The acetic solution is rendered alkaline by the addition of ammonia.

a. No precipitate falls: absence of phosphate of ammonia and

magnesia and peroxide of iron. The clear solution is tested according to 2.

b. A white crystalline precipitate falls, this is composed of *phosphate of ammonia and magnesia.* Should this precipitate have a yellow or brown tinge, *peroxide of iron* is also present.

2. To the liquid in which ammonia has produced no precipitate, or to the filtrate from a precipitate, if one fell, hydrochlorate of ammonia in excess and then carbonate of ammonia are added and the solution boiled.

a. If a precipitate fall, it will consist of *carbonate of lime.*

3. Phosphate of soda is now added to the solution filtered from this precipitate or to the clear liquid. If a precipitate fall, *carbonate of magnesia* is present in the calculus.

C. The residue insoluble in acetic acid is now to be digested in hydrochloric acid and the liquid filtered if any portion remain undissolved. In the latter case the insoluble matter is reserved for examination according to D.

1. The filtered solution is now carefully neutralized by ammonia.

a. No precipitate falls: absence of cystine, oxalate and phosphate of lime. In this case the examination of the residue insoluble in hydrochloric acid may be proceeded with (vide D.)

b. A precipitate falls: one or more of these substances may be present.

2. In order to separate these, the precipitate is digested in acetic acid with the assistance of heat, and filtered from any insoluble matter, which last is to be examined according to 3. The solution which may contain phosphate of lime and peroxide of iron is rendered alkaline by the addition of ammonia.

a. No precipitate falls: absence of both phosphate of lime and peroxide of iron; proceed according to 3.

b. A precipitate falls; *phosphate of lime* is present; if instead of being pure white it have a yellow or brown tint, *peroxide of iron* is also present.

3. The matter insoluble in acetic acid (vide 2) may now contain oxalate of lime and cystine. If the latter substance be suspected, it may be separated from the oxalate of lime by boiling with ammonia, which will dissolve the cystine, leave the *oxalate of lime* undissolved.

By filtration and addition of acetic acid in excess to the filtered solution *cystine* if present will be reprecipitated.[1]

D. The residue insoluble in hydrochloric acid can contain only

[1] As a test for cystine, a small portion of the substance suspected to contain it, may be dissolved in caustic potash with the assistance of heat, acetate of lead added so long as the oxide of lead is retained in solution, and the whole boiled. If the substance in question contains cystine, a precipitate of the black sulphuret of lead will fall, resulting from the decomposition of the cystine and the union of its sulphur with the lead.

uric acid and silica; by boiling it with nitric acid the former will be dissolved and the *silica* remains behind. As however this latter substance is seldom found in calculi, except in very minute quantity, when it is suspected a considerable portion of the concretion should be boiled with nitric acid adding at the same time a little hydrocholoric acid; if *silica* be present, it will remain undissolved whilst the other constituents of the calculus will be retained in solution.

Having completed the analysis of a calculus, supposing it to have contained uric acid, it now remains for us to proceed with the method to be pursued, in case no uric acid has been detected.

In this case, the substances which may enter into the composition of this concretion are the following: phosphate of ammonia and magnesia, carbonate of lime, carbonate of magnesia, peroxide of iron, cystine, phosphate of lime, oxalate of lime, and silica.

The separation and detection of these bodies may be conducted, either as in the case of a calculus containing uric acid, observing only that the first process of solution in water may be omitted, and that in the last, where the residue would, if uric acid were present, be composed of that substance and silica, it can in this case consist only of the latter. Or the following method may be had recourse to, which will be found to answer equally well, and is in fact to be generally preferred, as when using it we omit the solution of the calculus in acetic acid and simply dissolve it in hydrochloric acid.

II.—ANALYSIS OF CALCULI NOT CONTAINING URIC ACID.

1. A portion of the calculus (from five to ten grains) is taken,[1] and after being finely pulverized, is digested, with the assistance of heat, in hydrochloric acid.

When the whole is dissolved, or when no further solution takes place, the solution is thrown upon a filter, to separate any insoluble matter, which will consist of *silica*.

2. The clear hydrochloric solution is neutralized by ammonia, taking care not to add this re-agent in excess; otherwise, if cystine be present, it will be wholly or partially redissolved.

a. No precipitate falls: absence of phosphate of ammonia and magnesia, peroxide of iron, cystine, phosphate of lime, and oxalate of lime. The clear liquid is examined, according to 3.[2]

b. A precipitate falls: one or more of the above-mentioned substances are present. The solution is filtered, in order to separate this precipitate, and the clear solution examined according to 3. If this precipitate have a yellowish or brown tint, it will arise from

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[1] The analysis of calculi containing uric acid, after being previously digested in water, as directed at page 345 A, may be conducted according to this method; the residue, insoluble in hydrochloric acid, being examined according to D, page 350.

[2] The remarks in note to page 348, must here be attended to.

the presence of *peroxide of iron*. The precipitate is digested with acetic acid.

aa. Complete solution takes place: absence of oxalate of lime and cystine. The clear solution may contain phosphate of ammonia and magnesia, and phosphate of lime. Perchloride of iron in excess, and a small quantity of hydrochloric acid, are added to the clear solution, and then ammonia, until the whole has a strongly alkaline reaction. The precipitate which falls will contain peroxide and phosphate of peroxide of iron, the latter resulting from the decomposition of the earthy phosphates:—being of no further use, it must be separated by filtration. Hydrochlorate of ammonia in excess, and then carbonate of ammonia are added to the filtered solution, and the whole boiled.

1. If a precipitate falls, this will consist of carbonate of lime, and will indicate the presence of *phosphate of lime* in the calculus.

2. Phosphate of soda is added to the solution, filtered from this precipitate, or to the clear solution, in case none had fallen; if a white crystalline precipitate fall, it will consist of *phosphate of ammonia and magnesia*.

bb. The precipitate does not completely dissolve upon boiling with acetic acid. The solution is filtered, and the filtrate tested, according to the direction given at 2. *b*. *aa*. The insoluble matter remaining upon the filter is well washed with distilled water, and may contain oxalate of lime and cystine. Should the latter substance be suspected, it may be separated, on boiling the residue in ammonia, when it will be dissolved, and the *oxalate of lime* left behind. Upon the addition of excess of acetic acid to the ammoniacal solution, the *cystine*, if present, will be reprecipitated.

3. To the solution in which ammonia has produced no precipitate, or to the fluid filtered from the precipitate formed, carbonate of ammonia is added, and the solution boiled.

a. If a white precipitate falls, it will consist of *carbonate of lime*.

b. Phosphate of soda is added to the solution, filtered from the precipitate, or to the clear liquid, in case none had fallen; if a white crystalline precipitate of phosphate of ammonia and magnesia fall, *carbonate of magnesia* has been present in the calculus.

In the preceding methods of analysis we have not taken uric oxide into consideration, not only on account of its extreme rarity, but also as its detection would render the analysis unnecessarily complicated. Lest, however, the surgeon be so fortunate as to meet with a case of this rare calculus, we will give a brief account of its distinctive properties.

Uric oxide calculi have a colour varying from a deep flesh colour to a dark brown, with a scaly fracture, and as hard as the generality of uric acid calculi, and on friction assume a wax-like lustre.

It is soluble in caustic potash, and is precipitated from this solution by passing a stream of carbonic acid through it, and also upon the addition of acetic acid.

Nitric acid dissolves it slowly, and without effervescence; and this solution, upon careful evaporation, leaves a yellow stain, which is not turned to purple upon the addition of ammonia.

It is sparingly soluble in hot water, and in hydrochloric and oxalic acids; is insoluble in alcohol and ether; but is dissolved by concentrated sulphuric acid, with a yellow colour, which solution is not precipitable by the addition of water.

It is easily distinguished from uric acid, by its behaviour with nitric and concentrated sulphuric acids.

ARTICLE VIII.—*An Indian method of Treating Syphilis by Fumigation.* By GEORGE V. CUMMING, M.D., Surgeon, 12th Regiment Madras Native Infantry.

I feel anxious to bring under the notice of the profession, through THE MONTHLY JOURNAL, an Indian method of treating Syphilis by Fumigation, which I have lately tried with apparent success in a case of secondary symptoms; and which the Rev. Mr Thompson, the Missionary, informs me, was formerly practised by the natives of this place.

A young Mogalanee of loose character presented herself with a large foul ulcer on one of the labia pudendi; and on the upper lip, there was a small ulcer, covered with a scale. She stated, that she had been ill for nearly six months, during the greater part of which time, she had been treated for secondary syphilis by the natives; but without any benefit. She said, that the sore on the lip had only appeared a week or two before she came to me.

Both sores were poulticed. In the course of a few days, the scab dropped from the ulcer of the lip, exposing the sore, which speedily assumed a foul and ragged appearance, and became increased in size. The ulcer on the labium pudendi seemed to remain stationary. A variety of local and general remedies were now had recourse to. Mercury was given internally, till it induced salivation; and a course of sarsaparilla was also tried. At the end of two months, from the time she first came to me, no amendment had taken place. She was quite disheartened, and determined, though not relieved, to return to her village.

I now resolved to employ the method of fumigation adverted to, and about to be described.

The fumigating substance is thus prepared:

Take of Red Oxide of Lead, three rupees or three tolas weight, (i.e. ℥j *and* ℥j; *Quicksilver, the same quantity; and Powdered Litharge, one and a half tolas, (i. e.* ℥iv. ss.)

Rub the quicksilver thoroughly in a mortar with the red oxide of

lead, till the globules disappear; or, as that may be very difficult to accomplish in a common mortar, the rubbing may be suspended at the end of six hours, when the powder from the oxidation of part of the quicksilver will present some greyish spots: the last-named ingredient, the litharge, may then be added: after this, the rubbing must be resumed, and continued, adding from time to time a little water: in about half an hour, the remaining globules will have entirely disappeared, and the ingredients have become incorporated into a moist mass. This must be divided into fourteen equal parts, and kept for a day or two, when they will be dry, and fit for use.

The fumigation is thus effected:—Take a fire chattee,[1] and put into it a number of pieces of cow-dung cake: ignite these, and place on the centre of the fire a bit of chattee, which will be found to be quite hot, after the fire has burned for half an hour, and the smoke has dispersed. Then take freshly ignited pieces of cow-dung cake, and—(the fire, though subdued, being extinguished)—place them all round the little bit of chattee, so as to keep up the heat. Of course, the smoke begins anew, when the fresh pieces of cow-dung cake are so placed.

One of the fourteen portions of the fumigating substance has now to be put (having been previously powdered,) upon the hot bit of chattee; and the *angethi* or fire chattee has then to be placed under a chair with a rattan bottom. The patient is immediately seated on this chair, without any clothing, except a *cumbie*, in which he and the chair are both wrapt. The cloth is kept up even to the eyes, and is only occasionally, for a moment, detached from the face, so as to enable the patient to breathe, when much oppressed by the fumes, which often excite coughing.

A profuse perspiration is quickly excited. After remaining in the chair for half an hour, the operation is suspended till the following day. It is, however, renewed every morning, until the whole of the fourteen parts of the fumigating compound have been consumed: by which time, as I am informed, a cure is generally completed. Ptyalism is only occasionally induced; but in general, about the tenth day, there are more or less tenderness of the gums and soreness of the throat.

As the process is in itself a *very heating one*, the cool of the morning is always selected for putting it in practice.

In my case, on the 8th morning, it was found that the ulcer on the labium had disappeared; on the 9th, the ulcer on the lip had scabbed firmly over, and on the 14th, the scab dropped from the lip, the ulcer being then healed. Five days after this, the woman went home.

It may be remarked, that the little bit of chattee, after each fumigation, exhibited a brick-red coloured residue, interspersed with yellowish particles.

[1] An earthen vessel with a wide mouth, called by the natives *Angethi*.

The ingredients—specimens of which, with the native names attached,[1] are herewith transmitted—may be purchased in the bazaar for half a rupee. The quicksilver is the most expensive article.

QUILON, 1st January 1846.

ARTICLE IX.—*Inversion of the Uterus, and Death of the Patient, from a Midwife's Forcible Extraction of the Placenta.* By JOHN CHRISTIE, M.D., &c., Aberdeen.

ON the 22d of February last, Mrs Crawford, aged 34, a healthy, well-made woman, was taken in labour of her fourth child at midnight. A midwife was summoned to attend her, and at noon of the following day, she was delivered of a lusty male child. The placenta, however, was not immediately extruded, and after waiting about half an hour, in expectation that it would be thrown off by natural means, the midwife got impatient, and, by pulling on the umbilical cord, endeavoured to bring it away, but she failed to move it in the least. The midwife and patient now got alarmed, and, in consequence, a surgeon residing in the immediate neighbourhood was sent for, but, although he paid instant attention to the summons, the placenta was delivered before his arrival. He was, in fact, met at the door by the midwife, who told him that "all was right," a statement in which she was joined by the woman herself, when he enquired of her, how she did. Not thinking that there was any necessity for proceeding to a particular examination, he left the house without making further inquiry, a proceeding in which he was no doubt justified by the double assurance of the patient and midwife as to the happy termination of the case. A hurried messenger, however, overtook him, before he was any distance from the patient's residence, and requested him to return. He did so; and to his surprise, found the woman all but speechless. There was then no hemorrhage, but the bed was soaked with a large quantity of blood; and on making a vaginal examination, he found the fundus of the uterus protruding into the cavity of the pelvis.

The woman was at this time evidently moribund; but as there was no hemorrhage, the gentleman in attendance instantly resorted to the liberal use of brandy and ammonia, with a view of "obviating the tendency to death," and to rouse the system, so as to permit the reduction of the inverted uterus to be undertaken with comparative safety. No effect was produced by this stimulation; she did not rally even for a moment. In this position of affairs I was sent for,

[1] These specimens are now in the possession of Dr Douglas Maclagan of Edinburgh. Segapoo Sendoverum is the Red oxide of Lead; Marundar Singhie is Litharge. Vide Ainslie's Materia Medica Indica, vol. i. pp. 535. Dr A. T. Thomson uses a different orthography.

but although I reached the house within two or three minutes from the time the message was despatched, I was too late to see her in life.

To satisfy myself of the nature of the case, I made an examination *per vaginam*, and found the fundus and body of the uterus inverted, and surrounded by the os uteri, as if by a collar. The tumour was of a globular form, felt soft, had a volume of nearly the size of the full-grown fœtal head, and fully occupied the cavity of the pelvis. I next questioned the midwife, as to what had happened between the time when a surgeon was first sent for, and his arrival; and learned that the patient, being averse to the presence of a medical man, she insisted, that she and the midwife could "manage it," that is, the delivery of the placenta, before he came. Acting on this impression, the two set to work—the woman clasping her fingers together, and pressing downward with the palms of the hands applied over the fundus, while making a bearing-down effort,—the midwife, on the other hand, at the same time pulling strongly and resolutely by the cord:—and thus was the placenta delivered, accompanied by a gush of blood. In a subsequent conversation, the midwife denied the last circumstance, and asserted, that whatever flooding there was, took place *previous* to the extraction of the placenta.

Post-mortem Appearances, twenty-three hours after death.—Externally, the body had a very pale and exsanguined hue. On placing the hand over the hypogastric region, a cup-like depression, bordered by a prominent convex ring, was found in the situation of the fundus.

When the abdomen was opened, its viscera presented the same bloodless hue as the body externally, and the uterus corresponded exactly in appearance to what was discovered of it, by manual examination before exposing it. The ovaries lay at each side, on the posterior edge of the cup-like depression. The uterus was very lax, and evidently only slightly contracted. When the inversion was reduced, which was easily done, the fundus reached for an inch or two beyond the umbilicus. The inner surface of the uterus presented nothing remarkable. A few small clots of blood were found on it, and the seat of the placenta corresponded with the fundus, to which it had been attached rather more to the left and behind, than to the right or in front.

The placenta, when examined, was entire, but two rents extended inwards from its edge almost to the insertion of the cord.

REMARKS.—The case just narrated is one among many other examples of the evil results of a "meddlesome midwifery." It also illustrates the causation of inversion of the uterus, by proving to a demonstration, that it may be directly produced by using violent and unwarrantable means to extract the placenta.

Astruc, Ruysch, Desormeaux, Radford, Merriman, and many others maintain, that it may take place independently of any extra-

neous force, and numerous observations are cited by them, which seemingly go to prove its frequent dependence on conditions peculiar to the uterus, and for the most part beyond the control of the accoucheur. It is certain, however, that traction on the cord is by far the most frequent cause of inversion. We should "use all possible care," says Denman, "to avoid doing two things, which have not been uncommon in practice, though it is evident that in various ways they must be injurious; *first*, pulling by the funis prematurely or violently to bring away the placenta; *secondly*, hasty introductions of the hand for this purpose," (*Denman's Introduction to the Practice of Midwifery*, vol. ii. ed. 4th, p. 361.) Burns says this accident, "in a great majority of instances, depends upon the midwife endeavouring to extract the placenta by pulling the cord." Dr J. Ramsbotham relates, in his *Practical Observations in Midwifery*, a case where the "attendant got hold of the funis, and attempted to extract the placenta through its means; finding, as he thought, some advance, he continued his extractive purchase, but to his surprise and alarm, the uterus presented itself out of the external parts as large as the child's head." (Case 21, 2d Ed.) Under the head "Accidents likely to happen on attempts to remove the Placenta from the Uterus by pulling at the Funis," Dr F. Ramsbotham points out the fact, that by forcible attempts to extract the placenta in this way, the uterus may "be turned inside outwards, as a pocket might be," (*Principles and Practice of Obstetric Medicine, &c.*, 1st Ed. pp. 539–40.) Chailly also observes, "Bien plus souvent, cet accident resulte de ce que des tractions ont été excercées sur le cordon," (*Traité Pratique de l'Art des Accouchemens*, 2d Ed. p. 737;) and that admirable observer, Dr F. K. Naegelè, writes in almost the same words, "Das Ziehen an der Nabelschnur beinoch anhängenden Mutterkuchen, welches untevallen beranlassungen die hänsigste ist," (*Lehrbuch der Geburtshülfe fur Hebammen*, Section 519.) *Finally*, Dr R. Lee doubts whether "spontaneous inversion of the uterus ever takes place," (*Lect. on Midwifery in Med. Gaz.*, vol. xxvii. p. 658,) an opinion in which I find myself bound to coincide, if by spontaneous inversion it is meant, that by an action peculiar to, and confined to the uterus, it may be inverted. Those who argue that spontaneous inversion may occur, have not, so far as I am aware, brought forward any facts which go to prove their assertion beyond the possibility of a doubt. It may, indeed, often happen that no obvious external cause exists, that is to say, no traction has been made from within on the fundus; but it does not by any means follow, that, in the absence of such a cause, inversion must necessarily be spontaneous. Rokitansky relates the only two cases I have met with, where, with any degree of plausibility, it could be argued that the inversion was spontaneous. They were instances "of a paralysis of the portion of the uterus on which the placenta is implanted, while the part around it has undergone its normal changes." But even in these cases, Rokitansky explains their

causation by assuming "the situation of the connexion of the placenta" to be "pressed towards the cavity by the surrounding contracting tissues." (*British and Foreign Medical Review*, vol. xv. p. 105.) An *active* agent is here at work—the contractile power of the uterus—and it is but reasonable to suppose that the superincumbent weight of the abdominal viscera, or the force set in motion by any movement of the body, would, in such cases, be powerfully auxiliary, if not the principal agents in the production of "this terrible accident." If the cases of paralysis are set aside, although even in them I cannot see how the contraction of the uterus could invert the paralysed portions, there remains no class of inversions to which the term spontaneous can, with any degree of propriety, be applied. The powerful action of the abdominal muscles, during the last stage of labour, in coughing or in sneezing, must compress the bowels; and the force of this compression will move in the direction of the least resistance, and unfortunately the distended, paralysed, or inert uterus will then lie in its way, and be inverted, if some circumstances do not interpose to avert such an alarming result. Inversion of the uterus would thus appear to me, to be, in all instances, the result of certain classes of causes acting either singly or together, the uterus being held as a *passive* body, moving in the direction of the force applied, and to an extent corresponding to the amount of its power. The causes of inversion are judiciously divided, by Dr Rigby, into internal and external. (*Library of Medicine*, vol. vi. pp. 219.) These may act singly or together, and the cause of any individual case must be sought in them, for it is absurd to imagine that the uterus, by any active motion of its own, could be turned outside in.

But to return to the case of Mrs Crawfurd.—It is very instructive as regards not only the causes of inversion, but also the proper management of the placenta. Traction on the cord while still attached to the uterus, or even simply confined within it, ought, under all circumstances, to be delicately and carefully made. Nothing can justify a strong pull on the cord, even when the placenta is merely lodged in the vagina, but when it is still within the uterus, it may give rise to the most disastrous consequences by compromising life, and if not that, the future health of the party.

As regards the treatment of the case;—not having seen her in life, I can hardly presume to offer an opinion; but as it is well known that inversion of the uterus is almost invariably accompanied by severe and dangerous depression, even where there is little hemorrage, the immediate reposition of the inverted portion, if it can at all be accomplished, ought to be the primary object of attention. Such a course does not preclude the simultaneous use of stimulants, and as it is calculated to remove the cause of danger, there is the greater hope that, by rectifying it, the secondary means employed will be the more effectual in rousing the oppressed energies of the system.

Besides all this, the case just narrated is an argument won, at the sacrifice of life, for a higher standard of obstetric education than generally prevails; it is, along with the dark catalogue of innumerable similar ones, a call on the justice and humanity of the British public for the rigid exclusion from the profession of all who are not found, by a searching inquiry, competent to act in the fearful emergencies which, unhappily, are but too common in the practice of midwifery. I do not level these remarks alone at midwives. There are, and I confess it with shame, men within the profession equally, and certainly more culpably ignorant than they. The supineness of the public, and the little less than criminal indifference of the greater number of examining boards, in regard to the qualifications of those who aspire to be trusted in the hour of a woman's greatest suffering and peril, is much to be regretted: but I trust that the time is at hand, when midwifery shall be elevated to the rank and importance which belong to it, both as an art and a portion of the science of medicine, not less difficult in its manual evolutions, or less comprehensive and complicated in its nature, than any of the other more honoured branches of the healing art.

ABERDEEN, 6th April, 1846.

ARTICLE X.—*Inversion of the Uterus from Short Funis.* By ROBERT SMITH, Esq., Surgeon, Aberdeen.

THE patient was a healthy, active little woman, aged 35, the mother of four children. She had not been in the family way for six years.

I was engaged to attend the patient, but she said that she would not send for me until she really required assistance, as her labours had always been tedious; however, I was sent for in great haste, after about four hours of what she *knew* to be *true* labour pains. Accordingly, I took charge of the case, exactly at a quarter to ten o'clock A.M., she having been in labour from six o'clock.

I found her lying on her back, her left side towards the front of the bed, and suffering so much from intense pain, that she was totally unable to move, or to allow herself to be placed in a proper position. This, however, was effected cautiously, without increasing her suffering; her face was flushed and wild-looking; her pulse extremely rapid and small, and she absolutely screamed aloud for "*relief*," (as she expressed herself,) "*by any means, for she had never felt such agony, and that the child had almost killed her, by kicking against the sides of her belly.*"

Shortly after, she was placed on her side, that is, about five minutes after I had taken charge; the head of the child came down with great violence on the perineum, accompanied by a most severe pain, which caused the bed to shake under her, and *there* it stuck

fast, the pains suddenly subsiding; almost immediately after, an alarming rigor took place, she became deadly pale, her teeth chattered, cold perspiration dropped from her brow, and her pulse almost ceased. Apprehending hemorrhage, I examined the state of matters, and finding none, I feared that rupture of the uterus had caused the rigor; however, as a stimulant was indicated, I gave her a tablespoonful of spirits, with a little warm water and sugar, and sent for a draught of thirty drops of solution of muriate of morphia, in case the rigor should continue. In about ten minutes after, the opiate was administered; and in five minutes more, the rigor subsided. It had scarcely ceased, however, when she gave one of the most terrific screams I ever heard, plunged furiously with her feet, cried that she was dying of pain, grasped me round the waist, raising herself half up from the bed, and falling back from exhaustion, the head and shoulders of the fœtus passed out, the arms being retained.

I may here mention, that at this stage of the proceedings, the women who were in attendance showed by their *looks*, what many accoucheurs have experienced in bad cases, that they suspected some mismanagement, as the cries of the patient were so distressing; and it was with no small difficulty, that even one was induced, by some degree of threatening, to remain to give assistance.

As soon as the head and shoulders were born, I said, "Now you are relieved, for the head and shoulders are born." "*No, no*," said she, with a piercing scream, "*I'm not relieved, the child's feet will be the death of me; relieve me, relieve me, any way, for God's sake, for I cannot bear the pain a minute longer.*" I immediately introduced my finger, and drew out the arms; and on lifting up the bedclothes, the following appearance presented itself:—The infant (a boy) was lying on his back, apparently lifeless, his legs and part of the thighs retained in the vagina, and the funis so much on the stretch, that the skin of the abdomen was dragged out about an inch and a half. Having used smart friction over the region of the heart, he gave a slight scream, and having lifted him up towards the body of the mother, so as to *relax* the cord, the extremities passed out with a little assistance. The child was immediately separated, and handed to an assistant; but the mother still continued to complain of most acute pain. On making an examination, I found the placenta so near the os externum, that I thought I had nothing to do but to lift it out; but such was not the case, for I found it attached to the uterus. I immediately nibbled away the attachments with my finger and thumb with the greatest caution; and on removing the placenta, I said, "*Now you are all right, for the after-birth is away.*" "*Oh no! oh no!*" said she, with a low and desponding moan, "*I'm not right, I never was this way before, I'm still in great pain, but I cannot cry now.*" I immediately examined again, and found the *uterus* (fully three-fourths according to the feel of it) *inverted*, the os girding it round like a cord, and of

course I lost no time in reducing it; this was done with the greatest ease; and in order to insure permanent contraction, I thrust my hand into the cavity, which gave no pain, and having kept my doubled fist there for about half a minute, it gradually closed upon it, and thrust it out, precisely as if it had been another placenta. The mother was immediately bound up firmly, the pains having entirely ceased, and in the evening, she was sitting up in bed, suckling her baby, as if nothing had happened.

The patient lost very little blood, and complained of no pain whatever after the uterus was reduced. The funis was not more than six inches long, perhaps about eight, when on the stretch. The placenta was remarkably small; the child was of full size.

As a proof of the strain on the funis, it may be mentioned that the woman who received the infant said, "*This is a fine child, but oh! it has an ugly navel.*"

The time occupied in the delivery, from the time of taking charge, till the patient was in a safe state, was exactly thirty-five minutes.

There were *no* after-pains, and on the third day, she was quite well, and able to sit up.

REMARKS.—There is every reason to believe, that the uterus was inverted when the head came down, and that *thus* the rigor is to be accounted for. The shortness of the cord accounts for the kicking of the child, which the mother had experienced during the three last months of pregnancy to a *sickening* extent. The sudden contraction of the uterus on the hand, without pain being excited by its introduction, is a proof that such a method is *good practice*, although some consider it *a piece of cruelty*.

PART SECOND.

REVIEWS.

On Tubercle of the Brain in Children. By JAMES MAXWELL ADAMS, L.R.C.S.E., formerly Senior President of the Hunterian Medical Society, Edinburgh; Honorary Secretary to the Glasgow Medical Society, &c. &c. Pp. 32. Glasgow: 1846.

This pamphlet has been called into existence by a regulation of the Faculty of Physicians and Surgeons of Glasgow, which renders it imperative for every candidate for admission into that Corporation to *print* an essay on some medical subject. Mr Adams having been kind enough to forward us a copy, we have no hesitation in awarding him the praise of having exhibited proofs of a fair

share of industry and research. To originality he lays no claim, as the following paragraph shows:—

"A few years ago, I met with several cases of cerebral disease in children, which were quite new to me, and they consequently attracted much of my attention. A reference to most systematic works failed to afford me any satisfactory information, and I then became impressed with a conviction, which subsequent experience has confirmed, that the symptoms and consequences of tubercle of the brain in children, have not, especially in this country, met with the consideration they deserve. I have, therefore, chosen the subject as suitable for a probationary essay, and I hope that, by concentrating in a brief monograph, what is already known upon the subject, I may invite attention to a branch of pathology, which my own limited experience would fail to illustrate satisfactorily."

The following is the author's epitome of the *symptoms and post-mortem appearances.*

"A child of a few years old, of a scrofulous habit or tendency, is affected for several weeks or months with headach of an intermitting character, often accompanied with vomiting or nervous tremors. These are followed by a sense of debility and disinclination for motion, or ordinary sports and exercises. Epileptic seizures, convulsions, or strabismus, may also be present. Gradually the disposition of the child alters, and he appears fretful, retired, and melancholy. The appetite becomes depraved, or entirely fails, the bowels constipated, and the body attenuated. The face acquires a peculiar pallid, anxious expression. As the disorder advances, these symptoms, at first partial and intermitting, increase in frequency and severity, and at length are permanent; when after several days of complete or partial stupor, the child dies, comatose or convulsed.

"After death, there will be found in some part of the brain, one or more masses of tuberculous deposit, varying from the size of a millet-seed to that of a walnut, and occasionally even larger. A softened or otherwise altered condition of the surrounding cerebral substance will probably be present, and not unfrequently an abnormal effusion of watery fluid into the arachnoid cavity, within the ventricles, or at the base of the brain. Almost invariably there will also be found tuberculous deposits in other organs of the body, and chiefly in those of the chest and abdomen."

The train of symptoms discussed are, we venture to think, sufficiently familiar to every member of the profession, although they may not be found in a systematic work under the head "Tubercle of the Brain;" nor are the appearances after death less well known. Did the reader ever attend a case of chronic hydrocephalus? Did he ever endeavour to discover the cause of death by dissection in such a case? If so, the symptoms and the post-mortem details given by Mr Adams cannot be unknown to him. If a dissection be carefully performed after death from hydrocephalus, tubercles, such as the author in this pamphlet refers to, will seldom, if ever, be found awanting.

It is a strange enough circumstance, that in both of the cases given by the author, the appearances are exactly those which are to be found in every-day practice in hydrocephalus. In the first, "the lateral ventricles contained four ounces of clear fluid. The membranes covering the corpus striatum of the left side were opaque, thickened, and tough, from effusion of lymph, so that they could be stripped off in a layer with the dissecting forceps. The brain showed numerous bloody points when cut across." And in the second, "the lateral ventricles contained about ten ounces of serosity. A quantity of albuminous lymph was effused over the pons Varolii, and the top of the medulla oblongata." We should like to know under what "head" Dr Lawrie, who, it appears, attended along with the author the latter case, entered it in his note-book.

In taking leave of the author and his very creditable performance, we warn him in future writings, to guard against the sin of forgetting the subject-matter of his text, for the purpose of adding to the dimensions of the foot-note references. We assure him, that by doing so, he will get credit for more taste, and for as much erudition. A.

Statistics of the Royal Infirmary of Glasgow. Second Series. Compiled from the Records of the Institution for 1845. By R. S. ORR, M.D., Superintendent of the Royal Infirmary.

This is the Second Report published by Dr Orr, since his appointment to the office of Superintendent to the Glasgow Royal Infirmary. Both are highly creditable to his talents and industry. We entertain a higher opinion of these documents than of many of more lofty pretensions. They afford within brief limits a statement of the various diseases and injuries which have been treated in one of the largest hospitals in the kingdom during specified periods; and enable us to form a pretty fair estimate of the public health in the metropolis of the Scottish west.

It is a fact as notorious as melancholy, that reports published for the purpose of supporting some particular views, or the advantages of any peculiar method of practice or operating, too frequently exhibit a very partial and one-sided picture; the success being exaggerated, while reverses are suppressed or understated. This is the only satisfactory explanation which can be given, for the very contradictory accounts of the average mortality from diseases and injuries, which emanate from officers connected with different hospitals. No doubt much depends on the salubrity of the hospital; but the mighty differences in the results, under circumstances apparently alike, which we could point out in published essays and memoirs, cannot be explained away on this ground alone. The errors take their origin in the preconceived views of the narrators inducing them, (perhaps unwittingly,) to indulge in the common, but by no means venial sin of EXAGGERATION. The report before us is altogether free from even a suspicion of such errors. It emanates from one who has simply the command of the books of the establishment, and who is in no way responsible for the results which a carefully compiled statistical table may exhibit. We direct attention to it, therefore, as a valuable, because unbiassed statistical document.

The following table gives a GENERAL SUMMARY OF THE CASES treated during the year.

"There were in these wards on the 1st of January 1845, 176 patients; there were admitted during the year, 2459; and there remained on the 31st December 177, showing a total of 2458 cases treated to a termination during the year. Of these 1556 were males, of whom 134 died; and 902 were females, of whom 100 died.

"There were treated in the medical wards 1072 patients; of whom 626 were males, and of these 72, or 1 in 8·7 died; 449 were females, and of these 76, or 1 in 5·9 died.

"There were treated in the surgical wards 1383 patients; of whom 930 were males, and of these 62, or 1 in 15 died; 453 were females, and of these 24, or 1 in 18·4 died.

"Of the above 2458 patients there were found to be

	Scotch.	Irish.	English.	Foreigners.	Total.
Males	1077	417	44	18	1556
Females	674	218	8	2	902
	1751	635	52	20	2458

We have carefully prepared tables showing the number of patients treated in medical and surgical wards during the year, arranged under 12 heads according to their diseases; they are too long for our purpose, but we give the grand divisions.

1. Fevers,	12	Cases.	
2. Nervous System,	134	„	
3. Circulating System,	54	„	
4. Respiratory System,	233	„	
5. Genito-Urinary System,	292	„	
6. Gland. and Secret. System	96	„	
7. Integumentary System,	197	Cases.	
8. Osseous System,	302	„	
9. Articular and Fib. ditto,	226	„	
10. Chylopoietic ditto,	231	„	
11. Of Eye, Ear, Nose, Mouth, Throat, &c.	81	„	
12. Miscellaneous,	600	„	

The following tables will be perused with interest.

CASES OF PNEUMONIA, WITH THE MORTALITY, &c., ARRANGED ACCORDING TO THE AGES OF THE PATIENTS.

Pneumonia, 1845.	Total cases.	Dismissed.		Died.		Mortality per cent.			Average residence in days.			Average residence of the cases that died.		
Ages.	M. & F.	M.	F.	M.	F.	Tot.	M.	F.	Tot.	M.	F.	Tot.	M.	F.
1 to 10	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10 to 15	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15 to 20	4	4	...	...	...	...	...	...	19	19	...	...	...	...
20 to 30	9	5	2	2	...	22·2	28·5	...	23	19	41	5	5	...
30 to 40	6	6	...	...	...	...	...	...	30	30	...	...	...	...
40 to 50	4	1	1	2	...	50·	66·6	...	26	1	51	2	2	...
50 to 60	1	...	...	1	...	100·	100·	...	17	17	...	17	17	...
Above 60	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total,	24	16	3	5	...	20·8	23·8	...	25	22	45	6	6	...

CASES OF PHTHISIS, WITH THE MORTALITY, &c., ARRANGED ACCORDING TO THE AGES OF THE PATIENTS.

Phthisis, 1845.	Total cases.	Dismissed.		Died.		Mortality per cent.			Average residence in days.			Average residence of the cases that died.		
Ages.	M. & F.	M.	F.	M.	F.	Tot.	M.	F.	Tot.	M.	F.	Tot.	M.	F.
1 to 10	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10 to 15	3	1	...	1	1	66·6	50·	100·	9	13	2	12	23	2
15 to 20	8	5	2	...	1	12·5	...	33·3	35	37	34	40	...	40
20 to 30	30	8	7	7	8	50·	46·6	53·3	35	39	31	34	39	29
30 to 40	23	10	4	6	3	39·1	37·5	42·8	37	39	32	39	41	34
40 to 50	6	2	1	2	1	50·	50·	50·	16	19	12	14	11	20
50 to 60	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Above 60	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total,	70	26	14	16	14	42·8	38·	50·	33	35	29	32	35	28

CASES OF ERYSIPELAS, WITH THE MORTALITY, &c., ARRANGED ACCORDING TO THE AGES OF THE PATIENTS.

Erysipelas, 1845.	Total cases.	Dismissed.		Died.		Mortality per cent.			Average residence in days.			Average residence of the cases that died.		
Ages.	M. & F.	M.	F.	M.	F.	Tot.	M.	F.	Tot.	M.	F.	Tot.	M.	F.
1 to 10	1	...	1	...	...	...	..	...	32	...	32	...	...	...
10 to 15	1	1	...	...	...	...	...	...	26	26	...	...	...	...
15 to 20	4	1	3	...	...	...	...	...	16	13	17	...	...	...
20 to 30	10	5	4	...	1	10·	...	20·	35	16	54	2	...	2
30 to 40	12	5	7	...	...	...	...	...	27	27	28	...	...	...
40 to 50	6	3	2	...	1	16·6	...	33·3	28	26	28	21	...	11
50 to 60	5	4	...	1	...	20·	20·	...	35	35	...	60	60	...
above 60	7	2	4	1	...	14·2	33·3	...	31	38	25	18	18	...
Total,	46	21	21	2	2	8·6	8·6	8·6	29	27	32	25	39	11

CASES OF RHEUMATISM, WITH THE MORTALITY, &C., ARRANGED ACCORDING TO THE AGES OF THE PATIENTS.

Rheumatism, 1845.	Total cases.	Dismissed.		Died.		Average residence in days.		
Ages.	M. & F.	M.	F.	M.	F.	Tot.	M.	F.
1 to 10	...	...	...	...	...	...	...	...
10 to 15	...	...	...	...	...	...	...	...
15 to 20	19	8	11	...	...	27	21	31
20 to 30	46	27	19	...	...	30	34	23
30 to 40	20	16	3	1	...	34	37	31
40 to 50	16	11	5	...	...	24	22	28
50 to 60	2	1	1	...	...	27	17	37
above 60	5	2	3	...	...	23	11	31
Total,	108	65	42	1	...	29	30	27

As might be *a priori* anticipated, from the number of individuals engaged amongst machinery and other dangerous employments in and around Glasgow, the number of accidents is very great.

ACCIDENTS TREATED DURING 1845.

Causes of the accidents.	Total Cases.	Dismissed.			Died.		
		M.	F.	Tot.	M.	F.	Tot.
Assaults,	22	4	18	22	...	...	...
Burns,	76	43	27	70	2	4	6
Bites from dogs,	2	...	1	1	1	...	1
Coal-pit accidents,	23	19	...	19	4	...	4
Cut-throat,	3	2	...	2	1	...	1
Crushes between walls, stones, vehicles, &c.,	7	6	...	6	1	...	1
Falls on the ground,	70	46	21	67	1	2	3
Falls down stairs,	59	25	33	58	1	...	1
Falls from a height,	72	51	10	61	6	5	11
Gun-shot accidents,	4	4	...	4	...	...	...
Kicks from horses,	6	5	...	5	1	...	1
Machinery accidents,	61	43	12	55	5	1	6
Railway accidents,	6	4	...	4	2	...	2
Run over by carts or carriages,	28	20	7	27	1	...	1
Thrown from carts, carriages, or horses,	15	13	1	14	1	...	1
Thrust arm through a window,	1	...	1	1	...	...	...
Trod on pieces of glass,	2	1	1	2	...	...	...
Weights and heavy articles falling on patients,	74	62	4	66	7	1	8
Cause of accidents not ascertained,	45	31	6	37	8	...	8
Totals,	576	379	142	521	42	13	55

This Table illustrates the nature, and indicates the number of Operations performed during the year, 80 of which were rendered necessary in consequence of the accidents enumerated in the preceding Table.

OPERATIONS PERFORMED DURING THE YEAR 1845.

