elapsed since her confinement. Her pulse was very weak, her face pale, her breasts flabby, her milk thin. I therefore directed particular attention to her state. I recommended her to go back to bed; to drink milk, and occasionally bottled stout; to eat mutton chops; to take quinine; and, as far as possible, to keep her mind at rest. For the baby, I recommended only a little powder of soda and rhubarb to be given occasionally, as I felt convinced that the convulsions were *eccentric*, and not caused by any disease of the brain or spinal cord. I also recommended milk and water with sugar to be occasionally given to the infant. When I next visited the cases, I found that the mother was already better, her pulse stronger, and her mind more composed; but the infant still had convulsions. I now recommended the mother to discontinue nursing; and, as there was a person in the house who had a good breast of milk, I directed the infant to be applied to it, and saw the child drink with avidity. I made no other alteration in the treatment. Three weeks afterwards, I was again requested to visit the case; and the mother, who was much better, considered the infant's condition as hopeless, as the convulsions had continued ever since my former visits, but not quite so frequently. But, after again carefully examining the child, I assured her that it would in all probability recover, and recommended change of air both for mother and infant. I also recommended a mixture for the child, containing a little tincture of assafoetida, with magnesia, to be given at regular intervals. I did not see the case again; but I am informed by the medical gentleman who had the charge of the case, that my original view had been correct; that the convulsions gradually became less and less frequent, and less violent; that both mother and child went to Brighton; and that no farther medical attendance was considered necessary.

Now, I do not by any means assert that cases like those just recorded are free from danger, or that we are justified in giving a decidedly favourable prognosis; for in very young infants, and in children during dentition, the very violence of the functional disturbance may carry off the patient at once, or wear out the powers of life by its long continuance; but I boldly declare that a correct diagnosis will save many patients whom an incorrect one would destroy. The routine system of applying leeches, giving calomel, and administering purgatives, however useful in cerebral inflammations, is destructive to the patient in functional disorders of the brain; and, in these latter cases, the use of mild alteratives, and strict attention to diet and regimen, will often effect a cure.

As I have confined my remarks chiefly to diseases affecting the skull and the cerebral membranes, and to those disorders which may be mistaken for them, I shall conclude with a summary of the chief points of diagnostic importance.

1. When a person suffers from constant and dull pain in the head, with or without convulsions, the pain being limited to a certain region, the external surface of the head being cool and the pulse regular, the digestive system not much or not at all disturbed, and the intellect unimpaired; if any thickening of the bony structure can be perceived, or if the patient has suffered from syphilis, it may be conjectured as probable that there is thickening of the skull, and that the symptoms are due to that cause. In such a case, a moderate diet should be enjoined; leeches may be occasionally applied; the bowels should be kept gently open; but I think our chief reliance should be upon the internal administration of iodide of potassium in increasing doses, and continued for a long period.

2. When there is pain and heat of the head, *vomiting*, nausea, want of appetite, foul tongue, derangement of bowels, rapid and full pulse, squinting, delirium, thirst, and subsequent coma, and if the blood drawn be buffed and cupped, there can be little doubt that the case is one of meningeal inflammation.* In such a case, there is no time

to be lost; the warm bath must be used in the case of a child; cold must in all cases be applied to the head; leeches are always necessary: calomel is to be freely administered, and alterative aperients must be given at the same time. By the adoption of such measures many valuable lives may be saved.

3. When the head is cool, the pulse moderate, the tongue clean, the motions healthy, *then*, although there may be the most violent and long continued convulsions, squinting, drawing in of the thumbs towards the palms of the hands, and all other symptoms indicating deranged action of the nervous centres, there is nevertheless an absence of serious centric disease. We may here reasonably hope for a favourable termination by the use of ordinary hygienic means; such as lancing the gums, if the patient be undergoing the process of dentition; attending to the quality of the breast-milk in very young infants; correcting any ascences in the *primæ viæ*; change of air, and the judicious use of stimulants and tonics; and the adoption of all such other means as are calculated to improve the powers of the system in general.

