

An inquiry into the present methods of performing the operation of lithotomy.

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AN INQUIRY

INTO

THE PRESENT METHODS OF PERFORMING

THE

OPERATION OF LITHOTOMY.

FROM THE

QUARTERLY JOURNAL

OF

FOREIGN MEDICINE AND SURGERY.

JANUARY, 1821.

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ART. III. *Experimental Observations on the Operation of Lithotomy, with the Description of a Fascia of the Prostate Gland, which appears to explain Anatomically the Cause of Urinal Infiltrations, and Consequent Death.* By Granville Sharp Pattison, Esq. Surgeon.—From the *American Medical Recorder* for January, 1820.

Observations on the Parts concerned in Lithotomy, which are intended to prove that Mr. Pattison's Ideas of a Prostate Fascia are erroneous. By Horatio G. Jameson, of Baltimore, M.D.—*American Medical Recorder*, July, 1820.

A Reply to certain Oral and Written Criticisms, delivered against an Essay on Lithotomy, published in the January Number of the American Medical Recorder. By Granville Sharp Pattison, Esq.

WHAT can be more interesting to surgeons than the question involved in the papers at the head of this article? An inquiry into the cause of the many deaths which occur in consequence of the operation of lithotomy. It would be a mere waste of words to argue upon the importance of such an investigation.

In these Essays there is displayed a little of that rancour which generally insinuates itself into the discussion of surgical subjects; still it is a happy omen for the surgery of America, that keen disputes have commenced on points of surgical anatomy. The present controversy is upon the merits of the discovery of a fascia connected with the prostate gland. Although the rage of discovering new fasciæ at the groin has subsided, and though many of these discoveries are now forgotten, still it cannot be denied, that much practical good resulted from the investigation of how far the *discoverers* were entitled to their claims. But both hernia and aneurism have now gone out of fashion; still, in the anatomy of the fasciæ of the perineum, there is as wide a field for contention, and it promises as rich a harvest to *discoverers*, and as great a torment to our students, as the fasciæ connected with hernia did formerly. Yet we may hope that much practical good will result from the critical examination of the anatomy of the pelvis. In this country, at the present moment, the question of lithotomy is by some very keenly taken up, but instead of its being made the matter of anatomical and pathological discussion, it is attempted to be settled by the repetition of experiments on the living body, which, by almost every surgeon, were supposed to be set at rest by the experience of ages. The high operation is again attempted to be introduced into general practice. It only

requires this to be said, to prove that those who wish to introduce it, have conceived upon strong conviction that there is something radically wrong in the lateral operation. If the common method of performing the lateral operation is to be with the gorget, then it is not wonderful that surgeons should attempt to change their manner of operating. As it is generally agreed, that in such an important operation as extracting the stone, we must be guided in a great measure by the records of the proportionate success of the different methods of operating, we must here give a slight sketch of the history of the high operation. In the latter part of this Essay, more shall be said on the merits of this operation, and on the manner in which the discussion has again been brought before the public.

History shews us, that the high operation has, in all ages, had warm advocates in the persons of young surgeons; but it also shews us, that those same surgeons, when they had more experience, gave it up, except in very particular cases. It was at one time keenly patronised by Cheselden, but he gave it up in favour of the lateral operation, and almost every author who has written upon it, and particularly Middleton, Smith, Douglas, and Heister, although they were in the first part of their career keen advocates for the operation, state that a very small proportion of patients recover, upon whom this operation has been performed, and who have passed their thirtieth year. What was the success of Rau and Cheselden? It has been stated, upon the best authority that Rau cut 1500 patients successfully, and we have been told by an authority which is open to contradiction, if his testimony be not correct by many gentlemen at present in London, that the professor of surgery in Moscow (Hildenbrand), at this moment probably alive, had cut previous to 1818, more patients than Rau, and that the proportion of deaths was only one in fifty; but he does not cut with the gorget. The surgeon who gave us this information saw him perform it fifty times, and of those, only one patient died. This should be sufficient proof, that the lateral operation, performed in a *certain way*, is a very successful operation; therefore it is of the first moment to inquire what is the best method.*

* We have upon good authority been informed, that there is at present in St. Petersburg, a young man, whose father was an itinerant lithotomist. The son was taught by the father the method of Frere Jacques, and commenced at the age of fourteen to cut patients. He was so successful, that he got a licence from Government, to cut the patients in all the hospitals of St. Petersburg. This lithotomist is now twenty-two years of age, and he has already cut more patients than

Let it be recollected, that the present advocates for the high operation recommend the use of the gorget in the lateral operation. It has been already stated, that it is not surprising that those who imagine the gorget to be the best instrument for performing the lateral operation, should be desirous of giving up the operation altogether; and why, may be discovered by the following list of difficulties and mishaps, some of which every surgeon, who has seen many operations with the gorget, must have witnessed. But in the first place, let us inquire why it is that surgeons prefer the operation with the gorget. Is it not because, having a staff in the bladder, into which they can nicely fit the beak of the gorget, that they think there is no fear of missing the bladder, when they force in the instrument. How often does one hear students say "the gorget for me; let me get the beak into the groove of the staff, and then I shall cut into the bladder." This then is the grand secret; but is not the surgeon often foiled in his attempt?—that must be granted; and what have the consequences been? Has not the patient been *frequently* sent to bed with the conviction, at least the assertion, that there is no stone? Has not the patient died, and the bladder been found uncut, and the stone lying in it? Has it not been often, *often* said that the stone is sacculated; and upon examination after death the bladder found to be the sac? Has not a surgeon, determined not to be foiled, brought away the stone surrounded by part of the bladder? These are but one train of accidents which, to the knowledge of many, have occurred not unfrequently within the last ten years.