OPERATIONS.	Tot.	Diseases or injury requiring operation.	Complication, or consequence causing death.	Cured.		Relieved.		Died.	
				M.	F.	M.	F.	M.	F.
Amput. Prim. at shoulder-joint,	3	2 Comp. frac.—1 Avulsion,	... ...	3	...	...	...	...	...
" " of arm	3	Injuries by machinery,	... ...	1	1	...	...	1	...
" " of forearm,	2	Machinery. Comp. frac.	... ...	2	...	...	...	...	...
" " at wrist,	3	2 Avulsion. 1 Laceration,	... ...	2	1	...	...	...	...
" " part of hand,	3	Compound fracture,	... ...	2	1	...	...	...	...
" " of fingers,	15	... ...	Tetanus,	12	2	...	...	1	...
" " of thumb,	1	Gunshot wound,	... ...	1	...	...	...	...	...
" " of thigh	4	3 Compound fracture. 1 Lacer. ham,	Phlebitis,	2	1	...	...	1	...
" " of leg,	8	Compound fracture,	Pleg. gang. Del. trem.	4	1	...	...	3	...
" " of foot,	2	... ...	Tetanus,	1	...	...	...	1	...
" " of toes,	3	... ...	Tetanus,	2	...	...	...	1	...
" Second. at shoulder-joint,	1	Extensive burn,	... ...	1	...	...	...	.	...
" " of arm,	5	Bite of thumb. Compound fracture, &c.	3 Phlebitis,	2	...	...	...	3	...
" " of fingers,	7	Struma, caries, necr., injury,	... ...	5	2	...	...	...	...
" " of thigh,	6	Open knee joint, osteo-sarcoma, necr. synovitis, &c.	Phlebitis. Aphthæ,	4	...	...	...	1	1
" " at knee-joint,	1	Extensive ulcer of leg,	Phleb. and dis. Kidney,	4	...	...	...	1	...
" " of leg,	5	Gangrene, necrosis, caries, com. fract. dis. ankle,	2 Phlebitis,	...	1	...	...	3	...
" " at ankle-joint,	1	Unhealed Chopart's oper.,	Phleb. and dis. Kidney,	...	...	...	...	1	...
" " of foot,	1	Caries,	... ...	...	1	...	...	...	...
" " of toes,	4	Caries, gangrene,	... ...	2	1	...	...	1	...
" " of penis,	1	Cancer,	... ...	1	...	...	...	...	...
Excision of lip,	5	Cancer,	... ...	5	...	...	...	...	...
" " of mamma,	7	Scirrhus, hydatids,	... ...	...	7	...	...	...	...
" " of patella,	1	Compound fracture,	Phlebitis,	...	...	...	...	...	1
" " of testis,	1	Struma,	... ...	1	...	...	...	...	...

Operations.	Tot.	Disease or injury requiring operation.	Complication, or consequence causing death.	Cured.		Relieved.		Died.	
				M.	F.	M.	F.	M.	F.
Excision of upper jaw,	1	Fungus hæmatodes,	... ...	...	...	1	...	...	...
" part of upper jaw,	1	Fibrous tumour,	... ...	1	...	...	...	...	...
" " of lower jaw,	1	Fungus,	... ...	1	...	...	...	...	...
" of schirrus ani,	1	... ...	... ...	...	...	1	...	...	...
Extirpation of Bursa,	1	Bunion,	... ...	...	1	...	...	...	...
" of calculis preputii,	1	Phymosis,	... ...	1	...	...	...	...	...
" of nasal polypi,	3	... ...	... ...	1	2	...	...	...	...
" of steatomata,	3	... ...	... ...	1	2	...	...	...	...
" of molluscum,	1	... ...	... ...	...	1	...	...	...	...
Section of anal fistulæ,	11	... ...	... ...	10	1	...	...	...	...
" of subcutaneous,	1	Burn,	... ...	...	...	...	1	...	...
" of prepuce from glans penis,	1	Congenital adhesion,	... ...	1	...	...	...	...	...
" of tendons,	2	Talipes varus,	... ...	1	1	...	...	...	...
" of tunica vagin. testis,	2	Hydrocele,	... ...	2	...	...	...	...	...
Reduction of hernia by taxis,	1	Strang. scrotal,	... ...	1	...	...	...	...	...
" of hernia by oper.	1	Strang. inguinal,	... ...	1	...	...	...	...	...
" of scapulæ,	4	Dislocation,	... ...	4	...	...	...	...	...
" of humerus,	14	"	... ...	13	1	...	...	...	...
" of radius,	1	"	... ...	1	...	...	...	...	...
" of ulna,	1	"	... ...	1	...	...	...	...	...
" of radius and ulna,	2	"	... ...	1	1	...	...	...	...
" of thumb,	1	" middle phalanx,	... ...	...	1	...	...	...	...
" of femur,	2	" into sciatic notch,	... ...	2	...	...	...	...	...
" of foot,	2	"	... ...	1	1	...	...	...	...
Ligature of femoral artery,	2	Popliteal aneurism,	... ...	2	...	...	...	...	...
" of varicose veins,	1	... ...	... ...	1	...	...	...	...	...

! The greater number of the cases of dislocation had no residence in the Infirmary.

OPERATIONS PERFORMED DURING THE YEAR 1845.

OPERATIONS.	Tot.	Disease or injury requiring operation.	Complication, or consequence causing death.	Cured.		Relieved.		Died.	
				M.	F.	M.	F.	M.	F.
Ligature of nævus maternus,	1	... ...	... ...	...	1	...	...	...	...
Rhinoplastic operation,	1	Ozena,	... ...	...	1	...	...	...	...
Harelip „	3	... ...	... ...	3	...	...	...	...	...
Syme's „	2	Fungus testis,	... ...	2	...	...	...	...	...
Hydrocele,	5	2. Tapped.—3. Injected,	... ...	4	...	1	...	...	...
Urethrotomy,	5	Calculus, ruptured urethra,	Fract. Pelvis,	4	...	...	...	1	...
Lithotomy,	1	Calculus in vesica,	... ...	1	...	...	...	...	...
Trephine,	1	Compound fracture,	... ...	...	...	...	...	...	1
Cauterization,	1	Vesico-vaginal fistula,	... ...	...	...	...	1	...	...
	175			115	33	3	2	19	3

On perusing the above table, the circumstances which appeared to us most remarkable, was the small number of cases of phlebitis. In last report there were four deaths reported from this cause, and in the present there are eight; but from the numerous reports of cases treated in this hospital which we have read in the late *Medical Journal* of Glasgow, as well as in other periodicals and monographs, we were led to expect a much greater proportion of fatal cases from this fearful scourge of crowded wards.

We hope that there is no mistake on this point, and that the hospital is becoming more salubrious. This we have always considered one of the few diseases which admit of being nearly altogether exterminated by the well-known resources of art. It may be said to exist only in hospitals, and its intensity can be proved to depend on the extent of over-crowding of the wards, and the imperfect state of the ventilation. The surgeon in private practice has rarely to complain of his most skilful operations being destroyed by its blasting influence, whereas it is the chief source of annoyance and danger in hospitals. We know that much has been recently done to improve the salubrity of the Glasgow hospital, and that the number of patients in each of the surgical wards has been diminished. We trust that further improvements will still be effected, and that phlebitis and hospital disease, which have in past times destroyed so many lives, may be no more heard of for the future.

During the period embraced in this report, a remarkable small number of fever cases prevailed in Glasgow, and fewer patients were sent to the hospital than in any previous year since the establishment of the fever hospital. The following table furnishes the particulars:—

A VIEW OF THE THREE PRINCIPAL FORMS OF FEVER TREATED DURING THE YEAR 1845, SHOWING THE NUMBERS DISMISSED AND DEAD.

1845.	Epidemic fever of 1843-4.					Common continued fever.					Typhus fever.					Mortality per cent.		
	Total.	Cured.		Died.		Total.	Cured.		Died.		Total.	Cured.		Died.		Epidemic cases.	Common continued cases.	Typhus cases.
	M. & F.	M.	F.	M.	F.	M. & F.	M.	F.	M.	F.	M. & F.	M.	F.	M.	F.			
Jan.	3	1	2	...	...	16	6	9	...	1	38	19	11	6	2	...	6·2	21·
Feb.	3	1	2	...	...	11	4	7	...	...	29	14	8	4	3	...	...	24·1
March,	...	...	...	...	...	5	3	2	...	...	29	16	8	2	3	...	...	17·2
April,	...	...	...	...	...	8	6	1	1	...	20	8	7	3	2	...	12·5	25·
May,	1	1	...	...	...	5	2	3	...	...	24	13	7	2	2	...	...	16·6
June,	...	...	...	...	...	4	1	2	1	...	16	4	8	3	1	...	25·	25·
July,	...	...	...	...	...	4	3	1	...	...	29	16	12	1	...	...	...	3·4
Aug.	...	...	...	...	...	3	1	2	...	...	12	4	5	2	1	...	...	25·
Sept.	10	4	5	...	1	11	7	4	...	...	17	8	8	1	...	10	...	5·8
Oct.	14	8	6	...	...	24	12	11	1	...	11	2	5	2	2	...	4·1	36·3
Nov.	3	3	..	...	...	12	6	4	1	1	18	7	6	2	3	...	16·6	27·7
Dec.	3	3	...	...	...	13	6	6	...	1	23	12	7	4	...	...	7·6	17·3
Total,	37	21	15	...	1	116	57	52	4	3	266	123	92	32	19	2·7	6·	19·1

We regret our limits do not permit us taking advantage of any further details; but the document itself will amply repay a perusal.

Three circumstances may occur in consequence of the suppuration of a circumscribed mass of tubercles; perforation takes place either into the bronchiæ, and then there is purulent expectoration; or, the tubercle opens into the pleura and allows a few drops of pus to escape into the serous cavity; or, a double perforation may take place at once, the one into the parenchyma of the lung, the other into the pleura, and then there ensue the symptoms manifested in the above case. When we look, therefore, at the previous state of the patient, her gradual emaciation, her state of suffering for several months, without any appreciable cause, inasmuch as no positive sign of tubercles had been discovered, does not every thing lead us to conclude, that such was in fact the origin of her disease? This hypothesis is the more probable, because in hydro-pneumothorax, the result of tubercles, the perforation generally takes place at an advanced stage of their development. This fact has an importance, in relation to etiology, which cannot be overlooked. But it is also interesting as regards diagnosis. When hydro-pneumothorax occurs suddenly, in the midst of good health, the very fact of this sudden invasion should draw attention to the probable existence of pulmonary tubercles, even though there had been no previous indication to excite a suspicion of their existence.

There is still another point on which something must be said, and that is, how does it happen that whilst tubercular affections of the lungs are so frequent, that of pneumothorax, at least relatively, is one of rare occurrence? The explanation is given by M. Chomel, as follows:—"Most generally," he says, "when tubercles become softened, there exists around them a certain degree of induration; the pulmonary pleura in their neighbourhood becomes inflamed, and contracts adhesions with that of the ribs. Whence it results that when the softening has reached that stage in which perforation is likely to occur, there is no longer at that spot any pleural cavity, and consequently no effusion either of gas or liquid."

Real danger of primary pleurisy.—Since the definite researches of M. Louis, most people are inclined to acknowledge, with that learned investigator, that primary pleurisy is a disease of little danger. M. Chomel, however, considers that this conclusion, although supported by many facts, is not, in an absolute sense, correct. He makes the following distinction, which appears to us well worthy of consideration; primary pleurisy, accompanied with *serous* effusion, is, unless from accident, seldom a disease of much real danger; pleurisy, accompanied with *purulent* effusion, however, is, on the other hand, a disease always accompanied with danger during the greater part of its course. M. Chomel does not state on what facts, or number of facts, he has been led to make this distinction; further observation must determine its correctness. We may state, however, although the fact has no very direct application to the point in dispute, that the operation of empyema, when practised in cases of purulent effusion, is rarely successful, as compared with the same operation when the effusion is serous; this is a fact established on the most exact grounds.

Mechanism of Malformations of the Thorax, the result of Pleurisy.—Every one knows that in pleurisy accompanied with effusion, the side on which it occurs is increased in size, and becomes distended and enlarged in proportion to the quantity of serum contained in the pleuræ. And that afterwards when resolution has taken place, and the effused fluid has by degrees become absorbed, the side is prone to return to its former condition, contracting by degrees, and that this contraction, instead of being limited to the original size of the thorax, goes so far, that instead of being the largest, the affected side at last becomes smaller than the other. This succession of phenomena was accurately described by Lænnec, but he attempted no explanation of them. "In addition to these, however," says M. Chomel, "we have also observed the following, and have been in the habit of calling attention to it in our clinical lectures for some years past. After the cure of the disease, if the patient be examined anew in the course of one or two years, and the dimensions of the previously affected side carefully taken, not only as regards its circumference, but also its antero-posterior diameter, it will be found that the contraction consequent on the absorption of the fluid has disappeared, and that the side has regained the dimensions it possessed pre-

vious to the occurrence of the effusion." In order, however, that this change may take place, M. Chomel further remarks, it is necessary that the pleuritic effusion have been neither too large, nor too long continued; for if the compression of the pulmonary parenchyma be prolonged, it loses its elasticity, and a return to the natural dimensions becomes impossible.

The fact, as stated by M. Chomel, is quite correct; but, in general, no notice has been taken of the mechanism of these deviations from the normal state, or of the means by which the thoracic parietes regain their normal dimensions, or if any explanation has been offered, it has been altogether insufficient and incomplete. Although none of the particularities have escaped the notice of M. Chomel, yet, it appears to us, that he is far behind in regard to what modern science teaches as to the causes which produce them. The clinical professor has justly remarked, that as a consequence of the continuance of these pleuritic effusions, the lung remains compressed, and in consequence of a diminution in size, occupies a less space. All this is perfectly correct. But how and why does the frame-work of the thorax follow this retreating movement of the lung? M. Chomel is silent on this point. He might have given the general explanation of the ancients, which is still followed by some modern authors; to wit, that nature abhors a vacuum; and that, in this way, by the contraction of the thoracic parietes, she fills up the space unoccupied by the contracted lung. All this should follow from M. Chomel's premises. But that is not the true mechanism of these deformities. Delpech, who, as is well known, has paid much attention to deformities, and also to the phenomena resulting from the contraction of the tissue of cicatrices, has supposed that, in these cases, the pleura after having been inflamed and suppurated, is in the condition of an inodular tissue, which, on contracting, draws with it the thoracic parietes, and causes them to become depressed. But experience soon showed the absurdity of this explanation. Subjects were opened in whom serous effusion was discovered, without suppuration, or the latter being converted into inodular tissue, and yet there was depression of the corresponding side of the thorax. It has been observed, moreover, as stated by M. Chomel, that a large number of these consecutive deformities disappear as the permeability of the lung becomes re-established; the mechanism of such deformities must therefore be sought for in some other cause.

Those who have followed M. Guérin at the Hôpital des Enfans, must have frequently heard him give such an explanation of these deformities, as appears the exact expression of a fact, after a careful examination of their mode of occurrence in rickety subjects. When children have reached that stage of the disease in which the bones commence to soften, and in which the lungs exhibit, in some of their parts, a peculiar state of carnification so as to render them, in such portions, impermeable to air, we then notice that, under these circumstances, the thoracic parietes become shrunk, depressed, and deformed, not in a general and uniform manner, however, but partially, and in those portions, which correspond to such parts of the lung as have ceased to be permeable to air. Hence those singular and irregular shapes which have generally been considered as the simple result of softening of the bones; whilst, on the other hand, they were but the constant and regular expression of a physical cause, perfectly well understood. What in fact takes place in such cases? The lung receiving no air except in a portion of its extent, only dilates partially; the equilibrium between the internal and the external column of air is thus lost, and the latter having no counterpoise, presses with its whole weight on the thoracic parietes, which yield at those points corresponding to the condensed portions of the lung; and they yield with the greater facility, as the ribs have undergone a more or less advanced rachitic degeneration. This influence is so evident, that these partial depressions may be witnessed at each inspiratory movement, and the progress of the disorder may be traced, as it were, with the naked eye. An inverse action takes place, but in a much less degree, when the lung, after the period of resolution, again become permeable to air in all its parts, becomes fully dilated, and offers everywhere an equilibrium to the external pressure. Hence a more or less complete return of the thorax to its natural form.

M. J. Guerin has shown that, in the various stages of pleuritic effusion,

there is the greatest analogy with the cases of rachitic deformity which we have just been noticing. It is easy, indeed, to conceive what part may be drawn from this theory in the explanation, of the mechanism of those successive dilatations and contractions to which the thoracic parietes are subject in these cases. This subject is still in its infancy, and requires further development. This, however, is not the proper place to enter upon it; it will, no doubt, be given at a fitting time, with all the necessary details. We may only add, that this theory of the deformity of the skeleton, under the influence of atmospheric pressure, may be applied to facts of various kinds, more especially to those thoracic deformities engendered in the course of phthisis.—*Gazette Medicale*, 24th January, 1846.

REMARKS ON THE PERIODIC NOCTURNAL COUGH OF CHILDREN. BY DR BEHREND of Berlin.

This cough, of little severity, but rather frequent and of a peculiar character, has not as yet been described by any author.

Symptoms.—This cough is most generally observed in spring-time and winter, but also frequently in autumn, rarely in summer; it seldom, if ever, occurs in children at nurse, but is observed in other children at all ages, and more frequently in boys than girls. During the day there is no cough, not even the vestige of catarrh, and, when put to bed, the child falls asleep quietly at the usual hour; but in the course of a few hours it becomes restless, and coughs violently before awaking; it commences to cry, and the cough becomes more and more severe, till, in some cases, it produces vomiting: after one or two hours of suffering the child again falls asleep, and passes the rest of the night quietly. The cough returns at the same hour the following night, and continues sometimes for weeks and months; at last it commences to diminish, and disappears completely and spontaneously: the fits become shorter in duration, and occur at a more advanced period of the night, so that the length of sleep enjoyed previous to its occurrence is gradually prolonged. The children are pale, easily fatigued, and troubled with cold feet towards evening; they take their food, and play however, as usual, and appear otherwise to enjoy good health. The nocturnal cough has frequently a catarrhal character, and is generally accompanied with mucous rattle; sometimes, however, it is dry, croupy, and whistling: the kinks are short, isolated and uniform, and may recur every five minutes, or extend only to one or two.

Diagnosis.—This periodic cough can neither be mistaken for croup, which has well-marked symptoms, nor for hooping-cough. The latter is almost always epidemic, and occurs as much during the day as during the night, and is always remarkable from a peculiar dyspnœa. In the periodic cough there is no true appearance of suffocation; the children do not awake suddenly, as in a fit of asthma or spasm of the glottis, but they awake slowly, after having coughed several times during sleep. It most nearly resembles catarrh or bronchitis, but is distinguished from these affections by the complete absence of physical signs, and by the nocturnal periodicity of the fits, followed by complete remission.

Etiology.—The author regards this cough as dependent on an affection of the nerves, perhaps the vagus, and grounds his reasons chiefly on the symptoms, and on the circumstance that it has frequently appeared after an epidemic of hooping-cough, and whilst intermittent fevers were very prevalent among adults. This last remark has been made by several other medical men, whose attention was drawn to this cough by M. Behrend.

The prognosis is always favourable. In one case the periodic cough was followed by bronchitis; but this was probably merely accidental. In another case there was frequent epistaxis.

Treatment.—The disease is generally more troublesome than serious, and requires no active treatment. Gentle purgatives, such as manna, with tincture of rhubarb, given in the evening, and attention to diet, are to be recommended. A drachm or two of mindererus, in a little sugar and water, may also be given before putting the child to bed. One medical man found small doses of quinine,

given at bedtime, of great service; another found slight irritation of the skin, chiefly by means of pediluvira, and friction of the soles of the feet with roasted onions, and even enveloping the limbs after the manner of Preissnitz, beneficial. —*Journal par Kinderkrankheiten, in Gazette Medicale*, 14th February 1846.

On the Temperature of Children in the Physiological and Pathological State. By M. Roger.

If the study of the temperature of the human body in the physiological state has given rise to numerous and important works, that of the temperature in the pathological state has, on the other hand, been hitherto very much neglected. This contrast is remarkable, and it would perhaps be difficult to assign any good reason for it; so natural does it appear, were it from no other motive than curiosity, to have extended the inquiry as to how that singular phenomenon, the uniformity of the normal temperature of the body, which remains the same amidst the greatest atmospheric variations, is affected in disease. It is certain, however, that works having a reference to animal heat, in the morbid state, are few in number, and have, as yet, led to no certain or useful results. We except, however, the works of Currie, and a paper by M. Donné in the Archives Generales de Medecine (ii. Série, t. ix.), in which he has studied not only the modifications of heat in a large number of affections, but also its relations to the variations of the pulse and respiratory movements. The latter point of view is peculiarly important, inasmuch as it furnishes an appreciable element, hitherto neglected, in place of the theory of Lavoiseir on the source of animal heat. The paper of M. Donné contains, in regard to this point and several others, the germ of many of the ideas more fully developed by M. Roger, in consequence of his more numerous experiments, which we shall indicate as we proceed.

The researches of M. Roger, based on a thousand experiments, and detailed in a work containing no less than 200 pages, differ from those of his predecessors in two principal points; they apply to the pathology of infancy what was formerly confined to that of adults, and, from the results he has obtained, the author draws applications to the diagnosis, prognosis, and treatment of the diseases of children: in this their double character of originality consists. We shall follow him successively, both in his results and in his applications; but before proceeding to notice his experiments, we shall say a word in regard to the manner in which they were conducted.

M. Roger always used a centigrade thermometer of great sensibility, and divided in such a way as to permit of the exact determination of *fourths* and even *fifths* of a degree. The bulb of the instrument was always placed in the axilla, except in those cases where it was thought desirable to ascertain the temperature of particular parts. The axilla in the child never being of great depth, the immediate application of the instrument was easy. The little patient being placed on its back, the instrument was introduced into the deepest part of the axilla, and the arm bent and brought into contact with the body, after which it was maintained in close contact with the chest, so that the bulb received an equal pressure on all sides from the parietes of the axilla. The column of mercury generally attained its maximum in the course of three minutes, and then remained stationary; the thermometer, however, was usually allowed to remain for five minutes, and sometimes longer. Advantage was taken of this period to count the pulse and respiratory movements; with restless children, it is better not to carry on the experiments in front, and to count the pulse and the respiration before attending to the animal heat. These details will be found useful to such as feel inclined to repeat the experiments of M. Roger. We shall now give a condensed exposition of the principal results to which he has been led, and the deductions he has drawn from them.

Physiological Results.—The child, at the period of birth, has, in some cases, a more elevated temperature than that of the adult, and even than that which it possesses at a later period: this greater degree of caloric is derived from the medium in which it has been placed; the thermometer, when introduced into

the uterine cavity, immediately after the expulsion of the fœtus, exhibits almost exactly the same degree as when applied to the axilla of the child.

Whether the heat of the new-born infant surpasses or equals the mean temperature at other ages, or whether it is inferior to it, (as sometimes happens in weakly children whose temperature may be about 32°,) yet, in almost every case (8 times in 11,) it is superior, by at least a degree, to that of the mother.

The new-born child constantly and rapidly loses heat in the new medium in which it is placed. In the course of two or three minutes, there is a loss of two or three degrees of heat. It is only the day after birth that the animal heat appears to have attained its physiological level, and, as long as health remains, it retains that level with slight oscillations. The author has found the *normal mean* to be 37°·08 in 33 children seven days old, and 37°·21 in 25 children aged from four months to fourteen years. When we compare these *means* with those already given by M. Despretz, or with those given by the author himself for all other ages, we find that animal heat, in a state of health, exhibits scarcely any perceptible difference in the different periods of existence; 36° and 38° are the superior and inferior physiological limits; 37° is the most frequent figure in childhood. It is that nearly as often attained by adults, and even in extreme old age, it only varies by a few hundredths of a degree. But if it be true that the temperature of the human body varies little with age, the same cannot be said of resistance to cold, which is at its minimum at the two extremes of life. It is remarkable, that as long as the performance of the functions continues normal, no modification in the temperature occurs unless to an almost imperceptible degree. In the experiments of M. Roger, no change took place in the state of sleep or waking, repose or motion, or during the operation of digestion. In some of the new-born children, a greater activity of the circulation, the male sex, or a greater strength of constitution, caused an elevation of temperature to the extent of a degree or half a degree.

In the child, as well as in the adult, there are slight differences of temperature in the various regions of the body easily reached by the thermometer. The comparative standard and elevation of temperature may be ranged in the following order; axilla, abdomen, mouth, bend of the elbow, hands and feet, whence it follows, that in those experiments not specially directed to any particular or circumscribed part of the body, the figure obtained represents the maximum of temperature obtained in those individuals submitted to the experiments, as the thermometer was placed in the axilla.

Such are the principal *physiological* results obtained by M. Roger. Those having a reference to the *pathology* of children are very numerous; we cannot attempt a succinct exposition of them all, and must confine ourselves to some general indications, which may serve to indicate the importance of these details we are forced to omit.

The author commences the second part of his work with a remark worthy of recollection: "It may be said that the play of the functions, so long as they remain regular, have no influence on animal heat, and yet the slightest derangement in the state of the health causes an augmentation of temperature in the child of several degrees, a circumstance which does not take place in the variations of the physiological state, nor yet a surrounding heat of 40°. The same may be said of cold; the child has, in its feeble economy, and in the powers of its commencing life, a power of resisting, up to a certain point, the most active physiological causes of cold; but let a morbid state arise, and then its temperature falls in a most extraordinary manner, (as is observed in sclerema.)"

The animal heat may be everywhere diminished or everywhere exalted; it may be also partially diminished or exalted.

In adults there is only one disease, *cholera*, in which a *general* diminution of temperature takes place. In the child there are two, cholera and sclerema. We may here observe, that the study of sclerema, or the œdema of newborn infants, in the point of view of temperature, has opened up to our author a source of experiments and inductions which throw a new light on the etiological conditions, and also, to a certain degree, on the nature of this affection. There is no doubt some authors, especially M.M. Aurity and Valleix, had pre-

viously drawn attention to the general coldness with which this disease is accompanied, but they had not studied it thermometer in hand, in its phases, duration, effects, and practical consequences. We shall return to this latter point by and by: in the mean time we merely wish to direct attention to the simple result of the experiments. In 52 children affected with sclerema, the thermometer in 19 stood at 33°, in 7 it fell below 26°; that 11o below the physiological level, in 1 it fell to 22°. The mean for the 52 cases was 31°, or six degrees below the normal mean. The coldness is remarkable in this respect, that it most generally continued, and sometimes even became augmented, notwithstanding the application of contrary influences. It exists from the very commencement of the hardening, and is sometimes the first phenomenon which is observed. M. Roger endeavoured in vain to ascertain positively whether these two phenomena—*commencing induration* and *lowering of temperature*—were simultaneous, or which of the two preceded the other. The great degree of cold, however, which sometimes exists from the very commencement, led him to think it was the imitative phenomenon. He endeavoured, lastly, to determine the limit to the coldness below which there was no prospect for the child's recovery. In those subjected to his experiments there were only two cases of recovery: in the one the thermometer had sunk to 32° 50, in the other it remained at 37°.

Local diminution of animal heat is observed in a very limited number of affections: it has been noticed in the affected limb in certain cases of paralysis, as well as on the eschar in gangrene of the mouth.

We have already stated that the temperature may be *generally*, and nearly uniformly, increased. It is very much raised in scarlatina, typhus fever, and pneumonia: a result in every respect similar to that obtained by Morlie, Andral, and Donné. The tuberculous state gives rise to no elevation of temperature, unless by its consecutive effects on the invaded tissues. The augmentation is greater, as previously remarked by M. Donné, when the pulmonary parenchyme is the seat of the tubercles. The most extraordinary variations of heat take place in meningitis.

At other times an increase of temperature may only take place *locally*; and in that case the increase is found sometimes entirely confined to the internal organs, the periphery, on the other hand, being cold (as happens in intermittent fever); sometimes over a limited region of the external surface, as observed in inflammatory erysipelas; or around the eschar in gangrene non-stomatitis. In the latter case, however, it is to be observed, that although the thermometer, when applied to the affected region, may indicate a higher degree than the neighbouring regions or the opposite side, yet the local heat does not exceed the general temperature (taken in the axilla), which is raised simultaneously.

Between what limits does the increase and diminution of temperature oscillate in children affected with disease? In adults, according to the experiments of M. Andral, which embraced nearly all kinds of diseases, Indian cholera excepted, the oscillations of temperature ranged between 35o and 42°, or 7° only. In the child, according to M. Roger, the extremes are much greater, comprehending 20° at least, or between 42° 50 and 22o. This difference, however, is more apparent than real; and the identity of figures would have been nearly complete, had M. Roger excluded from his experiments an affection not included in those of M. Andral, and which alone lowers, in a great degree, the minimum figure of temperature, we mean the œdema of newborn children.

It appears, lastly, that an elevation of 5° or 6o above the normal mean is the maximum which a child is capable of supporting, whilst, as we have already stated, it may lose before dying 15°. And even this is not perhaps the lowest degree of refrigeration; for the child in whom the minimum was 22° lived a day after the experiment.

All the variations of temperature we have just noticed, be they greater or less, do not bear such a constant relation to the pulse and respiration as might have been supposed. In typhus fever especially the comparatively slow state of the pulse and respiration forms a contrast to the great elevation of tempera-

ture; in pneumonia, on the other hand, there exists between these phenomena the most exact relation. M. Roger, in pursuing his experiments through the various diseases of children, demonstrates that, in a large number of affections, and more particularly in some cerebral and nervous affections, there is a complete want of harmony between the frequency of the pulse and respiration, and the degree of animal heat. The importance of these results, in a physiological point of view, will easily be understood. If the production of animal heat has its exclusive source in the temperature, and if it depends solely on a chemical operation taking place in that organ, how does it happen that in some affections (intermittent fever, dothinententis, acute articular rheumatism, &c.) where the temperature reaches its maximum, the respiration, on the other hand, preserves nearly its normal rhythm? And how does it happen further that in some diseases (chorea, rickets) the frequency of the respiratory movements may be greatly increased, and yet the thermometer rise only a degree? The same remarks may be extended to the movements of the pulse, and demonstrate the insufficiency of the iatro-mechanic hypothesis; so that, in fact, both in a physiological and pathological point of view, there is still an obscurity here which we have not yet been able to penetrate.

In noticing some of the principal facts of this remarkable work of M. R's, it only remains to us further to indicate some of the applications he has made, from the results obtained by the thermometer, to the diagnosis, prognosis, and treatment of the diseases of children.

The two following examples will sufficiently exhibit all that may be drawn from this new order of facts in a diagnostic point of view.

Typhus fever being the only disease of childhood in which great heat coincides with a moderate acceleration of the pulse, it may almost infallibly be predicted that that disease is present in a child in whom the temperature reaches to 40° or 41°, and where the pulsations hardly reach 100 or 112, and this from the simple want of relation between the state of heat, and that of the circulation. Œdema being the only disease (along with that of cholera) in which there is a considerable decrease of the general temperature of the body, and as that decrease sometimes precedes, and always accompanies the early anatomical lesions of sclerema, a well marked degree of coldness may only suffice to indicate either an approaching attack, or the degree of severity of that affection.

In regard to *prognosis*, it may be said that excessive increase of temperature indicates the serious nature of the disease, except in intermittent fever, in which the termination is usually favourable, notwithstanding a temperature of 41° or even 42°; yet whenever the thermometer reaches 41° we are justified in apprehending danger. Those cases in which the standard nearly reaches the pathological maximum are most generally fatal; yet, a cure is sometimes possible. Currie, for instance, witnessed a case of scarlatina recover notwithstanding a temperature of 42° 78. If we take the other extremity of the scale, the intensity of the cold in the œdema of new-born children, is a certain sign of the intensity and extent of the anatomical alterations, and consequently of the serious nature of the disease. Adults seized with cholera have recovered although the thermometer had fallen as low as 24°; but new-born children enjoying good health, as well as those who are sickly, cannot support a fall of temperature beyond 5° or 6°, without sinking at last, after a struggle more or less prolonged.

Lastly, the benefit to be derived in a *therapeutic* point of view from an exact acquaintance with the degree of animal heat, and the oscillations it undergoes, must be evident to all. In the pyresius, as well as in cholera or sclerema, it is satisfactory to be in possession of a certain rule by which we may be guided in the proper application of refrigerant or stimulating remedies. On this point it would be superfluous to dilate.

In terminating this analysis, we regret, notwithstanding its length, that we have been able to do nothing more than give an imperfect idea of the new facts and views in which the paper of M. Roger abounds; it is his fault rather than ours; it is the character of all works, confined to a simple exposition of facts and their results, to admit of but imperfect analysis; but they are destined to take their

place on the annals of science, and that of M. Roger, we believe, will hold an honourable one.—*Gaz. Med.* 21st Feb. 1846.

Communication between the Ventricles of the Heart,—the Aorta originating from both Ventricles. By Professor Dunglison.

An Irish girl, 21 years of age, had been in the Worcester alms-house about a year, previous to which I know nothing of her history. During her residence there she was unable to perform any work, or take exercise of any kind, as upon the least exertion or excitement she was attacked with palpitation and dyspnœa, accompanied with some blueness of the skin, all which disappeared on her remaining at perfect rest. She was also subject to frequent attacks of the same kind after dinner, which, during the latter part of her life, came on every day, continuing for two or three hours, even though she remained perfectly quiet, being apparently excited by the mere stimulus of food. She had also a constant and strong rasping *bruit*, accompanying the first sound of the heart, and masking it partially. She suffered much from headach, which, a few days before her death, became greatly increased, accompanied with high febrile excitement, followed by delirium, coma, and death. On examination, the septum ventriculorum was found deficient just at the orifice of the aorta, giving that vessel an origin from both ventricles; the pulmonary was contracted, so as barely to admit the little finger; the lungs were of natural colour, but both were studded from top to bottom with crude and miliary tubercles, none of which were softened; the left lateral ventricle of the brain was filled with pus, the lining membrane being filled and thickened, and in the posterior lobe of the same hemisphere was found a cyst the size of a robin's egg, also filled with pus, but having no connection with the ventricle. The substance of the brain presented numerous red points, but was not altered in consistence. No other morbid appearances whatever were observed in the organs examined, which were the lungs, heart, and brain. At the time of her death she was menstruating profusely. Blueness of surface was at no time considerable, and it was only observed upon some exertion or excitement, and always in connection with palpitation and dyspnœa—coming on and disappearing with them.—*Medical Examiner*, May 1845.

ANATOMY AND PHYSIOLOGY.

Influence of Temperature upon the Respiration of Warm-Blooded Animals. By F. Letellier.

The author made a series of experiments on respiration with birds and mammalia at low and high temperatures. The former varied in the experiments between 28° F. and 37°, the latter between 82° and 110°. The temperature could not be raised without the animals soon dying or becoming very uneasy. It was found that at about 32° the expired carbonic acid amounted to much more than at a higher temperature, and that this relation is more strongly marked in birds than in mammalia. The amount of carbonic acid in one hour was in—

	Between 59°—68°.	Between 86°—104°.	At 30°.
	grms.	grms.	grms.
A greenfinch,	0·259	0·129	0·325
A turtle-dove,	0·684	0·366	0·974
Two mice,	0·498	0·268	0·531
A guinea-pig,	2·080	1·453	3·006

Comptes Rendus, xx. p. 794.

PART FOURTH.

MEDICAL NEWS.

CASE OF MR SETON.

To the EDITOR of
"The Monthly Journal of Medical Science."

SIR,—The circumstances connected with this most unfortunate case have naturally, and deservedly attracted much public attention, and are not unworthy the consideration of your numerous readers. A gentleman, in robust health, and in the prime of life, is wounded in a duel,—symptoms requiring surgical interference manifest themselves at the expiry of 11 days,—the patient dies in 24 hours, confessedly in consequence of the operation, and a Coroner's Jury, in accordance with the surgical testimony adduced, decides that "*the operation was indispensably necessary to save the sufferer's life.*"

It appears to me that two important views of this case, essentially distinct, have not been kept separate in the minds of the Medical Witnesses, of the Jury, or of those who have discussed the subject: viz.

1. Was the operation indispensable?
2. Was it justifiable?

Every practical surgeon will at once observe that these questions are essentially distinct, being well aware that symptoms have frequently justified an operation which has been proved by the result not to have been indispensable.

Let us shortly consider these two views of the case:

1. Was ligature of the external iliac artery indispensably necessary,—not to save the life of Mr Seton, for he died—but to afford him the only chance which existed? This question very naturally suggested itself to the jury, and appears to me to have been incautiously and unwarrantably answered in the affirmative by the Medical Witnesses. The principal means of ascertaining the *absolute necessity* of any operation, are the urgency of the symptoms prior to the operation, and the state of parts discovered by dissection after death. In this case, unfortunately, both these means of forming an opinion of the necessity of the operation were afforded. What, then, did dissection after death disclose? "It appears, then, that the ball passed altogether in the subcutaneous fat; that it did not pierce the fascia lata; and that the only vessel wounded, and forming the false aneurism, was a superficial branch of the femoral artery. This vessel was divided close under Poupart's ligament, and nearly an inch from its separation from the main trunk, its divided extremity being perfectly open."

Is this, then, an injury rendering so formidable an operation as ligature of the iliac artery indispensably necessary to save life? Has modern surgery come to this, that a wound in the cellular tissue, "*opening a superficial branch without a name,*" demands ligature of the main trunk nearer the heart than that from which such little branch springs? How men holding a surgical diploma,—men of experience and integrity, knowing that a verdict of "wilful murder" against other parties hung on the words they uttered, could give such testimony, is to me incomprehensible. It does not mend the matter to say with the Editor of the *Medical Gazette*, "You are on the safe side in giving an opinion after all is over, and from a *post-mortem* examination alone." We are certainly on the safe side as regards the second question, "was the operation justifiable?" but I apprehend that Medical attendants, Medical Witnesses,

and Medical Readers are all on the same "side" as regards the grand question "was the operation indispensable?" I cannot for a moment suppose that Mr Liston would have for one moment contemplated the performance of this operation had he been aware of the true source of the hemorrhage. Judging from the *post-mortem* appearances, the operation must be pronounced "unnecessary." But it may be said, the urgency of the symptoms was such that Mr Seton's instant death might have been the result of delay or any other method of procedure. What were the symptoms? "The patient had all the appearance of a person who had lost a considerable quantity of blood, his skin being blanched and waxy, and his pulse rather quick and feeble. Although he suffered at times severe pain in the limb, there was no marked expression of anxiety in his countenance; his manner was calm and composed; and as he kept perfectly quiet in bed, he felt his strength improving, and seemed hopeful as to the final result."

Now, did these symptoms, conjoined with the facts discovered after death, justify the Medical Witnesses in testifying that the operation, and nothing but the operation, could have saved Mr Seton's life? Their grand error seems to have arisen from their shutting their eyes against the *post mortem* appearances regarding which there seems to be no doubt, and looking with pre-conceived opinions to the symptoms during life, confounding, as I have already said, the two questions, "was the operation indispensable," if not, "was it justifiable."

2. If, as I have attempted to show, the operation was *not* indispensable, did the symptoms justify its performance? Here I confess I am treading on delicate ground, and having done what I deem an act of justice towards the survivors in this unhappy affair, in attempting to show that they are not "wilful murderers," I might be justified in concluding that a consultation of well-educated surgeons headed by Mr Liston, would not have hazarded the performance of so formidable an operation, had the symptoms not fully warranted it. But since the grievous error they committed in declaring an unnecessary and fatal operation to have been indispensable to save life (!!) I feel it to be a duty impartially to examine the second question also, and to endeavour, so far as published statements enable me, to decide whether the operation was even justified by the symptoms. What was the diagnosis which led to the operation, with regard to the probable course of the ball and the artery wounded? It was supposed, from the general direction of the discoloured track, and the relative position of the two openings, that the bullet had passed through the tenser vaginæ femoris and behind the sartorius, perhaps wounding or bruising the anterior crural nerve, and dividing some branches of the external circumflex artery, that it had then passed in front of the common femoral artery (close to its commencement from the external iliac), either slightly wounding the main vessel, or dividing one of its branches near its origin; and lastly, that it had wounded or bruised the right spermatic cord, and run over the pubes to the opening of exit."

This diagnosis involves two distinct points,—a slight wound of the femoral artery, OR division of one of its branches near its origin. Now, without being hypercritical, it may be said the OR involves the whole question; in other words, that the true nature of the injury was not, perhaps could not be, diagnosed. A wound is inflicted in the groin; hemorrhage follows; the blood *must* come from the trunk OR branch. From what other source could it emanate? The point to be diagnosed, is the exact source of the bleeding; and on the answer to this question the treatment and prognosis must entirely rest.

It does not appear from Mr Potter's statement that the medical attendants had arrived at any conclusion in their own minds, as to whether there was a wound in the femoral artery, or of one of its superficial branches, and being undecided on this all-important point, it is a grave question—were they *justified* in tying the iliac artery? For my part I think they were not, and from their own statements I am forced to infer that the operation was not even justifiable. I think no practical surgeon will dissent from the rule, that no operation dangerous to life ought to be performed, when only a doubtful diagnosis can be arrived at; the *doubt* involving the whole question of the necessity for the ope-

tation. Who would cut into the bladder if he doubted the existence of a stone? or who would tie the carotid, or use his abscess lancet, if uncertain whether the tumour in the neck was an abscess or an aneurism? In like manner, who would tie an arterial trunk, if uncertain whether the trunk itself, or a "nameless superficial branch," was the source of hemorrhage. But we may proceed a step further, and inquire, which view of the case, "wound of the trunk," or "wound of a superficial branch," did the symptoms favour? It appears that the hemorrhage, said to be profuse, stopped spontaneously; it did not return, but pulsation over the track of the ball was felt on the 7th day. Is this not more like a wound of a branch than of so large a vessel as the femoral artery? The ball entered in front of the right trochanter, and escaped at the middle of the fold at the left groin. "*Its track was followed by an elevated ridge from one opening to the other*," with ecchymosis of the lower part of the abdomen and *scrotum*. Was such an entrance and course of a ball likely to dip so deep as the femoral artery in a corpulent man? Would a ball passing under the deep fascia leave an elevated ridge from opening to opening? and did the ecchymosis of the scrotum not render it probable that the wounded vessel was not behind the *fascia lata* of the thigh? Doubtless we are now on the safe and easy side in forming a diagnosis; but I would ask, of what value is extensive general and operative experience, if it does not so combine obscure symptoms as to prevent our performing unnecessary and fatal operations.