It cannot be urged in too strong terms, that the mere existence of convulsions, however alarming they may appear, does not indicate, *alone*, a serious disease of the brain; these movements are merely the external manifestations of cerebral irritation, and are often caused by circumstances comparatively trivial. On the other hand, it must be remembered that, at all periods of life, the cerebral membranes, especially the *pia mater*, are apt to take on inflammatory action; and that, slight and web-like as this membrane is, and insignificant in appearance as are the lesions which it exhibits to the scalpel or to the microscope, yet upon its integrity or its soundness often depends the brightness, the perversion, or the obscurity of the intellect; and that an inflammatory disease of its texture is one of the most frequent causes of death. The most energetic treatment often fails to rescue the patient from the grave; but it is nevertheless of paramount importance to detect the malady during life, and, if possible, to arrest its progress.

8 Torrington Square, November 1853.

AN INQUIRY INTO THE RELATIVE MERITS OF THE INTRA- AND EXTRA-PERITONEAL METHODS OF HERNIOTOMY.

By JOSEPH SAMPSON GAMGEE, Esq.

WHILE working in the Florence Hospital, two years ago, I expressed surprise to my friend Dr. Palamidessi, the assistant clinical surgeon, at finding that, in operating for hernia, no attempt was ever made in that institution to reduce without opening the sac. Hence arose a discussion on the merits of this plan, which resulted in the doctor promising that he would put it to the test when a fitting case presented itself: he accordingly did so, but not without the propriety of his practice being called in question. At this juncture, he called upon me to furnish him all the evidence in my power in support of the extra-peritoneal operation. To comply with this request, I was led to devote considerable time to bibliographical research and analyses of cases. At the close of this investigation, I have been surprised at the unsatisfactory state of knowledge on the subject; the opinions of distinguished surgeons being conflicting, and facts to reconcile them not at hand. Seeing moreover that, so late as 1850, Mr. Hancock deemed the question of sufficient importance to devote to it the greater part of an exceedingly able and elaborate monograph, in which he has enunciated propositions at variance with received opinions, and, in my opinion (I emit it with much deference), not in accordance with established facts, I am induced to methodise a few of the notes which I made in the pursuit of this investigation.

Originally performed in a case of strangulated inguinal hernia in the early part of the last century, by Jean Louis Petit, and subsequently in a considerable number of cases

* I think it is hardly necessary to state that I am supposing the patient to be free from previous disease of other organs; for I purposely exclude these cases of pseudo-cerebral inflammation which may be due to fever, albuminuria, uterine diseases, etc.

by Ledran, the extra-peritoneal method of herniotomy did not gain much repute until 1788, when Monro strenuously defended it, after having put it to the test of even wider experience than had been done by Petit. Sir Astley Cooper, Boyer, and Lawrence, recommended it in particular cases. No further decided impulse was given to its generalisation until 1833, when Mr. Aston Key devoted to its advocacy a monograph so rich in facts and sound surgical arguments, that most English surgeons adopted the innovation, and soon found reason to publish their testimony in its support. Mr. Luke, in particular, has laid claim to be regarded as an advocate of the operation, by the statistical evidence which he has supplied. With a voice so unanimous have the majority pronounced themselves followers of Petit and Monro, that the merit of their operation would appear to be no longer matter of question; but though the rank of dissentients be unimportant in point of numbers, their character renders them formidable: among them are Mr. Syme and Mr. Hancock.