Let us endeavour to give some idea how such accidents may happen. The principal reason is, that the bladder has not been opened, and how does that take place?

1st. Let any one examine the gorgets in the principal cutler's shops in London. The beak of the gorget is made very small, and the groove in the staff is made to correspond to it, and this instrument is believed to be good, because the two instruments accurately fit each other. The first objection to the instrument is very obvious, if we recollect the size of the urethra compared to the size of the groove, but in operation; it is still more so, when we see the difficulty the surgeon has in finding the staff, and cutting into the groove; how often has a surgeon been seen to

any six surgeons in London. We dare not state the number that has been given to us, for it might destroy the credit of the story with many, though we place implicit confidence in the honour of the gentlemen who have reported it to us. But we shall make it our duty to inquire farther into the subject.

make half a dozen cuts into the groove, before he can fix the beak? Is it not natural to suppose, that being foiled in this, which appears simple, he may lose his presence of mind and not fix the beak at last? All this difficulty is owing to the imperfect formation of the staff, an imperfection which ought to be at once apparent to any one who recollects the size of the urethra. On this point we cannot do better than quote the following from the *Surgical Observations* by Mr. C. Bell, No V. p. 131. "The staff is made too small, it ought to dilate fully, and occupy the urethra; the groove should be wide and deep. The staffs in the shops are small, with a trifling groove adapted for the beak of the gorget, by which surgeons have contrived to make a simple matter difficult. The consequence of the staff being made small, is, that the membrane of the urethra rolls upon it and is cut with difficulty; and when the cut is made, the sides of it do not expand to display the wound, the membrane closes again, and a second and a third wound must be attempted; who has seen much of the operation with the gorget, and has not seen the frequent repetition of incisions into the groove of the staff, and the frequent attempts to lodge the beak of the gorget in the groove of the staff? When we have a staff as large as the largest catheter, and the groove deep and broad, it makes this part of the operation easy; the membrane over the groove is easily struck, and when this is done the wound opens, and is easily found again if it should appear necessary to withdraw the knife before completing the incisions in the bladder." With such a staff it is hardly possible for the greatest bungler to be foiled in getting into the bladder, even with the gorget.

2d. Look to the length of the staffs as they are commonly made, and seeing how short they are, is it not highly probable, that the assistant may so far forget his duty, during the several attempts of the surgeon to introduce the beak into the groove, as to push the point of the staff through the hole which has been made in the urethra, and thus direct the gorget towards the rectum? The danger of such an accident is easily shewn on the dead body. But let us suppose that the beak of the gorget is fairly in the groove of the staff, is there now no danger of its slipping? To shew that this may happen, take the gorget and staff in your hand, run the beak along the groove, see how difficult it is to keep it right, even with the eye directing the gorget; then think of the difficulty there will be in directing it along the axis of the pelvis, with the patient struggling, and when in imitation of a master you wish to do it with an air of decision. It may be truly said, to do this well, requires the hand of a master.

The next series of accidents occur at the neck of the bladder ; they will not be dwelt on here, for the limits of the paper will not permit of it ; but what has been *proved* by dissection to have happened, will be metely mentioned. The bladder has been driven before the gorget, and in groping with the finger it has been separated from its connection to the os pubis. This was in a child. The bladder has been pushed before the gorget, and a large sac has been formed anterior to the bladder by the motion of the forceps. This was in an adult. In both of these cases the stones were alleged to be contained in *sacs*, until dissection proved the sac was formed by the bladder.

Perhaps this accident will be allowed to be liable to happen, if (the bladder being empty of urine) the beak strike against the stone, and thus carry all before it ; or if the prostate be of a scirrhus hardness, such as will produce more resistance than the loose connections of the neck of the bladder are equal to. Both of these cases may be proved by dissection. The inner membrane of the bladder may be pushed before the gorget. Of this we have no proof by dissection ; but a surgeon, who always operates with the knife, observes, that he has felt, on pushing his finger in with the knife, the danger of pushing up the inner membrane. The danger of driving the gorget through the bladder, of wounding the rectum, or the pudic artery, need not be dwelt on. These are faults of the operator, more than of the instruments.