Mr Liston very naturally defends the operation, but he appears to forget the questions, "Would you have tied the iliac artery if you had known the femoral was intact? or ought you to have tied it while you were uncertain if the blood escaped from a trunk or a branch?"

It may be asked what could Mr Liston do? There is one course always open in doubtful cases involving hazardous operations:—patiently to watch the sufferer, and wait either till the diagnosis becomes less obscure, or the symptoms so urgent as to demand interference; and this perhaps is the plan which prudence will dictate in such cases as Mr Seton's.

It has been suggested that cold applications and pressure should have been tried. It is impossible to judge of their applicability from the detail of the symptoms with which we have been furnished; one remark, however, suggests itself. From Mr Liston's letter to the *Times*, one would suppose that pressure was only applicable to aneurism from disease, and not to traumatic aneurism, or wounded arteries. This at least is the impression his words convey; but it surely cannot be his opinion, as no one knows better than he, that for every one case of true aneurism in which pressure has been useful, it has been perfectly successful in 10, nay 20 cases of wounded arteries, either pouring out blood, or forming traumatic aneurisms. I do not presume to say that pressure ought to have been tried in Mr Seton's case; but I think the result shows that it would have been much more likely to have done good than the operation, and that in such cases, should they again occur, it ought in the first instance to get a fair trial.

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VARIETIES.

Correspondence relative to Mr Syme's Surgical Cases.

Letter from Mr Syme *to the President of the Medico-Chirurgical Society.*

Charlotte Square, 5th March 1846.

Sir,—At a late meeting of the Medico-Chirurgical Society, when I was not present, the Professor of Midwifery stated, that certain cases reported by me were not consistent with fact. Conceiving that this statement must have proceeded from the heat of discussion, I was satisfied with transmitting, through you, sir, a simple denial of the inaccuracies alleged, and fully expected that the Professor of Midwifery would have taken the earliest opportunity of expressing regret for his unfounded imputations. Instead of this, I have learnt,

that at the meeting yesterday evening, he repeated his accusation in terms if possible still more offensive than before, and deposited it in a written form with the Society.

In these circumstances, the only course left for me, is to request that the Society will thoroughly investigate the whole affair, and ascertain beyond the possibility of question whether or no the Professor of Midwifery had any ground whatever for his allegations.

I do not presume to express any opinion as to the propriety of the Society accepting statements, which if resting upon the individual responsibility of their author, would not have occasioned me any concern, but which emanating from an association of practitioners united together for the promotion of medical science, seriously affect my character as a member of the profession, and as a clinical teacher. The Society having permitted this injury to be inflicted, will, I trust, not hesitate to grant the simple act of redress which I now very respectfully beg to solicit.—I have the honour to be, Sir, your most obedient servant,

JAMES SYME.

The Secretary of the Medico-Chirurgical Society to MR SYME.

129 GEORGE STREET, April 2.

MY DEAR SIR,—I have been unable sooner to give you any reply to your letter of the 5th March, addressed to the president, because in fact it was finally disposed of by the Society only last night.

Your letter was of course brought in due form before the Council, who, after a most deliberate consideration of it, came to the conclusion, that to enter at full length into the inquiry which you requested, was not expedient for the Society, but that it would be highly proper to endeavour to obtain from Dr Simpson some modification or retraction of the letter from him, which gave rise to your letter of the 5th. Accordingly a deputation of the Council waited on Dr Simpson, who stated to them, that as he had been the means of placing the Society in an awkward position in relation to you, so he considered it his duty to extricate them from their dilemma, and therefore he placed it in the hands of the Council to do with his letter what they pleased. Accordingly the letter of Dr Simpson, and all the proceedings subsequently founded on it, were ordered to be deleted from the minute-books of the Society, and the draft minutes wanting Dr Simpson's letter were read and approved of by the Society last night.

With respect to its having appeared in print as part of the *res gesta* of the Society, to which you called my attention in Infirmary Street to-day, all that I can say is, that it was by no aid of mine or of the Society that this publication took place, because I was strictly forbidden by the Council to suffer the letter to pass into any hands until the negotiations were completed, and I of course obeyed these orders.

You will thus see that the Society have put an end to this discussion so far as they are concerned, by expunging the whole affair subsequent to your first letter from their minutes. Believe me, yours faithfully,

DOUGLAS MACLAGAN.

To the Editor of the Northern Journal of Medicine.

CHARLOTTE SQUARE, 8th April 1846.

SIR,—In the number of your Journal for the present month, you have inserted a letter[1] addressed by Dr Simpson to the President of the Medico-Chi-

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[1] MEDICO-CHIRURGICAL SOCIETY.

SIXTH MEETING.—*Wednesday, 4th March.*—DR GAIRDNER, President, in the Chair.

Before Public Business commenced, the following letter from Professor Simpson, in reply to Mr Syme's printed above was read :—

TO THE PRESIDENT *of the Medico-Chirurgical Society.*

SIR,—A letter from Mr Syme to you was read at the last, or February meeting of the Medico-Chirurgical Society.

rurgical Society, relative to certain alleged inaccuracies in my reported Cases. This letter, fully a fortnight before the time of publication, the Council had unanimously recommended Dr Simpson to withdraw; and at the meeting on Wednesday last, Dr Simpson being present, the Society resolved to omit all notice

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In that letter Mr Syme avers, that when the subject of ovariotomy was discussed at one of the December meetings of the Society, I offered, in the course of the debate, erroneous statements on two points, in reference to surgical observations previously published by him.

Not having been present at the last meeting of the Society, when Mr Syme's letter was read, I hope you will permit me to state the grounds on which I made the incidental statements of which Mr Syme complains.

First of all, however, allow me to recal to your recollection, that the tenor of the oral observations which I offered to the Society, on the occasion referred to by Mr Syme, amounted to this, that all, or almost all the objections usually urged against ovariotomy, could be urged with equal force and truth against most other capital operations for chronic diseased states.

This explanation is necessary, in order that you may understand how, in discussing a number of surgical operations and statistics, I was led in the two following instances to refer, though certainly never by name, to cases reported by Mr Syme.

1. Dr Cormack argued against ovariotomy on the ground that the records of the favourable cases of the operation had been ushered into the world with premature haste, and before their ultimate success and effects could be known. I answered that it was an unfortunate argument for Dr Cormack to employ, seeing that in the very same number of his Journal, in which he had previously taken occasion to state this objection against ovariotomy, he had admitted among his original contributions, the description of a case intended to illustrate the advantages of a new mode of performing one of the most formidable and fatal operations in surgery, namely, amputation of the thigh; and yet the report of this case of this new operation was not carried down beyond the 14th day. As an additional illustration of the premature manner in which capital surgical operations were sometimes reported, I further stated that a friend of mine whom I named to the Society, and who at one time thought of adopting this new variety of amputation in a patient under his care, was deterred by the unpromising state in which he learned the limb or stump (of Janet Marshall), Mr Syme's patient, actually was two or three months after the amputation was performed, and consequently nearly as long after the report of the case, as far as it has been hitherto published, was quite closed. The limb in Marshall's case was amputated early in March. By the time I speak of, namely in June or July, she had been removed to private lodgings, at Bruntsfield Links, and as I and others were informed, was threatened with, if not suffering from some exfoliations. The patient's own statement is sufficient to show, that no portions of bone did separate. Pus, however, collected in greater or less quantity in the course of the remaining portion of the limb, and required to be evacuated by Dr Cameron. To what extent abscesses were thus formed and opened, and how much the patient was debilitated by them will no doubt fully appear, when a continued and more complete report of the case is published, as we have every reason to believe it will be, by Mr Syme. In the report already given by him in the Monthly Journal, the case is described as calculated "to remove any doubt as to the safety of amputating at the knee," and the convalescence is described as having gone on, (to use Mr Syme's own words) without any local or constitutional disturbance. Subsequently, however, the local or constitutional state of the patient continued such, that she was not in a state to be sent home for five or six long months after the operation was performed. And, assuredly, assuming the line of argument which I did, a case with such a history was one which I was fully justified in alluding to, in reply to the analogous reasoning of Dr Cormack against ovariotomy.

2. In answer to some of the allegations about the common operation for

of it in their minutes. It is needless for me to make any remarks upon the position in which printing the letter under such circumstances as part of the proceedings of the Society has placed Dr Simpson and yourself.

The charges of inaccuracy relate to a case of amputation and a case of aneurism. With regard to the former, Dr Simpson originally informed the Society that exfoliation of the bone had taken place, but being corrected as to this misstatement, has restricted his allegation to the continuance of discharge having "debilitated" the patient for many months, while in my notice of the operation a fortnight after its performance, a satisfactory result was anticipated. Now the truth is, that the wound healed almost entirely by the first intention, and never occasioned the patient any trouble. But suppuration took place at a different part of the thigh, where pain had been felt previously to the operation, and an incision made here by my assistant, Dr Cameron, to let the matter escape, proved slow in healing, not from any local obstacle, but obviously from

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aneurism not being dangerous, I remarked *inter alia* that in the first Number of Dr Cormack's Journal, 11 cases of ligature of the femoral artery for popliteal aneurism were adverted to as having within a limited period occurred in Edinburgh, and that in 5 of these cases the operation was followed sooner or later by a fatal result.

Mr Syme, the author in Dr Cormack's Journal of this statistical notice, regarding these 11 Edinburgh cases, alleges, in his late letter to you, that 3 only, and not 5 of the cases were fatal.

I rested my statement of the results of the operation in these 11 cases, partly upon Mr Syme's own authority, and partly upon the history of one of the eleven cases, with the details of which I happened to be acquainted.

Speaking of these 11 cases in the first Number of Dr Cormack's Journal, Mr Syme observes, "for my own part I have been fortunate, having tied the vessel 7 times for aneurism with success." "But," he adds, "within the period of doing so, I am not aware of any case that has terminated favourably in this city, while I have either seen or heard of 4 that ended badly, namely, one by inflammation of the vein, one by mortification, one by hemorrhage, and one by amputation." In his late letter to you, Mr Syme says, "it is stated in the paper, only 3 of the 11 patients died from the effects of the operation."

The passage which I have quoted, (the only one referring to the fatal cases) certainly led me, as it would lead others, to infer that four, as is distinctly mentioned, of the eleven cases, had terminated unfavourably, and, as I interpreted the passage, fatally. I counted as a fifth fatal case, one of those seven in which Mr Syme states "he had tied the vessel for aneurism with success." This fifth case (a man of the name of Lockie) is described by Mr Syme, in the paper referred to, as one in which recovery was much slower than usual, though ultimately effected. Before this account was published, the case had terminated fatally in the hospital under Mr Syme's care. The femoral artery was tied by Mr Syme in April. The uncured popliteal aneurism burst in October; in consequence of repeated hemorrhage from the site of it, Mr Syme amputated the limb early in December; on the 21st of that month the patient died, and in the first Number of Dr Cormack's Journal, published in the following January, the recovery was inadvertently described as "ultimately effected," and the case given as one of those seven in which "the vessel was tied with success."

It is with extreme pain and regret that I feel driven in self-defence to make publicly to the Society a statement of the preceding kind—but I beg at the same time to add, that when, during the discussion at the December meeting, I had occasion to allude to the two preceding cases or reports, I most sedulously avoided coupling or connecting Mr Syme's name with them. Dr Cormack afterwards rose and pointed them out to the Society to be Mr Syme's cases.

I have the honour to be, yours, &c. J. Y. Simpson.

52 Queen Street, 4th March 1846.

Northern Journal of Medicine, April 1846.

the deranged state of general health. The patient had a cough before the operation, and for a long while after it excited serious apprehensions for her life by the frequency of pulse and extent of emaciation. She gradually improved in strength, and as she did so, a corresponding improvement was observed in the sinus. It is my sincere conviction that if amputation had been performed through the shaft of the bone, instead of its cancellated extremity, she would not have survived the operation. The case, therefore, in my opinion, so far from invalidating, tends strongly to confirm the principle of practice it was adduced to support.

The operation for aneurism is said to have been represented as successful, though followed by a fatal result. Now this case was mentioned, not to support the established principle of curing aneurism by obstructing the artery concerned, through means of ligature or compression, but to illustrate the safety of the former method when employed with certain precautions. It was stated that I had tied the femoral artery seven, I am now able to say *fifteen* times, without ever causing any alarming symptom; and although all the patients had continued to labour under the disease, or ultimately died from it, instead of being all, with one exception, relieved from it, the value of this experience would be nowise lessened. I stated that "the artery was tied on the 30th of April, and though no unpleasant symptom followed, the swelling was slow in undergoing absorption; so that when he was dismissed on the 3d of June, there still remained some swelling of the limb. He nevertheless was able to resume his employment, and perform a full share of active duty; but about a fortnight ago observed a swelling in the calf of the leg, which has since opened spontaneously, and discharged a large quantity of matter, mixed with coagulated blood, no doubt the remains of the extensive effusion which existed previously to the ligature of the vessel." I then fully expected that the patient would not suffer any more trouble from the disease, but soon afterwards, finding that hemorrhage had occurred to a large extent, considered it necessary to amputate the limb, when so far from showing any desire for concealment, I used much persuasion to induce the patient to leave his comfortable home and go into the Clinical ward of the hospital, where he was treated until his death, and publicly examined after it. The paper containing a reference to this case was sent to press longer than usual before the time of publication, from the editor wishing it to have the first place in the first number of the Journal, and was therefore printed before any suspicion of an unsatisfactory termination had been excited. But in a subsequent number, (for September 1842,) I noticed the result in the following passage of another paper relating to the subject of aneurism: —"In some remarks on the ligature of the femoral artery, published in the first number of this Journal, (January 1841,) the object of which was to enforce the importance of some minutiæ in the process, I stated that in no instance had any of my patients suffered the slightest bad consequence from the operation; and I am still able to say so. It is true that in one case the aneurism being large and diffused, was not cured, though in the following year dissection showed that the artery had been obstructed for several inches at the part where the ligature was applied. But this result, of course, has nothing to do with the success of the operation for obstructing the vessel."

Having now explained the grounds upon which Dr Simpson has thought proper to impugn my accuracy, I leave the profession to determine how far such an attack admits of being justified.—I am, Sir, your most obedient servant,

JAMES SYME.

EDINBURGH MATERNITY HOSPITAL.

EDINBURGH, 4 GROVE STREET, 30th March, 1846.

John Rose Cormack, Esq., M.D.,
Editor of the Monthly Journal of Medical Science.

SIR,—I beg to call your attention to an article in your Journal for the month of April 1846, in reference to the Edinburgh Maternity Hospital, and

take leave respectfully to ask if you hold yourself responsible for the correctness and truth of the allegations in the article referred to.—I have the honour to be, Sir, your most obedient servant, JAMES ROBERTSON, Secretary.

LONDON, 1st April 1846.

SIR,—In answer to your letter of the 30th March, I have to say, that I hold myself responsible as an editor for every statement contained in every review which appears in my Journal. If there is anything incorrect advanced in the article to which you refer, I will rectify the error or errors when convinced of it or them.—I am, Sir, your obedient servant, JOHN ROSE CORMACK.

JAMES ROBERTSON, Esq.,
Secretary to the Edinburgh Maternity.

[Mr Robertson has informed us that an article in reply to our review is nearly but not quite ready.]

ROYAL MEDICAL AND CHIRURGICAL SOCIETY. MEETING OF APRIL 14, 1845.—DR CHALMERS, F.R.S., K.C.H., PRESIDENT, IN THE CHAIR.—SOME REMARKS ON WOUNDED ARTERIES, SECONDARY HEMORRHAGE AND FALSE ANEURISMS. By ROBERT LISTON, F.R.S., Vice-President of the Society, &c.—The author states that the subject of wounds of arteries, with the consequences of such wounds, immediate and remote, has possessed, and always must possess, great interest in the eyes of the surgical practitioner. His impression, until very lately, was that no subject had been better handled or was better understood by surgeons generally, and that all writers were pretty well agreed as to the rules which ought to guide the practice in such cases. When, however, we hear of an operation being performed upon a large vessel on account of a recent false aneurism, after careful consideration of all the circumstances of the case by six surgeons, and when there is reason to believe that, at least, an equal number of respectable practitioners (not, however, engaged in the case), were ready to declare the practice pursued very wrong, and contrary to the established principles of surgery, and thus, had the vessel not been tied, the patient might now have been alive, it is surely desirable that an opportunity should be afforded of discussing this subject, and, if possible, settling the question in dispute. The author then proceeded to relate very shortly the leading facts of the case, and to support the line of practice pursued by reference to, and relation of, some similar instances.

Mr S., aged twenty-eight, an exceedingly corpulent person, who had, it appears, lived excessively freely for a series of years, was wounded on the 20th of May 1845, by a pistol-bullet. It entered the upper and outer part of the right thigh, and passed out in the middle of the fold of the left groin; thus traversing the course of the femoral vessels. The flow of blood, more especially from the wound on the right side, was described to have been most impetuous and profuse. It was thrown in jets to a considerable distance. The patient was found by Mr Jenkins, of Gosport, in an almost lifeless state, and he was with great difficulty recovered from the syncope and depression. A considerable swelling soon supervened over the lower part of the abdominal parietes from extravasation of blood.

May 27th, the seventh day from the receipt of the injury, the swelling in the right groin began to increase in size, and distinct pulsation was then, for the first time, perceived in it. The tumour went on increasing gradually, and it had gained much more in bulk on the tenth day, when Mr L. first saw him, than it had done on any of the preceding ones. It was of an oval form, and elastic, but firm, as if it was partly made up of coagulum and liquid blood; but it could not at all be diminished in bulk by uniform and continued pressure. Pulsation was strong and distinct in all its parts. The opening on the right hip was filled with a dry depressed slough; the wound in the left groin, a jagged slit, was closed by a very thin cicatrix. The patient's countenance was blanched and waxy, and his pulse quick and feeble. He had, in short, all the appearance of a person who had lost a great quantity of blood.

The nature of the case was very apparent. A large false aneurism, not well bounded, rapidly increasing, and arising from a wound of the femoral artery, or some branch divided close to its origin, had to be arrested, otherwise the patient must be left exposed to the risk of perishing suddenly, and at no distant period. After consultations on the evening of the 30th and morning of the 31st, the external iliac artery was tied, with the loss of not more than a tablespoonful of blood, and with the immediate effect of arresting the pulsation, and removing, in a great measure, the tension of the tumour. Symptoms of peritonitis supervened the same evening, and on the following afternoon the patient sunk.

The author subjoined an account of the post-mortem examination by Dr Allen of Haslar. The course of the bullet was traced from the outside through a dense layer of fat, about two inches in thickness. It had divided one of the superficial branches of the femoral artery, about half an inch below Poupart's ligament, and about an inch from the main body of the femoral artery, which had caused a false aneurism. The sac contained about three ounces of blood. No other artery appeared to have been wounded. A considerable quantity of sero-purulent fluid was found in the abdominal cavity, and patches of acute inflammation were observed on the intestines. The peritoneum adjoining the wound of the operation was inflamed. It had not been injured by the knife. The ligature had been properly applied to the external iliac artery. The abdominal viscera were healthy, but loaded to an extraordinary degree with fat. There was some enlargement of the right limb, but apparently no mortification. The femoral artery was pervious. The blood in the aneurismal sac was firmly coagulated, and there was no mark of recent oozing from the injured artery. The ball had passed immediately over and along the course of the artery for about half an inch before dividing it. The artery, although not actually detached, would not have borne a ligature.

That a vessel of this class, the author remarked, should have bled so furiously, in the first instance, could not have been anticipated. Having done so, one can so far understand the active pulsation and rapid extension of the tumour. It was, of course, quite impossible to determine whence the blood flowed into the aneurismal cavity. The principal vessel going to the limb might have been wounded, or some considerable branch. A small branch, divided close to the principal vessel, poured out blood furiously, as much so as if an opening in the coats of the artery itself were made by a portion being punched out, corresponding in size to the area of the branch. The division of a small branch at a distance from the source from which it springs is of little importance. It contracts, and soon ceases to bleed; but when it is divided close to the trunk, blood issues from it, as it would if an opening, equal in size to the calibre of the little branch, were made in the trunk itself.

The author noticed the risk of secondary hemorrhage in these cases, in order to show that some active measures were required to arrest the threatened danger. He objected to the operation of opening the sac, and securing the wounded vessel by ligature; that patients who have lost a great quantity of blood are often sunken and lost by the sudden effusion of even a small quantity, and, after adducing some cases in point, he remarked that the danger must be much enhanced when the tumour is so placed that there is no possibility whatever of making pressure on the trunk of the artery on the proximal side of the opening into it, or of the origin of a branch wounded close to where it is given off, as in the case of Mr S. The cyst could not have been opened without great loss of blood, and it was not likely that a ligature on the branch would have permanently arrested the bleeding; indeed it was stated by Dr Allen that the trunk would not have held a ligature.

The author having asked whether there is any thing to bear a surgeon out in adopting this practice, adduced a number of cases to show that vessels bleeding outwardly, or pouring their contents into the tissues of a limb or region, have become permanently closed in consequence of the flow of blood being intercepted and weakened for a time by the application of a ligature upon the principal arterial trunk. He referred particularly to a case to be found in the works of a well known army-surgeon. A man, thirty years of age, was wound-

ed by a musket-ball, which entered the left groin, and passed through the inside of the thigh. On "the tenth day from the injury, the slough from the anterior wound came away, and was followed by so frightful a hemorrhage as to leave no doubt whence it proceeded, nor, from the wound being so high up, any alternative as to the means to be adopted for stopping it." The external iliac was tied, but the patient died of fever. No account is given of any dissection of the parts. "In this case the necessity of the operation is evident, and, as far as it went, also its success. Not a drop of blood was lost after it." So says Mr Guthrie, who, it is to be presumed, conducted the treatment of the patient. We are left to conjecture what vessel was wounded. It may have been a branch, as likely as the trunk, and those who have attended to the description of the hemorrhage in the case of Mr S., to its impetuosity and amount—will bear the author out in this assertion.

The author observed that he has endeavoured to show, 1st, That the case of Mr S. was one of great and immediate danger; 2d, That some decisive step was required to be taken, and that without a day's delay; 3d, That very great risk would have been incurred in attempting to put a ligature on the wounded vessel; 4th, That there was ample authority for adopting the step which was had recourse to in this case. The dangers likely to arise from the operation were considered as weighing but lightly in the scale against those impending from the effects of the pistol-shot. Inflammation of the peritoneum was scarcely taken into account in consulting on this case. Out of the forty-five cases of this operation, collected by Mr Crisp, nine or one-fifth died, but not one from peritoneal inflammation.

In conclusion, the author remarked that, in the opinion of those concerned, the step most likely to avert danger, and prolong the patient's life, was adopted —the only step, it has been shown, that could have possibly been resorted to with propriety or safety. Upon a candid review of the case, and with a knowledge of all the circumstances connected with it, it now remained for the Fellows of the Society to say if there was left anything undone, or anything done imprudently or unscientifically, as has, it appears, been alleged. It is competent also to consider what might have been alleged against the resources of our art had the patient suddenly perished from hemorrhage; if, in fact, we, who had all the responsibilities of this important case to sustain, had stood idly, by waiting for some miracle of nature to save the patient from the inevitable results of his wound, and the author of it from the consequences of his crime.

Mr Edwin Lee remarked that several of the cases which Mr Liston had adduced did not seem to him to bear upon the point under consideration, viz., the advantage or disadvantage of tying the external iliac in cases of wounds of that vessel, and more especially of either of its branches, inasmuch as in ligature of the femoral, brachial, ulnar, tibial, &c., there are abundant means in the collateral and anastomosing branches for the supply of the distal portion of the extremity with blood; whereas the iliac is under peculiar circumstances where tied, giving off no branches above the ligature, and those from the internal iliac (gluteal and ischiatic) being distributed to the muscles of the hip and back of the thigh, there would not be sufficient means, after the ligature of the trunk (considering that the whole of the lower extremity is implicated) for the supply of the limb with blood, and that, consequently, (setting aside the dangers of peritoneal inflammation, &c., as immediate consequences of the operation), mortification must ensue—as it appears it did in the two or three cases cited by Mr Liston, where the iliac had been tied for wounds or sloughing in the groin. The case is widely different when this vessel is tied on account of long-standing disease—aneurism—from that of a wound when the person was a few days before in robust health, as the tumour must gradually obstruct the circulation through the principal trunk, thus affording abundant time for the dilatation of other vessels sufficiently after the application of the ligature, &c., to supply a limb which has long been in a quiescent state with blood, and he believed it would be found, that these are the only cases in which recovery has taken place after this operation.

Mr Bainbridge observed, that the case as detailed by Mr Liston, furnished in

itself a complete condemnation of the treatment. It proved the diagnosis to have been incorrect, and the treatment equally so; he (Mr Liston) had acted in the belief that a large and important artery was the seat of the injury, and performed a painful and dangerous operation for the cure of an aneurism formed by a trumpery little artery, which might have been readily cured by the application of compression. He (Mr Bainbridge) then narrated a case which he considered to bear directly on the treatment of such an aneurism by the use of pressure. It occurred last August to a man who was accidentally wounded in the wrist by a clasp-knife, by which the tendons and radial artery were divided. Considerable hemorrhage ensued, which Mr Bainbridge arrested at the time by the application of the tourniquet over the brachial artery, while he got ligatures ready. On loosening the tourniquet afterwards, preparatory to applying a ligature to the wounded vessel, he found that the hemorrhage had ceased, and consequently judged that the artery had retracted, and that there was not any further need of ligaturing it. He therefore closed the wound with adhesive plaster, and applied a compress and bandage. Hemorrhage recurred in a few hours, but was arrested by pressure on the artery above the wound. It soon recurred, and was again stopped; it then ceased for a week, bursting out afresh when the wound was dressed. A fortnight afterwards there was found a false aneurism of the size of a large walnut, situated at the root of the thumb, and extending between the metacarpal bones of the thumb and forefinger. The aneurism was accompanied by considerable œdema of the thumb, hand, and fore-arm. Mr Bainbridge applied a cork, padded with lint, over the aneurism, and secured it in situ with plaster and bandages; and he also applied compression to the artery above the seat of disease. A bandage was also placed loosely round the limb, so as to enable the patient, by drawing it tight, to command the hemorrhage, should it recur, which it did a few days afterwards from the aneurism itself. Several days after the recurrence of the last hemorrhage, the aneurism on examination was found to be much increased in size. Compression was then applied by means of a graduated cone, made of pieces of cork wrapped up in lint, the apex of which pressed directly upon the aneurism, and together with this the other precautions were used the same as before, to wit, pressure on the artery above, and the application of an additional bandage loosely round the arm, intended to command hemorrhage if required. This apparatus was kept applied for a fortnight, portions only being loosened when complained of, and after the lapse of that time, when the part was examined, there was a deep indentation in lieu of the aneurism, and all pulsation had ceased. The bandage, &c., were continued for some time longer, after which the man was enabled to return to his occupation. Mr Bainbridge inferred, from the success he had met with in the treatment of this case by compression, that a similar plan would have been effectual in the case which Mr Liston had brought forward; and he blamed Mr Liston for not having had recourse to it. The requisite pressure he thought might have been obtained from a common spring truss, applied on the groin, by which the small artery, whence the hemorrhage proceeded, would have been compressed as it passed upwards over Poupart's ligament, and the femoral artery also, as it lay upon the pubis. Mr Bainbridge then, in allusion to the exceeding severity of injuries from which recoveries are sometimes made, referred to the preparations in the Hunterian Museum, illustrative of Sir Wm. Blizard's case, in which the shaft of a gig was driven through a man's chest, and yet recovery took place, and the man survived the injury many years. He thought the comparison between such an injury and that inflicted on Mr Seton was very slight; and he (Mr Bainbridge) concluded by saying that, in his opinion, Mr Liston had not shown the caution and correct judgment which might have been anticipated, considering the high position he held in the profession.

Mr Liston remarked that he was not in any way cast down by the observations which Mr Bainbridge had made. The case of Mr Seton had been the subject of very severe animadversion; but he had acted at the time under very good advice, and, after due consideration, had brought the full details of the case before the Society. It was quite impossible to say beforehand what vessel

had been divided. It bled very freely at the time the injury was received, and afterwards the hemorrhage continued internally, a large tumour, pulsating violently, being formed, which was likely to burst at every moment. The danger threatening the patient was not imaginary. In bringing the case before the Society, he wished to state that he had written to several gentlemen who, he understood, had criticised his practice in this case very freely, but for some reason or other they had declined attending that meeting. He then read an extract from the *Glasgow Medical Journal*, alluding to the details of a secondary hemorrhage from sloughing of the groin, in which Dr Buchanan had successfully ligatured the external iliac artery, and to which the following remarks were appended by that surgeon:—"It may be said of these operations that more of them were required by the strict rules of surgery, which enjoins, in cases of arterial hemorrhage, that we should cut down to the place from which the blood is observed to issue, and there secure proximal and distal portions of the injured tube. All most true; and I most gladly subscribe to this aphorism, along with your regular system compilers of surgical treatises, manuals, and compendiums; but alas! in actual practice how many exceptions are we compelled to make! What would such mechanical men of principles have said had death taken place (as undoubtedly it would) in attempting to secure a sloughing, soft, and diseased arterial tube? Why, that I ought to have first tried what a ligature thrown round the iliac artery could accomplish, and if a clot did not form, *as in all probability it would*, then recourse might be had to the *dernier ressort*—the ligature of the distal side of the hemorrhagic spot; also, true it is, however, you must lay your account when you advance in practice to meet with animadversion and *criticism, do which you will.*" He (Mr Liston) could not understand the gist of Mr Lee's remarks. They did not appear to him to have any direct bearing on the case. As to the case narrated by Mr Bainbridge, it seemed to him to have been mismanaged from beginning to end.

Mr Bainbridge thought that Mr Liston had committed an error in judgment in not knowing what artery had been wounded, and he added that, as his patient recovered, and Mr Liston's died, there was presumptive evidence that he had managed the better of the two.

Mr Edwin Lee explained, that his objection to the performance of the operation which Mr Liston had adopted, was based on the fact that the collateral circulation would not be sufficient to maintain the life of the limb, and that consequently there would be great danger of the occurrence of mortification.

Mr Liston agreed with Mr Lee, that when the external iliac artery was tied under such circumstances, there would be the probability that mortification of the lower extremity might take place; but he thought the surgeon was not to be prevented by the anticipation of such a result, from applying a ligature to that vessel if it were required. He had seen over and over again that such a result did not always attend the application of a ligature to the external iliac artery. There is, however, the risk of that consequence, and the lower part of the limb had been more than once amputated in consequence. He wished to add, that if a case similar in all respects to that of the late Mr S. were to occur again in his practice, he should feel himself fully justified in adopting the same operative proceeding.

Mr Hilton observed, that as the legal inquiry into the circumstances of this case had not been concluded by the trial of the principal, and as that person's life was at stake, he thought it would be better that the discussion on which they were entering should be postponed. He made this proposition without any intention of offering offence to Mr Liston.

Mr Arnott, in seconding this proposal, observed that, although he considered the principle a sound one, that a wounded artery should be secured at the seat of injury, yet in this instance he believed that Mr Liston had fully made out his case. Mr Liston was not called in until ten days after the patient was shot in the groin, by which time an aneurism had formed, and there was not any situation above the wound at which the artery could be compressed. Mr Liston had not opened the entire question abstractedly, but had confined himself to the details of this special case, in which there had been a large quantity of blood

lost, and the patient was pallid and exhausted, and he (Mr Arnott) thought that Mr Liston had adopted the only operation which was admissible under the circumstances.

Mr Dalrymple, in respect to the observations made by Mr Hilton, stated that the surgical part of the question had been fully decided by the learned judge at the late trial, and that, consequently, the character of the discussion that evening could not have any bearing on any future trial. He thought that the remarks which fell from the judge on the occasion to which he alluded, afforded a sufficient justification to a man labouring under great prejudice and misrepresentation for bringing the case forward at that Society. He (Mr Dalrymple) thought that the case narrated by Mr Bainbridge had not any bearing on that described by Mr Liston. The injury which Mr Bainbridge's patient suffered was one that was well known, and he could not understand why Mr Bainbridge had not applied a ligature at once to the artery, when he was aware that it had been divided, and had retracted, and must have anticipated the occurrence of secondary hemorrhage. There was no analogy, he thought, between the application of a pad in this case, and the treatment of a large aneurism in the groin which was on the point of bursting.

Mr R. Quain remarked, that if the discussion then pending could have any influence on the future trial, it had better be stopped at once. Mr Liston, however, had admitted that his patient died from the immediate effects of the operation, and that was the utmost any counsel could urge. He thought, therefore, that Mr Hilton's fears were groundless. With respect to this case, the first question that arose was as to the necessity for any operation, and in considering that question, he would bear in mind that Dr Mortimer and other gentlemen, of whose assistance Mr Liston had availed himself, were men of great experience, and he consequently was fully of opinion that an operation was requisite. Then came the next question, was the operation that was performed the right one? He agreed with Mr Arnott that it was the proper operation, and he alluded to Dr Warren's case recently read before the Society, in which the axillary artery had been wounded, and the subclavian successfully tied, to arrest secondary hemorrhage.

NOTICE TO SUBSCRIBERS.

DR CORMACK respectfully intimates that new professional engagements will prevent him from continuing to conduct the MONTHLY JOURNAL OF MEDICAL SCIENCE, which, in future, will be under the editorial superintendence of his able friend, DR J. H. BENNETT.

To the numerous Professional Gentlemen who have honoured him with their co-operation, during the successful career of the Journal, Dr Cormack returns his warmest acknowledgments; and, as his successor in the editorship has arranged with old contributors, and secured the assistance of new writers, of the highest ability, the Work may be expected to take a leading position in Medical Periodical Literature.

PUTNEY, LONDON, April 1846.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Notes of Surgical Practice amongst the Chinese.* By Dr PARKER of Canton.

THE following notes are extracted from the Report of the Canton Ophthalmic Hospital for 1844–5, submitted by Dr Parker to the Medical Missionary Society in China, at its annual meeting held at Canton, 25th September 1845. During the period embraced by the Report, 6209 patients were prescribed for; forming, with those of former years, an aggregate of 18,257, since the opening of the institution in October 1835.

"As in former periods, so in this, persons of all conditions and ranks, from the beggar to the highest functionary under the imperial government, have alike availed themselves of the benefits of the hospital.

"Ophthalmic diseases continue to receive special attention; but the institution has become, to a great extent, a general hospital." The following list shows the number of cases of the most prevalent diseases treated last year.

Chronic Ophthalmia,	1083	Dyspepsia,	30
Entropia,	449	Hernia,	13
Nebula,	408	Cataracts,	198
Pterygia,	257	Staphyloma,	58
Acute Ophthalmia,	214	Ascites,	76
Lippitudo,	207	Chronic Bronchitis,	17
Amaurosis,	57	Worms,	13
Scrofula,	79	Rheumatism,	26
Anasarca,	23		

CASE 1. *Tumour of the Face and Neck. Excision. Recovery.*—Yáng Káng, aged 35, from Sinhwui, latterly a beggar in Macao, had a tumour in the right side of his face, which commenced about ten years ago, and gradually increased in size until it measured two

feet six inches in circumference. Its magnitude and weight entirely disabled him for labour; and he had no resource for maintenance but in begging. When extirpation of the tumour was proposed, the poor man cheerfully consented, and the operation was performed on the 26th October 1844. Two elliptical incisions, each eighteen inches in length, were required to encircle the base of the tumour. Three arteries of moderate size were secured. The whole operation and subsequent dressings occupied about 40 minutes. The tumour was found to weigh $8\frac{3}{4}$ lbs. Its structure was glandular; but there were in the interior a few small cavities, some filled with a mucilaginous fluid of a dark colour, others with a yellowish limpid fluid. Portions of the tissue cut harder than the rest, and were as firm as cartilage. The patient bore the operation with great fortitude, and rallied well from the shock and loss of blood; but, about six hours afterwards, secondary hemorrhage occurred. The wound was laid partially open, but no bleeding vessel could be seen. The application of cold water and tincture of muriate of iron sufficed to arrest the hemorrage. Cold water epithems over tight dressings were continued. The edges of the wound united by the first intention to a great extent; but partial separations were kept up by the escape of purulent matter from beneath. With this exception, and a degree of paralysis from division of the *portio dura*, nothing untoward occurred; and, in the course of three weeks, the patient was well enough to undertake the duties of porter in the hospital.

CASE 2. *Calculus Vesicæ—Lithotomy—Recovery.*—Si Yáu, aged 35, from the district of Pingyuen, resident in Canton, has been affected with symptoms of stone in the bladder since 1842. A year ago he entered the hospital, when the operation of lithotrity was performed, by which the stone was broken into two pieces, but could not be crushed on account of its extreme hardness. On this occasion lithotomy was proposed, and consented to. The stone—in two pieces—was easily extracted by the lateral operation. The fragments weighed together one ounce and one drachm. The longer circumference of the whole stone was $5\frac{1}{2}$ inches, the shorter $3\frac{1}{2}$ inches. All went on well, and no unfavourable symptom followed. In nine days the urine ceased to flow through the wound, and in eighteen days the patient was perfectly well.

It is believed that this is the first case of lithotomy that has ever occurred in China. Its successful performance appears to have arrested the attention of the people most powerfully.

CASE 3. *Calculus Vesicæ—Lithotomy—Recovery.* — Chau Wei, aged 21, from the district of Pwanyii, has suffered from stone for fourteen years. During this long period, according to his own statement, he has not been able to sleep in a recumbent posture.

Two stones were extracted; a smaller one, weighing one drachm, and a larger, weighing one ounce. The patient did well until the

second day, when it was discovered that the rectum had been wounded—an accident which, as Liston remarks, may happen in the hands of the best operator: the sphincter was immediately divided, as in the case of complete fistula. In consequence of the inroads of the disease upon the constitution, the consequent irritability of the patient, the presence of large worms in the stomach and alimentary canal, in great numbers, along with the injury sustained by the rectum, the progress of this case was less satisfactory than that of the others of the same nature. The patient became for a time very much emaciated; but, latterly, he regained his strength, and now enjoys robust health, incommoded only by a very small fistula in the membranous portion of the urethra; which, however, is no great annoyance, as the neck of the bladder has resumed its natural function, so that the urine is not permitted to pass, excepting voluntarily. The young man is now able to pursue the avocations of a farmer.

Case 4. *Urinary Calculus of peculiar character—Recovery after Lithotomy.*—Liú Kwan, aged 34, from the district of Pwányii, has suffered from urinary calculus for twenty-three years. After having been kept for some time in hospital under preparatory treatment, the lateral operation was performed on the 13th May 1845, and a stone, measuring $4\frac{1}{2}$ by $5\frac{1}{2}$ inches in circumference, and weighing $2\frac{1}{2}$ ounces, was extracted. It was seized by the smaller diameter at the first grasp of the forceps, and, on account of its polished surface, the extraction was easy. Only a few ounces of blood were lost. The patient bore the operation with heroic fortitude, not appearing to notice the incisions, and remarked shortly after, that he had not suffered much. He was truly grateful. The calculus was of a spheroidal form, chocolate colour, minutely spotted with yellow. Its surface was smooth and shining, not unlike the skins of some water-snakes. In about forty-six hours after the operation, the canula was removed from the wound, and all was well. But on the ninth day, by the patient's rashly reaching under his bed to get at something, the wound was opened, and considerable hemorrhage occurred,—the blood flowing both through the urethra and through the wound. Thrice did the blood accumulate, and coagula were expelled, before the bleeding ceased. Notwithstanding this accident, the wound healed rapidly, and no urine passed by it after the thirteenth day. The cure was complete on the 6th of June, when the patient was visited by his family and numerous friends.

Case 5. *Mulberry Calculus—Lithotomy—Recovery.*—Hu Pin, aged 28, of the district of Pwanyii, had experienced symptoms of stone for three years. After the usual preliminary treatment, the lateral operation was performed by Dr Parker, assisted by Drs Lann and Devan, on the 18th June 1845, and a stone extracted which weighed five drachms, and measured four inches by three in

circumference. It was of the mulberry formation, with a surface as rough as that of sandpaper, and under a strong light showed very minute brilliant crystals. It was seized and removed at the first grasp. The transverse perineal artery was divided, but the hemorrhage soon ceased, and, altogether, only a few ounces of blood were lost. The gush of urine, when the bladder was opened, was not so great as usual, and after extracting the stone, which was surrounded by mucus, the finger reached readily every part of the cyst. The incision into the bladder was just large enough to admit the forefinger, but the opening was enlarged, as it was withdrawn, sufficiently to allow a small pair of forceps to be introduced. Like other Chinese patients, this man bore the operation admirably well, uttering not a word of complaint. He smiled on seeing the calculus, and appeared truly thankful. After the operation, and before leaving the hospital, his pulse was 80. He seemed to suffer less than others do under much slighter operations. Eight hours after the operation, the urine passed quite bloodless through the canula.