In the third edition of his *Principles of Surgery*, published in 1842, Mr. Syme unconditionally condemned Petit's operation; but in 1851, feeling it requisite to explain the changes which had taken place in his sentiments since the publication of his last edition, he thus alludes to the subject under consideration:—"The late Mr. Aston Key and Mr. Luke, of London, have done much to revive and establish in practice an old proposal for lessening the risk of operations for hernia, by dividing the cause of constriction without opening the extension of peritoneum which constitutes the sac. The advantage attributed to this procedure, is that which may be supposed to result from having the serous membrane entire, and in protecting it from the risk of inflammation; while the disadvantages alleged to attend it are the dangers of wounding the intestine in dividing the stricture, the evils which may arise from reducing the strangulated parts in a state unfit for their admission, and the mischief which may arise from abortive efforts to effect reduction when it is impeded by adhesion or other change of the parts contained within the sac. On the whole, I feel satisfied that, as a general rule, it is better to open the sac; and that the procedure in question should be restricted to the treatment of large hernial protrusions, such as those of the scrotum, and of patients in unhealthy hospitals, where a strong disposition to inflammation of the serous membrane may be inferred from the frequency of erysipelas and phlebitis."* So striking is the difference in Mr. Syme's opinion in 1842 and 1851, that it cannot but be matter of regret that he has not deemed it advisable to state in detail the reasons which have induced it. But, in point of fact, though he has explicitly opposed Petit's operation, even in his last publication, the terms in which he has expressed himself imply a forcible argument in its support. From his admission that in "patients in unhealthy hospitals, where a strong disposition to inflammation of the serous membrane may be inferred from the frequency of erysipelas and phlebitis", it is advisable to perform Petit's operation, it is evident that Mr. Syme believes that by not opening the sac the tendency to peritonitis is lessened. Hence arises a great reason for the preference of Petit's method whenever practicable: peritonitis being one of the great causes, if not the greatest, of mortality after operations for hernia. The advocates of Petit's operation cannot but infer an argument in support of it, from the very fact of Mr. Syme having in any degree deemed it necessary to slacken the force of his opposition to it, after the addition of nine years to his experience, which was already very great when, in 1842, he expressed himself in terms so decidedly adverse; they cannot but see some analogy in cause and probable effect, between this change in Mr. Syme's opinion, and that which took place in Mr. Liston. In 1840,† Mr. Liston stated, that in operating for femoral hernia, when the sac has been exposed, it is to be opened with great caution; and he commented on the recommendation of some, that the sac should

be left undivided, and that the stricture should be relieved by passing the knife on the outside, by observing that the stricture cannot be well relieved unless the neck of the sac is cut, along with the resisting fibres exterior to it. Six years afterwards, he thus alluded to the practice of endeavouring to reduce without opening the sac:‡ "I have fortunately succeeded in effecting this object in a considerable number of instances, within these few years, and it is a proceeding which I should strenuously advise the adoption of, when nothing contra-indicates it." The result which followed the trial of Petit's operation in Mr. Liston's hands, is precisely that which has attended it since it was first imagined. Opposed on the ground of preconceived opinions, it has steadily gained in repute, in proportion as it has been put to the test of experience.

Mr. Hancock's opposition is far more decided than is that of the Edinburgh Professor. "Opening the sac", he says,† "does not increase the danger of the operation; but, on the contrary, is to be preferred as the safer mode of proceeding." So forcibly and ably, and in many respects so plausibly, has Mr. Hancock defended his opinion, that it deserves most attentive consideration. If correct, it is calculated to do much good; otherwise, its adoption must be attended with practical mischief, of a magnitude proportionate to the immense importance of the affection, as a rule in the treatment of which it is propounded.

The array of authorities—Dupuytren, Richter, Hey, Heister, Sir Astley Cooper, Lawrence, South—whom Mr. Hancock cites‡ as opponents of Petit's operation, is *prima facie* so formidable as to deprive it of all claim to support; but it becomes very much less so when critically examined. Even Mr. Hancock admits that Sir Astley Cooper's opposition was only partial, for he recommended the operation in old and large incarcerated hernie. But more, Sir Astley, in expressing his belief "that surgeons will employ it more generally when they shall have learned its advantages from experience,"§ pronounced a high encomium on Petit's innovation: for he implied a conviction that the reason why it was not much resorted to in his time was because its advantages were not known, and the ordinary operation was preferred in accordance with previously formed opinions; but so intrinsic was its merit, that it would only become more apparent on more experience, and impel surgeons to adopt the new method by practically convincing them that it was the best. Qualified are also the objections of Heister;|| but what is of even more importance is, that there is no evidence of their being the fruit of experience; they rather bear the stamp of a mere expression of opinion. "Nec mihi nec aliis præstantioribus chirurgis satis placet," is Heister's judgment on this important matter.

True it is that Dupuytren constantly practised the ordinary operation for hernia; and, in thus doing, he entered a practical protest against Petit's operation. But it is fairer to say that he overlooked it, than that he opposed it; for, after diligent search, I cannot find that he either refuted by argument the practical teaching of Petit, Ledran, and Monro, or that he sought to acquire personal knowledge of its value by putting it to the test of experience.