The *facts* which have been stated will be sufficient to prove, that the operation with the gorget is not so simple an operation as some would pretend, when they recommend the gorget as the best instrument "*for the man who is not well acquainted with the anatomy of the parts.*" One may be allowed, in thinking of such a sentiment, to express himself warmly. Can any good man read the cases which are detailed, or think of the difficulties which the greatest characters in the profession of surgery have acknowledged they have felt, in making up their minds as to what parts are to be cut ; can he bring himself to perform such an operation as that of lithotomy, conscious that he must trust *all* to the adaptation of his instruments ; and fully aware that if he makes the slightest slip, that he is so ignorant of the anatomy of the parts that he cannot remedy his mistake. The law has been of late severe in punishing presuming ignorance with heavy penalties ; but what is a crooked arm to the crime of causing the death of a man, and that by greater tortures than were ever invented by the fiercest bigot. The very idea of a man unacquainted with the anatomy of the perineum, undertaking the operation of lithotomy, makes one shudder.

But there is really a great mistake in supposing that the gorget is the easiest instrument to pass into the bladder; and of this we hope our reader will be satisfied when he compares the operation by the knife with that of the gorget.

A large grooved staff, such as has been already described, and which will distend the urethra to the utmost, is fairly lodged in the bladder. A deep and a cautious incision, one perfectly safe to those who know the anatomy, is to be made through the muscles, fat, &c., by the side of the anus. Now the staff can be easily felt, and easily cut upon, and the urethra being put upon the stretch, by the wideness of the groove, gapes open, when an incision is made into it, instead of closing again, as in the common operation with the gorget. Now, where is the difficulty of carrying the same knife that has made the outer incision, or a common bistoury, into the bladder; or where is the danger of cutting any thing but what we wish, if we place the forefinger of the left hand upon the part of the staff into which the knife has entered, and push the knife forward with the right hand, keeping it correctly in its place with the left forefinger, until the knife cuts a *way* for this finger into the bladder; now, the finger is in the bladder, the stone can be felt, and all our fears of not reaching the bladder should be at an end; we may enlarge the opening in the bladder, and that as we will, with the same knife, or with a probe bistoury. Here then is a *feeling* operation most essentially different from the random plunge of the gorget.

Let us here quote the description of the operation with the knife from the work of the author, who has the merit of *always* performing this operation, and of having been on every occasion the strenuous adviser of it.

“ 1st. The staff is struck upon the stone, and made to rest in contact with it.

2d. The point of the knife is struck into the left side of the perineum, just under the arch of the pubes, it is carried downwards by the side of the anus, and past it.

3d. The forefinger of the left hand is put into the wound, and the rectum pressed down, and the muscles and internal fascia cut across.

4th. The edge of the knife is turned up, and the membranous part of the urethra, and the face of the prostate gland exposed.

5th. The point of the knife is pushed into the groove of the staff, and carried forward, and the prostate gland is opened by a lateral movement of the knife.

6th. The forefinger of the left hand follows the knife. The edge of the knife is directed by the forefinger, and enlarges the

wound of the bladder; the knife is withdrawn, and the forefinger is thrust deeper, so as to touch the stone.

7th. The forceps are introduced, and touch the stone."

It has been said, that the operation with the knife must be very difficult to perform in a fat man, but in saying so, it is forgotten, that all the fat is external to the prostate, and that through this fat we must make such an incision as will admit the three fingers knuckle deep; to say that the gorget is the best instrument for a fat patient, is only saying, that the farther the cutting point is from the part held in the hand, the easier is the cut made, or the more concealed the part, the more boldly we may make the plunge.

Let us now consider the objections which have been made to the lateral operation, by those who use the gorget in preference to the knife. The great danger is supposed to be from bleeding, but the means hinted at, to prevent this accident, militate more against the plan of cutting certain parts, than against the instrument. Upon the authority of Mr. Pattison, we state the following conversation, which he says he had with Mr. A. Cooper. It is proper to remark, that in Mr. Pattison's first Essay he gives the following conversation, as one he had "with my friend Mr. ———, who deservedly stands at the very head of his profession in Great Britain." But in defence of his paper he gives us Mr. Cooper's name. "The longer I practise, the more am I convinced, that the smaller the wound made in operating for lithotomy the better.* I may not live, but probably you will, to

* In answer to this we state the following experiment:—The pelvis was divided so as to leave the bladder and penis attached to the right side. The parts were so dissected as to leave the prostate and bladder quite exposed on their left side. A stone was put in by the fundus of the bladder; an opening was made in the membranous part of the urethra and prostate, sufficient to admit the finger and a pair of forceps. The stone was about an inch in diameter. It required the whole force of one person to keep the portion of the body on the table, while another was trying to drag the stone through the small opening; and it was also necessary, before the stone could be extracted, to push with the left hand against the face of the prostate, otherwise the whole would have been pulled out with the stone. This may give an idea of the resistance of the parts at the neck of the bladder, which we are advised to dilate: for it should be recollected, that the arch of the bones could not resist here, as the pelvis was divided, neither could the muscles, as they were removed. It was the sphincter of the bladder and the prostate only. On everting the parts, after the stone was brought through, the prostate was not found dilated, but *broken* into many small portions, and the ducts of the testicle quite destroyed. This method of castrating must be performed frequently, where the parts are thus lacerated; but it may be avoided by cutting sufficiently.

see the neglected and despised Marian method (*apparatus major*) under some slight modification revived. I do not conceive that the danger of a large wound arises from the division of a membranous part, but from the risque that in making such, some large vessel will be wounded and much blood lost. Hemorrhage is I conceive the cause of death, in most of the operations which terminate fatally; at least, every patient of mine who has died, has, during the operation, lost a very great quantity of blood."