June 19. Passed a comfortable night. Pulse 75. Unusual quantity of mucus passed with the urine. No water passed by the natural passage. Bowels free. 20*th*. Pulse 75, A.M., and 80, P.M. No pains, thirst, nor fever. Large discharges of mucus: less urine than usual. Ordered rhubarb and soda. 21*st*. Bowels freely opened this morning. Last night had a free passage of urine by the urethra. At noon, removed the canula, and placed the patient in bed. All symptoms favourable. *July* 1. Since the operation, comparatively little urine has been passed by the urethra. On introducing a small catheter, some obstruction was detected near the neck of the bladder. Catheters of different size were introduced till a very large one was passed, and a small fragment of the calculas was detected. The incision, although in a remarkably healthy state, has not united, owing to the free passage of urine through it. The small instrument for removing fragments was first attempted to be introduced, and afterwards the smallest part of stone forceps, without success. The forefinger of the right hand was then gently passed into the wound, and the opening into the bladder felt and found to be about half an inch in diameter. There being no irritation nor tenderness, a small scoop, well lubricated, was, with some management, introduced, and a small quantity of flat fragments and mucus extracted. The scoop was used a second and third time; after which, the bladder was thoroughly syringed, as usual immediately after the operation. The patient did not suffer much, and was perfectly easy after the removal of the fragments.

July 2. The patient passed the night comfortably, and had no unpleasant symptoms. A large catheter was introduced, and allowed to remain. 10 A.M. All the urine has passed through the catheter to-day. Cleansed and introduced the catheter for the night, and laid the patient on his right side.

July 3. Changed the catheter twice; much muco-purulent dis-

charge. *4th, 5th, and 6th*, little change. *7th*, P.M. Perceived a slight degree of heat of skin; pulse 80, intermitting. Copious discharge of pus with urine. Gave *Calomel, gr. vi.; Carb. sodæ, gr. v.; Rhei gr. viii., and infusion of uva ursi.*

8th. P.M. Pulse 100, less intermittent. *Uva ursi* continued, with mucilage of gum-arabic, and a blister over the hypogastric region. *9th*. Pulse much more regular, but still 100; calomel, carb. of soda, and rhubarb repeated as formerly, with mucilage of gum-arabic. Body to be sponged, and an ounce of sulphate of magnesia to be given in the morning. *10th*. Pulse 100, still intermitting. Patient slept well; has less thirst and heat of skin; urine more clear, tongue improved. Wound looks well; but little urine flows through it. catheter to be cleansed thrice a-day. Infusion of *uva ursi* to be taken *ad libitum*, and seven drops of the tincture of muriate of iron every hour in half a tumblerful of the infusion. Flax-seed tea and congee for drink, to be used freely. One grain of opium night and morning; bowels opened twice. 9 P.M. pulse 104.

11th. Less heat of skin; pulse 104; same treatment continued. At 9 P.M., in removing the catheter, found it slightly adherent to the passage, as if from some stricture in the urethra. The presence of another small fragment was suspected. The inside of the catheter was found to be coated with fine crystallizations of the calculous deposit. Wound is healing rapidly; but little water passes through it. Patient complains of thirst, and is somewhat emaciated, yet his spirits are good. Two grains of calomel, with one of opium, and the free use of mucilage, of gum-arabic, and chamomile-flower infusion were prescribed.

12th. Less fever; bowels open; urine abundant and clear. 9 P.M. Pulse 104, regular, fuller, and less irritable. Patient comparatively comfortable. For the first time, he sat up in a chair. A few drops of urine escaped through the wound in the erect posture. Gave half a drachm *liquor potassæ*, five grains Dover's powder, and two grains of calomel, and continued the *uva ursi* and gum-arabic.

14th. Patient passed a better night than the preceding one; pulse less frequent; urine strongly ammoniacal; *liquor potassæ* discontinued; ten grains of sulphate of quinine, with 15 drops of dilute sulphuric acid, in an ounce of water, at 10, 11, and 12 o'clock. 9 P.M. Patient much better and free from fever; pulse 76; still intermittent; countenance better; appetite improved.

15th. Passed a comfortable night; no fever; ate three cups of rice for breakfast; quinine discontinued.

18th. Wound completely healed.

21st. Patient walked about.

24th. Catheter dispensed with. About the 3d of August the patient was discharged.

CASE 6. *Glandular tumour.*—Chau Tsz'tsai, aged 55, from the district of Sz'hwui, had a tumour about twelve inches in circumfer-

ence, situated below the angle of the jaw on the right side, and insinuating its external portion beneath the edge of the sterno-cleido-mastoideus muscle. It was successfully extirpated.

CASE 7. *Ascites and ventral Hernia.*—Káu Shi, aged 41, of Siáu-pih. This poor woman was afflicted with a complication of diseases. She had diseased ovaries, ascites, and ventral hernia. The abdominal parietes had given way under the dropsy, nearly at corresponding points on the right and left sides, a little below the level of the umbilicus. The hernial protrusion extended half-way down to the knees. This was punctured with a small trocar, and several gallons of water evacuated, the hernia reduced, and a graduated compress and bandage applied, to the great temporary relief of the sufferer.

CASE 8. *Compound Fracture of Humerus—Amputation of Arm—Recovery.*—Kwo Síhái, aged 25, from the district of Pwanyii, had his right arm shattered by the bursting of a gun, with which he was firing a salute, 10th June 1845. He lay in his boat, where he met with the accident over night, and was not seen by Dr Parker until twelve hours after. He was then removed to the hospital. It was found that the triceps muscle was nearly all carried away, and the humerus, for three or four inches from the condyle, much comminuted. Several inches of the humeral artery had been destroyed. There was no hemorhage. The artery was seen pulsating —its orifice plugged by a coagulum. The extent of injury, along with the extreme heat of the weather at the time, left no alternative but immediate amputation. The flap operation was performed, and the upper third of the humerus was preserved. The patient sustained the shock remarkably well, and spoke in a natural voice the moment after. There was more than ordinary hemorrhage. Three arteries were tied. There was hemorrhage from the centre of the bone, which was arrested by the tincture of muriate of iron. A good flap was formed, and the patient appeared quite comfortable after the dressing was completed. Pulse 120, small.

Although this patient had been wounded by the discharge of his gun also in the knee, leg, and breast, no unfavourable symptoms followed the operation, and in about thirty days he was discharged well.

ARTICLE II.—*Case of Hydrocephalus in a Child—Tapping—Cure.*
By JAMES EDWARD, M.D., L.R.C.S.E.

As medical attendant on the family of William Boath, residing in this place, I was called upon, in the summer of 1839, to attend one of his children, eight months of age, which, upon examination, I found to be labouring under chronic hydrocephalus,—a disease which had carried off two of Boath's children at a former period.

I found the child fretful and peevish, leaning his head alternately on his mother's arm and breast, with a small irregular pulse. He was restless and disturbed in his sleep. In the course of my attendance on him he was alternately affected with diarrhœa and constipation of the bowels, the tongue being sometimes clean and at others foul; the face had generally a hectic appearance; the skin was occasionally hot and dry.

I scarified the gums, applied a leech to each temple, and had him occasionally bathed to the middle in warm water. The bowels were rectified as occasion required by aperients or astringents. Cold applications were occasionally applied to the head when it felt very warm, but were discontinued when the temperature was reduced. Blisters were applied to the nape of the neck successively for a considerable time, and latterly these were replaced by a liniment of croton oil rubbed over the head and neck, which produced an eruption on the latter, but only an erisipelatous blush over the former.

Notwithstanding the continuance of this treatment during a period of six months, the disease gradually gained ground. Convulsions and squinting made their appearance, and I considered that tapping for the evacuation of the effused fluid afforded the only chance of recovery. I determined, therefore, that the operation should be performed, and in the presence of David Murray, M.D., and other assistants, proceeded as follows:—

The child was placed across the knee of Dr Murray with his head towards myself, and I applied loosely a starched bandage, the ends of which were given to an assistant that he might tighten it as the fluid was being evacuated. I then introduced a common hydrocele trocar and canula a little to the right of the lateral angle of the anterior fontanelle, to the depth of about an inch in the direction of the right lateral ventricle. Having withdrawn the trocar, a reddish fluid was allowed to flow to the amount of ℥viij, when I withdrew the canula, applied a compress on the wound, and tightened the bandage for the thorough support of the cranial bones. A slight oozing of blood took place from the nostril and continued for twenty-four hours: whether from an accidental wound of any small vessel within the cranium, in the course of the operation, I am unable to say.

Nourishing diet was ordered; aperient medicine when necessary; and the body to be kept comfortably warm. All the former symptoms gradually disappeared, the child recovered his health, and now, after a lapse of seven years, is a fair scholar, and has every faculty good. He appears, however, to be increasing in height more slowly than is usual at his age.

FORFAR, April 23, 1846.

ARTICLE III.—*Inspection of the Meatus Auditorius Externus and Membrana Tympani, an important aid in the Diagnosis of Head Affections.* By ADAM WARDEN, M.D., F.R.C.S.E., Aurist in Ordinary to the Queen.

(*Read to the Medico-Chirurgical Society, May 6,* 1846.)

THERE is perhaps no class of cases which presents greater difficulties in the correct interpretation of their symptoms than affections of the head. Anything which promises to remove or diminish those difficulties will be received with interest by this Society; and I have, therefore, been induced to bring under its notice the result of some observations made in the course of my practice in the treatment of affections of the ear, which seem to tend towards the attainment of that object. I allude to the benefit to be derived from an inspection of the ear in the diagnosis of head-affections, particularly in that numerous class of them depending on determination of blood.

The opportunities I have enjoyed of observing such affections have been considerable; and out of a much larger number of cases presented to me within the period of twelve months, I have preserved minute records of 242, bearing the denomination of ear cases, of which forty-five, or about one-fifth, have upon a careful analysis, been found to present symptoms more or less allied to head affections. Out of the whole number of cases, only two deaths, so far as I know, have taken place, but these have been both from apoplexy. The first of these patients had a previous apoplectic attack, and the habit and tendency to its recurrence were well marked. The deafness of one ear was absolute, and the sound of a watch was heard only at half an inch from the other. In the deaf ear the meatus terminated in a conical *cul de sac* of uniform vascular hypertrophy of the linings, obliterating entirely all membranous character of the membrana tympani. In the other ear, the membrane was semi-cartilaginous, streaked and tinged with red vessels, forming the furniture of progressive organic change. This patient applied to me solely on account of his deafness, on a casual visit to Edinburgh, and as I found no liberty to direct local remedies of any importance, nor to recommend their continuance, his death three months afterwards occurred in the course of the general affection. In the second case, there was no premonition of disease in the head, or of tendency to it, but deafness of both ears had existed and gradually increased for four months. There was no external discharge, and no pain or irritation complained of, but both ears were nearly filled with ill-conditioned secretions, consisting of a greyish pus, shreds of lymph and imperfect cerumen. The linings were broken up into cells of matter, and in parts, so far as uncovered by a gentle application of the camel hair brush, presented a raw and irritable appearance. A tepid decoction of mallows and chamomile was directed to soothe and

cleanse the diseased parts, and a lotion of acetate of lead to be used subsequently, as preliminary to farther treatment. The patient, however, died suddenly of apoplexy eight days afterwards, at a distance from Edinburgh, and I had no opportunity of learning whether any or what post-mortem appearances were presented.

It is unnecessary that I should attempt to represent the several theories entertained, or the specialties which exist in the circulation within the head. I would observe, however, that the rigid limits of the bony canals which afford entrance to the carotids and other vessels, are obvious buttresses and diverticula of the currents of the blood when the heart's action is increased; and it is natural for us to expect that the parts exterior to the skull should be overflown by the reflux current which those canals refuse to admit. In this respect the ear is differently circumstanced from the eye, inasmuch as it is close to the carotid canal, and derives direct supplies from it; and when determination to the head takes place, we reasonably look that the vessels most in the neighbourhood of the obstruction should early and in a greater degree participate in its effects, and exhibit corresponding evidences of its existence. The deep and protected situation of the membrana tympani, also, and its being near to the centre of animal heat and moisture, prepare it to be greatly influenced by any disturbance in the circulation which is of a kind to affect the head; and I am disposed from observation to believe that such changes in the condition of this membrane will follow, accompany, or precede head affections in many cases, as to afford a diagnostic of great importance. We systematically speak of a proximate cause of disease, but we have little real knowledge of its initiatory characters apart from physical changes cognisable by our senses. Among these, by far the most significant is a change in the state of vascularity, whether consisting in the occurrence of red vessels in a part which does not show such appearance in health, or in the presence of any other character or degree of injection which is not natural.[1]

However far during health the red vessels may be constituents of the mucous membrane, as it pursues its course from the posterior nares along the Eustachian tube, they disappear when that membrane comes to invest the internal aspect of the membrana tympani. The observations of M. Bonnafont in the *Gazette Medicale* for April 1845, here deserve notice. He remarks, "The middle ear is lined by a mucous membrane, differing from the general character of that tissue in being without follicles, and of extreme tenuity. Its secretion is naturally limpid, resembling that of the serous membranes lining close cavities containing moveable organs, affording rather a continual moist exhalation favourable to the mo-

[1] I speak of other characters of injection than red, from having frequently seen the M. T. to have a watery splendour and preternatural transparency, which, judging from concurring symptoms, I have been led to regard as depending on serous suffusion from venous congestion.

bility and pliability of the small bones, joints, and membranes. The naturally limpid nature," he further observes, "of the mucous secretion of the middle ear, is only to be accounted for by a difference of vital properties impressed by the wisdom of the omnipotent Creator." In the peculiarities of the mucous membrane here alluded to, as allying it to serous membranes, do we not find a probable explanation of the great intensity of pain attending the occurrence of acute inflammation in this situation? The views of M. Bonnafont I have been able to attest by the aid of the prism, and have also observed proof of the susceptibility of the lining of the middle ear to assume that action which is uncommon in the mucous membrane of the adult, viz., the secretion of plastic lymph. This I am enabled to discern through the more or less transparency in the membrana tympani in the progress of disease in the middle ear.

Although there are no vessels visible in the membrana tympani in absence of disease, it nevertheless possesses acute sensibility and high organization. This sensibility in some persons is so great as to cause a shock little short of the electrical, on the contact of a blunt probe; and the excitability of the vessels of the part is not less strikingly observable upon the application of any more considerable irritation of the membrane. On the slightest puncture, the previously transparent membrane is immediately overspread with a white cloud, a little torrent of blood rushes along the malleus, pauses for an instant at its apex, as if for reinforcements, and quickly sends out a branch to the irritated point, and surrounds it with a disc of red vessels, which farther pour out blood at the wound. They who have not witnessed the little phenomenon here described, can but imperfectly conceive the forcible impression which it at once gives of the organization and vascular relations of the membrana tympani. Sir Everard Home, speaking of an injected preparation of the membrana tympani, shown by Dr Baillie, says, "the vessels in their distribution resembled those of the iris, and were nearly half as numerous—they anastamosed with each other in a similar manner, and their general direction was from the circumference to the handle of the malleus: from near this handle, a small trunk sent off branches in a radiated manner, which anastamosed with those which had an opposite course." The root of such ample organization and its supposed bearings on disease I would now bring under the notice of the Society. The vessels which convey blood to the tympanum consist of numerous small branches derived from different sources. The arteries proceed from the external or internal carotid, and the veins pour their blood into the internal jugular. The arteries which come from the external carotid, arise, 1st, From the ascending pharyngeal, which sends small branches to the Eustachian tube, to the internal muscle of the malleus, and the anterior part of the tympanum; 2d, From the posterior auricular, the stylo-mastoid branch of which, as it enters the canal of Fallopius, furnishes twigs which

traverse the posterior wall of the tympanum to reach its mucous membrane, the muscle of the stapes and the mastoid cells. 3d, From the internal maxillary artery: the commencement of this vessel, besides the inferior artery of the tympanum, gives off several smaller branches to the general tympanic cavity and Eustachian tube. Some of these proceed immediately from its trunk, others from the deep auricular branch; the middle meningeal before entering into the cranium sends branches to the Eustachian tube, and from within the skull furnishes the acoustic branch, which passing by the chink in the canal of Fallopius, and entering this canal proper, anastamoses as well with the stylo-mastoid as the internal auditory, which is by some derived from the vertebral—other twigs proceed to the promontory and roof of the tympanum. The middle meningeal accessory also sends branches to the Eustachian tube, which cross the floor of the tympanum, and passing between the branches of the stapes anastamose with the preceding artery. 4th, The temporal at its origin sends a branch to the mucous membrane of the tympanum, which passes by the fissure of Glisserus. The internal carotid also gives off twigs before entering the osseous canal, as well as from its first and second curvatures, which are distributed to the Eustachian tube, and to the anterior wall of the tympanum. The minutiæ of this description are supplied from the accurate *Encyclopedie Anatomique* of Huschke, as translated by Jourdan, 1845. The drawings here shown are tracings from the beautiful plates of Arnoldi, and exhibit a close correspondence with the description just given.

With so many channels of vascular communication and supply from without and within the skull, we are led to expect varieties in the state of the circulation in the ear, corresponding with all the changes which take place in the different conditions of fulness of the vessels in the quarter of the head, whether depending on general inflammatory excitement, or local hyperemia from other causes.

I am conscious of the disadvantage under which I make the present communication to the Society, as few of the members have followed the same line and method of observation,—I mean in the employment of the prismatic specula. But it may serve to bring me somewhat *en rapport* with the general experience, if I mention what was perhaps the first step of my knowledge in the direction to which these observations point. In treating diseases of the ear, I experienced the usual measure of unsuccess in the cure of tinnitus, that versatile symptom of excited or perverted sensiblity in the organ of hearing, until I found a characteristic belonging to a certain large proportion of such cases, which, as often as it occurred, proved an almost certain index to its successful treatment. This characteristic consists in more or less of preternatural vascularity of the membrana tympani and its connections. Proceeding with this appearance as my guide, I again and again renew the application of leeches

or cupping glasses, with or without mercurial and saline purgatives, antimonials, &c. until the vascularity is no longer visible—and should the tinnitus still continue, I confidently regard it as divested of its most important complication; and it then generally quickly disappears, under the use of stomachic and antispasmodic or sedative remedies. A more full account of this practice and its results, I hope to bring before you on another occasion; but I would farther observe at present, that although in slight cases tinnitus may have its cause and subsistence in the organ of hearing alone, it must in its more aggravated forms be regarded as of cerebral origin, whether direct or reflex; and whenever that is the case, whenever tinnitus manifests an alliance to head symptoms,—my conviction is strengthened daily, that useful light on the nature and importance of the case and its treatment may be derived from ascertaining the presence or absence of preternatural vascularity in and about the tympanum. I would not be understood, however, to restrict these observations to tinnitus, seeing that is not a constant accompaniment of preternatural vascularity in the ear, and thus it does not unfailingly attract our attention to the state of this organ in head affection. I only direct attention to it in the way of analogy, noting that tinnitus, accompanied with a vascular state of the membrana tympani, is subject to a certain method of treatment, and, speaking in general terms, in absence of that vascularity it is subject to another and opposite form of treatment.

The records of medicine and surgery furnish much, both of fact and argument, proving the connection subsisting between the parts immediately exterior to the skull and the meninges of the brain; but I think it enough to remind the Society of the severe and fatal effects which often follow the suppression of an epistaxis, or a discharge from the ear,—of the ready transmission or translation of an erysipelatous or traumatic irritation. Of the latter description we have many memorable cases related by Hill, O'Halloran, Desault, and others—instances of slight injury of the scalp, not implicating the pericranium—injuries perhaps received in a frolic, and at the time regarded as of no importance, and whose mark has been almost or altogether effaced, which yet in the sequel have led to meningitis and death. The external irritation appeared to have worked as a ferment slowly, and so far as the integrity of intervening structures was concerned, the action has been imperceptible—and nevertheless such results are generally recognised as proceeding from the apparently slight causes above noticed. The centre of the nervous system and its immediate dependencies appear to hold a regal preeminence in sympathy with the affections, of the general system; but a sympathy more special with such as touch upon their immediate precincts. Whatever latitude may be conceded to sympathy in the close relation subsisting between many affections of the ear and the brain, the vascular connections appear to render the facts exemplifying that relation more intelligible to us as directly consistent with anatomical structure.

A few farther and very brief observations, having a general application to the cases to be cited, are necessary as their preface. Cases of deafness are presented to me almost daily, depending simply on determination of blood in the direction of the head. In some the sound of a watch is only heard when placed in contact with the ear, or tinnitus in some of its forms overpowers all distinct hearing. The complaint is sometimes recent, in other cases manifestly of longer standing, though by a marvellous power of accommodation, the hearing is not impaired in proportion to the actual amount of disease. There is often no pain whatever, only a sense of fulness and stuffing of the ears—but on examination there is a general flush of the linings, and a profuse semifluid ceruminous secretion. In more chronic cases, cerumen is absent, the linings have a pinky redness and soft puffy fulness—the membrana tympani is more or less encroached on by a sarcomatous alteration of its structure, proceeding chiefly from the upper part of the membrane, in the direction of the course of the malleus, but also advancing from the whole circumference towards the centre. Thus it is common to find at the first examination, the membrana tympani diminished to the size of a lentil or even a mustard seed, and before there is time to interpose effectual treatment, hearing is sometimes extinguished. The rapidly beneficial effects, however, of general and local depleting treatment prove the morbid condition to depend on mere sanguineous engorgement in recent cases, and in those of longer standing, on hypernutrition and accumulation of blood. By bloodletting, or even frequently repeated dry cupping, purging, and cold douche to the head, such patients recover in a surprisingly short time. Hearing is perfectly restored, and the membrana tympani and meatus regain entirely their natural appearance and freedom from vascularity.

Reverting to what was said of two distinctions of tinnitus and its treatment, I hope I shall now be understood, when I add, that the presence or absence of vascularity of the membrana tympani, and its connections, is to me the most important criterion in diagnosis, and the rule for the treatment in diseases of the ear, both acute and chronic. In like manner, a certain extent of observation has led me to believe that the vessels of the membrana tympani early participate in and indicate any more general state of hyperemia acute or chronic, in the quarter of the head, and in conjunction with other symptoms or in absence of them, I am persuaded that there we have a channel of information in many doubtful cases, which as yet we are much in need of.

Case 1. 26*th March* 1846.—Mr ——, between 40 and 50 years of age, has been deaf in the left year for several years. The right has only become affected within a few days. He is ignorant of any cause. There has been no pain or discharge. There is great noise of singing in the left ear, but still greater in the right, where it is like the powerful constant motion of the piston of a steam-engine. The noise and deafness are much increased after meals, and in bed, where he is much disturbed by terrific dreams. He has also frequent headach

and vertigo. Hears the sound of a watch only when placed in contact with the ears. Pulse 72, full and firm. On examining the ears, both passages present a very decided vermilion tinge from arterial injection; there is also an abundant secretion of semi-fluid cerumen. The schneiderian membrane and turbinated bones are vividly red with arborescent vessels.—*Directed to be cupped to ʒxvj. To use the cold douche to the head night and morning. To take pills of calomel, colocynth, and ipecacuanha, followed by salts and senna. Rigid farinaceous diet.*

30th. He felt lighter after the cupping, but was again giddy yesterday, and there is ringing in the left ear to-day, and knocking in the right, also a reduced rate of the steam-engine sound. Hears at three inches from right ear, and two from left. There has been no return of flushing or vertigo. The bowels have acted four or five times daily. There is much less redness around the neck of the meatus auditorius, and the colour becomes more diluted inwards. The bottom of the passages, on being washed with a camel-hair brush, show indications of inflammatory action, in partially adhering flakes of lymph, matted with cerumen, in great part concealing the injected surface of the linings and membranæ tympanorum. He was seen on April 3d, 8th, 13th, and 18th, and throughout this period a general antiphlogistic treatment was pursued, consisting of the repeated application of leeches, purging, and low diet, with the effect of nearly removing all the symptoms. At the last-mentioned date, there had been neither headach or vertigo for three days; the noise in the head had almost ceased, and at times intermitted for half a day; hearing had extended to three yards from the right ear, and four feet from the left.

April 25. Total deafness returned in the left ear in the course of the night, between the 22d and 23d, and continued, accompanied with great ringing noise, without pain, until last night, when he renewed the application of leeches, which bled profusely, and he also took senna and salts, which operated freely on the bowels. This morning he hears at three yards from the right ear, and two and a half from the left. An inconsiderable degree of injection remains in both ears.— *To continue the calomel and saline purgatives, cold douche, and regimen.* Recovery complete.

CASE 2. *8th January* 1845.—Mr ——, aged 45, has been deaf in the right ear since August last, attended with discharge, sometimes thick, at others watery and bloody. He has at times felt air rush through the ear on blowing the nose. He complains of noises, sometimes loud, and mingled like that of machinery, more commonly like the rushing and rolling of the sea. There has been frequently aching pain in the ear, but never acute or lasting; often headach, accompanied with vertigo. There is soreness and perceptible intumescence of the scalp, but without heat or redness, extending from the neighbourhood of the ear, over the fronto-parietal region of the same side. There is also stiffness of the neck, which makes it difficult for him to raise his head from the pillow, without elevating the trunk. Sudden movements of the head induce giddiness. The aspect of the countenance, as well as the coated state of the tongue, indicate much derangement of the general health. Pulse 76, of no great strength or volume. Hears just free of contact with the affected ear. On examination, the right meatus auditorius and membrana tympani are found in a state of disorganization, raw, irritable, and secreting sanies. Notwithstanding the progress of the disease had brought his life into imminent danger, it was only the impaired hearing which gave him any concern. He was seen on the 10th, 14th, and 24th of the same month, during which time attention had been directed to the correction of the constitutional disorder, and a blister had been kept discharging freely. At the latter date the tongue was clean, the headach, vertigo, and stiffness of the neck had been absent for some days; the soreness and fulness of scalp were much diminished; the ear was no longer irritable, but the new skin investing the passage was still soft and vascular. A small secretion of healthy pus continued to proceed from the depth of the meatus, and a feeble stream of air to pass

through the membrana tympani. Hearing extended to twenty inches from the ear.

Feb. 23. Discharge has ceased for twenty-four hours. Some headach and soreness of the scalp have returned. Tongue clean; appetite good; pulse quiet; —*To have a purgative, and renew the blister. To solicit the return of discharge from the ear by fomentations.* After a short period, all the symptoms had disappeared.

Case 3. *4th April* 1846.—Mrs ——, aged 46. Deafness is dated from sea-bathing, fourteen years ago. Complains of great noise in the head; singing sound is constant, often it resembles a mixed concert of music, and beating like a drum. Sometimes it is like the heavy strokes of flails on a threshing-floor. These noises are often so violent, as to oblige her to leave her bed, and assume the erect position, whereby they are generally much diminished. Headach, and a sense of fulness and weight in the head are almost habitual. Vertigo is often so great, that she cannot leave her seat, and the heat of a night-cap cannot be borne in bed. She has suffered much from earach, but chiefly at the commencement of her illness, when it was attended by obstinate vomiting, so as for a whole day to allow nothing to remain on the stomach. Bleeding and low regimen have been employed, but without permanent benefit. She hears the time-piece at only one inch from the right ear, and half-an-inch from the left. Her father lost his hearing, at the age of twenty-one, from brain-fever. Her brother lost his hearing, to a great extent, when about twenty-eight years of age, from "blood going to the head." He had repeated apoplectic attacks, and died at the age of thirty-four. Her sister became quite deaf at thirty, and was distracted with suffering in the head. She died at the age of forty-one.

On examination of right ear, the anterior half of the membrana tympani is dry, and has a filmy dimness. Posteriorly, it has the glittering and shrivelled appearance of what is called goldbeater's skin. The membrane is level as if severed from the malleus, and vascular connections through it, but is sufficiently transparent to show that bone loaded with red vessels beyond. The lining of the inner third of the passage is more vascular than natural. She mentions that a discharge of blood once took place from this ear with temporary improvement to the hearing. On examining the left ear, the inner third of the passage has a uniform bright pink or vermilion colour. The membrana tympani is surrounded with a chemotic zone, broader and more irregular and vivid about the root of the malleus. The malleus itself is fringed with a white deposit, and has a streak of straight red vessels following to its tip. In advance of that is a single large granulation. An irregular white accumulation is discovered in the middle ear, through the transparent parts of the membrana tympani. A broad white *arcus albidus*, indicative of old adhesive inflammation, encircles its inferior border. The turbinated bones, and schneiderian membrane generally are preternaturally red and streaked with arborescent vessels. Pulse of natural frequency, and not very firm.—*The hair was ordered to be removed to admit the frequent use of the cold douche.—To apply a mustard blister between the shoulders, and maintain there an open issue.—Mustard pediluvia every night, and to keep up a steady action on the bowels.—Farinaceous diet.*

She was seen on the 11th, 15th, and 25th of the same month, and last on the 5th of May, and during this period all the symptoms had progressively abated. Headach and vertigo had been absent for a week. Sleep was undisturbed by noise in the ears or by dreams. The noise continued in the left ear, but it was no longer loud, and mingled sounds, but like the low hollow murmur heard in a shell. The hearing was improved, and the countenance was now cheerful and intelligent. The treatment throughout was regulated by the show of vascularity in and about the membrana tympani, and as this vascularity had almost entirely disappeared at the last mentioned date, the rigour of the regimen was remitted. It remains to invigorate the digestive organs and general health. The hearing has extended to four inches, and its progressive amendment may even be looked for under appropriate local treatment.

CASE 4. 11*th March* 1846. —— had an attack of acute otitis three weeks ago, attributed to cold from standing in a draught after being heated. Severe pain continued for three days and nights in both ears, and was then followed by the discharge of matter. Syringing and laudanum were employed, but they appeared only to increase the suffering and deafness. She hears the time-piece only at two inches from the right ear, and half an inch from the left. On examination, apertures were found in both membranæ tympani. The mallei were loaded with red vessels, which form vivid discs around the openings, through which matter is forced in bubbles on practising a forced expiration with the nose and mouth shut. She was seen on the 13th, 16th, and 20th, during which time leeching and other local treatment were employed, with the effect of extending the hearing to twenty inches, and the corresponding diminution of the vascular and other morbid appearances of the ears. On Sunday the 22d, she attended church, and heard the sermon perfectly well, but was subsequently exposed to cold and wet. On the 25th, she was found with the hearing almost abolished, throbbing in the ears, overpowering headach, the pain of which only prevented her from falling asleep while standing on her feet. She likens the noise to that of a thousand carpenters at work in her head. There is giddiness increased by every movement of the head, sickness, and she feels as if the head would burst when she stoops or attempts a horizontal position. On examination, the left membrana tympani presents a vivid vascular pannus-like tumour over half of its upper and posterior area, and a couenneux covering conceals the anterior part. In the right ear there is the same thick purulent or membranous coating all over the membrana tympani, excepting a central aperture of the size and shape of a carraway seed, having its edges intensely red. She was seen on the 28th of the same month, and on the 1st, 3d, 10th, and 20th of April, during which period, treatment directed by the general symptoms and local appearances was employed, and, at the latter date, all pain and noise had ceased. The watch was heard at two yards from both ears; the linings and the membranæ tympanorum were still preternaturally vascular, but the latter were thinning, their area extending, and the apertures had disappeared. Both mallei still vascular, and the left membrana tympani irregular in surface and transparency.—*To continue an open blister and lead lotion.* Recovery complete.

It would detain the attention of the Society unnecessarily, to multiply cases whose similarity, both in features and plan of treatment, are so close. I would, therefore, only urge in conclusion, that so soon and so long as arborescent vessels are to be seen on the membrana tympani, or a capillary net-work of these is visible on the walls lining the bottom of the meatus; so long as the malleus is traversed by red vessels, and has a clump of these assembled about its shoulder, a depleting and derivative treatment should be persisted in, whether the disease has been acute or chronic inflammation of the ear, or head affection depending on vascular excitement or turgescence.

ARTICLE IV.—*On an Impurity occurring in Commercial Aqua Ammoniæ.* By DOUGLAS MACLAGAN, M.D., F.R.S.E., Lecturer on Materia Medica.

SOME time ago having occasion to add nitric acid to a fluid containing an excess of ammonia, I was perplexed by observing that the liquid assumed a deep red colour passing to purple. As this

was a reaction which I had not the least reason to expect in the experiment in question, I suspected impurity in the nitric acid, which had been prepared by myself as a pure reagent, and repeated the trial with the same acid and ammonia, when a similar result followed. Circumstances prevented me from inquiring further at that time into the cause of this, and it had escaped my recollection, until I called at an extensive drug warehouse here to procure some strong aqua ammoniæ, D. ·880. I was then told that if I did not care about having it quite pure, I could have some of great saturating power, but containing some foreign matter like coal-tar, which would render it unfitted for use as a pure chemical reagent; at the same time I was told that the whole of the ammonia (of which I took a few ounces), was not equally thus contaminated. This recalled to my recollection the circumstance which had previously occurred to myself, and I accordingly subjected this sample to the action of nitric acid, but without producing the least trace of the red coloration. I mentioned this to my friend Dr Anderson, whose recent investigations into the volatile products of coal-tar[1] were likely to have directed his attention to this matter. I found that he had not observed it, but I speedily showed him the characteristic reaction on a sample of aqua ammoniæ D. ·920, in his own laboratory which he had procured from the same drug warehouse. Dr Anderson kindly assisted me in making some experiments to determine the nature of this impurity, and a few minutes sufficed to show that the impurities here were, a considerable amount of the volatile substance called *pyrrol* discovered by Runge, and a portion of what was probably naphthaline.

The following were the experiments to which this impure aqua ammoniæ was subjected:—

1. The addition of an excess of nitric or sulphuric acid caused a rapid red coloration passing into purple.

2. The ammonia was supersaturated with muriatic acid and a clean shaving of fir wood inserted into the fluid. It speedily became dyed of a rich purple. This is characteristic of pyrrol.

3. A portion of the ammonia was supersaturated with sulphuric acid and distilled. The distilled liquid had a marked odour of naphthaline, and chrystalline-looking particles apparently of this substance floated in it. It was tested by muriatic acid and the fir wood, and gave very strongly the colour characteristic of pyrrol. Pyrrol was considered by Runge to be a base, but it distils over even from a large excess of sulphuric acid. Hoffman in his investigation of aniline, failed to obtain this substance previously discovered by Runge, but Dr Anderson in the researches quoted above, found it in abundance.

4. The residue of the distillation in last experiment, which of course contained all the ammonia in combination with the sulphuric

[1] Trans. Royal Society Edin. Vol. xvi., p. 2.

acid, was mixed with a small quantity of caustic potash. The smell of *picoline*, the new base recently discovered by Dr Anderson (op. cit.) was distinctly perceived. More potash was then added, and the fluid distilled, when the ammonia passed over. It was now again tested for pyrrol, but hardly a trace of it could be detected.

It is easy to see how these impurities come to be present in the ammonia. It is well known that most of the ammonia of commerce is derived from the watery liquor of gas-works, from which it is prepared by converting it into sulphate or muriate, and, decomposing the salt so obtained, by lime. In the preparation of this impure aqua ammoniæ it is obvious that this process has not been followed. The manufacturer, in order to save the expense incurred by converting it into sulphate or muriate, has contented himself with procuring it by direct distillation, and thus it contains the other volatile ingredients of the gas liquor.

It is hardly necessary to say that such aqua ammonia is quite unfitted for chemical or pharmaceutical use. It is sold at a lower price than the ammonia of the same strength as it ordinarily occurs in commerce. That which was the subject of the above experiments, I am informed, was procured from England.

I suspected that this impure ammonia might also contain traces of hydrocyanic acid, but none could be detected by the ordinary tests.

129 GEORGE STREET, EDINBURGH,
May 15, 1846.

PART SECOND.

REVIEWS.

Scrofula, its Nature, its Causes, its Prevalence, and the Principles of Treatment. By BENJAMIN PHILLIPS, F.R.S., &c. Pp. 379. London: Baillière. 1846.

We gather from chapter ii. of the work before us, entitled, "My own Ideas on the Nature of Scrofula," that Mr Phillips considers it to be a constitutional disease, which is most clearly manifested by swelling of the subcutaneous lymphatic glands, accompanied by the deposit of scrofulous matter. His observations have convinced him that there is the utmost possible variety, in the external character of those who present an undoubted scrofulous taint, (p. 29.) He is bound to say that the intellectual development claimed for scrofulous persons is wanting in the overwhelming majority of cases.

In the absence of the tumor there are no features so constant and conclusive as to justify a reliance upon them in pronouncing an opinion whether a constitution be scrofulous or not, (p. 32.) At the same time there is a condition of the system favourable to scrofulous deposits, although it is marked by no certain signs. Most morbid deposits are the result of perverted nutrition; and when the condition is developed which is favourable to their production, particular circumstances will determine them upon one or other organ, (p. 38.)

The two chapters dedicated to the minute structure and chemical composition of scrofulous deposits, occupying only four pages, are very meagre. Following the example of all those who have not examined for themselves, the author quotes the statements of Albers, Dalrymple, Gulliver, and others, and is, of course, unable to draw any conclusion from the opposing opinions offered to him. The chemical characters are described even more vaguely. There is a quotation of Hecht's observations, published by Lobstein, and an allusion to the opinions of Prout, Gendrin, l'Heretier, and Bredow.

The author, with most of those who have studied the subject, is of opinion that the blood is changed before the scrofulous deposit is made. On the nature of this change, whether structural or chemical, he throws no light. He concludes chapter v. by stating that the accumulation of certain morbid materials in the blood, constitutes what is known as the scrofulous diathesis or constitution, and he repeats that their deposition in the subcutaneous lymphatic glands constitutes what we know as scrofula.

In chapter vi. the author examines whether pulmonary tubercle and scrofula are in their nature identical, and concludes that they are not. Let us examine his arguments.

1. No very remarkable difference can be detected between the two deposits. At the same time he agrees with Dr Hodgkin in saying, that occasionally certain distinctions may be observed. This arises from the difference in structure of the organs affected, but at an early period scrofulous glands rarely present the grey, smooth, transparent appearance, so often seen in pulmonary tubercle. At a later period, when softening occurs, no distinction can be made.

2. Although Albers states there is a difference in the minute structure, this is denied by Gulliver and others. The author has made no observations of his own on this point. We have: and can assure him that tubercle in the lungs and in lymphatic glands are structurally identical.

3. It is acknowledged that the chemical analysis of these morbid products does not determine any clear distinction between them.

4. As regards the vascularity of the two deposits, Mr Phillips concludes that "injection does not establish any distinctive character between the matter of scrofula and that of tubercle," (p. 69.)

So far facts are opposed to the author's opinion.

5. He has satisfied himself that lymphatic glands become en-

larged, their vascularity increased, their consistency almost flesh-like, before deposition takes place. This change in their condition he *conceives* to be the result of inflammation. On the other hand, he argues that alone, and in the absence of all other causes, inflammatory action does not seem capable of generating tuberculous matter, and that there is no proof that inflammatory action in the lung usually precedes the deposit of such matter.

It is impossible for us to imagine a more vague kind of pathology than this. Let us grant that what is "conceived" to be inflammatory, really is so. It has been previously maintained by the author, that in scrofulous persons a previous change occurs in the blood, and we presume his idea is, that inflammation occurring in the glands, under these circumstances, produces scrofulous deposits. Now, this is just what is contended for by certain pathologists with regard to the lungs. We know "that alone, and in the absence of all other causes," inflammation of the lungs produces simple pneumonia. But let a scrofulous diathesis previously exist, and then probably inflammation of the lung, as of the gland, will lead to the deposition of tubercle. The author believes that his conceived inflammation and enlargement of the gland establishes an "important difference between tubercular phthisis and scrofula." Most assuredly we cannot subscribe to any such proposition.

6. From the registered causes of death in mortality tables, Mr Phillips concludes that the period of life when phthisis proves fatal, is not that in which the ravages of scrofula are most keenly felt.

7. From the same tables he finds that the mortality of males from scrofula exceeds that of females by about 24 per cent: whereas the mortality of females from phthisis exceeds that of males by 15 per cent. He says, "It is proper to state, that evidence has been adduced to show that in particular places, the mortality from consumption has been greatest among males, but it is more satisfactory to my mind to use our returns for both diseases." The reason is not stated.