The accession to Mr. Hancock's cause of an authority so deservedly esteemed in practical surgery as was the late Mr. Hey, of Leeds, would indeed be considerable, if, contrary to his usual custom, this gentleman had not argued so manifestly *à priori* on the merits of Petit's operation, that no value can be attached to his objection when opposed to the experience of a large number of the most re-

* Practical Surgery, 1846.

† On the Operation for Strangulated Hernia. By Henry Hancock. London: 1850.

‡ Op. cit., p. 2.

§ I quote the opinion of Sir Astley, from Lawrence on Hernia, p. 277 Third edition.

|| "Has igitur ob causas ut plurimum etiam in malo veteri magnoque timore præstare existimo sacculum potius aperire quam integrum relinquere; cum modum non nisi in recenti malo, ubi nulla adhuc intestinum corruptio, nulla concretio, nullus abscessus, tuto posse adhiberi; quemadmodum et ipse Garangeotus hanc curationem nunc ad hanc observationem restringit, in altera operationum suarum chirurgicarum editione." Dris. Laurentii Heister Institutiones Chirurgicæ, tom. iii, p. 112. Neapoli: 1749.

* Supplement to Principles of Surgery, p. 31.

† Elements of Surgery, 1840, p. 530.

nowned surgeons of the age. The following quotation will, I think, be found ample justification for this criticism:—

"It has been proposed* by respectable authorities to divide the abdominal ring, and reduce the protruding parts, without opening the hernial sac. The reasons given by Mr. Astley Cooper and Mr. Lawrence appear to me unanswerable. But, in ordinary cases, I think the advantages proposed by it are not to be set in competition with its dangers. The operation itself, as far as I am able to judge, must be much more difficult; the epigastric artery, when the operation is properly performed, is in little danger; it was never divided in any operation (of inguinal hernia) which I have performed myself, or seen performed by others; and it is by no means certain that the danger in this operation arises from making an opening through the peritoneum. Whereas, not to insist upon the impossibility of reducing the prolapsed parts, which must sometimes arise from the contracted state of the neck of the sac, the increased bulk of the parts, or their adhesion to the sac and to each other,—the uncertainty which must almost always occur of the existence of gangrene in the intestine or omentum (in which case, reduction, without opening the sac, must be considered as certainly fatal to the patient) for outweighs, in my opinion, any advantages that can fairly be supposed to arise from practice."

Richter, another of the great surgeons mentioned by Hancock as an *able opponent* of Petit's operation, is, on the contrary, one of its *most elaborate and most weighty advocates*. So deservedly reputed is he as an authority on hernia in general, and so ably has he discussed this question, that I do not hesitate to quote from him, though at length. He states very fully,† under seven heads, the reasons usually adduced against Petit's method, and adds:—"Such are the objections commonly adduced against this operation. They are imposing, but not, however, so powerful and convincing as many authors deem them. . . . If it be objected, that incipient gangrene may be met with in cases in which, the strangulation being recent, there is little reason to expect it; and that, consequently, we are never in a state of safety in adopting this method, even though the operation be performed early, and before the symptoms have acquired much gravity, I [Richter] answer that, if the surgeon, after having decided on the operation, still makes an attempt to reduce, whether with tobacco-smoke, taxis, or other means, and proves successful (the hernia is reduced without opening the sac, and its contents may be diseased), why should there not in such a case be reason to fear from the taxis what is feared half or quarter of an hour afterwards from the operation? Will the surgeon be blameable, if he succeed in his last attempt? or will a judicious surgeon abstain for this motive? Should not the taxis, tobacco-smoke, and all the other means, be rejected, because they all effect reduction without the sac being opened, and because, from the first day of strangulation, the sac's contents may be diseased. . . . This method of operating is too lightly considered, without any of its advantages being observed. Why is the sac opened in the operation? In order to be able to treat the diseased parts properly, to destroy adhesions, and the cause of the constriction, if it be situated within the sac; but if there be no diseased adherent parts, if the cause of strangulation be outside the sac, why then open it? I see no reason for doing so. Is not opening the sac under such circumstances, to say the least, superfluous and useless? and would it not be advisable to reduce without opening the sac, merely because there is no use in doing so?"