If one will consider the quantity of blood which is sometimes lost by accident, sometimes after amputation, and that which is lost by flooding, and compare it with the most bloody operation of lithotomy (where the *pudica communis* is not opened), then we must come to the conclusion, that some other cause for death after lithotomy must be assigned. A patient was said to have died of bleeding: on injecting the pelvis, to discover the source of the supposed fatal hemorrhage, not an artery larger than the *transversalis* was found opened.* It is not possible to imagine that Mr. Cooper can cut the *pudica communis*; and as we can have no faith in there being in every fatal case of lithotomy a *lusus naturæ* in the distribution of the arteries, nor even in the "large arteries on the prostate," which Mr. Carpue makes, by injecting veins with glue, and which he begs leave to inform us he has been in the habit of doing for a number of years, we must suppose that there is generally some other cause of death; and the most probable one, is the irritation caused by the lodgement of urine, added to the general shock produced by the operation.

This is not a new opinion. Scarpa lately wrote a Memoir on the subject, and Mr. Pattison has supposed, that, during his investigation of Scarpa's observations, he has discovered a certain fascia which will explain the cause of the infiltration of urine. As the irritation produced by the lodgement of the urine

* Two years ago we received a communication from a friend in Paris, informing us that, to avoid the danger of bleeding, M. Dupuytren had invented a new operation. He cut the bladder above the prostate. We recollect, at that time, that in dissecting a subject we found the obturator artery give off the pudic, which clearly demonstrated, that even this new form of incision was not free of the supposed danger. We had forgotten this plan of M. Dupuytren's until a few days ago, when conversing with a very intelligent foreigner on the subject of lithotomy, he told us, that he had seen M. Dupuytren cut seven patients in this manner; of those, five died in consequence of lodgement of the urine between the bladder and pubes. Do these cases, in any way bear upon the question of infiltration, or lodgement of urine after the high operation?

is probably the principal source of danger in all operations of lithotomy, let us enter fully into the question of how it is to be avoided. But we must, as anatomists, be allowed first to investigate how far Mr. Pattison is entitled to the claim which he makes, of the discovery of a new fascia connected with the prostate.

The surgeons in America are neither inclined to give Mr. Pattison the merit of correctness in his anatomy, nor the credit of having made a discovery. Dr. Jameson, of Baltimore, very clearly demonstrates that Mr. Pattison has been incorrect in his anatomy, and that he has deceived himself, in consequence of the particular manner in which he conducted the dissection. But those gentlemen are not so well convinced, that there is not some discovery; for Mr. Pattison, in reply to one of his critics, says, "It was really and truly to me a discovery; it was considered as such, by all the professional friends with whom I conversed on the subject in Edinburgh, London, and Paris." As he ranks among his London and Parisian friends, Mr. Cooper and M. Dupuytren, we cannot be surprised that his opponents should have some hesitation in conceiving, that those gentlemen could have allowed it to be a discovery, if it had been before noticed. Some of his critics have brought against him the work of Mr. Colles, but this Mr. Pattison answers by saying that he acknowledges in his Essay, that he believes that anatomist had seen the same fascia, although he drew no deductions from what he saw. Another opponent brings the 5th N^o. of Mr. C. Bell's Surgical Reports, in which he has given a plate of the same fascia, taken from the thesis of his pupil Dr. Gardiner. To this Mr. Pattison replies, "I have not been able to obtain a sight of this number of Mr. Bell's Reports, and can say nothing of the fascia alluded to by Dr. Gardiner, but this will in no way militate against my claim, as the work quoted was not published until eighteen months after I made public, as a discovery, the prostate fascia." Mr. Pattison is here in an error regarding the date of this plate. The drawing was made in the dissecting room of Great Windmill-street, in 1813, and it was printed in the same year by Dr. Gardiner in his probationary essay, on entering into the College of Surgeons in Edinburgh. Although Mr. Pattison was then in Glasgow, he might not have had an opportunity of seeing the thesis, but it is rather curious that he should in the investigation of this subject have omitted to examine the splendid book from which the following quotation is taken, and which was published before the Memoir of Scarpa, which Mr. Pattison informs us led him to make the discovery.

"Fig. III. Plate I.—This figure exhibits the fascia which

comes down from the bladder and os pubis to cover the fore part of the prostate gland;" and in the next page, "further it is this fascia, which, being imperfectly cut across in the operation for the stone, permits the urine to lodge behind it, and thus produces abscess. The abscess forming behind the fascia, its progress is directed towards the rectum."—Engravings of specimens of Morbid Parts preserved in the Author's Collection. By Charles Bell, fol. 1813.