8. It is argued from the mortality tables of our own country, that where there is a large mortality from consumption, there is a small mortality from scrofula, and *vice versa*. In answer to the objection, that the register can give no positive data on this head, inasmuch as individuals labouring under scrofula, as the author understands it, die of some other disease, he says, "It would follow, that if, as is alleged, the sufferer from scrofula usually dies of phthisis, the ordinary marks of scrofula should be apparent in the bodies of a large number of those who die of phthisis." This, he shows from cases which have entered the St Mary-le-Bone Infirmary, is not the case. He concludes his arguments with the following passage:—

"I apprehend it has now been shown, by abundant evidence, that, with the exception of the deposit itself, which, whether found in the lungs, or in a cervical gland, whether examined by the naked eye, by the microscope, or by chemical analysis, is very similar, the circumstances attendant upon the develop-

ment of scrofula and phthisis are widely different. In scrofula the gland undergoes changes, inflammatory in its nature, before the matter is deposited in it; in the lung we commonly find the tissue around a recent simple tubercular deposit unchanged by inflammation. We find, further, that in districts where the causes of phthisis act with most intensity, those of scrofula fall lightest; that the age when the ravages of scrofula are most keenly felt, is precisely that when the visitation of phthisis is least to be apprehended; that the sex which suffers most severely from one of those diseases is least affected by the other. And beyond all this, there is the fact that among the numerous victims of phthisis, at least eighteen out of every twenty exhibit no marks of having suffered from scrofula. It seems to me, therefore, that these facts constitute so clearly marked a difference between the two affections, that it will be most convenient, most conducive to scientific correctness, to consider them as affections possessing a certain general similarity of character, but no identity. It may be that they belong to the same family, so do pleurisy and pneumonia; but every one deems it desirable to make as clear a demarcation as possible between those diseases. I say the same of tubercular disease generally and scrofula, between which the points of resemblance are strong, in so far as concerns the deposit; but in all else they are weak." Pp. 77, 78.

We beg leave to differ from Mr Phillips entirely on this important point. We consider that as there is no difference to the naked sight, by microscopic examination, and by chemical analysis, between tubercle in the lung, and scrofulous matter in lymphatic glands; this in itself constitutes a strong proof of their identity. In this respect they have no analogy with pleurisy and pneumonia, in which diseases the morbid products are quite different both to the naked sight, and in minute structure. Increased vascularity preceding the deposit, in one situation and not in another, can form no distinction, even were it true,—which we deny. Moreover, founding distinctions entirely upon the Registrar-general's report, in defiance to morbid anatomy, and the minute structure of the morbid deposit, so far from being convenient, or conducive to scientific correctness, would give rise to the most obvious fallacies, and endanger the further progress of medicine as a rational study. On the other hand, let us grant that the glands are most frequently affected in early life, and the lungs in adults, and that the latter are more frequent than the former. This only proves, in our opinion, that the same disease attacks one particular structure more frequently in youth, another in adult age, and that the one is not so fatal as the other. We are much mistaken if the great body of facts will not indicate the propriety of considering tubercle and scrofula in this light, in preference to that in which it is viewed by Mr Phillips.

The most valuable part of the work, and the one where most information is to be gained, is the chapter on the causes of scrofula. On the difficulty of estimating the influence of any one single agent, the author makes some very judicious observations. Bad food, bad air, and bad clothing, are generally associated together; but he attempts to analyze the effect of the various circumstances which have been supposed capable of producing scrofula.

He first speaks of hereditary influence; and here we are struck

with an evident contradiction. The author has previously endeavoured to show that scrofula and phthisis are different diseases; yet in estimating the influence of hereditary disposition, he refers to the evidence of Louis, and Rillie and Barthez, which he says, "although referring only to phthisis, we may fairly use in this place," (p. 117.) Upon what principle researches on phthisis can illustrate scrofula, unless they are only different forms of the same disease, we are at a loss to conceive. The researches of the author on this point are contained in the following passage. It will be necessary to remember that by scrofula the author understands scrofulous glands, and by marks of scrofula only the tumours so produced, or the cicatrices left after suppuration.

"I examined myself, and procured to be examined by others, in the metropolitan, the factory, and in rural districts, upwards of 2000 families, each consisting of from three to five children, and living as nearly as may be under similar circumstances. In one portion of the cases both parents were apparently free from scrofulous taint; in another there was reason to think that both parents were tainted; in another that the father was tainted; and in another the mother. The number of families examined was 2023, the number of children was 7587; and the number bearing such marks of scrofula as I have already indicated, was 1738, or nearly 23 per cent. In 506 instances, derived from many localities, and under the most varied circumstances, with parents more apparently untainted, and their offspring amounted to 2021. Of these, 421, or something less than 21 per cent, presented marks of scrofula. In 276 instances, there was reason to think that both parents laboured under scrofulous taint; their offspring amounted to 1092 children; of these 271, or nearly 25 per cent. bore the ordinary marks of scrofula. In 589 instances, the father carried about him marks of having suffered from scrofula, whilst the mother was free from them; their children amounted to 2107, those having marks of scrofula to 483, or nearly 23 per cent. In 652 instances, the mother bore upon her person the marks of scrofula, whilst the father did not; their children amounted to 2367, and of these, 563, or nearly 24 per cent. presented marks of scrofula." P. 119.

From these statistical data, it is concluded that an hereditary influence must be admitted to be present; that it does not appear to be quite four per cent., and that the mother possesses it in a greater degree than the father.

As regards predisposition, the author, while he does not deny its existence, states that it conveys to his mind a condition of the economy which has no external, distinct, or constant signs. He is also of opinion that a feeble constitution is favourable, though not necessary, to the development of a tuberculous cachexia. By the use of the latter term, as well as from the authorities he quotes, he again confounds tubercular cachexia, a term used by Sir J. Clark to express a constitutional affection, with his definition of scrofula. He does not think that scrofula has any connection with syphilis.

With respect to the influence which the age of parents exercises on the production of scrofulous children, he says:—

"I do not deny that children born of parents advanced in life, as well as those born of youthful parents, may present less of vigour than the offspring of persons in the prime of health and strength, but it is not proved that they usually become scrofulous." P. 136.

Intermarriages, he thinks, among healthy persons, do not tend to the production of scrofula, but he does not assert that other physical or mental influences may not result from such unions. He considers that scrofula is not to be contracted at the nurse's breast, although he would be quite as unwilling as any one could be, to have a child suckled by a scrofulous nurse. He adds, there is no sufficient reason for rejecting a nurse, merely because she menstruates, though at the menstrual period she is probably less well fitted than another to afford unexceptionable nutriment to the child.

We have no proof that scrofula is contagious.

The author is of opinion that improper food holds the first place amongst those agents which influence the production of scrofula. Some very excellent remarks are made on the proper nourishment of infants.

"In Lancashire and the west riding of York, the deaths in the first year of life, are, to the total deaths, as 1 to 3·9; while in Devon and Wilts, they are as 1 to 6·4! Now it is in the great factory towns of this country, which are found in Lancashire, Cheshire, and Yorkshire, that the system of bringing up the child by hand is most commonly practised, and where its evil effects are most apparent; first, as we have seen, in the great destruction of infant life, and failing that, in the development of scrofula. It is not that the mother has no milk, but that in such places she is enabled to make what she considers to be a more profitable use of her time than by staying at home and nursing her child. Her child may be suckled at early morn, and again in the evening, possibly too at the middle of the day; but whatever food it may require at the intervening periods, if furnished at all, is afforded in the shape of the crudest and most inappropriate substances, and restlessness is known in many places to be habitually repressed by Godfrey's cordial." P. 162.

In order to ascertain the influence of food on children, the author gives an account of the dietary in factories and union workhouses, and compares it with that of the labourer and peasantry in different counties. He thus exhibits the amount of scrofula rife among each class, and concludes from the results, that the workhouse child is better fed, and less subject to scrofula than the child reared in the cottage of the peasant. The cause of scrofula among the latter is evident, for, with the exception of food and clothing, the work-house child enjoys no advantages of which the child reared in the cottage is deprived. The reports of the Inspectors of Prisons also exhibit the influence of food in producing scrofula. The cases are many, where prisoners have manifested glandular tumours under the discipline to which they have been subjected, and have quickly rallied under an improved diet. Dr Baly also states, as the result of his observations at Millbank Penitentiary,

"By far the thinnest convicts, and *those having the largest proportion of unhealthy and scrofulous individuals* amongst their number, come from the Scotch prisons, in which the diet consists of a sparing allowance of vegetable and farinaceous food." P. 173.

The author endeavours to account for the less frequency of scrofula now than formerly, as previously stated by him, by the im-

proved diet of the peasantry, and the higher rate of wages among them. On the other hand, facts are given to show that the children in Irish union houses are much more scrofulous than those in similar institutions in England, and the inference is, that this is owing to less nutritious food. The diet in the different orphan and foundling establishments abroad is then given, and the frequency of scrofula is shown to bear a relation to the poverty of the diet.

From a lengthened inquiry into the effects of vitiated atmosphere as a cause of scrofula, in which much statistical information is brought to bear on the subject, it is concluded, contrary to the opinion of Baudelocque, that its influence is not appreciable. As regards climate, the author states, there can be no doubt that the disease prevails more in one climate than in another; but that this is owing to any particular quality of the atmosphere of that climate is unproved. In the same manner humidity, though stated to be the cause of the disease in England and Holland, cannot be accepted as the reason, as it has been proved that in no European country do the people suffer less from scrofula than in England. With respect to temperature, the author arrives at the conclusion that there is no proof that a person predisposed to scrofula, will be protected from the disease, by a removal to a country colder, or even warmer, than his own.

The observations on the influence of occupation in producing scrofula bear reference chiefly to its production in factories. The author thinks that though less to be desired than occupation in the open air, work in factories is yet accompanied by so many counteracting circumstances, that the evils which may be inseparable from it, are mitigated if not counteracted by the increased means of procuring the necessaries of life which it affords.

In conclusion, the author observes that of all the causes noticed, diseased nutrition is the one which produces that condition of the system which we term scrofulous—a condition which may co-exist with sufficiency as well as deficiency of food, and is perhaps as frequently found in the pampered child of luxury, as in the cottage of the peasant.

In this section of the author's work on the causes of scrofula, much useful information of a statistical nature is to be found. His conclusion with respect to improper food being the true cause of scrofula, and in our opinion all tubercular diseases, is we think a just one, and is supported by many facts, of a much more positive nature than those generally adduced in its favour.

As regards treatment, the author first speaks of the preventive management of scrofula, which we need not dwell upon. Under the head of curative treatment, is a very interesting section on the superstitious practices which have prevailed, and more especially on the royal touch. It seems evident that many undoubted cures were thus produced, of which the testimony of Wiseman is sufficient proof. The author correctly observes, that all such cures resulted

from agencies which operate in the present day with the same power they did in former times.

The author's views with regard to the leading curative means for the disease may be gathered from the following statements :—

Mercury.—"In the sense of a remedial agent, capable alone, and under ordinary circumstances, of removing scrofula from the constitution, mercury is not, I believe, entitled to any confidence; but in the sense of an agent to be variously associated with other medicines, according to the symptoms of the disease, there is no doubt but that it will be found useful in many cases of scrofula. In some instances, in virtue of a purgative, in others of a general alterative influence. But I am satisfied that when so administered as to lower the general powers, whether by profuse purgation, or by salivation, its influence is usually, if not always injurious." P. 273.

Iodine.—"In my own practice I have exhibited every form of iodine extensively in cases of scrofula, and supposing the patient to remain exposed to the influence of the same conditions in which the disease was at first manifested, and the period of the year to be that which has not been found favourable for the cure of the disease under other modes of treatment, I cannot say, that I have had reason to estimate the curative powers of iodine so highly as many others have done. I know that among the out-patients of hospitals, whose circumstances remain unchanged, and who apply at the latter end of autumn, or the beginning of winter, we may often exhibit iodine in every form for weeks or months, without producing any sensible amelioration in the patient's condition. I know also that at the beginning of summer, a patient similarly affected and similarly treated, will, often in a few weeks, exhibit a marked improvement—but how much of this should be referred to iodine? How much to season?" P. 275.

"The impression left on my mind is, that the good which may be experienced from the use of this medicine, is not owing to any specific influence which it exerts over scrofula, but to its occasional power of modifying the mucous surfaces, so as to enable them to assist in producing healthy nutrition." P. 276.

Barium.—"I do not mean to say that my experience of its power over scrofula is such as to bear out the opinions of its efficacy so confidently expressed by Dr Adair Crawford. But sure I am that its power as a discutient, over scrofulous glandular tumours, and over the scrofulous constitution, are little if at all inferior to those of iodine. Its field of usefulness is, however, more limited than that of iodine, because we have the advantage of a choice of many different combinations of that medicine. Barium yields only one preparation which has been much employed as a medicine; the meconate and nitrate are very rarely used. Barium, however, seems to be a more certain stimulant than iodine, or rather, we might say, irritant; and in my judgment, its use is clearly contra-indicated where there is much free inflammatory excitability of the system; but in those cases where the tallow-like complexion, the pale tongue, and the languid circulation, accompanied by irritability of the mucous surfaces are present, the virtues of the barium are often very remarkably demonstrated. I usually give it in solution, a grain to an ounce of distilled water, with ten drops of compound tincture of gentian. Of this solution, I commence with half an ounce twice a-day, and on no occasion have I exceeded three grains in the day, and up to this moment I have not experienced any check in the administration of the medicine." P. 281-2.

Hydrochlorate of Lime.—"I cannot say that I have ever seen a case in which, in the absence of other influences, the discutient power of this medicine has been clearly manifested." P. 288.

Alkalies.—"I have tried the medicine" (caustic potash) "extensively, but not in such large doses as Brandish used, and I have found the bitter ale a very convenient vehicle for its administration, and my experience is very similar to his. My conclusions drawn from that experience are, however, unlike those of Brandish. I have known many cases in which under this treatment, the

glandular tumours seemed to subside rather sooner than they would probably have done without it; but I have known many more in which it did not exercise any sensible effect. I am satisfied, however, that in many instances it did exercise a salutary influence, and those were mostly cases in which much acidity pervaded the secretions, and acted upon the general economy. How then are we to explain the difference between Brandish and myself? Simply by referring to the influence of general treatment, what he refers exclusively to the potash: and I think that is the reasonable explanation of the difference between us." P. 285.

Cod Liver Oil.—"There is scarcely any form of scrofula which I have not seen to improve under it, enlarged glands, sinuses, ulcers, lupus-like scrofula of the face, caries; all these I have known to get better under its employment; but generally one of two things happened, either the stomach or the patience failed before the remedy had been carried far enough to produce any considerable amelioration." P. 287.

"The conviction on my mind is, that when good is derived from it, it is to be referred to the effect of the animal oil in improving digestion and nutrition, rather than to the presence of iodine; and if Popkins' impression be correct, that he has observed quite as much good to follow the daily use of fried bacon in such cases, and if it be further true, which I by no means admit, that butchers, oil-men, tallow-chandlers, tanners, and other persons who are continually coming in contact with fatty matter, are particularly robust and well nourished, and are known to be remarkably free from scrofula, then the case in favour of the oily principle is so much the stronger." P. 288.

Sea-Water.—"Used daily, to the extent of a small tumbler, with an equal quantity of milk, and taken at bed-time, the patient submitted to this treatment has improved in health, in so far as the condition of the intestinal secretions can be taken to be a proof of the fact; but I am by no means satisfied that the time and the place have not had quite as decided an influence upon the patient's condition as the sea-water introduced into the stomach." P. 289.

Sea-Bathing.—"My opportunities of observing the immediate effects of sea-bathing upon scrofulous cases have been very scanty, but I have had ample means of observing the effects, upon such cases of sea-side residence, with its accessory advantages, and my mind is very strongly impressed with the conviction, that the benefits derived from it are not greater than might be obtained from a change to a pure air and the use of the simple cold bath in an inland situation." P. 290.

Mineral Waters.—"That they have been more indebted for the credit they possess to the enthusiasm of friends, than to the faithful register of the cures, which it is alleged have resulted from their employment, is I think true. And no doubt M. Patissier was near the truth when he said, Les eaux minérales naturelles guerissent quelquefois, soulagent et consolent toujours." P. 300.

The chapter concludes with some very judicious observations on the general treatment, dietetic and hygienic.

Mr Phillips is a surgeon of considerable experience, and is attached to a large metropolitan infirmary. The subject of scrofula, we are informed, has occupied much of his attention for many years. We have therefore thought it our duty to present his views to our readers, as fully as the limits of the Journal would permit. We agree with him in thinking that notwithstanding the numerous works which have appeared on scrofula, our knowledge of the disease is by no means perfect. The question is, by what means is our knowledge to be increased? Mr Phillips is evidently one of those who think statistical inquiries, and the tables of the registrar-general are capable of furthering our positive knowledge of the subject. Without disparaging the value of these means, we must avow

our conviction that all investigations with a view to treatment must proceed upon a pathological basis. Unless clear notions be held in the first place, as to the nature of the disease, such statistics can only cause confusion in medical inquiries. Of this statement we consider Mr Phillips's work a good example. Instead of regarding scrofula as a pathologist, he views it as a surgeon. With him the disease consists of tumours, ulcers, caries, &c., whilst phthisis, pulmonalis, atrophia mesenterica, and internal tubercular deposits are carefully excluded. All this we consider erroneous. At the same time, the great pains which have been bestowed on the statistical portion of the work, notwithstanding scrofula is referred to in a limited sense of the term, confers a value on this book, which those only who read it can properly appreciate.

Lectures illustrative of various subjects in Pathology and Surgery. By Sir B. C. Brodie, Bart., F.R.S., Serjeant-Surgeon to the Queen, &c. London: Longman & Co., 1846.

Sir B. C. Brodie's previous contributions to pathology and surgery have been of such a practical character, and so eminently useful, that perhaps, at the present period, no name is more familiarly known to the profession at large than that of the author of the lectures before us. Indeed the "pathological and surgical observations on the diseases of the joints" alone, is a treatise which will hand down his name to posterity so long as surgery is cultivated as a science. The contents of the present volume are of a miscellaneous character: some of the lectures were delivered twenty years ago, and nearly the whole of them have already been published in the periodicals of the day: some of the most novel and practical portions have also appeared in the Periscope of this Journal, so that a very brief analysis of the contents of the work must suffice on the present occasion.

Lectures I. and II. treat of the Studies required for the Medical Profession; and the Duties and Conduct of Medical Students and Practitioners. Both lectures were originally addressed to the Students of the Medical School of St George's Hospital, and are certainly admirable discourses. In them we can discover no attempts to elevate one school or hospital at the expense of others—a practice so common in such introductory treatises.

Lectures III. and IV. On the Effects of Strangulation and Death by Drowning, were delivered in the Theatre of the Royal College of Surgeons of London in 1821, and are now published for the first time. The more valuable portion of their contents, however, are to be found in Paris and Fonblanques' Medical Jurisprudence, taken, Sir Benjamin informs us, from notes communicated

by him to Dr Paris; it will therefore be unnecessary to refer here more particularly to the various interesting facts they disclose.

Lecture V. ON SOME CASES OF CYSTS CONTAINING WATERY FLUID APPARENTLY CONNECTED WITH THE LIVER. Three cases of this description are detailed. The first, that of a young lady who had a tumour, in which the fluctuation of fluid was very perceptible, lifting up the inferior ribs of the left side, and projecting forward so as to be visible below the edges of the ribs also. It had existed for nearly two years, and had always occasioned some degree of pain, and as it grew larger, it gave rise to still more acute pain, and great inconvenience to the patient. A trochar was cautiously introduced below the margin of the ribs, and about three pints of watery fluid evacuated. Care was taken to prevent the entrance of air, and the edges of the wound, which were brought together by means of adhesive plaster, united by the first intention. After a lapse of six years there was no return of the disease. The second, a little boy, was admitted into St George's Hospital, with a tumour presenting itself below the margin of the ribs of the right side, lifting up the ribs also; with a distinct fluctuation. A trochar was introduced below the margin of the ribs, and a pint and-a-half of watery fluid drawn off: the wound healed by the first intention, and the patient left the hospital cured.

In both cases the fluid was clear and colourless, resembling water in appearance. Heat did not effect coagulation, and on evaporation no animal residuum remained.

In the third case there was a firm elastic tumour in the left hypochondriac region, pushing forwards the integuments, and extending backwards, beneath the lower ribs, to the left side of the spine. No pain was experienced on pressure, and its origin was attributed to injury. Having increased rapidly in size, it was punctured, and about eight ounces of a colourless watery fluid removed. Inflammation followed, and a tumour, apparently an abscess, appeared in the same situation. It suddenly disappeared, after which pus was found mixed with the foeces: finally a membranous cyst was detected, after which the pus disappeared, and the patient recovered. The author is inclined to believe that the inflammation was superinduced in this case by his over-anxiety to remove every portion of the fluid: he has more than once seen the same thing happen where the surgeon was over-anxious to empty the tumour completely.

Lecture VI. ON UNUNITED FRACTURES.—Fractures sometimes are not repaired in consequence of the anatomical structure of parts in which the accident has occurred: of this the neck of the thigh bone is a good and familiar example. A fissure of the cranium takes a long time to unite, although the author believes that union is always effected at last. The writer of this notice has met with a case where a fracture traversing the base of the skull was ununited at the end of the second year: osseous matter was deposited

between the skull and dura mater around the site of injury, but none between the fractured edges of the bone.

Diseased bones, when fractured, *may* not unite, but the rule is by no means *absolute*.

When a fracture is attended with more than usual injury, a piece of muscle may slip between the fractured extremities of the bone and prevent union.

A great deal is usually said to depend on the fractured bone not being kept at rest from the insufficiency of the apparatus employed. The author's experiments on animals enables him to state that this is an insufficient reason with them: he has frequently attempted in vain to prevent union by giving motion to the broken bone several times daily.

In the majority of cases non-union is attributable to some peculiar state of the constitution, and the most powerful means of obtaining the object desired is by proper treatment to correct whatever may be wrong. One patient may require better diet, another purgative medicine, and a third tonics. The case of a dram-drinker is adduced: she was not allowed her customary stimulus, and the bones showed no disposition to unite; a certain quantity of spirits were afterwards allowed, and the bones united.

Various methods of local treatment have been recommended. In numerous instances a patient may be kept in bed for ten or more weeks without union taking place; but a splint having been placed on each side of the limb, and moderate exercise enjoined, the fracture has become speedily united. Blisters have been applied over the fracture spot in cases of slow union, and apparently with good results. This method should not be employed later than eight or ten weeks from the date of the accident.

It was formerly recommended to saw off the ununited ends of the bone, but no modern surgeon, having a moderate share of prudence, would now undertake such an operation. Dr Physick recommended the introduction of a seton through the artificial joint. The result of the practice in this country appears to be, that sometimes it has succeeded in the upper extremities, but that where it has been performed on the lower extremities, a cure has only occurred in a single case, and that in a patient of the author's. The operation is, to say the least of it, uncertain, and the result tedious.

Sir Benjamin prefers Mr Amesbury's method of treatment to every other. The principle of his practice is simply that of keeping the ends of the bones in perfect repose, and at the same time applying pressure, so as to keep them in the closest possible contact with each other. Of course no general rule can be laid down as to the mode of attaining this object.

Lecture VII.—On Sero-cystic Tumours of the Female Breast.—Sir A. Cooper's account of the hydatid breast has been taken principally from cases of this kind. The globular form of the tumour, and the impression which the fluid within it gives to the fingers in

general, furnishes an easy means of diagnosis. Any doubt on the subject may be resolved by the introduction of a grooved needle, which will give exit to the contained serum.

The following is a brief summary of the author's pathological history of the disease:—

First. A greater or less number of cysts are generated in the breast containing serum. The cysts appear to be formed by dilatation of portions of the lactiferous tubes. The serum is at first of a light colour, but afterwards becomes darker and opaque.

Secondly. Morbid growths or excrescences are generated from the inner surface of one or more of these cysts, projecting into their cavities. These excrescences seem to consist of organized albumen or fibrin.

Thirdly. There is some reason for believing that a similar growth of fibrinous substance may take place from the external surface of the cysts, connecting the different cysts with each other.

Fourthly. Under certain circumstances the cysts become completely filled up by the morbid growths, so that their cavities are obliterated; this is a prelude to a still further change, in which the greater part of the cysts have wholly disappeared, a solid mass of an indistinctly laminated texture occupying their place.

Fifthly. If one of these cysts be opened or burst, the excrescence, being no longer restrained by the pressure of the skin, protrudes externally, giving to the tumour a new and more formidable appearance. At this stage of the disease, to prevent ulceration, sloughing and hæmorrhage, amputation must be had recourse to.

Chapters VIII. and IX. discuss the subject of VARICOSE VEINS AND ULCERS OF THE LEGS.—The history of such cases, and the treatment necessary, are so well known, that we deem it unnecessary to give the author's opinions. He disapproves of tying, or cutting varicose veins, for the following reasons:—1st, The danger of phlebitis. 2d, Because the patient is not permanently benefited; and, 3d, Because there is reason to believe that the disease will be aggravated from the obliteration.

Lecture X.—ON THE CASES OF SCIRRHOUS TUMOURS OF THE BREAST WHICH REQUIRE AN OPERATION.—The author alludes to the great diversity of opinion which exists among the most experienced members of the profession regarding the propriety of removing scirrhous mammæ, as a proof of the great difficulties which surround the subject.

Scirrhous tumours of the breast may be divided into two classes: one, where the mammary gland itself is converted into scirrhous structure; the other, where there is a scirrhous tumour imbedded in what appears to be otherwise a healthy breast, there being a well-defined boundary to it. In the *first* order of cases, the operation not only never succeeds, but rather hastens the progress of the malady.

In another order of cases, where the skin is contaminated, there

is no chance of an operation effecting an ultimate, or permanent cure. In cases of retraction of the nipple, there is great danger of the disease having extended to the skin, and no operative procedure should be resorted to until a very careful examination has been made. In some cases the skin is drawn, or tucked in, over the tumour so as to produce a dimple. The author thinks this dimple is a proof that the disease has extended to the skin, and that such cases are not suited for removal. When glands in the axilla are affected, or the tumour has contracted adhesions to the pectoral muscle, or ribs, or if the skin be ulcerated, there is no chance of a cure. The cases suited for operation are those in which the preceding complications are awanting, and where there is no suspicion of malignant disease elsewhere.

Lecture XI.—On Corns and Bunions.—A sensible well-concocted lecture on a very important topic, but we can observe nothing of a novel character.

Lecture XII.—On the Administration of Mercury in Cases of Syphilis.—A discourse replete with practical information, and well worthy a most careful perusal. The author prefers mercurial inunction to the internal administration of the mineral. It is much less apt to gripe or purge; it cures the disease a great deal better, and does not damage the constitution half so much as mercury taken by the mouth. Much depends on the rubbing in. The patient, if not well instructed, will perhaps continue the friction for a few minutes; but it ought to be continued before a fire at first for at least half an hour, and very frequently for three quarters of an hour. Where the symptoms are not of a mild character, the patient should, if possible, be confined to the house, except for an hour or two in a fine day. Exposure in the fresh air is well-known to counteract the effects of mercury.

The best method of treating children born with syphilis is this: provide a flannel roller, on one end of which spread some mercurial ointment,—say a drachm or more; apply the roller thus prepared, not very tight, round the knee; repeating the application daily. The motions of the child produce the necessary friction; and the cuticle being thin, the mercury easily enters the system. This causes neither griping nor purging; but it cures the disease. Very few children ultimately recover to whom mercury has been given internally.

Want of space compels us to pass altogether the lectures on Facial Neuralgia—Adipose Tumours and Mortification.

Lecture XXI treats of Chronic Abscess of the Tibia. When suppuration takes place in the interior of a bone, the pus cannot readily come to the surface, but is pent up for an indefinite period of time, giving rise to very severe and protracted suffering. Such abscesses may form in any bone, but they are met with more frequently in the tibia than in any other. In 1824, the author met with a case which attracted his attention to this disease. A young

man had suffered from pain and swelling of the tibia above the ankle joint for 12 years: in defiance of every kind of treatment it was getting gradually worse: the limb was removed, and on dissection, a cavity as large as a small chesnut was found just above the articulating surface, filled with dark coloured pus. On reflecting on the case, the author regretted he had not been aware of the true nature of the disease, that exit might have been given to the pus by a trephine, and the limb saved.

A case somewhat similar presented itself two years afterwards: the trephine and chisel were resorted to,—pus escaped freely, and the patient recovered. Several other very interesting cases are detailed; but they do not admit of being abridged. The circumstances which would lead to suspicion of abscess in the tibia are, to use his own words,—"When the tibia is enlarged from a deposit of bone externally—when there is excessive pain, such as may be said to depend on extreme tension, the pain being aggravated at intervals, and these symptoms continue and become still farther aggravated, not yielding to medicines, or other treatment that may be had recourse to,—then you may reasonably suspect the existence of abscess in the centre of the bone. It is not to be supposed that there is no abscess because the pain is not constant; on the contrary, it very often comes on only at intervals, and in one of the cases related, there was an actual intermission of seven or eight months. After the disease has existed a certain number of years, indeed, the pain never entirely subsides, but still it varies, and there are always periods of abatement and exacerbation." The writer of this notice had under his treatment a person aged 32, who had suffered, for upwards of five years, from the train of symptoms described by Sir Benjamin. There was considerable enlargement of the lower portion of the upper third of the tibia; he had been treated both in hospital and in private, but according to his own statement, without any benefit. Occasionally the pain abated so much that he could resume for a few weeks his occupation,—that of a power loom cotton-spinner; but finally, his constitution suffered so much that he was recommended to submit to the application of the trephine. A piece of bone was removed,—no pus or sequestrum was discovered, but the wound healed up rapidly, and he has enjoyed uninterrupted good health ever since the operation was performed—fully two years ago. He declared the *character* of the pain was changed immediately after the removal of the bone. The portion removed (the anterior wall) measures fully half an inch in thickness. In this case the diagnosis was wrong,—proving that the existence of all the symptoms described by the author can only lead to a *suspicion* that pus is pent up,—but still, as is well remarked, the operation can do no harm,—is not attended with danger, and is sufficiently simple. In our case the operation may have acted beneficially by removing the tension occasioned by the increase of the substance of the bone; or as a powerful counter irritant.

To those of our readers who do not possess the lectures, in some form or other, we strongly recommend this volume. It is to be hoped the second series, which is promised in the preface, will soon make its appearance. K.

Outlines of Naval Surgery. By JOHN WILSON, Surgeon, R.N., late Surgeon, H.M.S. VANGUARD. Edinburgh: Maclachan, Stewart, & Co. 1846. 12mo, Pp. 134.

We have read this little book with much pleasure. It is evidently the production of one who has had considerable experience in the service, and is well acquainted with the duties of a navy surgeon. It is composed of seven chapters. 1. Examination of Seamen. 2. Medical Surveys. 3. Preparation for battle. 4. Prophylaxis. 5. Febris Synochialis. 6. Febris Intertropica Congesta. 7. Febris Intertropica Violenta. The author's style is not elegant or even correct. It may, with propriety, be called nautical. But the shrewd observations and naval anecdotes bearing on practice which are scattered throughout the work, will well repay a perusal of it. B.

PART THIRD.

PERISCOPE.

CHEMISTRY AND MATERIA MEDICA.

ON THE SOLUBILITY OF FLUORIDE OF CALCIUM IN WATER, AND ITS RELATION TO THE OCCURRENCE OF FLUORINE IN MINERALS, AND IN RECENT AND FOSSIL PLANTS AND ANIMALS. By GEORGE WILSON, M.D., F.R.S.E.

Abstract of a Paper read before the Royal Society, Edinburgh, April 6, 1846.

After a preliminary reference to the existence of fluorine in recent and fossil bones, Dr Wilson stated that he had made a series of experiments with a view to discover what solvent carried fluoride of calcium into the tissues of plants and animals. His first trials were made with carbonic acid, which was passed in a current through water containing pure fluorspar in fine powder suspended in it. The fluorspar was by this treatment dissolved, yielding a solution which precipitated oxalate of ammonia, and when evaporated left a residue, which on being heated with sulphuric acid, gave off hydrofluoric acid. The author was inclined in consequence to suppose that carbonic acid conferred upon water the power of dissolving fluoride of calcium. But on observing that long after the whole of that gas had been expelled by warming the liquid, the latter remained untroubled, he became satisfied that water alone can dissolve fluoride of calcium, contrary to the universal statement of writers on chemistry.

On prosecuting the inquiry he found that water at 212° dissolved more of

the fluor than water at 60°, but he has not yet ascertained the proportion taken up by that liquid at either temperature.

The aqueous solution of fluoride of calcium was found to give, with salts of baryta, a precipitate which required a large addition of hydrochloric or nitric acid to dissolve it.

The author pointed out the difficulty which must in consequence occur, in distinguishing between dissolved fluorides and sulphates, and suggested that fluorides may have been mistaken for sulphates in the analysis of mineral waters. He referred also to the objection which must now lie against the present method of determining the quantity of fluorine present in bodies, consisting as it does in converting that element into fluoride of calcium, which in the course of the necessary analytical operations, is washed freely, and must be seriously diminished in quantity; a fact which has of necessity been hitherto overlooked.

Dr Wilson stated that he was not yet able to suggest an unexceptionable quantitative process; but that, at all events, the fluoride of barium being much less soluble than the fluoride of calcium, might in the meanwhile be substituted for it in the examination of fluorine.

The author proceeded to state, that in consequence of the observation he had made as to the solubility of fluoride of calcium in water, he had been led to look for that body in natural waters, and had found it in one of the wells of Edinburgh, viz. in that supplying the brewery of Mr Campbell in the Cowgate, behind Minto House. At the same time he stated that preceding observers had already found it in other waters. He believed, however, that he was the first to detect it in sea-water, where by using the *bittern* or mother liquor of the saltpans, in which water from the Frith of Forth is evaporated, he had found it present in most notable quantity. The author referred to the presence of fluorine in sea-water, as adding another link to the chain of observed analysis, between that body and chlorine, iodine, and bromine. Dr Wilson further stated, that he had confirmed the observations of Will as to the presence of fluorine in plants, and Berzelius' discovery that fluorine exists in the secretion from the kidneys, and had in addition detected fluorine in blood and milk, in neither of which has it hitherto been suspected to occur. The paper concluded by some observations on the presence of fluorine in fossils, in its relation to animal life.

ANALYSES OF VARIOUS TUMOURS. By DR VON BIBRA.

A fibrous tumour of the chest was composed of

Proteine,	18·3
Soluble Albumen,	1·0
Gelatine,	3·7
Extractive matter,	2·5
Fat,	3·1
Water,	71·4
	100·0

100 parts of this tumour dried, gave 7·99 of ash, which was composed of

Muriate of soda,	1·4
Sulphate of soda,	4·2
Alkaline phosphate, with a little carbonic acid,	71·8
Earthy phosphates,	22·0
	100·0

A cancer of the lip was composed of

Proteine,	9·00
Soluble albumen,	1·30
Gelatine,	0·83
Colouring matter,	1·25
Fat,	2·70
Water,	84·92
	100·0

100 parts of this tumour dried, gave 8·09 of ash, which was composed of

Muriate of soda,	10·13
Sulphate of soda,	2·04
Alkaline, phosphate, with carbonic acid,	63·83
Earthy phosphates and iron,	24·00
	100·00

A medullary fungus of the eye was composed of

Proteine, and soluble albumen together,	11·221
Gelatine and chondrine,	3·990
Extractive matters,	3·350
Fat,	6·683
Water,	74·756
	100·000

100 parts of this fungus dried, gave 4·20 of ash, which was composed of

Muriate of soda,	8·0
Alkaline sulphate	12·2
Carbonate of soda,	4·4
Phosphate of soda,	35·4
Earthy phosphate,	21·9
Oxide of iron,	18·1
	100·00

Three fatty tumours contained

	No. 1.	No. 2.	No. 3.
Fat,	79·938	78·32	75·72
Membrane,	2·553	3·54	6·06
Water,	17·509	18·14	18·22
	100·000	100.00	100·00

100 parts of the first tumour, gave 0·10 of ash, which was composed of

Muriate of soda,	22·8
Alkaline phosphate,	28·2
Earthy phosphates,	42·0
Oxide of iron,	3·0
Silica,	4·0
	100·0

—*Archiv. für Physiol. Heilkunde, and Gazette Médicale*, 25 Avril, 1846.

Further Observations on the Use of the Ergot of Rye. By Thomas Edward Beatty, M.D., Dublin.

At page 536 of this Journal for 1844, will be found the first part of Dr Beatty's observations on the use of this medicine. In the Dublin Quarterly Journal of Medical Science, the subject is continued. The object of the present paper is to prove the beneficial effects of the ergot in cases of uterine hemorrhage after delivery, and for the relief of troublesome after-pains. The mode of administration he recommends is the following:—Infuse a drachm of the powder in four ounces of boiling water, add a little sugar, and administer half of the infusion as a dose, repeating it if necessary. He believes the medicine prevents uterine hemorrhage in two ways; first, by inducing a complete and permanent contraction of the uterine fibres; and, secondly, by diminishing the force and frequency of the heart's action. In all cases where this medicine is given, a full dose has the effect of moderating the action of the heart, and in some of the seven cases detailed, its salutary influence appears very marked. To secure a beneficial action the drug must be employed early. It will not do to wait until the system has been exhausted, and the vital powers reduced to the lowest ebb, for then the action of the ergot may be prejudicial in consequence of its influ-

ence over the central organ of the circulation. It cannot take the place of opium in restoring the balance of the circulation, and renovating the nervous system. If given in proper time, it will prevent the necessity of giving opium, by preventing the flow of the vital fluid, and thus husbanding the strength of the patient.

Dr Beatty believes that the ergot proves beneficial in cases of frightful after-pains, by causing perfect contraction of the fibres of the uterus, and keeping them in this condition, and also by preventing the formation of clots of blood in the interior of the organ, by the presence of which the spasmodic action is excited and kept up.

In the conclusion of the paper, the author records his testimony in favour of the ergot, as a means of arresting severe and protracted menorrhagia, unconnected with organic disease of the uterus. He prescribes it in doses of five grains three times a-day, but greater care must be taken to ascertain the absence of any organic affection, both by the finger and speculum. Patients frequently complain of peculiar cramp-like pains in the hips and thighs after the use of the medicine for two or three days. This is considered a very good indication, as in all the cases where it has occurred the disease has been speedily removed.

The following is one of the cases adduced, illustrative of its advantages in uterine hemorrhage:—Mrs H., pregnant of her eighth child, and whose approaching confinement was contemplated with the deepest anxiety by her friends as well as by herself, owing to the great danger that attended all her former deliveries, from the occurrence of uterine hemorrhage. She was delivered on the 9th of March, after a weak labour of twelve hours duration.

As soon as the head of the infant came to press upon the perinæum, the first dose of the medicine was administered, there being no danger to the child from the relaxed state of the external parts. The pains were evidently increased in strength and frequency, and in twenty minutes after the dose had been taken the child was born; the ergot was then repeated; there was one small gush of blood and no more. The placenta was found in the vagina, and her recovery was rapid.—*Dublin Quarterly Journal of Medical Science*, May 1846.

On the Best Means of Disguising the Taste of Nauseous Medicines. By William Acton, Surgeon.

The best plan of giving solids is by *Wafer Paper*. This, according to Dr Ure, is made in the following manner:—"A certain quantity of fine flour is to be diffused through pure water, and so mixed as to leave no clotty particles. The pap is not allowed to ferment, but must be employed immediately it is mixed. For this purpose a tool is employed, consisting of two plates of iron, which come together like pincers, or a pair of tongs, leaving a small definite space betwixt them. These plates are first slightly heated, greased with butter, filled with the pap, closed, and then exposed to the heat of a charcoal fire. The iron plates being allowed to cool, on opening them the thin cake appears dry, solid, brittle, and about as thick as a playing card." We meet with it in small sheets, of a light colour, breaking easily when dry, but tenacious and moulding itself easily to the substance it covers when wet, increasing but slightly its bulk. When any powder is to be taken, it must be mixed with syrup or other tenacious substance to the consistence of a bolus, and the patient be desired to break off as much of the paper as may be necessary to envelope the substance, dip it (the paper) in water, lay it on a plate or clean surface, and then place the electuary in its centre, fold the corners carefully over it, and swallow it by drinking a little water. Some persons have suggested putting the powder on the paper, and folding it without wetting the powder. By so doing, an explosive mixture might result, much to the disgust of the patient and to the injury of the method. Those who are unable to take pills can manage to swallow these boluses covered with wafer-paper; they slip down the throat easily, as would an oyster, and do not produce that convulsive action of the muscles of the larynx and pharynx which frequently attends the effort of swallowing pills.

The best modern method of giving nauseous liquids is in the form of *Cap-*

sules. Of these there is no end of varieties. An important point is to obtain a capsule of a certain definite size, so that we may know what dose the patient is taking, and which the surgeon is generally enabled to do. Another circumstance to which the manufacturer gives but little attention, is the thickness of the capsule. The chemist should reject all samples that are not an eighth of an inch thick, for otherwise the capsule is liable to burst in the effort of swallowing, or dissolve as soon as it is in the stomach. An improvement has lately been introduced by inclosing copaiba in membranes, thus obviating many of the objections to all gelatine capsules.