"Petit's method has other real advantages. It renders the operation less complicated; and the more simple an operation is, the more is it safe, easy, and perfect. It prevents the intestines being wounded, for they are not exposed. Finally, the intestines are not exposed to the air;

and no one will deny this being an essential advantage. . . . I therefore think that this plan of operating should not be rejected in all cases, but that, on the contrary, it may be put into practice, under certain circumstances, with advantage."

Mr. Lawrence has very fully considered the arguments in favour of and against Petit's operation. He does not even express himself positively against the propriety of its *general adoption*, but holds it *sub judice*, suggesting some points for consideration before it can be assented to; and sagely remarks, that the question of eligibility between the ordinary course of proceeding and this modification must be determined, like all other practical matters, by experience.* No doubt, however, exists in Mr. Lawrence's mind as to the reality of the advantages attending the performance of Petit's operation in particular cases; accordingly, he teaches, that "the plan of removing the stricture without opening the sac† is particularly applicable to large and old ruptures, especially if the parts should be adherent, as they frequently are in such cases. To separate the preternatural connexions would require a tedious and difficult dissection, with long exposure, and much handling of the viscera; and the violence necessarily inflicted in executing such an attempt renders the subsequent occurrence of inflammation almost certain. In laying open the whole of a large hernial tumour, the exposure of so extensive a surface is a source of great danger to the patient, who, in such cases, is frequently advanced in years, and therefore less able to withstand extensive inflammation and suppuration. We must remember, too, that in large herniæ, which have been long irreducible, the abdomen becomes accommodated to the diminished bulk of its contents; and that either it will not yield sufficiently to receive again the parts which have been long protruded, so that we cannot replace them, or, if we should accomplish the return, it is so painfully distended that the replaced viscera are soon forced out again. Moreover, the ring is so much dilated in those cases, that hernia will certainly reappear; and consequently there can be no expectation of a radical cure from the operation. These reflections will induce us to adopt the practice of removing the stricture without opening the tumour in all such cases."

We have yet to study Mr. Hancock's arguments.

In the belief that peritonitis is one of the great causes of death after operations for hernia, Petit's operation is defended by many, because, not involving wound of the peritoneum, and thus lessening the chances of its becoming inflamed. Mr. Hancock endeavours to dispel the hope of deriving benefit from not wounding the peritoneum, by disproving the general opinion that the occurrence of peritonitis is much to be dreaded. "Comparatively few patients", he alleges,‡ "die of simple peritonitis after this operation. Out of fifty-two fatal cases instanced by Gay, the symptoms of peritonitis alone existed only in eight; and in these the symptoms were so slight as to lead to the supposition that the patients died from the shock to their systems, rather than from the peritonitis. It is an interesting fact, that the amount of mortality is not in the same ratio as the extent of peritoneum and intestine exposed. Cases recorded prove the smaller herniæ to be those which present the most urgent symptoms; and Sir A. Cooper has related that, in the largest hernia he ever saw, having opened the sac, a large quantity of intestine with omentum protruded; but, after dividing the stricture, the adhesions were so great, that he judged it advisable not to attempt their separation; and, from the size of the hernia, it was impossible to bring the integuments over the intestine, which was therefore left exposed to the air; yet nothing untoward ensued; the intestine soon began to granulate, and gradually sprout within the wound; and the patient recovered. Boyer also gives a case which occurred to Petit. Although the stricture was freely divided, and there were no adhesions, yet the gut could not be returned. Petit therefore allowed it to remain in the wound, and

* Practical Observations in Surgery. By William Hey, F.R.S. Second edition. London: 1810. p. 144.

† Not having Richter's original at hand, I quote from the Italian translation of his Treatise on Hernia. Prima traduzione Italiana. Milano: 1802. pp. 146-151.

* Op. cit., p. 290.

† Id., p. 284.