Mr. Pattison, after shewing that though many anatomists must have seen the circulation prior to the time of Harvey, says very properly, that since they could draw no conclusions from what they saw, that they were not entitled to the merit of making the discovery; so, "if physiological inferences are necessary to constitute an anatomico-physiological discovery, certainly surgical deductions are equally required to an anatomico-chirurgical one; and I trust that even W. will allow, that I have been the first to draw these inferences from the connections of the prostate fascia." So far Mr. Pattison is correct, in conceiving that a *discovery* will not be attended to, unless some deduction be drawn from it; but we trust he will allow, that although Mr. Bell has drawn a very opposite inference from his observations of this fascia, that Mr. Pattison will still consider it sufficient to entitle Mr. Bell to give in his claim as the discoverer of the fascia; but we believe W. (one of Mr. Pattison's opponents) was correct in saying, "in fact, these parts appear to be spoken of, both by Mr. Colles and Mr. Bell as matters of course; as things which have been long known, and to claim which as discoveries, would undoubtedly in their eyes seem ridiculous in the extreme."

Enough has now been given to entitle us to say, that the discovery of this fascia may be ranked with that of the hundred fasciæ, which were made in the groins of subjects in Scotland and elsewhere, when the anatomy of hernia was in fashion, and that it was really known to some anatomists in London, notwithstanding Mr. Pattison's assertion. "It would appear, previous to the publication of my sentiments regarding the connection of the prostate fascia, none of the anatomists in Europe, to whom I had demonstrated it, were aware that such a fascia existed, and in America no surgeon ever thought of this connection."

Let us now come to the practical question; and here we shall find a difference of opinion, to canvass which, is much more important than the title to the discovery. Mr. Pattison says, that infiltration of urine takes place, in consequence of cutting this fascia; and to establish this opinion, he gives us a diary of his thoughts on the operation of lithotomy. He tells us that, in his "boyish days," he imagined that patients died after the ope-

ration of lithotomy, in consequence of too small an incision. We suspect that his first impressions were more correct than his present opinions ; for he tells us, that he has come by a train of reasoning to satisfy himself, that the safe operation, is to cut only a very small part of the prostate, and to dilate the rest. This opinion is founded on the idea, that by cutting the fascia of the prostate, the urine is allowed to pass between the bladder and the rectum. "The prostate fascia separates the perineum from the pelvis, and the basis of the gland remaining uncut, it is physically impossible for one drop of urine to infiltrate into the cellular substance which connects the bladder to the rectum ;" founded upon this view of the anatomy, he *proposes* an operation, in which he will not cut this fascia. Had his premises been correct, we might have agreed to his deductions, but our dissections and experiments prove, that it is physically impossible to extract a stone, of even a moderate size with the forceps, without either cutting or tearing this inelastic membrane, which Mr. Pattison calls fascia of the prostate. So the question will resolve itself into this—are the parts here, to be cut or torn ? for we can only take the term *dilatation* of the prostate, as meaning *tearing*. We may as well speak of dilating a piece of Stilton cheese as of dilating the prostate gland. In saying so we are aware, that we are expressing an opinion different from that of Scarpa ; but our observations are founded upon experiment, and upon what is seen in the prostate of a person, from whom a stone has been extracted. But on referring to what Scarpa has said, it will be found that if he leaves any of the prostate uncut, it must be a very small portion ; and by cutting according to Scarpa's plan, the fascia which is connected to the fore part of the prostate must be divided. Mr. Pattison uses the instrument of Mr. Peile of Dublin, which, he says, "possesses all the advantages which are secured in his (Scarpa's) operation, while it is freed from all the dangers attendant on the use of the gorget." Our grand objection to this instrument is, that it is used on the principle of the gorget, and with as small a staff ; but the following cases will prove that it is not so free from danger as Mr. Pattison supposes. We shall not give any names, but we have reason to believe the following to be a correct report :—

"Within the last four years, four boys have been operated on for lithotomy, with Mr. Peile's instrument, by the same surgeon, at an hospital in this town. One is said to be well.

"The eldest, ———, now aged sixteen years, nine months after the operation, which was performed three years ago, was dismissed in his present situation ; *feces* and air passing through the urethra, incontinence of urine, the greater part of which

flows per anum through a wound made during the operation in the rectum, and which is still capable of admitting two fingers into the bladder.

“———, now aged thirteen, operated on more than two years ago, was kept in the house nine months after the operation, has been since taken in two different times, and has been there three months each time. He labours under incontinence of urine, the greater part of which flows through a fistulous opening in the perineum.

“———, aged fourteen, was operated on more than twelve months ago, since the operation, has had no power of retaining his urine.”

But to return to the question of the cause of infiltration of urine. It will be evident to any who makes the experiment fairly on the dead body, that the fascia which Mr. Pattison describes, must be cut or torn in every case, where a stone the size of a walnut is extracted; so his explanation may be set aside. But the subject is one of great difficulty, when we consider the various results that occur, after operations performed apparently on the same principle. The following cases may, perhaps, throw some light on the cause of the infiltration of urine.