The chemist should, in the selection of his capsules, take particular care that no one of them leaks, or the odour of the oil will be rapidly communicated to the others, and our object in giving copaiba in this way frustrated. The patient should be told likewise to take his capsules after meals. By this means the gelatine will not immediately be acted on by the gastric juice, and those unpleasant adjuncts to copaiba, eructations, will not be experienced. Many persons will tell you they are unable to take pills, and feel convinced they will be unable to swallow capsules; recommend such sceptics to take about a dessert spoonful of water in their mouth, and then place the capsule on the tongue, when the whole will be swallowed without difficulty, whereas if the capsule be placed on the tongue and water be drunk, the patient will often swallow the water, but the capsule will remain and produce convulsive action of the pharynx.—*Pharmaceutical Journal for May* 1846.

PRACTICE OF PHYSIC AND PATHOLOGY.

Observations on the Case of the Late Abraham Colles, M.D., formerly Professor of Surgery in the Royal College of Surgeons of Ireland. By William Stokes, M.D., M.R.I.A.

A weakened and dilated heart, chronic bronchitis, and emphysema of the lungs, with congestion of the liver, all occurring under the influence of a gouty constitution, were the affections under which Mr Colles laboured. In the session of 1836, he felt feverishness, with languor and debility, after every lecture, and his medical attendants strongly urged him to resign his chair. He was first seen by Dr Stokes in the spring of 1840. On the previous night he had been seized with severe dyspnœa, which abated towards morning. His symptoms then were, wheezing and laboured respiration, the pulse irregular, unequal, and rapid, some cough and a bronchial rattle. The chest everywhere sounded well on percussion; but the vesicular murmur in the postero-inferior portions of both lungs, but particularly the left, was marked by a dry sibilant rale. Mr Colles soon recovered from this illness, but shortly after was attacked by gout in the ancles, and in one knee. At this time the heart presented the following physical signs. The impulses were feeble, irregular, and rapid, and the organ seemed to impinge against a surface larger than natural; the action of the heart was at times so irregular and rapid, that it was with great difficulty the sounds could be analyzed —the first resembling the second sound, and *vice versa*. At other times the rhythm was more natural, and the sounds could be distinguished. There was no valvular murmur, nor could any unusual pulsation, or other morbid sign, be found in the course of the great vessels.

During an excursion to Switzerland, the health of Mr Colles improved, and his power of ascending an eminence was much augmented. After his return to Dublin he had from time to time attacks of dyspnœa. The liver could now be plainly felt below the margin of the ribs, forming a flat, smooth, and apparently indolent tumour in the hypochondrium, and right portion of the hypogastrium. There was no appearance of jaundice, nor any perceptible alteration in the condition of the heart and lungs. From this period to that of his death, the attacks became more and more frequent, and the intervals less defined. The œdema of

the legs, which was always present, gradually increased, the respiration became more laboured, and the cough and viscid expectoration more troublesome. The irregularity of the heart, and the præcordial distress increased; and when the attack was at its height, orthopnœa, and sensations of weight and distress about the heart, with great diminution of urine, which then always presented a most copious lateritious sediment, were the prominent symptoms; and in each attack the tumefaction of the liver increased with great rapidity, and to a degree that was most singular. On several occasions the edge of the liver was observed to descend to the umbilicus in the course of two days; and this condition as rapidly disappeared as soon as improvement in the other symptoms was established. In the autumn of 1842, Mr Colles had a conviction of his approaching end, and with all the calmness of a true philosopher, and all the zeal of a great physician, he requested that the *post mortem* examination of his body should be made by Dr R. Smith, in the presence of his medical attendants. He wrote the following letter to Professor Harrison.

"*October* 22, 1842.

"MY DEAR ROBERT,—I think it may be of some benefit, not only to my own family, but to society at large, to ascertain by examination the exact seat and nature of my last disease. I am sure you will grant my request, that you will see that this be *carefully* and *early* done. The parts to which I would direct particular attention, are the heart and the lungs, a small hernia immediately above the umbilicus, and the swelling in the right hypochondrium.

"From the similarity of the Rev. P. Roe's case with mine, I suspect that there is some connection between this swelling of the hypochondrium, and the diseased state of the heart. Yours truly, dear Robert, A. COLLES."

Shortly after this, however, his health much improved, and it was not until October 1843, that the symptoms commenced which ushered in death. These were of the same nature as before, viz., dyspnœa, bronchial irritation, irregularity of the pulse, swelling of the liver, and suppression of the urine. The anasarca increased, but the orthopnœa subsided; he expectorated some dark sanious fluid, and finally sunk in the evening of the 1st December 1843.

The *post mortem* examination was carefully made by Dr Smith, and reported to the Pathological Society, December 9, 1843. The principal appearances were as follows:—There was half a pint of dark coloured serum, containing numerous flakes of recently exuded lymph in the cavity of the right pleura. The right lung was solidified from intense congestion, and at its base was expanded into two globular tumours, each about the size of an orange, heavy and dark coloured, though obviously of an emphysematous character. They contained not only air, but a considerable quantity of dark blood. The pleural sac on the left side was obliterated by old adhesions. The left side of chest was contracted. The lung smaller than natural, gorged with blood, splenified, and of a purplish red colour. The heart was larger than natural; its left cavities were collapsed and flaccid, while those of the right side were distended with dark blood, especially the right auricle. It was covered with more fat than usual, and its substance was pale, soft, greasy, and easily ruptured. At the attached margin of one of the aortic valves, there was a small particle of calcareous matter, which, however, in no way interfered with their competency. The sac of the peritoneum contained about a quart of fluid. The liver, though not enlarged, extended much below the margin of the ribs; it was of a dark mahogany colour, externally rough and granular, and on section the dilated veins poured out copious streams of dark blood. The gall-bladder contained 30 moderately sized gall-stones. Upon the right side of the umbilicus there existed traces of a small hernia.

Dr Smith, in his communication to the Pathological Society, stated, that, in his opinion, the pulmonary affection preceded the others. He thought respiration must for some time have been carried on by the right lung. This organ resembled in structure the vesicular lung of the reptile tribe, in which the circulation is languid. Congestion is thus produced which impedes the free entrance of air. The blood in consequence is imperfectly arterialized, venous blood preponderates, and there is an excess of carbon in the system. The heart

is imperfectly nourished, and as a result of the condition of the blood becomes loaded with fat. The changes in the pectoral organs, causing obstruction of the venous blood in the lungs, produce corresponding congestion in the liver. This view is supported by the comparative examination of the fœtal liver, before the lungs are called into action, and by the observations of Dr Houston on the circulating organs in diving animals.

Dr Stokes observes that the following circumstances are met with in cases similar to that of Mr Colles. 1st, A small, weak, and irregular pulse. 2d, Dyspnœa on exertion, with occasional severe attacks of pulmonary distress. 3d, A chronic bronchitis, with occasional exacerbations. 4th, A tumefied state of the liver, without signs of active irritation; this condition of the organ is singularly under the influence of various disturbing causes, and thus, in a few hours, the liver may enlarge so as to descend far into the abdomen, and on the subsidence of the attack, as rapidly return to its former volume. 5th, The function of the kidney is liable to frequent aberrations, and suppression of urine commonly precedes and attends each attack of dyspnœa. 6th, Anasarca is established. It is at first local, but may become general. 7th, The impulse of the heart is diffused, its action feeble, and often so irregular as to render the analysis of its sounds a matter of some difficulty. Intermissions of suffering constantly occur, and then the heart's action is comparatively regular, though hardly ever perfectly so. 8th, Valvular murmurs are rarely observed in this disease. 9th, In some instances the exacerbation seems to commence by a gradual suppression of the secretion of the kidneys, while, in others, this symptom succeeds to an attack of dyspnœa. 10th, The disease is, I believe, in all instances fatal, either by dropsy, coma, or, as in the case before us, by asthenic pneumonia.

He has seen many similar cases, and in four of them, the patients were for a long time under the most careful observation. In all, the heart presented the following conditions. 1st, The organ generally enlarged, but without increase of thickness of the ventricles. 2d, The auricles, particularly the right, greatly distended and hypertrophied. 3d, The valves healthy throughout. 4th, No mark of inflammation of the heart, but its muscular structure somewhat softer than natural. 5th, The liver enlarged, and greatly engorged with blood.

Dr Stokes recommends the following rules of treatment, as being useful in the management of these cases. 1st, To avoid such measures as may depress the powers of life too far, such as bleeding, the continued use of digitalis, &c. 2d, To allow the patient a moderately generous diet, and to permit the use of wine in quantities regulated by the patient's former habits, his actual state, and the effect of the stimulant on his symptoms. 3d, To adopt every moral and physical means best adapted to preserve the general health. 4th, To meet the exacerbations by means calculated to relieve the congestion of the heart, lung, and liver, according as the suffering of each of these organs is more prominent. 5th, The use of cupping, moderate blistering, and, above all, the exhibition of mercury, are the means best calculated to relieve the patient in the exacerbations. Diuretics of the stimulating kind, given after the action of mercury, produce the greatest relief.—Condensed from the *Dublin Quarterly Journal of Medical Science*, May 1846.

The Differential Characters of Measles and Scarlatina—Semiotic Value of the Expectoration in the former.

Two patients, affected with measles, under the care of M. Chomel, gave him an opportunity of drawing attention to the differential characters between this eruption and that of scarlatina; and of pointing out a character, peculiar to measles, by means of which, in case of doubt, the existence of the latter affection may be determined with certainty. The characters of these two eruptions, when well formed and distinct, are so well known that we need not stop to describe them; but it sometimes happens that the rash in scarlatina, instead of exhibiting a distinct uniform redness, presents a punctuated character so similar to that of measles, that, without some degree of attention, they may readily

be confounded. The following are some of the characters, by means of which this confusion may be avoided. The red points of scarlatina are equal, uniform, and symmetrical. Their colour is everywhere the same, as is also the size and form of the small vesicles. In measles, on the other hand, the red points exhibit great diversity in their colour, form, and dimensions. In scarlatina there are very generally observed small miliary papulæ, which are not usually met with in measles; and, in fine, small subcutaneous ecchymotic spots are found in the latter, which are wanting in scarlatina. But these shades of difference, as may readily be supposed, it is not always easy to appreciate, and yet it is of importance to distinguish them, not only as regards the prognosis, but as guiding us in the selection of such prophylactic means, as we may have to prescribe in families, where one or other of these highly contagious diseases is prevalent. There is another character which we are not aware has been described by any author, but to which M. Chomel attaches the very greatest importance in a diagnostic point of view, and that is the appearance of the sputa in those affected with measles. These sputa consist of opaque nummular masses of a greyish colour, floating in a large quantity of fluid; at first sight they have all the appearance of the sputa in the second stage of phthisis; but besides the concomitant circumstances which are sufficient to guard against a mistake as to their nature and origin, the sputa in measles differ from those in phthisis in this, that whilst the fluid in which the opaque matter of the latter floats is clear, in the former it is obscure and lactescent.

This peculiar character of the expectoration, according to M. Chomel, is never absent, and though not mentioned by authors, it is perhaps because they have in general described measles as it occurs in children, and who, as is known, do not expectorate. This character, then, is of great value, in a diagnostic point of view, not only as a means of distinguishing, in doubtful cases, measles from other affections which have a great resemblance to it, but also as a means of diagnosis in those cases where the eruption has become suddenly suppressed, been imperfectly developed, or altogether wanting. It is by no means rare, especially in epidemics, to witness cases in which all the preliminary symptoms of measles may have been present, without any subsequent change manifesting itself in the skin; the slight bronchitis which almost constantly accompanies the eruption, is the only morbid phenomenon which succeeds to these initiatory symptoms. The appearance of the sputa which we have just described, will, in such cases, leave no doubt of the existence of a latent rubeola; such have been described by the ancients under the name of morbillary fever, *morbilli sine morbilis*; they might, however, with more propriety, be designated internal or bronchitic rubeola.

The following case will exhibit the value of this sign:—

A young man was admitted into the Hôtel-Dieu in such a state of stupor and oppression, that a typhoid affection was suspected. He had none of the rosy spots however: and there was neither meteorism, nor tenderness of the abdomen. After a careful examination, an irregular violet-coloured eruption was discovered here and there upon the chest. It did not exhibit any of the appearances of the typhoid eruption, but rather resembled a morbillary eruption, which had reached its latter stage. The true nature of the eruption, however, was doubtful; but all incertitude was speedily removed, by the sputa presenting the characters we have above described. The subsequent course of the disease fully justified the correctness of the diagnosis.—*Gazette Médicale*, 7th March 1846.

Auricular Hemorrhage following Suppression of the Menses.

Such is the title of an interesting observation, that M. Alibert of Castelnaudary has just published in the *Journal de Médecine et de Chirurgie de Toulouse.*

Paule Encely of Saint Amans, aged 45 years, experienced nine years ago a sudden stoppage of the menses, following the application of cold to the feet, or agitation, and perhaps both. The menses have not appeared since that time, but she became deaf, and every month there flowed from the right ear an ounce

and a half of blood. The discharge continued twenty-four or forty-eight hours, and ceased spontaneously. It was announced by certain premonitory symptoms, which custom had taught the woman indicated an approaching flow of blood, consisting of an inconvenient sense of weight in the head, noises, and a sensation as if numerous ants were buzzing in the ear affected. The patient herself observed the regular periodic nature of this discharge, and understood that it was supplied by nature to compensate for the absence of the menses.

At present, this loss of blood no longer retains its menstrual type. It comes back at indeterminate intervals, and differs more or less from the quantity formerly discharged. This irregularity is accompanied by violent cephalalgia, fugitive vertigo, dimness of sight, and, in short, a congestive state of the brain. The general health is otherwise perfect.—*Encyclographie Médicale*, Avril 1846.

Clinical Notes taken in the Parisian Hospitals.

Asthma.—According to M. Cruveilhier, the essential pathological condition of asthma does not consist in pulmonary emphysema, as is generally believed, but rather in spasm of the bronchial vesicles, which renders respiration incomplete. In fact, pulmonary emphysema is often wanting in asthmatics; it does not exist in a patient just now in M. Cruveilhier's ward, and yet the accessions at night are in her, extremely grave; the respiration is sibilant, which, according to that Professor, is dependent on spasmodic contraction of the bronchial vesicles. One of the characters he has observed in asthmatics is a sense of compression in the chest from before backwards. He has more confidence in bleedings than in ammonia in combating this affection.

Digitalis.—M. Andral prefers administering digitalis by the rectum in the form of infusion. Hence he is obliged to prescribe large doses to obtain any effect. In a patient with diseased heart, he is giving this moment two grammes (40 grains) a-day, infused in eight ounces of water as an injection. This mode of absorption, from its uncertainty, cannot be so valuable as that by the stomach.

Variola.—According to M. Chomel, the eruption of variola does not fade away in the order of its appearance. That on the arch of the palate, and on the other mucous membranes, vanishes first, then that on the scrotum, then that on the face, and, lastly, that on the trunk.

Zona.—According to M. Rayer, the acute inflammatory affection, which is called zona, is accompanied by two orders of phenomena; the one nervous, the other inflammatory,—the nervous one, manifested by smarting pains in the situation where the eruption ought to be, but which often precede it for some days, and may be observed to follow the direction of the intercostal nerves. It may happen, however, that these nervous phenomena are only those of inflammation in an occult state.

Uterine Torticolis.—As a consequence of partial metro-peritonitis, the uterus sometimes acquires adhesions which fix its base laterally to the right or the left, and thus give it a strong inclination. Its neck may then be seen twisted to the opposite side in the vagina, in such a manner, that there is a difficulty in discovering the *os tincæ* with the speculum, and, from its vicious inclination, it cannot be embraced by the instrument. This condition, which we have observed several times, we denominate uterine torticolis. If very prominent, it constitutes an obstacle to conception.—*Annales de Thérapeutique*, Fevrier 1846.

Researches on the Neuralgiæ treated by Quinine and its Preparations. By Dr Hermel.

The numerous cases observed by M. Hermel have led him to the following conclusions:—

1. There are essential or idiopathic neuralgias which affect the intermittent or remittent type. These neuralgias are treated with success by quinine and its preparations.

2. There are neuralgias which appear with a febrile action, and either follow rigors or flushings of heat, and which are analogous to one of the stages of in-

termittent fever. These, like the preceding, are also cured by the employment of the antiperiodic specific.

3. There are diseases which present a greater or less number of different affections during their course. Such are gout and scrofula. When one of these sympathetic affections has just disappeared, such, for example, as hemorrhoids, and neuralgia appears, the best, and indeed the only method of curing it, even if it have the intermittent type, is to re-establish the affection by which it was preceded. These neuralgias do not require quinine.

4. The neuralgias with an intermittent type, which are symptomatic of a disease or an affection which does not present this type, quinine and its preparations may be employed, as an accessory, to combat the intermittent nervous pain if it persists.

5. We ought not to count on the modification of the first attacks after the first doses of the medicine, especially in the essential intermittent neuralgias.

6. Intermittent neuralgias, like fevers of a similar type, are liable to return. It is necessary, therefore, to continue the administration of quinine and its preparations, not only after the disappearance of all the symptoms, but during the period of about seven years (*septénaire.*)—*Gazette Médicale*, 28 Fevrier 1846.

On the Minute Structure and Chemical Composition of Tubercular Deposits. By J. Hughes Bennett, M.D.

Dr Bennett observes, that with a view to establishing a correct pathology, our first efforts must be directed to determine what tubercle really is; how it can be accurately separated from the ordinary products of inflammation on the one hand, and from malignant or other morbid growths on the other. To arrive at these points we must inquire into the minute structure and chemical constitution of this substance.

Minute Structure of Tubercle.—If from the tubercular lung of an individual who has died of phthisis pulmonalis, we choose a small mass of tolerably firm consistence, make a thin section, and examine it with a power of 250 diameters linear, we observe the net-work of the lung crowded with a dense granular-looking matter. This is composed of corpuscles and granules. The corpuscles are of an irregular form, more or less angular, varying in their longest diameter from $\frac{1}{75}$ to $\frac{1}{150}$ of a millimetre, composed of a distinct cell wall, containing three or more granules, without any distinct nucleus. There are also numerous granules and molecules, varying in size from a point scarcely measurable, to the $\frac{1}{1000}$ of a millimetre in diameter. Weak acetic acid renders the corpuscles more transparent, without producing any other change, and dissolves many of the granules. Ether and alcohol produce little change; ammonia partially dissolves the corpuscles. They are immediately and completely dissolved in a solution of potash.

Softened tubercle presents a similar structure, and is sometimes wholly composed of granules or molecules. Sometimes the corpuscles of tubercle are larger and rounder than those previously described, approaching in form to those observed in scrofulous pus. The grey semi-transparent tubercle is composed of similar elements, although more transparent and not so much defined. In cretaceous tubercle there are masses of earthy salts of irregular form and size, frequently mingled with crystals of cholesterine.

"If then," says Dr B., "we are asked to determine what is positively tubercle as distinguished from all other morbid products, we must answer, that deposition which is composed of the peculiar corpuscles and granules we have described and figured. From pus corpuscles they are readily distinguished by the action of acetic acid, which in them causes no gramular nucleus to appear. From plastic corpusles they may be separated by their irregular form, smaller size, and the absence of primitive filaments. With the exudation or granular corpuscle they can scarcely ever be confounded, on account of its large size, brownish or blackish colour, and nucleated or granular structure. The cells of cancer are large, transparent, and distinctly nucleated, and consequently easily distinguished from the small, non-nucleated corpuscles of tubercle."

Tubercle is frequently conjoined with more or less pigmentary matter, which is greater in amount as the tubercle is older. It occurs in the form of irregular black masses, which consist of numerous minute molecules aggregated together.

After considerable experience in the examination of sputum, he thinks himself warranted in saying, that a knowledge of its minute structural composition is of little use in a clinical point of view. The diagnosis of phthisis in its various stages, is capable of being so accurately determined by auscultation, that the microscope is in this respect of secondary importance.

Dr Bennett has never seen the corpuscles of tubercle nucleated; he considers them to be undeveloped cells, which are produced slowly, and have no tendency to form perfect organizations, before they break down into a molecular matter. Hence no danger is to be apprehended from the spread of tubercle itself, and if fresh deposits could be prevented, the tendency of this substance to disintegration is highly favourable to its absorption.

The Chemical Composition of Tubercle.—Dr Bennett quotes at length the observations and analyses of Abercrombie, Hecht, Lassaigne, Preuss, Gueterboeck, Simon, Scherer, Felix Boudet, and Wright. He also inserts a note from Dr Glover of Newcastle, giving the results of various analyses of tubercle by him, in its different forms and stages. He concludes the paper with the following summary and observations:—

"In reviewing the different analyses of tubercle which have now been given, we find,—

"1. That tubercle consists of an animal matter, mixed with certain earthy salts.

"2. That the relative proportion of these varies in different specimens of tubercle. That animal matter is most abundant in recent and earthy salts in chronic tubercle.

"3. That the animal matter certainly contains a large amount of albumen. Some chemists have also detected caseine, the existence of which is probable; others gelatine, the presence of which is more doubtful. The statement of Gueterboeck, that it contains a peculiar animal matter, (phymatine), has not been confirmed by other analysts. Fibrin and fat exist in small, but variable proportion, as a constituent of tubercle.

"4. The earthy salts are principally composed of the insoluble phosphate and carbonate of lime, with a small proportion of the soluble salts of soda. The statement of Boudet, that cretaceous concretions are principally formed of the latter, is directly opposed by other chemists, and is quite incompatible with their long persistence in the body.

"5. That very little difference in ultimate composition has yet been detected between recent tubercle and other so-called compounds of protein.

"The two problems which the pathologist wishes the chemist to resolve are, 1. What difference exists between tubercle, lymph, and cancer? 2. Does the blood undergo any change which bears a relation to the production of these deposits? These questions are not yet answered; but there is every reason to hope, now that attention is directed to these subjects, something positive will soon be ascertained. No doubt, there are great difficulties to be surmounted. Organic chemistry is yet in its infancy. Only lately, Reichenbach discovered sulphur in considerable quantity, as a constituent of animal bodies. Even now, the existence of protein, which promised to facilitate our knowledge of organic compounds, has become a subject of dispute. At the last meeting of the Royal Society of this city, (April 6, 1846), Dr G. Wilson showed that the fluoride of calcium, which had hitherto been considered insoluble in water, was, on the contrary, soluble to a considerable extent. He detected it in recent and fossil plants and animals, in the blood, and in milk. If, then, the very basis of organic analysis is thus uncertain; if we are as yet ignorant of the chemical constitution of the animal solids and fluids in a state of health, we need not feel surprise at the little assistance pathology has hitherto received from the chemist. We anticipate, however, from the labours of those who follow the track of Simon, Scherer, and Lehmann, important results at no distant date.

"To arrive at positive conclusions, it becomes a matter of the utmost importance, that the different morbid products should not be confounded with each other. This has been done even by Sherer. Thus, in his analysis of tubercle from the liver, the appearances under the microscope, prove the disease to have been cancer, and not tubercle. Hence, it is incumbent on the chemist, to give with each analysis, an account of the minute structure of the matter operated on. Unless this be done, we must anticipate confusion rather than harmony, from the multiplication of analyses of morbid products."—*Northern Journal of Medicine*, April and May 1846.

SURGERY.

Extraction of a Shoemaker's Awl from the Bladder, by the Bilateral Operation of Lithotomy.

M. Fleury, professor of the preparatory school of Clermont, performed the bilateral operation for the extraction of a vesical calculus, on a man aged 35, 6th September 1845. After having removed some fragments of stone, the operator introduced the index finger of the left hand into the wound, and felt a hard pointed body, the extremity of which appeared to be implanted in the walls of the bladder, on a level with the neck. After some efforts with the forceps, it was seized by its inferior extremity, and extracted. M. Fleury was not a little astonished on recognizing a shoemaker's awl, encrusted with saline matter throughout its whole length, of 9 centimetres.

It was generally believed that the patient had introduced the instrument by the urethra. This, however, he denied, and continued to do so, with such an appearance of good faith, as to inspire some confidence in the following statement:—Eighteen years ago, at the house of a shoemaker in Bourges, his comrades, whilst he slept with his mouth open, touched the base of his throat with an instrument which escaped from them. He experienced at the same instant, on waking, a slight inconvenience; but the sensation not being prolonged, he paid no attention to it.

Seven days after the operation, air escaped both from the wound and from the penis, and it appeared that for some time the patient had observed that his urine frothed like beer, and sometimes produced a noise, resembling that caused by the escape of carbonic acid. On introducing his finger into the rectum, M. Fleury found, about an inch above the anus, a small opening with thin edges. There could be no doubt that a communication existed by this orifice between the rectum and the bladder. A curved sound introduced into it passed readily between the lips of the wound, and the fluid of an enema passed out almost entirely from the same aperture. The patient stated, that in a violent effort at stool, he once passed a small quantity of pus, mixed with fæcal matter.

"It would be very extraordinary," says M. Fleury, "that a piece of metal of this length had traversed the intestinal canal, and pierced the recto-vesical septum without causing any accidents. What became of it during so many years? This problem appears so unaccountable, that it would be more rational to admit that it had penetrated directly into the urinary passages, ulcerated the walls of the bladder, and produced the fistula which at present exists."—*Gazette Médicale.*

Treatment of Hydrocele by Alcoholic Fomentations.

Dr Pleindoux of Nismes relates the following case:—A wine-merchant of Nismes had been affected for a considerable time with a considerable hydrocele on the left side of the scrotum, and for private reasons requested a palliative treatment. A puncture was made on the 11th October 1844, and more than a pint *(demi-litre)* of water drawn off. Nine months after a second puncture,

simply to evacuate the fluid, was made. It then occurred to the patient to envelope the scrotum with a large compress, doubled four times, and steeped in alcohol of 30 degrees. This application, kept in its place by a suspensory bandage, was renewed every evening. The first effect was to produce great contraction of the scrotum. A slight sensation of cold only was experienced, which remained some minutes. These fomentations were continued forty days, and the patient was completely freed from his hydrocele, which has not returned during eighteen months.

Having observed this fact, M. Pleindoux repeated the application on the first occasion which presented itself, and has now done so four times successfully.—*Encyclographie Médicale*, Avril 1846.

On Tibio-Tarsal Amputations.

A tibio-tarsal amputation was performed some years ago on a young soldier, by Dr Baudens. The patient could walk very well for a year afterwards with an ordinary shoe, attached by two metallic splints. He walked considerable distances in this manner without fatigue, ascended and descended stairs easily, danced and leaped with agility. This patient afterwards entered the hospital wards of the Hotel des Invalides, where he has remained several months. His stump became excessively painful; the cicatrix re-opened, and ulcerated in many places. Two abscesses, which formed in the tissue of the cicatrix, were opened a few days ago, by M. Hutin, and it is probable that the subjacent bones were diseased. The patient experiences great suffering, and eagerly demands another amputation near the knee.

This case gives rise to certain questions, of which our readers have a right to demand an account. First we must remark, that the indifference with which civil and military surgeons have received the memoir of M. Baudens, is no proof of the non-value of the operation, for it has been performed by Mr Syme of Edinburgh a dozen times with perfect success. It is true, however, that Mr Syme has generally operated on children, and that he has only published the immediate results of the operation. Now the question is, what are the remote consequences? since in the case of M. Baudens, the cicatrix did not inflame, ulcerate, or re-open, for more than a year after the operation. It becomes the more important to know the actual state of Mr Syme's cases, as it might enable us to decide, whether the bad condition of the cicatrix in the patient now at Les Invalides, depends on a constitutional disease, (as we presume is the case), or on the form of the flaps, or of the stump. We should remember, however, that in the operation of M. Baudens, the head of the malleolus was sawn through after the disarticulation, whilst Mr Syme preserves the malleolus intact. We must say, that until new facts enlighten us on the subject, and notwithstanding the great aversion that the civil and military surgeons of Paris experience in adopting the tibio-tarsal operation, we persist in believing it advantageous in many cases. We amputate at the articulation of the wrist, why then hesitate at the same point in the inferior extremity?—*Annales de Thérapeutique*, Mars 1846.

Hairy Cyst of the Ovary, complicated with a Vesico-Abdominal Urinary Fistula, and with Calculus in the Bladder—Gastrotomy—Cure. By Mons. H. Larrey.

This interesting case, read by M. Larrey to the Academy of Sciences of Paris some time ago, is recently published.

A woman from the environs of d'Evreux, named Rose B., aged 33 years, well formed, married, with three children, observed a few days after her last confinement in 1836, a somewhat painful tumour in the abdomen, below, and a little to the left of the umbilicus. In two months the tumour had acquired the size of a fist; the urine became turbid, from the admixture of fatty matter. During the next five years the swelling gradually increased, and became circumscribed between the umbilicus and pubes. In January 1841 it opened on the surface of the abdomen, and discharged at intervals various kinds of pus,

afterwards a detritus of calcareous matter, and three weeks subsequently a production, consisting of hairs more or less long, which the patient often removed herself, and which appeared like a long mesh, prominent externally, and adherent to the base of the fistulous opening. At the end of four months urine flowed from the opening, whilst the urethra gave passage to pus, hairs, gravel, and even osseous concretions. At length a stone was formed in the bladder, and added a new complication to this grave affection.

At this time she was sent to Paris, and came under M. Larrey's care in the clinical hospital of the Faculty. An attentive examination caused him to diagnose a urinary fistula below the umbilicus, caused by inflammation of a hairy cyst of the left ovary, which had opened itself into the interior of the bladder, and on the surface of the abdomen, the different products of which had doubtless formed the nucleus of a calculus. The unfortunate patient suffered so much at times, and had so much disgust for her infirmity, that she announced the firm resolution of submitting to all the chances of surgery in the hope of cure.

The following operation was decided on. To incise the fistula directly from below, to explore the cyst, and extirpate the fibrous tumour in which the mesh of hairs was implanted; to enlarge the wound with such precautions as not to injure the great vessels on its posterior wall; to penetrate into the bladder, and, after having divided the passage of communication, lastly, to seize the stone, and extract it by the same opening. Such was the operation M. Larrey performed in the presence of several practitioners and students.

The patient bore the operation with much courage. She completely recovered, notwithstanding an attack of confluent small-pox, which made its appearance fifteen days afterwards.—*Mémoires de l'Académie Royal de Médecine.*

On Epithelial Tumours and their Treatment. Clinical Remarks by M. Velpeau.

Within the last few months there have been several cases of *epithelial* or *epidermic* tumours, under the care of M. Velpeau at the Hopital de la Charité. These tumours were formerly ranged under the head of cancer, but from the progress of microscopic observation, they are now considered as a special class, and have been brought under notice as such by M. V. *Epithelial* or *epidermic* tumours, he remarks, exhibit in their structure certain peculiarities which are not found in cancer, and *vice versa*. Eight years ago he attended an officier de santé, who was the subject of an enormous tumour, situate at the angle of the jaw, having so many of the characters of cancer that it was deemed incurable, and its removal unadvisable. M. V. did not coincide in this opinion. After a careful examination of the tumour, he discovered an obscure sense of fluctuation, and opened it. The parietes were hard and lardaceous, and its interior contained a kind of *bouillie*, which, on being submitted to the microscope, was thought, by M. Donné, to contain epidermic cells or scales. M. V. then determined to remove it, which he certainly would not have done had he believed it to be of a cancerous nature. But he went still further; he scraped the maxillary bone, and entertained, for some weeks, the hope of effecting a radical cure; in the course of three or four months, however, the tumour commenced to grow again, and the patient at last sank under the effects of a true cancerous affection.

A few months ago a similar case occurred in his wards. Sulfo-safranic caustic was applied to the tumour, but it re-appeared in the course of a short time. These two cases unfortunately prove that we must receive with caution the indications of the microscope, and must be in no hurry to conclude that *epithelial* or *epidermic* tumours are not subject to relapse. However this may be, and waiting their further elucidation, M. V. continues to destroy them. Six patients have been operated on for this affection within the last few months; in three of them the black caustic was used. Of these three two have died, but it ought to be stated, the fatal termination was in no way induced by the use of the caustic. In the other three cases the knife was had recourse to. In the first

of these the tumour was comprised in an incision of the shape of the letter V, and the edges afterwards united by means of pins. A cure was obtained in the course of a week. The two others were treated differently; in order to have a wound of less extent a curved incision was had recourse to, in place of the former method, and this was the more necessary, as the tumour had its site near the mouth. A kind of twisted suture was used to unite the mucous membrane of the mouth with the skin, and in this way a cure was obtained in the course of twelve or fifteen days.

In conclusion, M. V. conceives that these superficial tumours, cutaneous or mucous, ought to be attacked with as little delay as possible, and that the knife is to be preferred to the caustic for their removal. M. V. protests against all, so called, medical treatment, believing it to be dangerous, both in principle and practice, by affording time for the disease to extend itself.—*Journal de Médecine et de Chirurgie Pratiques*, Jan. 1846.

On the Treatment of Venereal Vegetations. By M. Vidal (de Cassis.)

Every practitioner must have felt the difficulty attending the cure of venereal vegetations. Their obstinacy is sometimes most extraordinary; and even after extirpation by ligature, excision, or cauterisation, they are apt again to recur. These operations, moreover, are, in general, so painful, that many patients object to submit to them. In order to overcome these inconveniencies, M. Vidal has suggested a new mode of treatment by means of which the end in view may be easily attained.

For some time past this surgeon has been in the habit of using, as a topical application, a powder, composed, at first, of equal parts of burnt alum and savine; the proportion of alum is afterwards increased to two-thirds. When the prepuce naturally covers the glans, the powder is maintained in contact with the vegetations, by simply drawing the former forwards. When the reverse is the case, a simple dressing is sufficient. The secretion of the parts generally suffices to fix the powder, but this soon ceases, and the powder is rapidly absorbed. Out of fifteen patients treated in hospital by M. Vidal according to this plan, only one remains. The vegetations in all became speedily dried up, and afterwards decayed; thus they lost their cohesion, so that they could be removed piece-meal, without pain. The powder should be used twice a-day, and it will be found advantageous previous to applying it, to wash the parts with a lotion composed of equal parts of aromatic wine and water.

Without exaggerating the importance of this method of treatment, which, of course, is not applicable to all cases indiscriminately, M. Vidal is of opinion, that as a simple and easy process, unaccompanied with pain, it may, in many cases, be advantageously substituted for the operations now generally in use. Even in those cases where it does not effect a complete cure, yet by causing the decidence of the vegetations, it renders their extirpation more easy, by producing a diminution in their number and size.—*Journal de Médecine et de Chirurgie Pratiques*, Sept. 1845.

Practical Remarks on Panaris, and on the Efficacy of Mercurial Ointment for its Cure. By Dr Martin, Surgeon-in-Chief to the Military Hospital at Colmar.

Under the above title Dr Martin has published, in the *Mémoires de Médecine Militaire*, a paper of the greatest practical interest. In 1833 Dr Martin was sent with his regiment to the frontiers of Spain. The country was very healthy, and the soldiers, mingling with the peasants, and joining them in their agricultural pursuits and gymnastic exercises, soon experienced the salutary influence of the climate, so that during their sojourn there no serious disease prevailed among them. But eruptions, hemorrhoids, erythema, erysipelas, furunculi, anthrax, and more especially *panaris*, were met with in many individuals.

During the spring of 1834, these phlegmons were very common and severe

in their character. Narcotic and emollient applications to the affected parts, general and local bleeding, were had recourse to in many cases without any good effect. The same may be said of incisions. In all the cases the phlegmon terminated in suppuration; the cure was slow and difficult, and generally terminated in a mutilated or stiff finger, and the neighbouring joints became stiff and cramped in their motions.

After disappearing almost entirely for a time, the *panaris*, noway diminished in severity, again became prevalent in the spring of 1835. Dr Martin had recourse to the previous treatment with the same want of success, when his attention was drawn to a paper by M. Serres (d'Alais), on the use of mercurial ointment in panaris. He resolved to give a fair trial to this remedy, and soon became satisfied that it was not only efficacious, but almost a specific in these kinds of inflammatory affections. The first case in which he used it was the following:—

A soldier presented himself at visit on the 15th March with a swelling, of four days' standing, on the palmar surface of the right hand, which had originated without any known cause. The pain experienced in it was intolerable, continuous, and pulsative; the skin was hot, red, and very sensible to pressure. All the symptoms appeared to indicate its termination in suppuration. M. Martin prescribed mercurial frictions, according to the method of M. Serres; the pain soon began to abate, the patient was able to sleep, and the signs of re-action diminished. After six days' use of the frictions, the inflammation had entirely disappeared.

M. Martin, after satisfying himself of the efficacy of this mode of treatment in several similar cases, thought that by using the friction more frequently, and afterwards covering the part with a poultice, he would still more increase the tendency to resolution; he did so accordingly, and found the results more favourable and speedy. In this way he effected a cure in several very aggravated cases. The following summary appended by the author to the end of his paper, will best exhibit the value of this mode of treatment:—

In 1834 M. Martin had fifty-three cases under his care. All the resources of the art, with the exception of mercurial frictions, were tried. Of the fifty-three cases, forty terminated in suppuration, three in gangrene, three in caries of the phalanx, and in seven permanent stiffness of the affected part ensued.

In the following year he had forty-eight cases. Mercurial frictions were employed, and there was a marked difference in the results; twenty-seven cases terminated in resolution, and twenty-one only in suppuration. In none of them was there gangrene, loss of the phalanx, or stiffness of the joints. The period of treatment, moreover, was much shorter.

It may be added that during the two latter months of the year, when M. M. commenced to employ the frictions at shorter intervals, and covering the part with a poultice, the success was much more marked than in the previous months.

The modification of M. Serre's method by M. Martin is the following:—Instead of having recourse to the mercurial inunctions every three quarters of an hour, and with a small quantity of the ointment, as advised by M. Serre, M. Martin recommends them to be made for five minutes at a time, and with the same interval, to be continued for two hours night and morning, and during the interval the affected part to be covered with a poultice.

By the use of these means, to the exclusion of almost all others, M. Martin has obtained this remarkable success. He does not hesitate to say he considers mercurial frictions specific in this painful affection.

Remarks.—The remarks by M. Martin on the efficacy of mercurial frictions in panaris are so precise and conclusive, that we can scarcely add anything to what he has said.

Frictions used in the manner indicated by M. Martin, in cases of circumscribed phlegmon, either at the extremities of the fingers, or some part of the hand, do not appear to us liable to any inconvenience. It is scarcely probable that such frictions, practised for a few days only, can occasion salivation; still there are individuals so sensitive to the action of mercury, that the smallest quantity of

this metal cannot be used without producing an effect on the salivary glands. In order to avoid this inconvenience, it might be desirable to try the plan pursued by M. Lisfranc in the treatment of erysipelas, and have recourse to friction with axunge alone, enveloping the part with it. We do not believe, for our own part, that the resolution of these inflammatory affections of the skin can be truly ascribed to the axunge alone. The effects of these fatty bodies, however, either in the shape of frictions or poultices, are not yet sufficiently understood, to enable us to determine with certainty the mode of action of the mercury, and that of the axunge. It is probable that both one and other contribute to bring about resolution. If this be doubted, the therapeutic action of all ointments may be called in question.

Be this as it may, we beg to call the attention of our brethren to the cases of Dr Martin; they are such, at least, as to authorise a modification of the treatment hitherto generally recommended by authors, in cases of phlegmon of the fingers and hand.—Slightly abridged from *Journal de Médecine et de Chirurgie Pratiques*, Sept. 1845.

MIDWIFERY AND DISEASES OF WOMEN.

On Incision of the Neck of the Uterus in cases where, from Contraction of the Organ, Delivery is difficult. By Dr Laborie.

The author commences his paper by stating, that whilst in many cases the progress of labour appears to proceed naturally, the membranes having ruptured, and the pains succeeding each other regularly, yet the os uteri does not dilate, and labour is indefinitely retarded. The woman being otherwise well formed, it is evident the obstacle to delivery is to be sought for in the cervix, which being rigid, does not yield to the contractions of the body of the uterus itself. In general, simple means, such as bleeding, baths, emollient and narcotic injections, are found sufficient to overcome this state of rigidity. But in a certain number of cases these means are insufficient, the labour is lingering, and the life both of mother and child is in danger. It is in such cases that incision of the neck must be had recourse to, in order to induce dilatation, and this has now been so often performed, as to rank as a legitimate operation.

Three cases occurring in the practice of M. Dubois are detailed by M. Laborie; to one of these we invite the attention of our readers, as the operation was followed by a result not usually met with.

A young well-formed girl was admitted into the Clinical Hospital in the month of June 1844. She had suffered from hemorrhage at various times during the course of her pregnancy. On the 6th the pains of labour commenced, and continued during the whole day. In the evening the membranes burst, the neck was thick and rigid, and the os uteri dilated to the extent of two centimetres.