‡ Op. cit., p. 5.

covered it with pledgets of linen. The greater part returned spontaneously into the abdomen, the wound healed, and the cure was accomplished."*

Mr. Gay's table is not, however, so favourable to Mr. Hancock as appears from the above quotation. Though it be true that, out of the fifty-two fatal cases, the symptoms of peritonitis alone existed only in eight, it is very essential to bear in mind that peritonitis existed with other pathological conditions in many more cases: thus, in two cases, it was associated with portions of bowel sloughed and adherent to the ring; in three, the bowels were matted together, with or without sero-purulent effusion, and the strangulated portion of gut was ruptured; in other two cases, lymph was effused, and gangrene threatened. Though in these cases the peritonitis was not the only pathological change, it was in many a primary one—in all, a very serious complication. After studying Mr. Gay's table, I can see no reason for dreading peritonitis after operation for hernia, less than I did before I became acquainted with Mr. Hancock's objection; and I am as much as ever convinced that any plan of operation which lessens the chances of peritonitis is *pro tanto* calculated to lessen the mortality of the operation. The grounds of my conviction are the recorded experiences of many of the most eminent surgeons of all countries, and my own observations. How many are the cases in which the operation is followed by symptoms of peritoneal inflammation, which necessitate the employment of antiphlogistic remedies! How evident in many cases is the ratio between the rapidity of recovery and the activity with which these remedies are employed!

When Mr. Hancock characterises as interesting the fact that the amount of mortality is not in the same ratio as the extent of peritoneum and intestine exposed, and implicitly infers therefrom (as the context proves) that the danger of the operation cannot be in proportion to the chances of peritonitis, and that the peritoneum may be cut with impunity, he loses sight of a fact at least equally interesting and important. He has compared large and small herniæ, as if their size and the extent of the peritoneum involved were the only difference between them; but this is not exactly the case. The difference in danger between large and small herniæ depends upon a cause, in itself so active as to mask the relative effect of opening a large and a small peritoneal sac. The smaller herniæ are of the femoral kind, in which, owing to the anatomy of the parts, the constriction is most valid, and most speedily productive of ill effects. In the case of inguinal herniæ, the larger ones are as a rule the least dangerous, for a similar reason. The parts through which a large quantity of omentum and intestine has been in the habit of descending are stretched and thin, and far less able to strangle tightly, than are parts little altered from their normal position and nutrition. It is perfectly intelligible that the danger should be in direct ratio to the validity of strangulation; and it is the very reverse of paradoxical, to assert that, *ceteris paribus*, a wound of the peritoneum is a cause of danger, and yet that as a rule operations for hernia are fatal in inverse ratio to the size of the sac—to the extent of peritoneum involved.

The cases of Astley Cooper and Petit, quoted by Mr. Hancock, in which large quantities of intestine were left exposed to the air without injury, are interesting as extraordinary exceptions; but it would be no more fair to argue from what happened in them, as to the rule of operations for hernia, than it would be to predicate the effects of gunshot wounds of the stomach, from what occurred in the case of Alexis St. Martin, for the description of which we have to thank Dr. Beaumont, of physiological celebrity.

"The history of strangulated hernia proves by every-day experience that cut peritoneum may be cut with impunity. I am willing to admit that if we cut or irritate healthy peritoneum, we may induce peritonitis, although even this does not always occur; but if we cut inflamed peritoneum, the inflammation does not necessarily increase, especially

when that inflammation results from some exciting cause. An incision thus becomes a relief to the patient; whereas, when made in the healthy peritoneum, we inflict a violence on the part. I believe, and I am supported in this belief by the observations of Sir Charles Bell, that we may cut diseased with greater impunity than healthy peritoneum. The abdominal sections for ovariectomy prove this; the removal of large portions of omentum proves it; the operations for paracentesis abdominis prove it; and the success which attended my case of caecal disease tends to prove it."*

The admission that if we cut or irritate healthy peritoneum we may induce peritonitis, is at least an argument why such cutting should, if possible, be avoided in operating for hernia before inflammation has set in. Granting that removing the cause of the peritonitis is in many cases an effectual cure of it, it does not follow but that, in rare cases, the incision may be a sufficient cause of aggravation to counteract the benefit which accrues from relief of the constriction. The abdominal section for ovariectomy, the removal of large portions of omentum, and the operation for paracentesis abdominis, prove that in these particular forms of disease there is very little chance of peritonitis following the use of the knife; but they in no degree tend to subvert the common sense suggestion that once the peritoneum has become the seat of inflammation, this may be perpetuated and aggravated by the operation of another mechanical cause (an incision) when the first one (constriction) has ceased to operate.