We were invited by a gentleman who lives about thirty miles from town, to assist him in performing an operation of lithotomy upon a hale stout man, about fifty years of age. The operation was exceedingly well performed with the gorget, and a very large stone was extracted. There was very little hemorrhage during the operation, but towards the evening a slight bleeding took place. The surgeon who had operated, was accompanied in his evening visit by a surgeon from the army, and was induced by him to put a compress on the wound, and which he fastened with a T bandage. In the morning the scrotum was found puffed up. In three days it was gangrenous, and the patient died, as one with effusion of urine, in consequence of rupture of the urethra. The cause of this effusion is so apparent, that it requires no comment, though the case furnishes a most valuable lesson.

We were the principal assistant in the operation on a gentleman, who was well known in London; his sufferings prior to the operation were excessive, and his case was rendered particularly interesting, not only on account of the manly manner in which he bore his sufferings, but also from there being a difficulty of ascertaining the real state of his bladder, in consequence of his having a stricture. There was some difficulty in introducing the staff, but the cutting part of the operation was done

with great rapidity; there was very little injury done to the sides of the wound in the extraction of the stone, as it was so sandy a calculus that it was brought away in very small pieces. The only tedious part of the operation was syringing the bladder; and he was put to bed less exhausted by the operation than any patient we ever remember to have seen. There was very little blood lost during the operation. He begged to be allowed to lie upon his side; this was granted for a short time, as he expressed himself much relieved of pain by lying in that position. The operation was performed at half past three: on coming to him about nine in the evening, we found him exceedingly well and cheerful, suffering very little pain. On looking at the wound, we were rather surprised to see no marks of blood or urine on the clothes; and we were, moreover, informed by the nurse and pupil in attendance, that no urine had passed; the patient had been lying on his back for the last three hours, having only lain a very short time on his side. Suspecting that some clot of blood might be the cause of stopping the wound, we passed the finger in, and were much astonished to find that it required considerable *boring* to introduce the finger into a wound, which six hours before admitted a large pair of forceps, enclosing a portion of stone to pass. The fore finger was passed as far as the knuckle: a small quantity of blood and urine followed. It was not deemed necessary to do more, as he was not suffering, nor had he any desire to make water; and we reasonably enough imagined that, in consequence of the irritation of the kidney, produced by the operation, that little urine had been secreted. He was then given in charge to the nurse, with an urgent request that he should lie on his back.

In the morning visit, at eight, we were told by the nurse that, towards midnight, our patient had suffered excessive pain in the bladder, of which he was relieved about six in the morning, by passing about a pint of bloody water by the penis. Through this and the two succeeding days he was remarkably well, the urine passing freely by the perineum, and he complaining only of a slight pain, quite on the pubes, for he put his hand on the hair of the pubes, when pointing to the part pained. This was imagined to be in consequence of having pulled the penis rather rudely on the staff during the operation, to prevent the escape of the urine. This pain was quite relieved by the application of leeches. He continued very well on the fourth day, but on the fifth, he was attacked by purging, with a very indistinct sort of pain in the lower part of the belly. The purging continued; he lost his spirits, and though he expressed himself as suffering no particular pain, still he said, he was sure that he

should die. He died on the thirteenth day after the operation.—The cause of his death was fully explained on dissection. There was a large abscess, containing portions of gangrened cellular membrane, between the pubes and peritoneum; this abscess being exactly similar to that produced by effusion of urine in other circumstances. What was the cause of this effusion? It may, perhaps, be thought paradoxical to say, that it happened because the operation was particularly well performed; but let us try to explain the meaning of this assertion.

The operation, according to the received notions, was very well performed. The stone was extracted quickly, and without any laceration of the parts, or any serious bleeding: but what followed? The wound was so little bruised by the extraction of the stone, that the healthy tumefaction of the injured parts became so great, that the whole extent of the wound was actually closed. In consequence of this, it required very considerable force to pass in the fore finger; this may appear to be a thing almost incredible, but we most solemnly avow that it was so. After seeing this, is it not easy to explain what took place? In the first case related, the obstruction was on the surface of the wound, and the urine was consequently driven into the cellular membrane, below the skin into the scrotum; but here the obstruction was deeper, and the urine, while it was forcibly driven into the urethra (for it came with great violence), escaped by the cut in the side of the urethra, into the cellular membrane, between the bladder and pubes, and lodging there, was the cause of the abscess.

On relating this case to a friend, he told us the following:—He had been requested to be present at an operation of lithotomy. About eight hours after the operation, he was sent for by the friends of the patient; on coming to the patient, he found him suffering such excessive pain in the bladder, that he begged that the surgeon who had operated might be sent for. The gentleman who had operated was much surprised at finding his patient so ill, and confessed he did not understand why he should suffer so much; but finding the external wound very much contracted, he most judiciously forced a catheter through it into the bladder, and thus relieved the patient by drawing off a quantity of urine. There can be little doubt, that the same consequences would have followed in this case as in the last related, had not the bladder been relieved.