On the morning of the 7th, a face presentation was recognised. The cervix was still rigid, but dilatation had advanced to the extent of three centimetres. Although the woman was much weakened, M. Dubois still deemed it prudent to allow things to take their course without interference. At half-past one, labour having made no advance, and the patient being much exhausted, incision of the cervix was then determined on. One incision made in the right side produced slight relaxation, but was followed by no other consequence worthy of remark. A second was immediately practised on the left side, but scarcely had it been done, when there ensued a copious hemorrhage of bright red blood. M. Dubois had immediate recourse to the forceps, but could not apply them owing to the rigid state of the cervix; he was equally unsuccessful with the lever. Injections of cold water were then had recourse to, but without effect in stopping the hemorrhage. The woman was now so exhausted that it was necessary

to plug the vagina. The bleeding was thus stopped, but the patient continued in a state of extreme distress, and delirium supervened. Nevertheless the plug was removed in the course of half-an-hour; dilatation had now become sufficient, and labour was terminated by the forceps. All the unfavourable symptoms ceased, and the woman soon recovered.

M. L. remarks that cases of this kind are of rare occurrence, so much so, that M. Dubois had never met with one similar. He conceives that it must have been owing to the placenta being inserted near the mouth of the uterus.

The following rules laid down by M. L. as to the mode of operating are so important, that we give them *verbatim*:—"We have seen," he says, "M. Dubois have recourse sometimes to the knife, sometimes to the scissors, in order to relieve the stricture at the mouth of the uterus. M. Danyau, on the other hand, invariably uses the scissors. Should a preference be given to one or other of these instruments, or may they be used indifferently?

No decided answer can be given to the question, for either of them may be had recourse to, according to circumstances, and according to the spot at which it is necessary to relieve the stricture. As a general rule, however, we should not hesitate to employ the bistoury, provided the cervix be not displaced; and we should choose that form of bistoury employed in removing the anygdalæ. When it is wished to practise an incision, either to the left, or anteriorly, or posteriorly, the index finger of the left hand must be introduced into the vagina, and its palmar surface applied to the spot where it is desired the incision should be made. The bistoury must then be introduced by means of the right hand, its flat surface sliding along the surface of the index of the left, until its point, passing within the cervix, comes to be in contact with the end of the finger. By means of a semicircular motion, the cutting edge of the instrument must then be directed perpendicularly towards the free edge of the orifice; should the latter be tense, the incision will be most readily executed, by giving to the instrument a sawing motion. We recommend all surgeons to limit the incision to the extent of a centimetre, conceiving it preferable to multiply them, should the desired result not be produced. If the incision be made to the right, the right hand must be used as the guide to the instrument.

When the cervix lies far back, it is impossible to use the bistoury for the purpose of relieving its posterior lips; in such a case, recourse must be had to the scissors. The mode of operation is nearly the same; but in order to insure that the incision does not go beyond the extent of a centimetre, a most careful examination must be made by means of the finger. The scissors are also applicable in cases of retroversion, when the anterior hip has to be relieved, as well as for lateral incisions, in those cases in which the cervix lies very much to the right or left. It will be readily conceived, that in all such displacements, the most elevated edge of the orifice would be reached with difficulty by the bistoury, as its point would be in danger of coming in contact with the walls of the uterus, and wounding them. If the use of the scissors be entirely prohibited, a bistoury with a very convex cutting edge must be made use of.

The operator can, in general, immediately ascertain the effects of his incision; the cervix, from being hard and resisting, becomes more pliable. The influence of the operation should be particularly watched during a pain; it will then be found, that the head of the child, pressing strongly on the orifice, advances more perceptibly than before. The dilatation, in a quarter of an hour after the operation, is generally sufficient to permit of the application of the forceps, should it be thought desirable to terminate the labour in that way. But should this not be the case, new incisions must be had recourse to. M. Dubois affirms, that he has never failed in accomplishing his end by following these precepts.

There is one counter-indication to the operation, which we wish particularly to specify, and that is, thickening of the cervix. When the latter has not become thin, the operation, instead of being of advantage, may be the very reverse. In this latter case, hemorrhage is most to be feared; but the incision over such an extended surface may also be the primary cause of laceration so extensive as to prove fatal.

Attachment of the placenta, near the cervix, may, from what we have previously stated, be also held as a circumstance sufficiently serious to forbid the operation."—*Encyclographie Médicale*, April 1846.

On Sanguineous Tumours of the Head, in an Obstetrical and Medico-Legal point of view. By Dr Hüter of Marbourg.

The author reports seven cases of sanguineous tumours of the head in the fœtus, dead for a longer or shorter time before birth. In the greater number, putrefaction had already manifested itself. The extravasation in the three first was situated between the bone and pericranium. In the four others, it was situated external to the pericranium. These last were all cases of breech presentation; in the three former the head presented. In none was the labour sufficiently difficult to have determined the formation of these tumours.

These observations may throw some light on the following questions: 1. To know in the case of a dead infant if it lived at the moment of birth; 2. In what position did it present? For recourse has been had to these tumours in living subjects, to determine the position of the head during birth.

As regards the distinction between a tumour of the head in a dead fœtus, and that developed in one yet living, the author observes as follows. There may be blood in these tumours in the dead as well as in the living fœtus, and with respect to any certain signs capable of determining whether the fœtus lived or not at the moment of birth, there are none in the present state of science. So far as these tumours are concerned, the same may be said of the distinction between a fœtus which has died before or during parturition. The question remains even doubtful as regards children who died after birth.

It is everywhere admitted, that during labour, tumours in the head are not formed in children previously dead. Siebold, Vogel, Busch, and several others have sustained this opinion, which is generally true, but, as we have seen, has its exceptions, which have also been pointed out by Hesselbach, Mende, Siebenhaar, Haller, &c.

Neither can we deduce from the cases of Dr Hüter, that the presence of these tumours is an indication of cephalic presentation. It will be necessary, in order to draw any useful conclusion from such lesions, to know the true origin and mechanism of their formation, and science possesses at present no exact data on these points.—(*Neue Zeitschrift für Geburtshunde*, as quoted in *Gazette Médicale*, Fevrier 14, 1846.)

Presentation of the Right Shoulder, with Protrusion of the Arm—Turning—Inutility and Danger of Mutilations in similar cases. By Professor Paul Dubois.

A woman aged 44 years, who had given birth to twelve living children, all of them having had head presentations, arrived at the period of her thirteenth labour. A midwife who was called in just as the membranes had burst, recognised a wrong position of the infant, and sent for two practitioners, who detected a presentation of the shoulder, made useless efforts at reduction, and at length sent the patient to the Clinical Hospital. On rising up, the woman felt something protruding between the thighs. On admission, M. Dubois found the uterus strongly contracted on the child, and presenting in the region of the umbilicus two unequal prominences, the smallest of which, on the right side, and separated from the other by a depression, corresponded with the child's head. The right arm protruded at the vulva, the palmar surface in front, the thumb directed to the right side of the mother.

What should the practitioners who were first called to this woman have done? and what was to be done at present? were the questions asked by M. Dubois, and answered in the following manner:—

It is to be regretted that there had been no interference when the position was first recognised; for the practitioners afterwards called in increased by their efforts the irritability and contractions of the uterus, and thus augmented the

difficulty. But the right cephalo-iliac position once recognised, what should be done?

The first plan that presented itself, was to remain a spectator of the labour, which might have been accomplished under two circumstances:—1st, If the head were not very large, and strongly bent on the breast of the fœtus, so that both would not present a greater diameter than that of the canal in which it was forcibly engaged. This might happen if the fœtus had been putrid, and thus rendered very flexible. 2d, A spontaneous delivery might have occurred if the head were above the brim, and the shoulder placed under the symphisis of the pubis. The pelvis might thus have been gradually engaged, the nates freed the vulva, and the evolution be thus accomplished. But here examination showed that all the parts were contained in the false pelvis.

The second plan was detruncation. This operation would have become necessary, if the contraction had been carried to such a point that an impossibility of introducing the hand without risking a rupture of the uterus had resulted. In such a case it would be necessary to divide the infant in two, and extract the trunk, and then the head, which would not be difficult if the pelvis were well formed.

M. Dubois did not adopt either of these plans. He preferred turning the fœtus. But he did not attempt to push the head to the brim, as, in order to turn it, a certain space is required for the manœuvre. The turning of the pelvis in this case also presented some difficulty, 1st, From the retraction of the uterus, in consequence of the previous evacuation of the waters, increased by the former attempts at turning; and, 2dly, From the insufficient dilatation of the cervix uteri. This resolution being adopted, the patient was placed on a bed sufficiently elevated, in order that the accoucheur, in giving to his arm the curvature necessary to reach the feet of the infant, was not obliged to stoop himself. M. Dubois placed a ribbon on the arm of the fœtus, in order that during the manœuvre it might not become impacted in the brim, and thus embarrass the passage of the head. He then took a precaution which is too often neglected, and without which the connexion between the neck of the uterus and the vagina is very likely to be broken, namely, to support the fundus of the uterus by an assistant. M. Dubois now proceeded to turn, recollecting that the fœtus forms in the womb a kind of irregular ovoid, the feet directed upwards, leaving a space between the chin of the child, and symphisis of the pubis. In following the internal surface of the uterus, he wished to profit by this space, in a primary effort at arriving at the feet of the infant; but he was arrested at first by the constriction of the orifice of the uterus, which he surmounted by introducing one finger only, then two fingers, then three, and at length the entire hand. Even then M. Dubois could not reach the fundus of the organ, as its contractions were so strong, that, overcome by the pain, he was obliged to withdraw his hand, and it was only on making a second effort that he succeeded in bringing down one foot. But traction on this foot was of no avail, as the ribbon had been applied a little too high on this part. Whilst an assistant held the foot without, M. Dubois raised and pushed up the shoulder, which, elevating the trunk of the fœtus, and causing it to undergo a rotatory movement, soon disengaged the other extremity, and the labour was rapidly terminated.

The infant, as had been foreseen, was dead, and yet M. Dubois had not thought it proper to extirpate the arm which was expelled. He believes that all mutilation, even in a dead fœtus, ought only to be made if it be rational. Now, under the circumstances, it would be evidently useless, and even injurious, for the surgeon might operate on a living infant believing it to be dead, as in a case which has been previously detailed.—*Journal de Med. et de Chir. Prat.* 1846, Janvier.

Case of Superfœtation. By M. Mounier.

Catherine Fournier Lafond, aged 32 years, tall, thin, and well formed; the catamenia have always been irregular. In June 1845, they ceased to appear, and certain disorders she experienced induced her to think herself pregnant.

At the end of August, the menses reappeared on two occasions at an interval of fifteen days, but their continuance was short, and quantity small. She vomited somewhat also at this time. The signs becoming more marked, and the catamenia having ceased permanently, she again returned to her former opinion. In fact, on the 28th of February, pains commenced, which continued all the following day and night. Towards morning, on the 2d of March, they appeared to diminish. The neck of the uterus was greatly dilated, the waters were slowly discharged, and the uterus became very sluggish in its activity. The child presented in a good position. Two grammes of ergot of rye were administered, under the influence of which the pains returned. A few contractions sufficed to produce the birth of a dead child, which was well formed, and had all the appearances of a fœtus at the full time. The placenta was not long in being expelled. About five o'clock in the evening, nine hours after the accouchement, without great pain, or any effort, she experienced the sensation of a body passing through the vagina. She thought that some organs of the abdomen were protruding, and was considerably frightened. The nurse (*sage-femme*) was recalled in haste. On raising the sheets, she found a second fœtus, having all the characters of one from four and a half to five months old, with a cord, a placenta still bloody, membranous envelopes, all perfectly intact and well preserved. Both were of the female sex.

Cases of superfœtation are so surprising that their existence has been denied by the greater number of authors. The supposition is only admissible, according to them, in individuals who have a double uterus. Foderè, however, has not adopted this opinion, and recently practitioners of good faith have cited authentic examples of it. Such are those which Dr Levrat of Lyons communicated to the Academy in 1842, where fœtuses perfectly developed were expelled with two, three, and four months intervening between them. Such also are those recorded by Dr Chervin, relative to negresses in Guadaloupe. One of these gave birth to a black and then a white infant, and another to a black and then a mulatto child, at an interval of some months from each other. The case reported by M. Mounier is singular from the physiological condition observed in the woman. The menses appeared twice in August, giving rise in her mind to a supposition contrary to the truth. The second fecundation must have taken place in the month following this period, that is, during September. The menses then ceased permanently to appear. The two beings enjoying a life in common, grew and were developed separately, and in this manner arrived at the term of parturition for the first. This occurred at the period first calculated, that is, nine months after the first cessation of the catamenia. The term of the second would have also been nine months, had not the labour, and perhaps the effect caused by the administration of the ergot of rye, induced in it conditions which terminated fatally, and caused its expulsion.—*Gazette Medico-Chirurgicale, and Encyclographie Medicale*, Avril 1846.

Case of Placenta remaining Three Months in the Uterus, and its Expulsion by Ergot of Rye.

M. Malagodi reports the following case:—A woman, aged 30 years, was delivered three months ago. There remained since that time a slight uterine hemorrhage, with pains and a sense of weakness. The uterus was a little swollen, resistent, and as if occupied by a foreign body; the orifice was almost completely closed. It was said that the placenta had not been expelled after the last labour, and that the midwife, not having been able to extract it, abandoned it to the expulsive efforts of nature. M. Malagodi saw no other indication than the use of ergot of rye. The first doses caused uterine contractions, and she expelled a fleshy body, compact, of a deep red colour, having the form of the uterine cavity. Her recovery was rapid and complete.—*Il Raccoglitore Medico*, and *Gazette Medico-Chirurgicale*, 24 Janvier 1846.

CASE OF OVARIAN DROPSY, IN WHICH BOTH OVARIES WERE EXCISED, TERMINATING FATALLY ON THE SEVENTIETH DAY, FROM STRANGULATION OF THE INTESTINE. BY DRS J. HUGHES BENNETT AND HANDYSIDE.

The following is an outline of the case, read by Dr Bennett to the Medico-Chirurgical Society, in December last, the discussion on which is reported in the January Number.

Jessy Fleming, aged 20, was admitted into the Royal Infirmary, under Dr Bennett, July 5, 1845, labouring under ovarian dropsy. Eighteen months previously she perceived a tumour in the middle of the hypogastrium. It was then the size of an orange, and moveable, and has since rapidly increased in bulk. The abdomen became distended with fluid, paracentesis was performed, and 40 imperial pints of viscid yellowish coloured fluid were removed. This operation had been repeated six times. On admission there was considerable ascites. The abdomen measured 48½ inches at its largest girth, which was just above the navel. It fluctuated distinctly. Dulness of the liver could not be defined by percussion. The skin of the abdomen was marked by transverse fissures or marks of a purplish colour; it often felt very hot, and as if it were bursting; tongue clean; appetite a little impaired; no thirst or sickness; bowels regular; stools somewhat fluid, but of healthy aspect; urine scanty, thick, high coloured, of acid reaction, containing a yellowish-brown sediment, but unaffected by heat; skin dry, not warmer than usual. She never perspires. Had no cough or pectoral complaints except dyspnœa, which was very severe at night. On auscultation the chest appeared to be healthy. Pulse 88, sharp and small; heart's sounds apparently abrupt, but natural. The catamenia appeared at irregular intervals, sometimes of three weeks, at others five weeks, and when present, were profuse.

Paracentesis was again performed on the 12th. The puncture was healed on the 15th. On palpation, a tumour, with distinct margins, about the size of the adult human head, could be distinctly felt, firmly attached inferiorly within the pelvis, but its upper portion moveable to a considerable extent from side to side. From this time the fluid again gradually accumulated. August 7th, she was again tapped, and the operation was performed once more September 1st; the removal of the fluid always causing her temporary relief. Her general health continued good.

September 5. Dr Handyside performed the operation of ovariotomy by the large abdominal incision. After removing the ovarian tumour on the left side, the right ovary was observed to be the size of a walnut, evidently diseased, and was also extirpated. The patient bore the operation well. The ligature attached to the right broad ligament came away on the 29th day, and that embracing the left on the 36th. For several days she laboured under harassing cough, from slight pneumonia. The discharge was copious, from a small opening in the wound, inferiorly, which, however, with this exception, was completely healed in a few days after the operation. In the afternoon of November 1st, being voracious, she ate an unusual quantity of food, and was immediately seized with griping abdominal pains, and all the symptoms of ileus were gradually developed. On the 4th phlebitis appeared in the left lower extremity, causing great tumefaction of the whole limb. This subsided on the 10th; but the abdominal obstruction could not be overcome, notwithstanding the employment of large injections, the tobacco enema, frictions externally, electro-galvanic currents, &c. She expired November 12th, 70 days after the operation.

A *post-mortem* examination discovered chronic pneumonia in the inferior lobe of both lungs. The intestines were united together, and to the neighbouring organs, by chronic bands of lymph, which covered nearly the whole of the peritoneum. Five feet and a half from the cœcum, the ileum was constricted by a band of lymph, as if a ligature had been tied round it. An abscess had formed between the uterus and rectum, which extended by a narrow sinus upwards to the stomach, and there terminated in a *cul de sac*. The anterior surface of the uterus was firmly adherent to the bladder, and the divided extremities of the Fallopian tube and broad ligament on each side, were united to the walls of the

abscess noticed. There were six ulcers in the mucous membrane of the rectum. The iliac, femoral, and saphena veins were obstructed by a firm coagulum of blood.

The tumours removed at the operation are thus described. The one which involved the left ovary weighed nine pounds and a half. It was of an oval form, and measured thirteen inches in its longest, and nine inches and a half in its shortest diameter. Its envelope was composed of white, dense, and glistening fibrous tissue, having upon its external surface, patches of various sizes, resembling chronic lymph. On its anterior surface might be seen openings, or ulcerations, varying in size. The edges of these ulcerations were smooth and rounded, and of the same thickness as the fibrous envelope. The cut surface, which had been near the ligature, now presented a large opening into the tumour, through which numerous cysts, varying in size from a pea to that of a billiard ball, protruded. The left ovary was about the size of a walnut. It was formed externally of a dense fibrous capsule, and internally of several small cysts. The natural stroma of the organ had entirely disappeared.—*Edinburgh Medical and Surgical Journal*, April 1846.

The circumstances which led to the operation in this case were, 1st, The youth and good constitution of the patient; 2dly, The disease was rendering her life miserable, and she earnestly wished the operation to be performed; 3dly, Death seemed unavoidable at no distant date, as it could not be anticipated that five gallons of fluid could be removed from the abdomen every three weeks, for any length of time, without injury to the vital powers; 4thly, Extirpation of the tumour appeared to be the only rational means of cure.

Again, on looking at the most recent statistics of the operation, published by Dr Atlee (*American Journal of the Med. Sciences*, April 1845), it will be found that abdominal section has been performed for ovarian tumours, real or supposed, 101 times. If there be extracted from this list those cases in which the operation was not completed, and those on the point of death before the operation was begun, ninety remain, in all of which the tumour was excised. Of these sixty-two recovered and twenty-eight died. Thus, whatever may be thought of the correctness of the statistics, the broad fact still remains, that an ovarian tumour has been extracted from living women in sixty-two cases with perfect success. An acquaintance with the structure and mode of development of these growths must convince us that the only other possible mode of cure is by rupture of the cyst, and then only under particular circumstances. This is an occurrence of extreme rarity, and yet, were we to be guided by the opinions of those surgeons who refuse to perform ovariotomy in any case, no other termination is to be expected, and the disease, notwithstanding the facts previously stated, is to be considered as irremediable by art. But every case must stand upon its own merits, and when all the circumstances of the one detailed are taken into consideration, the perfect diagnosis that was established, and the probability of a speedy fatal termination, it must be granted that the operation, if admissible at all, was so in this instance.

(The observations of Dr Handyside on the case will be found at page 55 of this volume.)

Report of a Case of Uterine Tumour, containing Odontoid Ossifications. By M. Pigne.

If the ossifications under consideration be genuine teeth, the case must be one of extra-uterine pregnancy, or one of deformity of twins by intus-susception. We will endeavour to prove that it belongs neither to the first nor yet to the second morbid degenerations, and that it is simply an ossified fibrous tumour. The cases of extra-uterine pregnancy described by authors, those contained in the collection of the Musée Dupuytren, and those which have fallen under our own personal observation, are 84 in number. In 45 of these cases, the fœtus had ceased to live so short a time before dissection, that none of the organs were modified in appearance by death. These 45 instances cannot therefore throw any light on the present preparation, and we must set them aside.

In the 39 others, the embryo or fœtus was 8 times desiccated, 7 times petrified, 4 times surrounded with a hard, solid crust, and 20 times in an advanced state of decomposition. 1. In the 8 cases of the first class the bodies were mummified, but had preserved their shape; the fluids had been taken in by absorption, and the solid parts had become porous and friable. The integument had the colour of parchment, and was perforated with numerous apertures of various size; all were contained in a thick cyst, frequently cartilaginous, and sometimes ossified. 2. In the 7 instances of petrifaction of the fœtal body, it was completely saturated with calcareous salts, but had preserved the external form of the human subject, being also enclosed in thick cysts. 3. The cases of the third class are perhaps the most interesting; of these four cases, the first had sojourned nineteen years in the maternal peritoneum, and was on all sides surrounded by a semi-calcareous and semi-ossified cyst. The full-grown fœtus was in a state of perfect preservation, and had not even lost the natural colour, flexibility, and elasticity of its parts. The brain was changed into a butyraceous mass, identical with fatty matter, and containing that substance first pointed out by Vauquelin, and called by M. Couerbe cérébrote. The same remarkable state of preservation was observed in the case related by Walther, in which the fœtus remained twenty-two years in the abdomen; in the fœtus observed by Camérarius, forty-six years; and in Nebel's case, in which the fœtus had been encysted, fifty-four years. 4. Cases of putrefaction of the fœtus are too well known to make it necessary for us to insist upon the description of their characters.

The tumour which has occasioned this report does not come under any one of the above divisions, and cannot therefore be referred to extra-uterine pregnancy. We cannot consider it with more propriety as one of gemellar intussusception, in which teeth or hair are often found. These tumours are always surrounded with a thick cyst, and contain a quantity of fat, in which are imbedded the teeth or hair. In the same cyst the *hairs are always of the same colour*. Their length may be considerable, and attain two feet, as observed by Blumenbach, or even three feet, as in a preparation of our museum. The teeth contained in such tumours are usually three or four in number, and sometimes more; they are well formed, and usually adhere to the cyst. Portions of bone (maxilla, face, pelvis, limbs) are occasionally detected.

These tumours are not always situated in the abdomen; thus 72 instances have been published, 43 occupying the ovaries, 14 the peritoneum, 7 the testis, 3 the thorax, and 5 being attached to the arch of the colon. Such tumours appear to exist more frequently in the female than in the male subject; thus, of the 72 cases above mentioned, the tumours were found 49 times in girls, and 23 only in boys. This difference cannot be attributed to confusion between gemellar intussusception and extra-uterine pregnancy, for many of these tumours were removed from the bodies of children; 5 were found in children not twelve years old, 6 in girls under two years, 4 in female infants stillborn, and 2 in fœtuses born one month before their time. In these cases it is quite evident that the monstrosity must be attributed to the reception of one child in some part of the body of its twin sister or brother. The teeth observed in such tumours are also always found to belong to first dentition. The portions of bone are arrested in their increase of size, but have continued their ossification; the epiphysary lines have disappeared, and their eburnation is perhaps more complete than that of the adult bone.

How can we account for the formation of such tumours? The reporter is of opinion that the following theory is the most correct:—On examination of a large number of ovaries, one at least in every ten will be found containing Graafian vesicles so closely united together, that the two cavities communicate with each other. Now, one of these vessels cannot well be impregnated without its fellow being so at the same time, and both ovules must grow together united in *one* common envelope. But if the development of one germ progresses with more rapidity than that of the other, the latter will inevitably become incarcerated in the first developed organs of the former—*i. e.*, the heart and the corpora Wolfiana, which preside more particularly over the formation of the ovary,

testis, and colon. In these organs, therefore, will the reception most commonly take place. This was the opinion adopted on the subject by Dupuytren, Osann, and Prochaska; Hufeland refuses to admit it. The case presented to the Society presents none of the characters belonging to the tumours we have described; it is an ossified fibrous tumour of the most common description, and it is a matter of some surprise that any doubt should have ever been entertained as to its real nature.—*Medical Times*, May 1846.

FORENSIC MEDICINE AND HYGIENE.

On the Possibility of Producing after Death certain Characters belonging to Burns made during Life. By M. Champouillon.

The presence of phlyctenæ has, up to the present time, been considered a proof that burns had been produced during life, and their absence or presence is almost the only sign on which medical jurists depend, in forming a conclusion respecting these cases. M. Champouillon, Professor at the Military Hospital of Val-de-Grace, states that this sign is far from possessing the value accorded to it, and that phlyctenæ resembling those on a living body, may be produced on a dead subject under certain conditions. M. Leuret had previously made a similar observation. He had placed near the œdematous legs of a body, a chafing-dish filled with burning charcoal, and there was found an abundant collection of reddish serosity under the epidermis. He afterwards moved the chafing-dish towards several other œdematous parts of the body, and the same phenomenon was everywhere produced. Having repeated the experiment on bodies not œdematous, he found that in them no trace of vesication could be produced.

According to the experiments of M. Champouillon, it is necessary in order to produce true vesicles to place the subject at a proper distance in a focus with continued rays, (*foyer à rayonnement contenu.*) One or more phlyctenæ of variable diameter are thus constantly manifested. If only a focus be employed with transitory rays, the heat of which is not replaced in proportion to the amount dissipated, (as, for example, in a bullet heated to redness, or a metallic vessel filled with hot water,) no appearance of vesication will be produced. A red coloration of the phlyctenæ, as noticed by M. Leuret, is not constant; it was only observed six times in 22 experiments.

In general, the vesicles are not produced instantaneously; the time of their formation appeared to be from two to six hours. M. C. thinks it probable that their production might be hastened by employing a stronger heat. He only operated on the bodies of young subjects, and is therefore ignorant whether individual peculiarities modify their appearances, such as sex and infancy, or old age. He does not believe this, however; for he once operated on the body of a man sixty years of age, and the results were the same.

M. Champouillon observes that he has produced vesicles in this manner, immediately after death, during the continuance of the cadaveric rigidity, and when putrefaction had commenced. He has never remarked that their formation was either retarded or hastened by these different circumstances.

The red circle surrounding the burn, which, according to Dr Christison, is a criterion that it was made during life, was also produced by M. Champouillon in the dead subject conjoined with the vesicles. It has the same appearance as in a living person. The analogy, however, is only superficial, and an incision into the skin will remove all doubts. When produced in the dead, there is a simple injection of the cutaneous capillaries, resembling the vascular arborization of the intestines in drowned persons. In the living, on the other hand, the blood is extravasated in and combined with the tissues; the inflammation is recognised by an opaque homogenous layer, a true organic amalgam. Here there has been vital reaction; there a mechanical flux.

The only sign by which, according to M. Champouillon, we may recognise whether the vesicles are produced before or after death, is the appearance presented by the skin, when the epidermis is raised from them. When produced after death the dermis is of a dull white, its surface is viscid, and there is a complete absence of sanguineous injection. When, on the contrary, they are the result of burns made during life, the dermis present a high degree of inflammatory coloration, which the application of cooling mixtures does not remove. —(*Annales d'Hygiène Publique*, Avreil 1846.)

Remarks on Suicide. By M. Brierre de Boismont.

M. de Boismont is opposed to the idea, now so general, of considering all persons mad who commit suicide. The great error of physicians for the insane, he says, is to see madness everywhere. All the acts of devotion found in the pages of history, according to them, are acts of insanity. The Chevalier d' Assas, thrown down by the Austrian bayonets, would have had his life spared him, on the condition that he would be silent. "A moi d'Auvergne," he cried, and died pierced with wounds. Bisson, on seeing his ship invaded by Greek pirates, ordered his crew to escape, then descending to the powder magazine, he awaited the arrival of his enemies. Seventy pirates were blown into the air with the brave lieutenant. Two masons were suspended on a scaffold which crumbled under their feet. If both remained death was certain. One cried, "My dear wife—my poor children!" "You are married," said the other, "your life is the more useful, pray God for me," and allowed himself to fall. If these men were mad, every notion of our mind becomes confused, and the meaning of language has no value.

Again, a man living at an epoch, when apparitions and visions are regarded as articles of faith, partakes in the error of his age. In vain has he given proofs of genius; in vain is his conduct able, prudent, and reserved. He is mad! A general of an army sees the state lost, the country enslaved, its liberties confiscated, for the profit of a tyrant; the fortune of battle has destroyed all his hopes; his only resource is in flight. In the presence of such a disaster he kills himself. This man is mad!

M. de Boismont protests against such a paradox. He does not deny that many suicides are committed in a state of insanity; but there are some which are performed after mature reflection, because life to them has become insupportable. In many cases of this kind there can be no doubt as to the integrity of the reason in those who have perished voluntarily. Several interesting cases are detailed at length in support of this conclusion.—*Annales d'Hygiène Publique*, Avril 1846.

Assassination by Asphyxia or Suffocation, without External Marks, followed by Submersion.—Can Suffocation be produced by a criminal hand without leaving External Marks? Answered in the Affirmative.

A body was found floating on the surface of the water in the Oise. When drawn to the bank it was recognised to be that of a girl, L., who had lived in concubinage with one named C., since accused of the murder. The body appeared to have been roughly dressed in clothes, in order to be thrown into the river. Other circumstances concurred in pointing out that it was not an accident or a suicide, but a murder, and that the body had afterwards been thrown into the water.

A post-mortem examination determined that the woman had been deprived of life before submersion. How then had she been killed? No trace of violence could be discovered. There were only strong signs of congestion in the brain, lungs, and liver, proofs of rapid death. There were no traces of poison. Three hypotheses were advanced by the medical men of Clermont; submersion, drunkenness, and asphyxia.

Dr Devergie was now called in, who first established that the slight diseases under which the girl L. laboured, could not have caused death. He demon-

strated that nothing warranted the supposition that it was caused by drunkenness, and it was proved that she had not the habit of drink. Death by submersion was not possible, and it was shown that the accused was seen carrying the body to the river. Under these circumstances, M. Devergie stated that a rapid death only could explain the phenomena of congestion noticed in the report of the examination; that these indicated death by asphyxia; that it was impossible to point out the means employed in producing suffocation; but that this kind of death could be produced by a criminal hand without leaving external marks.

The jury, admitting this last interpretation, which supported the other evidence, gave a verdict of guilty.

This is not the only case in which no external mark has been found after strangulation. In fact, a moderate pressure on the neck is sometimes sufficient to intercept the entrance of air into the lungs. The observations reported by Fleischmann, and the experiments he made on himself, show that when pressure is made, more particularly between the hyoid bone and thyroid cartilage, or on the trachea, asphyxia may be complete in a few moments. Thus, as M. Devergie stated, it is not necessary to find manifest traces of violence in order to pronounce that there has been strangulation.—*Gazette Médicale*, 9th May 1846.

Policy of Life Insurance vitiated by concealment of Hernia.—Diagnosis of Hernia.—Medical Evidence.—Medical Ethics.

Midland Circuit, Northampton, Wednesday, March 4, 1846.
Before Mr Justice Coltman and a Special Jury.

[We print the following trial, and observations thereon, notwithstanding the length of the article, on account of the great importance of the facts elicited, and the lesson inculcated on practitioners, with regard to the signing of certificates.]

Ashby and others, Executrix, &c., *v.* Bates.

This was an action against the Argus Insurance Company, upon a policy for the sum of L.500, upon the life of Richard Ashby, farmer at Rugbrook, lately deceased. The first plea alleged that it was untrue that he had not rupture or any disease tending to the shortening of life, concluding with a verification; second plea, fraud.

Mr Whitehurst proceeded to open the case for the defence. The insurance was effected in April 1844, the deceased being then 63 years of age. Before this could be effected, it was required as usual that three papers should be signed—one by himself, one by his usual medical attendant, and one by a friend, not being a relation or interested in the policy, and that he should be subjected himself to an examination by a medical gentleman named by the office. Each of these papers contained questions put by the office as to the general state of health of the party; and as to his being, or having at any time been, the subject of any one of several enumerated maladies, among which was mentioned rupture, or any other disease or affection tending to shorten life. All these answers distinctly denied the existence of rupture then, or at any time previously, or of any other disease or affection tending to shorten life, and was satisfactory to the office, who then named Dr Robertson, physician at Northampton, as the gentleman to examine him, who accordingly did so in the manner described in his evidence, and wrote to the office, describing the party as being, to all appearance, hale, healthy, and robust, with a slight tendency to apoplexy, broad shoulders, and rather a short neck, but nothing particular, and stating that he thought that it was a life they might take. The policy was then granted, at a premium of L.34. The paper signed by the deceased, and dated the 3d of April 1843, contained these words: "I declare that all that is stated or contained herein is true; and I agree that this declaration shall be the basis of the contract." In May 1845, the company were informed that he was dead, and, upon making inquiry, it appeared that he had died of strangulated hernia; and it further resulted that the company deemed it their duty to resist the payment, and defend this action.

Dr A. Robertson called.—Has been between twenty and thirty years a physician in this town, and is physician to the infirmary here. At the request of the office, examined the deceased in the month of April 1843, in the same mode in which he was always used to examine. He described this mode. He began with the head, and proceeded downwards to the heart, lungs, and other viscera, and so on until he came to the lower part of the belly. He then asked them if they had any rupture or any thing unusual in those parts, cautioning them most carefully to conceal nothing from him, and warning them that if they did, it would vitiate the policy. If they answered explicitly, "No," why, then, he proceeded no further. The deceased answered, "No, nothing of the sort." If he had told him about his having been to another medical man to consult him about a swelling, of course he should have examined the nature of it. There might be particular circumstances of complication and difficulty in hernia, but, as a general rule, he should say that it was very easily distinguished from any thing else.

Cross-examined.—Should say that no careful and well-informed medical man could mistake hernia. Varicocele was a swelling of the veins of the spermatic cord. It did not dilate upon coughing. The test of hernia or rupture was by taking hold of the swelling, and making the patient cough, which caused it to protrude. It had a tendency to protrude. When large, it swelled upon coughing. Did not agree with Sir A. Cooper, if he wrote in his treatise on Inguinal Hernia, that "varicocele was more frequently than any other disease mistaken for omental hernia." Hernia, when irreducible, is not always immediately, but might become so at any hour of any day. Any exertion might produce strangulation. Always told a man with irreducible hernia that his life was in perpetual jeopardy. Swelling of the testes could not be mistaken for it. Where a person died after an operation for hernia, its being of long standing would usually be indicated by the adhesion. Knew that he was blind and paralytic before his death. Thought that it was possible, but not likely, that a person might have hernia come on from taking three strong emetics one after the other. Knew that Mr Lawrence had written, that the action of the respiratory organs, as in vomiting or straining downwards, might produce it. Had never met with it from evacuation, upwards or downwards. Hooping-cough might cause it in infants. Did not know about its being common in cavalry regiments, or that riding on horseback was likely to produce it. It was more frequent with sailors, who never rode at all. Mr Mash, the house-surgeon of the infirmary, performed the operation. Any degree of adhesion between the hernia and the sac would indicate that it was of long standing, but there being no adhesion did not show that it was not of long standing.

Dr Charles Kerr.—Has been a physician at Northampton twenty-three years, and thirty in the profession. Mr R. Ashby came to him on the 13th of November 1843, to consult him about a swelling in the lower part of the abdomen. Examined the part with considerable care. The scrotum was very large. Found there was a hernia, and made endeavour to reduce it unsuccessfully, till he thought it imprudent not to desist. Examined him as to his general health, and found it very good. He was full and robust. He told witness that it had been coming on for a considerable time. Told him to come again in a fortnight. Made a second examination on the 9th Dec. 1843. Endeavoured to reduce it (the hernia) and took considerable pains, but it was quite ineffectual. It was what is commonly called an irreducible hernia. Had no doubt that he mentioned to him that it was rupture or hernia. Saw him in December 1844 for quite a different disease—neuralgia. Had no doubt whatever that what he had spoken of was hernia. It was possible that it would be mistaken, as eminent men had mistaken it. Had as perfect a conviction as he ever had in surgical practice that it was a plain case of inguinal hernia. There might be complicated appearances in certain cases. This did not appear to be one of that kind. The swelling was very large, about the size of his two fists, and of a different character to a sac having fluid in it (hydrocele.) If a hydrocele were large it would lose the pear shape, otherwise it would be like the shape of a pear with the thick end uppermost; but hernia would never resemble a pear with the thick end downwards.

Cross-examined.—If the hernia contained omentum, which he thought it did, it might get thinner, if he got thinner, by absorption; otherwise, if irreducible, as he had stated, it must have remained undiminished in size until he died. Did not think it likely that the hernia could have escaped the observation of a medical man who was putting him into a bath. Could not say that before his death he had mentioned it to Mr Helston, who was attending him.

Mr Coulson then gave similar evidence as to the nature and characters of hernia, as distinct from hydrocele, varicocele, swollen testis, and affection of the spermatic cord.

This being the case for the defendants,

Mr Humfrey proceeded to address the jury on behalf of the plaintiffs, suggesting that physicians were not so well acquainted as surgeons with the diagnostics of a disease so peculiarly surgical, and contending that the malady was an enlarged testis, which the deceased had from his birth, and that the rupture of which he died came on a very few days only before his death, from the effects of three very strong emetics which he had taken one after the other, administered by a Mr Smith, to relieve his total blindness, or from straining at that time in the one way or the other. The learned counsel also urged the resemblance in appearance of both hydrocele and varicocele to inguinal hernia, as accounting for Dr Kerr having been mistaken; and then called the following witnesses:—

Mr W. Norton, farmer, knew the late Mr R. Ashby for twenty-four years before his death; certified for him when he effected the insurance. Knew that he had a swollen testis. Never knew of his having a rupture.

Mr Helston is a surgeon, and has been in practice fourteen years. Had attended deceased for many years until within five years ago, when he ceased to attend him for two years. In 1844, gave the certificate for the insurance office. Examined him with reference to the questions put by the insurance company. Discovered an enlargement of the left testis, and a thickening of the spermatic cord. Then examined him in the usual way for hernia, by pressure with the hand, and by making him cough violently. Discovered no swelling or enlargement of the ring, which is partly muscular and partly tendinous. Continued the examination until he was perfectly satisfied that he was not then, nor even had been, the subject of hernia. Witness was concerned for seven or eight medical clubs. Always examined the proposed members of such clubs for hernia. It was an important part of his duty. Irreducible hernia could not have existed, as had been described, in November 1843, and been so reduced as when witness examined him. He generally went about on a donkey with a saddle. He always was about his business daily. Attended him in November 1844. From his complaints then, considered at first that it was an apoplectic tendency. He complained of head symptoms, for which he was cupped and leeched, and witness ordered him the warm bath: the usual antiphlogistic treatment. He suffered from piles at this time. Dr Kerr attended consultations with witness and his partner during the last fortnight before his death. No mention was ever made of hernia by either. He had varicocele, which occasioned the thickening of the spermatic cord. He complained of pain arising from the testis and the spermatic cord about a fortnight before his death. Then examined him, and there was no appearance of hernia. He was incapable of doing anything, and the women of his family attended him, lifted him in and out of bed, and washed and fed him with bread and milk like a child. This was rendered necessary, partly by paralysis and partly by blindness. He consulted Mr Smith of Southam, who prescribed three strong emetics, and also some strychnine, all of which he took. The emetics contained a full dose of tartarized antimony. Straining would be calculated to produce hernia. Had witness supposed that he had hernia, he would not have suffered him to take what was so prescribed.

Cross-examined.—He died from the consequences of the operation for hernia. Had not seen him for nearly a fortnight before his death, in January 1845; did not reduce a rupture which he had (then?) or at any other time. (A letter was then put into his hand, which he said was his hand-writing.) He again

stated that he had never said that the deceased had had hernia. (The letter was then put in and read. It was addressed to Dr Robertson, the first witness, and stated that the deceased had had a slight hernia about four months before he died, which he had reduced.) He had complained of varicocele, which he had reduced by manipulation. What he wrote in the letter was the falsehood, not what he said to-day. He called varicocele an enlargement of the veins of the spermatic cord. In April 1844, saw the suspensory bandage. He had been affected with that ailment from his birth. He had a tendency to apoplexy. He yet thought it right to order warm baths after he had cupped and leeched him, and applied cold lotions to his head. He occasionally suffered from slight rheumatism, for which, before 1841, he invariably attended him. Came into the room perhaps half-an-hour after the operation. Was not present, because he was unwell, and had been confined to his bed for several days. The operation was performed in the night, earlier than 4 o'clock.

Re-examined by *Mr Humfrey*.—The disease under which the deceased had laboured had existed from his birth, and he did not think it at all important when he signed the certificate. The letter read was in answer to a letter from Dr Robertson, which was marked "strictly private," and contained a promise that he might rely that his name would not be given up in any way.