Mr. Key's admission that the inflammation after the operation for hernia spreads from the bowel, and not from the incision in the sac, is regarded by Mr. Hancock† "as a conclusive proof that the danger and inflammation result from the violence inflicted on the gut itself by the strangulation; and that opening the sac, and thereby laying bare the abdominal cavity, has literally nothing to do with the fatal termination." The conclusiveness of the proof is fairly questionable; for though it might be just to infer from Mr. Key's observations that opening the sac does not injure it or the parietal peritoneum, it is unjust to allege that opening the sac does harm to nothing, and that the violence inflicted on the gut itself by the strangulation is the sole cause of the danger and inflammation. It is in accordance with general surgical experience to hold, until facts shall have proved the reverse, that the inflammation occurring in, and spreading from the peritoneum covering the bowel, is partly at least the result of its exposure to the air and manipulation entailed by opening the sac, and therefore that it is advisable to avoid opening the sac, unless other reasons call for it. Strenuously as Mr. Hancock insists on the impunity with which the peritoneum may be cut into in cases of strangulated hernia, it is impossible to say how he would account for the immense difference in the ratio of mortality, when the strangulation can be removed by the taxis, and when the knife is called for. Allowing that the very fact of operation being needed is proof of the greater seriousness of the case than when the taxis suffices, one cannot help regarding incision into the peritoneal sac as a most dangerous step in the operation, certainly not a harmless one.

Proceeding with the reading of Mr. Hancock's paper, we find at p. 25: "My objections to Petit's operation are, that it is not applicable to all cases." He goes on to relate as unfit, cases of strangulation by omentum and by bands within the internal aperture, and cases of gangrenous intestine. As to the two first classes of objectionable cases, let me observe that the taxis would be tried in them. In some it would fail, and then probably Petit's would fail also, and no harm be done. If it succeeded in reducing, and produced disastrous after consequences, the one method would be as objectionable as the other; and yet we presume Mr. Hancock himself would try the taxis, for he could not tell the nature of the strangulation. As to the cases of gangrenous intestine, the great majority can be diagnosed by the rational signs

* On Femoral Rupture, its Anatomy, Pathology, and Surgery: with plates. By John Gay. London: 1849. p. 79.

† Hancock, *op. cit.*, p. 6.

† *Op. cit.*, p. 7.

prior to operation; and it is only in a very few indeed that there would be danger of returning disorganised gut.

"Again, if this mode of operation is not intended to apply to cases in which the stricture exists in the neck of the sac, its sphere of action is very limited; and so far from becoming a method of general adoption, it will be found to apply, according to Dupuytren, to merely one case in nine in inguinal, although in femoral hernia its application is more extensive."*

But the fact that the sphere of action may be limited is not an argument why the benefit derivable from it should not be availed of in that sphere, however small it may be: because we cannot have the whole good, are we to refuse a part of it?

Mr. Hancock admits, that his objections to Key's or Petit's operation apply to a certain extent to the employment of the taxis; but he adds: "There is this distinction between the taxis and the operation, that in the case of the former, should the symptoms recur or continue, we feel that we have merely employed a preliminary proceeding, and therefore can at once proceed to operation, and ascertain the cause of mischief. We have here performed only one operation, and the patient sustains the shock and dread of merely one operation; but the case is widely different where we have already operated, and the symptoms still persist. We are led to imagine that we have done all that the case admits of—that the persistent symptoms depend upon the injury sustained by the gut. We treat the patient accordingly; much valuable, and under the circumstances most invaluable, time is lost; and should we at length make up our minds that something more should be tried, we are obliged to recommend a second operation to our unfortunate patient, with the humiliating feeling, through our selecting the wrong mode of proceeding in the first instance, we have increased his sufferings, whilst we have materially diminished his chances of recovery." Thus arguing, Mr. Hancock leaves open the question, whether, in a considerable number of cases, Petit's is less dangerous than the ordinary operation for strangulated hernia, and he objects to the former because it may sometimes fail. But the fact of a comparatively slight operation not being sufficient in all cases, but possibly requiring ulterior proceedings of a more serious nature, is *per se* no reason why the patient should not have the benefit of the milder method. Very different from Mr. Hancock's were Mr. Liston's reflections in this point.† "The attempt (to perform Petit's operation) can do no harm; it causes little or no delay; and if it is not successful, the sac after all is opened, and the operation completed. If it does prove successful, the surgeon's mind is relieved of an uncommon load of anxiety."