If to these cases, we add the well known fact, that for the first twenty-four hours after the operation, the urine generally flows by the urethra, we shall probably come to form a correct judgment of the reason why patients die so often of effusion of urine,

and knowing this, be led to the proper means of preventing it. The most obvious cause of this obstruction to the passage of the urine during the first 24 hours, is the great swelling that takes place in the tract of the wound, and it must be evident that the less violence there is done to the parts in extracting the stone, the more healthy tumefaction will there be. How is this obstruction to be guarded against? It must be obvious, that a particular position of the patient will tend to increase the obstruction, e. g. lying on the side; but the objections to this position are so apparent to every surgeon, that no one will permit his patient to lie so, except for a short time, to relieve him from the great pain immediately succeeding the operation; for it is generally found to be the easiest posture. We recollect, while assisting to carry a gentleman into bed after the operation, that a surgeon, who operates on more patients than any other in town, checked us for not keeping the knees close, to repress the oozing of blood. He was also most particular in advising us to keep the knees of the patient together, when he was put into bed. Now it must be evident, if by this position we can prevent the blood from flowing, that we must also prevent the urine from escaping.

Is it not allowable, reasoning on these facts, to say, that the limbs may be permitted to lie apart, and thus prevent, in some degree, the chance of effusion, either of blood or urine, and at the same time afford the patient great ease. For why do we put the legs together? Is it to stop the bleeding? If so, can any one imagine that it is possible to stop a dangerous bleeding by such pressure? And if it be only an oozing, is that to be prevented? is it not rather beneficial to the patient—and that it should pass outwards; for is it not believed, that the blood being forced back into the bladder is even sufficient cause to account for death in some cases, not because of the quantity of blood lost, but from the irritation consequent upon the lodgement of the coagulum. And no one can imagine it to be of the slightest import to the ultimate closing of the wound, whether the legs be together or separate for the first 24 hours. But what is to be done, if this tumefaction is to be expected to come on, to such a degree as to close the wound, independent of the position? Can we not make a channel for the urine. Some of the older surgeons put tents into the wound; not on this principle, but rather with a view to keep to some old axioms of Hippocrates and Galen; so that, though the practice was good, it was given up, because the principle on which they did it was proved to be founded in error.

But taking a different view of the matter, would not a revival of this practice be beneficial? The tent might be withdrawn

every two or three hours; but as this would teaze a patient whom we would wish to keep quiet, would it not be better to introduce a canula occasionally, or to let a canula of elastic gum remain in the wound. What will be the objections to this? That it will be a source of irritation to the bladder: but what is the irritation of a smooth canula compared to that of the rough stone which has just been removed; and such an instrument need not remain in longer than twenty-four hours, for after that period the urine generally passes by the perineum, for the great tumefaction is by that time generally much reduced. Although we know of no treatise in which the importance of this accident is dwelt upon, nor where the introduction of a canula or a catheter is laid down distinctly as a rule of practice, still by inquiry we shall find that it has been at all times more or less used. In 1556, Franco wrote upon the subject, and instead of agreeing with Guido and others in putting sutures in the wound to close it, still he says he seldom uses tents, although they may be necessary when the stone is small, that the parts may not agglutinate; but here he remarks, "*afin que l'urine sorte plus a son aise et si voudrois que la ditte tente soit perceë; auterment n'y en mettre point afin qui ne face retention du sang et de l'urine.*" Rosset, in arguing upon the high operation, says, "I knowingly pass by the easy retention of the tube in the penis, if the urine should happen not to pass well; which the common lithotomists are wont often to make use of, before closing the wound."

But we must be still more astonished that the necessity of introducing a canula has not been more enforced, when we see how clear Sharp is in his observations. "The first good symptoms after the operation, is the urine coming freely away, as we then know the lips of the bladder and the prostate are not much inflamed, for they often grow turgid, and shut up the orifice in such a manner, as not only to prevent the issue of the water, but even the introduction of the finger, or female catheter, so that sometimes we are forced to pass a catheter by the penis*."—p. 113.

* We are exceedingly happy to have it in our power to give the following example of the good effects of the introduction of the canula:—

December 8, 1820.—Henry Coleman, aged twenty-two, was cut for the stone in the Middlesex Hospital by Mr. Cartwright. The operation was very dexterously done, and the stone was extracted in less than three minutes after the introduction of the staff. The patient was cut at half-past twelve. At six in the evening no water had come away; a canula was then passed into the bladder. In doing this, Mr. Cartwright found the opening at the neck of the bladder very much contracted. On the canula reaching the bladder, a quantity of bloody water spurted

We may now be allowed to submit, that effusion of urine is generally owing to the following causes :—

1st. That the parts at the neck of the bladder are not cut *clean*, that they are lacerated, and the cells of the cellular membrane consequently more opened.

2d. That in trying to push in the gorget, or from the bad management in the introduction of the forceps, a cavity is made in the cellular membrane anterior to the bladder, and thus a *sac* is formed for the lodgement of the urine.

3d. That the first incision is made too high; that there is not a depending opening for the urine to pass.

4th. That, although every incision may be correctly made, still the passage of the urine may be obstructed by the swelling of the sides of the wound.

It is very natural in this inquiry to make a few observations on the *high operation*.