Mr William H. Walker, partner of the last witness, attended the deceased professionally for about a fortnight before his death. Met Dr Kerr there many times, in consultation about Mr Ashby's case. Several times assisted in putting him in the bath. Saw no such swelling as had been described. Thought he must have seen it if there had been such. Was fetched about 4 o'clock the day before the death. He complained of having been sick, and of a sudden violent pain and enlargement of the scrotum, as if something had fallen down. Upon that he examined the part. Asked him if he had ever had an attack of that kind before. He said, "Not to my knowledge," but added, that a fortnight previously he had been taken with a violent pain in his bowels, and that Mr Helston had been sent for, and did something to him, and he soon after became better. He said this particular appearance had happened about an hour previously. He continued very ill, and Mr Mash was sent for from the infirmary, and attempted, with his assistance, to reduce the rupture. It was both omentum and intestines. Saw the operation performed by opening the ring with a knife. The cause of strangulation and pain was removed after the operation. He bore the operation very well indeed. Mr Mash succeeded in returning the whole, but it came down again, though the cause of strangulation was removed. There was no adhesion, and it appeared to witness to be a case of recent date.

Cross-examined.—The deceased told him that the fortnight before Mr Helston had done something which relieved him, but did not mention the word "operate" or "rupture." It was witness's own conclusion at the time that it might have been for rupture. [This witness here produced a letter which he had received from Dr Robertson, and which was similar to the one addressed to Mr Helston, which had happened not to have been brought, and sought information as to the cause of the death. It was marked "private," and gave assurance that the witness might rely that his name would not be given up, or himself brought into any trouble or difficulty. The answer was then called for, produced, and read; and, unlike the answer of the other witness, tallied very accurately with the evidence given by Mr Helston to-day, as well as with that of the present witness.]

Mr James Mash.—Is resident house-surgeon here, and has been so for twenty years. Performed the operation. Found strangulated hernia. Would not have given strong emetics. Mentioned in the presence of Mr Harrison, the clergyman, that it was a very bad case, and that he wished to have some other surgeon sent for. There was old age, an enfeebled constitution, deafness, and partial paralysis. There were slight adhesions at the upper part of the sac. If it had been a case of long standing, there would, he thought, have been some changes, which there were not. It might have been the result of a few hours, of a week, of a month, or more. There was considerable inflammation, which would produce adhesion. From what he saw, when he performed the opera-

tion, and afterwards, there was nothing to induce him to believe that it was as much as fourteen months old. Had several times known persons sent to the hospital by respectable surgeons for hernia where there was no hernia at all. Had seen many cases which puzzled him to know hernia from other diseases affecting that part. Upon returning the omentum and intestine, observed that there was an enlargement of the left testis. Had on one occasion himself returned all the omentum and intestine, and afterwards discovered a hydrocele as big as his fist. Enlargement of the testis sometimes accompanies hydrocele.

Cross-examined.—It perhaps might be his first and natural conclusion, if he saw a hernia as large as his two fists come down suddenly, that there had been a former hernia reduced, which had come down again. Supposing that the man had this affection of the testis from his infancy down to 63, he should not have thought it of consequence. If it (the hernia) had come down a fortnight before and been reduced, it might account for the size. With the stricture which he found there could not have been a hernia as large as two fists reduced by being drawn up, or without recourse to the knife.

Mr William Williams, surgeon.—Cases of hernia may be and have been confounded with hydrocele and varicocele.

Mr Frederick Cox.—Has been a surgeon for nine years, at Welford. Never heard of an irreducible hernia of the size of two fists being spontaneously cured, or reduced without the knife, except under circumstances of great emaciation.

Mr Robert Marriott Freeman.—Hydrocele of the sheath might be mistaken for hernia. Was present at the Birmingham hospital, very recently, when an operation was performed by an eminent surgeon for what was supposed to be hernia in the passage to the scrotum, which turned out to be a watery swelling or hydrocele, with a swollen testis and thickening of the spermatic cord. He had now a case where he had intended to operate six weeks ago for hydrocele, and the patient afterwards came and declined to have the operation performed, as it was all rapidly going away.

Mr Charles Dodd and *Mr Marshall* concurred with the other medical witnesses for the plaintiff, as to the disease of hydrocele having been sometimes mistaken for hernia by surgeons, and there being, not unfrequently, great difficulty in distinguishing.

All these last five gentlemen concurred almost entirely with the other medical witnesses for the plaintiff as to hydrocele and varicocele being sometimes mistaken for hernia; but they one and all denied ever having operated under such mistake, though they admitted that there was considerable difficulty in distinguishing.

This was the case for the plaintiffs.

Mr Humfreys, counsel for the plaintiffs, addressed the jury upon the letters, animadverting upon the use that had been made amongst medical gentlemen of confidential letters, written on request, and under such a pledge as had been stated. He contended, however, that the letters, taken together, told strongly in favour of the claim of his clients. After Mr Justice Coltman had summed up, the jury returned a verdict for the defendants upon the first issue, viz., that the deceased, at the time of effecting the insurance, had hernia; and for the plaintiffs upon the issue of fraud. The verdict is, therefore, for the defendants, and in favour of the office.

Remarks.—We should have felt heartily rejoiced, if any doubtful circumstances, or mitigatory facts, had existed which would have enabled us to place a favourable construction upon the conduct of a leading witness in the above case. It is with regret, however, we find that there is no ground of exculpation for conduct which must, to a certain extent, affect the character of the whole profession.

It would be a long and unprofitable task to endeavour to prove the correctness or incorrectness of the opinion, that Mr Ashby was either not the subject of hernia at the time this witness attested the soundness of his health in April 1844, or was then suffering from a diseased condition of the testicle and spermatic cord, which rendered the existence of a reducible hernia unknown to

himself, and by no means easily recognizable by his medical attendants. But it appears very clear that sufficient evidence was adduced in favour of the plaintiff's side of the argument to have rendered it highly probable that a verdict must and ought to have been given in their favour, had not the most important feature in the evidence been marred by the conduct of the witness who gave the medical certificate required by the Insurance Office. This was to the effect, that in April 1844, he examined Mr Ashby for hernia, and was perfectly satisfied that he was not then, nor ever had been, the subject of that disease. A certificate of this kind must, we apprehend, if coming from a credible source, have gone very far to prove the plaintiff's right to a verdict, for, as the report stands, it does not appear that a single positive fact is adduced in evidence to show that the deceased suffered from hernia previous to the time at which he made his declaration—namely, 3d April 1843. But when the witness declared upon oath, at the moment he held in his hand a letter which he admitted was written by himself, that he had never said the deceased had had hernia, when the letter is found to contain an admission that the deceased had had slight hernia about four months before he died, which he (the witness) had reduced; and when he further admitted that what he wrote in that letter was a *falsehood*, and implied that he had not in reality reduced a hernia, but had performed the incomprehensible operation of reducing a variocele by manipulation, it was not likely that the jury would place any confidence in his testimony.

The whole case, indeed, affords an important lesson to all parties, whether insurers or insured. Good faith and upright dealing are required on both sides, or the agreement is invalid. The facts proved at this trial afford a curious illustration of the state of medical ethics in this country. A physician employed by an Insurance Office procures a letter from a surgeon who had certified to the state of health of the deceased, under a promise, "that he might rely that his name would not be given up *in any way*." The letter was marked "strictly private." At the trial the surgeon makes a statement directly contrary to that which is contained in the confidential letter. The "strictly private" communication is then handed by the insurance physician to his employers; and the name of the writer is not only given up, but the Insurance Company gain a verdict, not by proving their case, but by showing that the testimony of the principal witness on the part of the plaintiffs was unworthy of credit.

Here, then, is a double warning. A medical man should not certify one thing and swear to another; and "strictly private" letters forwarded to the medical officers of Insurance Companies will be dealt with according to law—*i. e.* exposed in court, if they can be made in any way useful towards obtaining a verdict. For our part, we think that in a case like this, an Insurance Company has no right to rely exclusively upon what another, and to them, a strange practitioner perhaps carelessly certifies. It was competent to their own medical officer, with any knowledge of his profession, to determine whether hernia existed or not. The paid officer of the Company, however, is contented with barely asking a question; the probably unpaid medical referee makes a careless examination, or makes a careless return, when the party who suffers in the event of an erroneous report is the insured, who may probably have been ignorant of his real condition. A policy should undoubtedly be vitiated by any material concealment on the part of the insured; but when it is in their power to appoint experienced surgeons and physicians, and *pay for their services*, Insurance Companies have no right to rest a case of disputed policy upon the concealment of a disease the existence of which is so easily determined, or upon the bad faith or carelessness of some unpaid medical referee.—*Medical Gazette*, April 24, 1846.

Diseases of Workmen employed in the Manufacture of Chemical Matches.

The manufacture of chemical matches has of late years proceeded to a great extent, and the workmen engaged in it have been found to be peculiarly liable to certain diseases. In Paris, it has been observed that bronchitis is very frequent among them, and in Germany, that the exposure to the fumes of phos-

phorus causes necrosis of the jaws, often terminating in death. Last February M. Theophile Roussel presented a memoir on this subject to the Academy of Sciences. He found that cough and bronchitis existed with more or less intensity amongst all the workmen, and diseases of the gums and maxillary bones in a certain number. He thinks the vapour of phosphorus acts as an irritant, and not on account of any peculiar property. Many facts induce him to believe that its continued action accelerates the development of tubercles in individuals predisposed.

M. Roussel compares the disease of the maxillary bones, as described by German writers, with his own observations. He brings forward many facts to prove that it is frequently produced in individuals who have never had syphilis, and who are exempt from scrofula; that it is only developed after a long sojourn in the manufactory, at least two years, and only in individuals habitually exposed to the fumes of phosphorus. All the workmen affected whom he has observed, had decayed teeth before the disease commenced, not unfrequently before commencing the manufacture. Many other workmen with sound teeth have preserved them so in the midst of phosphoric vapours, a fact which induces him to believe that carious teeth constitutes a pre-disposing cause of the disease.

Several German physicians have attributed the necrosis of the maxillary bones to the vapours of arsenic, which in certain manufactories are mingled with those of phosphorus. He shows, however, on the other hand, that the effects produced by the vapours of arsenic, have nothing in common with those which are observable in the formation of matches, and on the other, that necrosis of the jaw bones is observed where arsenic has never been employed. M. Roussel appears to attribute the principal action to the vapours of phosphoric acid.

The sanatory measures proposed by M. R. are, 1st, To carry on each operation in a separate locality, which, for the manufacture of chemical matches, would require four distinct buildings; 2d, To establish a proper system of ventilation in the workshops exposed to phosphoric emanations.—*Bulletin des Academies*, Mars 1846.

Instructions for Making Unfermented Bread, with Observations. By A Physician.

There can be no doubt that the proper making of bread is a matter of great importance to the health of the community. The author of the little pamphlet before us has paid particular attention to this subject, and has therein not only given the best rules for making this important article of food, but has added to them some very judicious reflections. We give the following extracts.

"*To make White Bread.*

"Take of Flour, dressed or household . .	3 lbs. avoirdupois.
Bi-carbonate of soda, in powder .	½ oz. Troy.
Hydro-chloric (muriatic) acid (specific gravity 1·17)	fluid drachms.
Water	about 26 fluid ounces.
Salt	⅔ oz. Troy.

To make Brown Bread.

Take of Wheat meal	3 lbs. avoirdupois.
Bi-carbonate of soda, in powder .	4⅓ drachms Troy.
Hydro-chloric (muriatic) acid specific gravity 1·17)	5 fluid drachms and 25 minims, or drops.
Water	about 30 fluid ounces.
Salt	„ ⅔ oz. Troy.

"First, mix the soda and flour as thoroughly as possible, which is best done by shaking the soda from a small sieve over the flour with one hand, and stirring the flour all the while with the other. In general this will answer sufficiently; but the end will be attained more certainly if the mixture be passed afterwards once or twice through the sieve. Next, dissolve the salt in the water, and add the acid to it—taking care to perfect the mixture by stirring them well

together. Then, mix the whole intimately as speedily as possible, using a wooden spoon or spatula for the purpose. The dough thus formed will make two loaves somewhat larger than half-quarterns. They should be put into a quick oven without loss of time. This is most conveniently done in long tins. The oven should be made hotter than for common bread. A portable one, where there is no other, and a common fire, will answer the purpose. About an hour and a half will be required for the baking.

"Common bread, like every thing that has been fermented, ferments easily again, to the great discomfort of many stomachs; and not only so, but as 'a little leaven leavens the whole lump,' it communicates a similar action to all the food in contact with it. Unfermented bread being free from this defect, is beneficial to those who suffer from headache, acidity, flatulence, eructations, a sense of sinking at the pit of the stomach, or pain after meals, and to all who are subject to gout or gravel. It is also useful in many affections of the skin. These remarks apply to both varieties of the bread, but especially to the brown, which is further invaluable to all who are liable to constipation from torpidity of the colon, or large intestines, the common infirmity of the sedentary, and of those who have been accustomed to oatmeal diet in their youth. There are other cases in which the brown is calculated to do much good.

"The general belief is, that bread made with the finest flour is the best, and that whiteness is the proof of its quality; but both these opinions are popular errors. The whiteness may be, and generally is, communicated by alum, to the injury of the consumer; and it is known by men of science, that the bread of unrefined flour will sustain life, while that made with the refined will not. Keep a man on brown bread and water, and he will live and enjoy good health; give him white bread and water only, and he will gradually sicken and die. The meal of which the first is made contains all the ingredients essential to the composition or nourishment of the various structures composing our bodies. Some of these ingredients are removed by the miller in his efforts to please the public, so that fine flour, instead of being better than the meal, is the least nourishing; and, to make the case worse, it is also the most difficult of digestion. The loss is therefore, in all respects, a waste; and it seems desirable that the admirers of white bread (but especially the poor) should be made acquainted with these truths, and brought to inquire whether they do not purchase at too dear a rate the privilege of indulging in the use of it. The unwise preference given so universally to white bread, led to the pernicious practice of mixing alum with the flour, and this again to all sorts of adulterations and impositions; for it enabled bakers, who were so disposed, by adding more and more alum, to make bread made from the flour of an inferior grain, look like the best or the most costly, and to dispose of it accordingly; at once defrauding the purchaser, and tampering with his health. It is one of the advantages of the effervescing process, that it would put an end to all such practices, as its materials and alum are incompatible.

"Among the matters removed by the miller are the larger portion of the saline substances, which are indispensable to the growth of the bones and teeth, and are required, although in a less degree, for their daily repair. Brown bread should therefore be given to nurses, and to the young or the growing, and should be preferred by all, of whatever age, whose bones show a tendency to *bend*, or who have weak teeth.

"It is believed that brown bread will generally be found the best by all persons who have sluggish bowels, and stomachs equal to the digestion of the bran. But with some it will disagree, for the bran is too exciting to irritable bowels, and is dissolved with difficulty in some stomachs. When this happens, the bran should be removed, either wholly or in part; and by such means the bread may be adapted, with the greatest ease, to all habits and all constitutions. With this proviso (except, perhaps, in some cases of calculus) the least refined, or rather the more natural, will be preferred by all who have an enlightened regard to health and economy."

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 233 of March Number.)

SESSION XXV.

SIXTH MEETING— *Wednesday, 4th March* 1846.—DR GAIRDNER, P., in the Chair.

ON THE SICKNESS EXISTING AMONG THE EDINBURGH POLICE. By DR TAIT.—Dr Tait read a report of the sickness amongst the Edinburgh police, as compared with that of the yearly benefit societies for 1846. He stated that the number of men employed was 304, amongst whom there had been 755 cases of sickness, being at the ratio of 248·49 per cent per annum.

Taking the night, day, and supernumerary force respectively, the rate of sickness in the former was 260·95 per cent, in the latter 525·77, and in the day force only 170·26 per cent per annum. Locality also seemed to have considerable influence on the health of the men. In one district, for example, the ratio of sickness was 168·75 per cent, whilst in another it was as high as 393·33. There was also a difference in the ratio of sickness amongst the men residing in the Section House in Chapel's Court, Canongate, and those residing elsewhere, amounting to 145·76, the sickness in the former being at the ratio of 351·35 per cent. and that of the latter at 205·59. As compared with other classes of society, the police were by far the most subject to disease. The average sickness for each member belonging to yearly benefit societies during the past year was six days; in the police it was ten days. The per centage of sickness in the same societies was 21, and in the police it was 241, omitting the fractions. The sickness of the police was ten times greater than that of the infantry which has for nine years occupied Edinburgh Castle.

AN APPARATUS FOR ARRESTING HEMORRHAGE AFTER THE EXTRACTION OF A TOOTH. By DR ROBERTS. [Communicated by DR PEDDIE.] This communication appeared in our last Number.

SEVENTH MEETING— *Wednesday 1st April.*—DR GAIRDNER, P., in the Chair.

CASE OF MONOMANIA CURED BY THE APPLICATION OF THE TREPHINE. By DR CHARLES L. ROBERTSON. [Communicated by DR J. A. ROBERTSON.]—The case was that of a sailor, who, ten years ago, from a fall from the mast, had a portion of the right parietal bone depressed. This was followed by an attack of acute mania, which lasted four weeks. From that time his moral affections became altered; he was ungovernable and violent; and latterly imagined that the pains he felt were caused by his mother. His disease, therefore, ran the ordinary course of monomania. The treatment commenced in February 1845. In January 1846 the depressed portion of bone was removed by the trephine. From that date his conduct improved, his moral affections were restored to their habitual state, the delusion left him, and on the 20th of March he was discharged cured.

CASE OF AN INFANT POISONED BY LAUDANUM—APPLICATION OF ELECTRO-GALVANIC SHOCKS—RECOVERY. By DR MARTIN BARRY.—The case was that of an infant nine months old, whose mother had given it laudanum, "to put it to sleep," while she went out. The laudanum was part of a pennyworth bought for this purpose at a neighbouring shop.

The case was first under the care of Mr Colahan, a pupil at the Edinburgh Maternity Hospital, who however was not called in, until seven hours after the

laudanum had been swallowed, and even then he was kept in ignorance of the fact, that the poison had been given two hours later. The infant presented the usual symptoms of poisoning with opium, and emetics of *Antim. Tart.* and *Ipecac.* were given. Vomiting was produced and kept up by warm water, but of course, after so long an interval, not with the expectation of bringing back any of the laudanum. The infant at length sank into a state, from which it seemed impossible to rouse it, and was then brought to the Maternity. The breathing of the child was very noisy, and the pupils were contracted to almost obliteration. Dr Barry applied electro-galvanism, using for this purpose the apparatus made by Abraham and Danser of Manchester. At first the mixture in the trough contained 1–32d part of strong sulphuric acid, the quantity of which was afterwards increased to 1–16th, and the pointer in the index was gradually brought round to the very strongest power. The wires were applied in turn to every part of the body, and the child was roused by their application, and kept awake, or at least kept moving an arm or a leg, so long as they continued in contact with it. When the wires were removed, even for a few seconds only, it sank sound asleep, the respiration continuing unchanged. At the end of about three hours, a little more susceptible, and perhaps somewhat more energetic in the movement of its limbs, but with this exception, the infant exhibited nothing like a satisfactory revival, until the tremendous current had been made to pass through its body for 4¾ hours. Then, however, it really did revive, the respiration becoming more quiet, and the pupils undergoing some dilatation. From this time it recovered, required no further treatment, and in a few days was quite well.

In order to arrive at something like an estimate of the quantity of laudanum swallowed, Dr Barry caused a pennyworth to be bought at the same shop. This was measured, and the quantity, ℥iss., compared with what was found remaining of the other pennyworth above referred to, allowance being made for about the same quantity of water said to have been added. Say therefore, laudanum ℥iss.+water, ℥iss.=℥iij, of which a tea-spoonful is said to have been swallowed. There was found remaining less than two tea-spoonfuls, the same spoon being used as that with which the child had been dosed. Thus ℥j. of the mixture had disappeared, half of which was laudanum, or say a few minims less than ℥ss., say 25 minims.

Dr Christison remarked, that if the infant had really taken 25 minims, it was very surprising that it had recovered. He recommended Dr Barry to ascertain whether the laudanum was of the average strength, as from numerous experiments he had made, he had found the quantity of opium to vary greatly in various specimens of the tincture.

The Secretary has since obtained the following additional particulars from Dr Barry:—The laudanum given to the infant was procured at Anderson's, druggist, No. 147, Canongate. That about ℥ss. was the quantity swallowed is rendered additionally probable by the fact, that at this shop the quantity always sold as a pennyworth, is stated to be ℥iss., it being in every instance *measured.* At this shop they keep laudanum of only one quality, and never have two kinds. They have made no addition to their stock of laudanum for four months. A specimen which Dr Christison had the kindness to examine, procured on the 2d April 1846, was taken from that stock, the same which supplied the pennyworth, some of which was swallowed by the infant two months before. Dr Christison found that it contained a due portion of opium. Dr Barry also caused four separate pennyworths of laudanum to be procured at the same shop, at different times, and by different messengers, and in each instance the quantity received was ℥iss., or rather more, leaving no doubt of its having been measured. Some of the laudanum thus obtained Dr Christison has also been so obliging as to examine, and he found it to be quite identical with the other. The woman who held the cup out of which the infant was dosed by its mother, declares that the teaspoon was quite full—that none of the mixture was left on the spoon—and that none of it was rejected by the child.

On a new Hearing Tube. By Dr Gairdner.—Dr Gairdner laid before the Society a hearing tube, said to be of French invention, and to have been of great service to Miss Martineau the authoress, and many others labouring under deafness. It consists of a small parabolic conoid of metal, having an outer rim of a different and more open curvature attached to it. The mouth of the conoidal portion is partially obstructed by a thin plate, in which a number of slits are cut in a radiated manner, for the transmission of sonorous vibrations. This tube partially conceals the really efficient part within, which is the tube for conveying the sound to the ear. This tube is near to the focus, and has its open mouth directed towards the apex of the conoid, but soon begins to be curved, so as to be conducted out of the conoid, and from thence is prolonged, and gradually tapers, its extremity being bent for introduction into the ear.

On considering this invention, it seemed to Dr Gairdner obvious, that the parabolic part, and the tube for conveying the concentrated impulses of sound, were the really efficient parts of it; that the perforated plate, which was probably meant to conceal the interior, must intercept in some degree the sonorous vibrations; that the rim is at best useless, and probably may increase the ringing sound, which is the defect of such instruments, and that the parabolic part is only an approximation to the truly parabolic form. Dr Gairdner therefore directed Mr Richardson, North Bridge, to construct an instrument free from these defects. He supplied him with a parabolic section, constructed by the common method, a little deeper than that of the other instrument. From this Mr Richardson has with great accuracy constructed a block, upon which he can form any number of hollow conoids. The parts which have been described as superfluous or objectionable in the other instrument were avoided. A variety of experiments have been tried with different portions of the tube, and with different dimensions, to determine the parabolic focus. Some of them also have been tried with a thin piece of kid leather attached over the focal end of the tube. These different experiments have been left to the decision of a person subject to the infirmity of deafness, and the instrument now submitted to the Society was the result. Dr Gairdner believed it would be found materially to aid the deaf. To those who hear there is an obvious increase of sound, though not always of distinctness.

Dothinenteritis in Edinburgh.—Dr Christison begged to inquire, whether any member of the Society engaged in the treatment of fever throughout the city had lately met with any instances of the dothinenteritis, or typhoid affection of French authors. A characteristic case of this kind having just occurred under his care in the Royal Infirmary, he thought it desirable to ascertain whether this form of fever, generally very rare in Edinburgh, had presented itself in any other instances. He observed that the disease was not uncommon in this city during the autumn of 1829, at which period a bad form of dysentery was also unusually frequent in Edinburgh, but that since then he had not himself met with a single case of it until the present occasion. A few stray cases, however, had occurred to other physicians of the hospital, and most of these, as he understood, had been observed in the instance of persons not natives of Edinburgh, or its immediate neighbourhood. The same circumstance was remarked in the present case, the patient having been a German boy of sixteen, who had only been a few months out of his native country. During the progress of the case, Dr Christison took occasion to draw the attention of the clinical students to its features, as being on the whole those of inflammation of the muciparous glands of Peyer and Brunner, the dothinenteritis of M. Britonneau, the typhoid fever of M. Louis. He refrained from pronouncing it to be positively that disease, because symptoms precisely the same are sometimes presented by the ordinary typhus of Edinburgh, and because the measly eruption, which is considered by French authors to be an almost invariable character, could not be detected at any period, though the boy was carefully examined in the hospital so early as the fifth day. He died on the twenty-fifth day. On dissection, many yellowish-white fungus-like excrescences, of the size of a small pea, were seen on the mucous membrane of the bowels, over two feet of

the ileum, and also several large oval patches, presenting the characters described by French authors, of the disease affecting the aggregated glands, both in its earliest stage, and onwards to superficial softening of the elevated masses. In the cæcum and ascending colon, several small round ulcers were also found. Many of the mesenteric glands were enlarged, but to no great extent.

Dr Bennett confirmed Dr Christison's statement as to the great rarity of such appearances in Edinburgh. During the three years he had superintended the inspections after death, as pathologist to the Infirmary, the present is only the second case of dothinenteritis he had witnessed.

PELLICULAR INFLAMMATION OF THE INTESTINAL MUCOUS MEMBRANE.—Professor Simpson stated, that the observations which he had lately made convinced him that this disease was not rare, as was generally believed, but on the other hand, that it was often to be met with in practice. The characteristic symptom was the passing of shreds or membrane formed, as shown by the microscope, of plastic or coagulable lymph. Dr Simpson had also found, in a number of cases, debility, great marasmus, palpitation, mental depression, and irritability, and in fact, all the symptoms usually seen in cases where blood is long and slowly escaping from the system. Dr S. traced the symptoms not so much to the actual loss of blood, as to the circumstance, that its formation was prevented by the intestinal extremities of the lacteals being morbidly interfered with by the mucus pelliqular inflammation of the bowel. He had treated the disease on the same general principles as are employed in a chronic cutaneous eruption, and had found counter-irritation of much use.

EIGHTH MEETING.— *Wednesday, 6th May* 1846.—DR GAIRDNER, P., in the Chair.

ON THE NON-MERCURIAL TREATMENT OF SYPHILIS. By DR SCOTT.—Dr Scott made some observations on the importance which attaches to the history of Syphilis. No subject could be more full of interest, or prove more clearly the necessity of strict investigation into what are considered the most established doctrines in medicine. Thirty years since there was no doctrine in the profession which was considered to be so well founded as the treatment of syphilis by mercury. In England none presumed to differ from the opinion of John Hunter, that the disease was incurable without mercury, and not only that the medicine was required to remove the disease itself, but that to cure the disposition to it, and to secure the constitution from its ravages, an extended course of mercury was required. Sir Benjamin Brodie still retains this opinion; and Dr S. observed that he would not have probably called the attention of the Society to this subject, had he not observed in the lately published Essays by Sir Benjamin some remarks, which, from so high an authority, appeared calculated to lead to what appeared to him an injurious line of practice. Every now and then a dissenting voice had been raised against the mercurial doctrine, but the profession in general adhered to the opinion of John Hunter.

Heberden considered it as one of the four specifics discovered in medicine. Allusion was made to the remarkable paper of Dr Fergusson in the Med. Chir. Trans. of 1813, and the observations made by him on the disease, as it appeared in Portugal, and the opinion of the German physicians.

Sir Benjamin Brodie, in mentioning the work of Mr Abernethy on Pseudo Syphilis, considers that the illogical conclusions and extraordinary assumptions contained in it have much diminished the value of this part of his writings. This work of Mr Abernethy, Dr S. considered a most useful one, as having led the way to the investigation from which such important results have been derived. Dr S. then related his personal experience. In 1813 he was placed for a short time in Colombo, in charge of the venereal wards, in which the cases were all treated with mercury. Many of them he found were well in a few days, others in five or six, others in three weeks, periods too short to warrant the conclusion that they were venereal; they were therefore set down as cases of pseudo-syphilis. The number of these cases increased with the field of experience, and in a few years the use of mercury was gradually resigned in almost

every case of local disease. The secondary symptoms were few and slight, and never required an extended course of mercury. The same plan of treatment was also adopted with them, and in a few years Dr Scott, then garrison surgeon at Point de Galle, entirely abandoned the use of mercury. The inference which he drew, however, was, not that the venereal disease was curable without mercury, but that the real disease did not exist in Ceylon. Dr S. then described the miserable victims who were constantly found in military hospitals at that time, affected by extensive ulcerations, nodes, &c., who furnished a considerable number of the invalided and many deaths. Since mercury was abandoned, such cases have disappeared from the hospitals. In 1818 and 1819, Dr Scott became acquainted with the results of the investigation which had been carried on in England, and since that time had entirely abandoned the use of mercury as a specific. He had found many cases in which it was required as an alterative. After some remarks on laryngeal ulceration, diseases of the bones, &c., which are still met with in practice, Dr S. stated that he considered every case of local disease to be curable without mercury, and that under such treatment the secondary symptoms, when they did occur, were slight and easily managed. In fact, the disease ran a certain course, modified by peculiarities of constitution, and required only the treatment adapted to such modifications. Dr S. drew a contrast between two cases of secondary symptoms which had been under his care at the same time, of young men of the same age, and of irritable and unhealthy constitutions. Both were severe cases, but in one the patient recovered in two months, while the other, after many narrow escapes, could only be pronounced cured after the lapse of a year from the first attack.

Dr Maclagan expressed his satisfaction that Dr Scott coincided in the views Dr M. had long entertained on this subject. His confidence in mercury as a specific in syphilis had been first shaken when, after he was a graduate in medicine, he attended for some months the Lock Hospital in London, under Mr John Pearson. There, every variety of form in the disease presented itself, but in very many cases seemed to be aggravated, rather than benefited, by the mercurial treatment; and though Mr Pearson, in his lectures, and in his conversations with his more advanced pupils, still advocated the necessity for mercury in the cure of syphilis, he often expressed his doubts whether in many constitutions the use of mercury had not been more injurious than beneficial. While afterwards serving with the army in the Peninsula, and in charge of a Portuguese brigade, he had also been much struck with the apparent success which attended the treatment of the primary forms of the disease in the Portuguese soldier, by topical remedies alone, or merely with the additional use of Lisbon diet and drinks, and sometimes without either. He saw none of those cases of secondary symptoms in an aggravated form, to which his late lamented friend, Dr William Fergusson, has alluded in his paper in the Transactions of the Medico-Chirurgical Society of London, but Dr M. was then disposed to attribute the success of the non-mercurial treatment among the Portuguese to some peculiarity in the climate, and in the constitution and habits of the natives, which he afterwards had occasion to remark in a very different disease, Traumatic Tetanus, which, with few exceptions, assumed a less fatal form among the Portuguese wounded than among the British. On his return to Edinburgh, after the peace, Dr M.'s attention had again been directed to the subject by the opinions long expressed by his early teacher Professor Thomson, and by the opportunities of seeing the practice in the Depôt Hospital in Edinburgh Castle, under Dr Thomson's charge, as well as in that, and in Regimental Hospitals, under Dr Hennen, Mr Johnston, and Dr Bartlett of the 88th regiment, the latter of whom published an excellent Thesis at his graduation on the non-mercurial treatment. This treatment had also been adopted in the practice of Staff-Surgeon Guthrie, and in that of Mr Rose of the Coldstream Guards, and since very generally and successfully throughout the army. Since 1818 Dr M., with a very few exceptions where the patients' scruples afford full explanation, demanded its modified use, has adhered to the non-mercurial plan of treatment both in dispensary and in private treatment, and in no one instance has had reason to regret it. Many who were then so treated are his patients still,

fathers of families enjoying, as well as their offspring, excellent health, and without the occurrence in the period that has elapsed of any secondary symptom of an aggravated form. On the other hand, he has seen too many cases where the use of mercury to its full extent has been productive of constitutional injury of the most serious character.

DR D. MACLAGAN alluded to the success which attended the practice of Dr Fricke in Hamburgh, and Professor Krukenberg in Halle, in corroboration of the benefits of the non-mercurial system of treatment.

DR BENNETT stated, that the last account of Dr Fricke's practice, with which he was acquainted, is to be found in Sir Alexander Crichton's Commentaries on Medicine. This treatment had been tried on a large scale in the various garrisons of France, Germany, and Sweden, and reports have been given to the various governments, amounting altogether to upwards of 80,000 cases, the general results of which were quite in accordance with the experience of Dr Scott. He thought that one of the best evidences of the non-mercurial treatment existed in the fact, that those dreadful secondary and tertiary cases which were formerly so common, are now seldom met with, and that pathological specimens of syphilitic bones, although common in museums, are at present scarcely to be obtained.

DR R. MACKENZIE was of opinion that the observations which had been made were directed rather against the abuse than the use of mercury. As surgeon to the Lock-Hospital of Edinburgh, he had seen many cases where the sores, however obstinate, had at once improved in character as soon as the constitution was affected with the drug. He alluded to two cases especially, in which this was observed, where mercury was given for iritis, but in which obstinate chancres on the genitals also began to heal as soon as the medicine produced its physiological effects.

DR A. D. CAMPBELL stated that mercury was also necessary in the syphilitic eruptions of children.

INSPECTION OF THE MEATUS AUDITORIUS EXTERNUS AND MEMBRANA TYMPANI; AN IMPORTANT AID IN THE DIAGNOSIS OF HEAD AFFECTIONS. By ADAM WARDEN, M.D. (This communication is published in our present number.)

NOTES OF SURGICAL PRACTICE AMONGST THE CHINESE. By DR PARKER of Canton. (This communication is also given in the present number.)

The following Memoirs were presented to the Society by M. Hipp. Larrey, Professeur de Pathologie Chirurgicale au Val-de-Grâce:—

"Mémoire sur les Plaies Pénétrentes de l'Abdomen compliqués d'issue de l'Epiploon."

"Sur un kyste pileux de l'ovaire qui s'est ouvert à la fois dans l'intérieur de la vessie, et à l'intérieur de l'abdomen." (An analysis of the case will be found in the Periscope of this number.)

M. LARREY was proposed as an extraordinary member by Sir George Ballingall.

VARIETIES.

STATISTICS OF THE PARISIAN HOSPITALS.—The sum total of patients under treatment in the hospitals of Paris, has varied in the twelve months of 1845, between 11,261 (the minimum in November,) and 12,576 (the maximum in March. The sum total of patients, or of the infirm in the different poor houses, *(hospices)* has varied between 11,417 as in August, and 11,643 as in December. The diseased and infirm constantly treated in these different establishments, therefore, amounted to from 22,000 to 23,000. There have entered in the year 1845, 88,814 patients, and there have been discharged 79,402. The number of

deaths have been 9,666, of which 6,875 died in the hospitals, and 2,791 in the poor houses. The greatest mortality in the hospitals was during the quarter beginning with January (1,958); the least, during the quarter beginning with July (1,516.)—*(Gazette Medico-Chirurgicale*, 11 Avril 1846.)

Cholera in Persia.—The cholera continues to ravage several provinces in Persia. It was introduced by the caravans of Steret into Khorasan, and from thence has spread into the interior, and into the marshy country of Massendheran and Ghilon, where it has committed great ravages. At Mesched, one-third of the inhabitants has been swept away; at Teheran and Ispahan, the populations of entire districts have disappeared.—*(Gazette Medico-Chirurgicale*, 18 Avril 1846.

Dr Thibert's Models.—It was a French physician, Guillaume Desnoues, who, in 1701, first formed the idea of re-producing with wax the forms and colour of the parts displayed by the anatomist. His invention was approved and encouraged by the Royal Academy of Sciences. We have also to thank another French physician, M. Felix Thibert, for having obtained perfection in this art by means of a material, and a process of painting, more certain than any previously employed. The Academies of Sciences and of Medicine, the Society for the Encouragement of National Industry, have highly approved of it, and the Institute awarded to the inventor one of the Montyon prizes. Most of the anatomical museums of France and of Europe possess at present specimens executed by this new process, the principal advantage of which, independent of the perfect imitation, is its power of producing rapidly primitive models. The academical reports have sufficiently made known, to the medical public, the characters and advantages of M. Thibert's invention. With regard to ourselves, we cannot better testify our satisfaction, or rather admiration, than begging our readers to visit the vast pathological collection M. Thibert has formed, No. 1, Rue Caumartin. It is composed of more than 1,100 specimens, referring to diseases of the organs of respiration, lesions of the circulatory and digestive apparatuses, of the uterus and its appendages, of the liver, spleen, kidneys, urinary passages, brain, &c. &c., syphilitic affections and diseases of the skin. These last, especially, of which the representation by coloured engravings is so defective, are produced with a truth that almost renders the illusion complete.—*(Gazette Médicale*, 25 Avril. 1846.)

We have in our own possession some of Dr Thibert's models, and can confirm, in every particular, the description of our Parisian contemporary. Dr Thibert has formed a museum in Regent Street, London, similar to the one in Paris, which not only presents the lesions of the body exactly as they appear in the real subject as to form and colour, but where series of these lesions in all their varieties and stages are grouped together, so as to exhibit a comprehensive and extended view of the present state of pathological anatomy. He has recently added a series of models representing the tissues, healthy and morbid, as they appear under the microscope, which those engaged in instruction must highly appreciate. We regret to learn that this magnificent museum is about to be broken up and re-conveyed to Paris. We trust that the medical schools of Scotland, and that of Edinburgh in particular, will take care to secure at least the diagnostic portion of the collection, viz. that referring to diseases of the skin, of the uterus, and of the eye, of all which they stand much in need.

Larrey's Statue.—The statue of Larrey is just completed. The operation of casting in bronze will soon be performed. It is to be placed in the court of the Val de Grace. The model in plaster represents Larrey in the costume of military surgeon, pressing to his breast a scroll, on which the words pronounced by Napoleon are engraved,—"Larrey is certainly the most worthy man I have ever known." The base of the statue will be ornamented with four reliefs, representing the four great battles in which Larrey took part. The sculptor is M. David D'Angers.—*(Gazette Medico-Chirurgicale*, Avril 11, 1846.)

Cretinism in Wurtemburgh.—The government of Wurtemburgh is seriously occupied with the means of diminishing cretinism. According to a recent communication, there are 2,901 cretins in the kingdom of Wurtemberg, which is 1 cretin to every 600 inhabitants. Of this number, 1,193 are aged

from 15 to 30 years, 939 are above 50, and 769 under 15 years.—*(Gazette Médicale*, 2 Mai 1846.*)*

PLICA POLONICA.—This disease is one of those which are known to be connected with the production of parasitic vegetations. Professor Walther of Kew, examining microscopically the matter which united the hairs, recognized the presence of an infinitude of round or oval corpuscles, having in their centre one or two nuclei, which appeared to be the germ of new corpuscles. These researches confirm in a great measure those of Gunsburgh.—*(Gazette Médicale*, Mai 2 1846.*)*

INHUMATION OF LIVING INDIVIDUALS SUPPOSED TO BE DEAD.—According to an official statistical account, the number of premature interments, interrupted by fortuitous circumstances alone, have amounted in France, since 1833, to 94. Of this number, 85 persons have awoke from lethargy themselves, at the moment when the funeral ceremonies were about to commence; 13 have been awaked under the excitement of means practised by the tenderness of the friends; 6 in consequence of the fall of the coffin in which they were confined; 9 owe their recovery to punctures made in the body on attaching the grave-clothes; 5 to the feeling of suffocation they experienced in the coffin; 19 to the accidental delay of the burial; 6 to voluntary delay, caused by doubts of death. —*(Encyclographie Médicale*, Avril 1846.)

DISEASED POTATOES.—The Royal Academy of Sciences in Paris have received a host of communications concerning the diseased potato, on which, in the name of the Commission, M. Gaudichaud has just made a report. All the memoirs have been carefully analyzed, and, from this general analysis, the two following conclusions have been drawn: 1. A number of beautiful and excellent things have been said by all kinds of learned people on the subject of potatoes; 2. That nothing is known concerning the origin, nature, or treatment, of the disease in the potato, neither more nor less than if the *savants* had never spoken. The Academy adhered completely to these conclusions—*(Encyclographie Médicale*, Avril 1846.)

ENGLISH MEDICAL PRACTITIONERS IN CHINA.—One of our esteemed contemporaries in Paris makes the following observations, after extracting a note from the paper of Dr Lockhart, inserted in the March number of this Journal. "Arms, commerce, and politics have opened to English medicine in China a vast field for research, and permitted it to accomplish a fine mission. Let us hope that she will show herself worthy of this good fortune. To merit well of science, it will suffice for her to remain faithful to her own traditions, and to remember the great and useful works with which she enriched it after the first conquests of England in India."—*Gazette Medico-Chirurgicale*, Avril 11 1846.

NOTICE TO SUBSCRIBERS.

DR BENNETT has much satisfaction in announcing to Subscribers, that he has succeeded in making an arrangement with DR SELLER, whereby the talents and labours which have hitherto been divided between this periodical and the NORTHERN JOURNAL OF MEDICINE, will henceforth be conjoined. Under these circumstances, it has been thought advisable to close the present volume, and commence a new series of the Work, to be edited by them conjointly. He is sanguine enough to hope that this announcement will prove satisfactory, and that the arrangements which the new Editors are making, are of a kind to merit their continued support. For further particulars, he begs leave to refer to the Advertisement.

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