Mr. Hancock's criticism on the statistics of the two operations furnished in Mr. Gay's work on femoral hernia has tended in some degree to lessen its apparent weight, as evidence of the superiority of Petit's over the ordinary method; for he has shewn, that in fifteen unsuccessful cases in which the sac was opened, death occurred from circumstances, the fatal nature of which would not have been avoided by leaving the sac intact; still, Mr. Hancock feels bound to acknowledge that Mr. Luke has been most successful, and that his statistics are in favour of Petit's operation. Now, Mr. Luke's statistics are undoubtedly those which claim the most respect; for their number is far more considerable than that supplied by any other surgeon; equally unparalleled is the precision with which they are given.

As yet, however, statistics are very far from being sufficiently numerous for the decision of the question. And here I feel the necessity of observing, that in the numerous discussions to which the more modern operation for hernia has given rise, many have lost sight of the really important question at issue. The point to be determined is not which of the two operations deserves absolute preference, the extra- or the intra-peritoneal; but whether the great mortality

of the operation for strangulated hernia admits of diminution by adopting one or the other method, according to the indications in particular cases. If, as a rule, it be unphilosophical and practically mischievous for a surgeon to be wedded to any particular mode of procedure in all cases requiring a given operation, it certainly is not in hernia, the varieties of which are without number, and may presumably be benefited by adapting the means of cure to the speciality of the case.

The experience of the great majority who have tried Petit's operation almost amounts—and this more from the manner in which it has been attained than from its extent, though this be vast—to demonstrative proof that by its performance in appropriate cases the fatality of strangulated hernia will be greatly lessened; and it is certainly quite sufficient not only to encourage, but to demand further investigation, in order that we may arrive at a correct knowledge of the cases in which one or the other operation is peculiarly applicable.

Palazzo Corsi, Florence, Nov. 5th, 1853.

REMARKS ON THE EMPLOYMENT OF THE WATERS OF KREUZNACH.

By E. H. SIEVEKING, M.D., F.R.C.P., Assistant Physician to St. Mary's Hospital, etc.

[Read before the Harveian Society, Nov. 17th, 1853.]

THE German looks upon his mineral springs as the fountains of health, and considers an annual trip to Carlsbad, Marienbad, Wiesbaden, or one of the numberless watering-places of fatherland, of as great and essential importance to the enjoyment or preservation of life, as John Bull regards his three weeks' autumnal visit to Margate, Brighton, or Ryde. It is one of the many traits that preserve the general resemblance of the two great branches of the Anglo-Saxon tree on this side of the Atlantic; and it is evident from the description of Saratoga and other watering-places, by N. P. Willis and kindred spirits, that the cousinhood of North America are fully alive to the value of these temporary migrations. They do not belie their relationship even in this particular. We do not see that the French, or the Italians, or the Spaniards, quit their homes annually, as a matter of course, to obtain a renewal of health. They are more *gletke adscripti*, and are satisfied with that share of mental and bodily vigour which their permanent place of residence can afford. We need not grudge them this passive contentment. We claim as our birthright the desire for improvement, the onward-striving which pursues higher and better objects, whether in moral, in sanitary, or in political relations; and we think it a privilege legitimately to follow out everywhere the great laws of nature, by which we are told to advance not only as logs on the tide of civilisation, but as bold and manly swimmers, cleaving the waves by the might of a good arm upheld by a living faith. We seek health as one of the great boons of Providence; we seek it, not in frivolous excitement, but in that intercourse with nature and her most lovely or her grandest works, which, above all other restoratives, gives balm and solace to the sufferer.

Geographical position and opportunity have in this, as in many other points, determined the selections which the German and the English each make. Their mode of living and their character undoubtedly render a different regimen necessary in disease; and hence it is not to be wondered at that they each show a preference for a peculiar kind of medication. The vicinity of the bracing atmosphere and water offered by the sea-coast in every part of England, our love for maritime scenery, for shipping and aquatic sports, tempt the Englishman more, and seem more congenial to his beef-eating constitution, than the sulphureous springs of Harrowgate, and the antirheumatic thermæ of Bath. He inclines to regard the latter agencies on a par with the *bouillon* of French cookery, or the *ptisane* of the Gallican

* Op. cit., p. 41.

† Practical Surgery, p. 558.