When a student for the first time sees the dissection of the perineum, the distance at which the bladder is situated from the external parts, when he compares it with the appearance of a distended bladder when the abdomen is opened, he at once comes to the conclusion, that if a stone is to be extracted from the bladder, *here* above the pubes is the proper place to perform the operation. This was the conclusion which the older surgeons came to, and the high operation was that recommended, until experience shewed it to be a very dangerous ope-

through it, to the distance of four feet! The instrument was left in the bladder; the patient did not suffer the slightest inconvenience from it. The urine did not flow by the side of the tube, but came dribbling through it. On the succeeding day the wound appeared completely closed round the canula. On the third day the tube was removed, and *now* the opening appeared to be *larger* than on the preceding day, and the urine now dribbled freely through the wound; on the fifth and sixth day some urine passed by the penis.

Excepting a slight pain in the bowels, combined with head-ache, on the third day after the operation (but which was completely removed by a purge, though leeches were applied as a preventative of inflammation), this patient has not suffered the slightest pain since the introduction of the canula, up to this, the ninth day. Some of the urine still passes by the wound, although a very large quantity passes by the penis. The whole progress of this case entitles us to say, that it may be considered as one of the most successful on record.

We are happy to see that our opinions are strengthened by the authority of Dr. Physick, who has shewn so much ingenuity in many points of surgery. He says, that of late he has been in the constant habit of introducing a piece of canula into the wound, and since he began this practice his success has been much increased.

ration. Without bringing forward facts to prove this, we think it will be allowed to us, that there must have been some very strong circumstances against this apparently simple operation, which induced surgeons to give it up for an operation which to the unexperienced must appear very difficult. It is the same view of the bladder, which those who advocate the operation in our days take, forgetting that every thing is different in the living body, and particularly when a bladder has been irritated by a large stone. When such anatomists bring forward their arguments, no wonder that the practical surgeon laughs at them. There are two sets of men in our profession, anatomists, or rather dissectors who are not surgeons, and surgeons who are not anatomists. They are nearly on a par.

The high operation was given up by all the best surgeons in Europe, except in very particular cases. It has been attempted to be again introduced into this country, by a surgeon who saw the operation performed in Paris, three years ago, by M. Souberbielle. The same surgeon has since given us a book upon this operation, in which he displays great naivete in writing. Although he gives us a history of lithotomy, and in the course of the book gives us a full description of Frere Cosme's operation, and the instruments used in it, still he tells us in his introduction, "he now passed along the director (an instrument that had something of the form of a catheter), which was held by an assistant. It is not possible for any one to conceive my astonishment; I could not comprehend for what purpose this was introduced." This honest burst, shewing his ignorance of the common *sonde a dard*, may give some idea of the depth of this surgeon's information on the operation of lithotomy, prior to his visit to Paris. Though this allusion may appear invidious, still it is necessary for us to shew, that if the high operation is to be recommended in *all cases*, that the recommendation should come from a surgeon who is well versed in the history of the operation.

We performed the high operation on the dead body in Paris, in 1814, when discussing the merits of the various operations of lithotomy with M. Beclard, then Chef des Travaux Anatomiques. But on returning to London, we never dreamt of describing this operation as a novelty, for we knew well, that the high operation, according to the plan of Frere Cosme, had been a regular operation in *particular cases*, in Paris, for many years. We were introduced to M. Souberbielle, by Sir Wm. Crichton, then at the head of the Russian Staff. At that time M. Souberbielle was not reckoned, by the surgeons of Paris, a *regular man*; and this excited our curiosity to see one of the

descendants of the itinerant lithotomists. We unfortunately forgot the hour at which we were engaged to see M. Souberbielle operate; but, according to our friend Crichton's report, the operation was begun with the intention of finishing it in the perineum; but on finding the stone very large, the operator said, "ma foi, c'est bien grande, il faut la faire en haut;" and then he finished the operation by cutting above. We were then led to believe, that Souberbielle performed the high operation only in particular cases.*

* A few days ago we received the following letter from M. Breschet, the Chef des Travaux Anatomiques in Paris, a Gentleman whose researches upon Hernia we have already had the pleasure of laying before our readers. We are sure we cannot offend him, by making use of this hurried Note, as we have already shewn in former Numbers, to what a depth he has carried his investigations into some of the most interesting points of Surgery:—

" Faculté de Médecine de Paris, 18—9tre, 1820.

" Je me fais un vrai plaisir de fournir à M. Shaw les renseignements qu'il me demande, seulement Je regrette de n'avoir que peu de chose à lui communiquer.

" Depuis l'ouvrage de Frère Cosme et celui de son neveu Basilhac aucune monographie ou traité particulier n'a été publié en France sur la taille Hypogastrique ou haut appareil de la Lithotomie.

" Celle Méthode Opératoire est employé quelquefois mais rarement par les grands praticiens de Paris et lorsqu'ils l'emploient c'est qu'ils jugent la pierre trop volumineuse pour être extraite par la taille latéralisée, presque toujours ils font d'abord la taille latérale, puis ils font la taille Hypogastrique, cependant chez les femmes ils font de suite la Lithotomie par le haut appareil.

" Il est à Paris une personne que si dit petit neveu de Frère Cosme et qui fait fréquemment la taille Hypogastrique il suit en tous points le procédé de son Parent, il a même conservé jusqu'aux instruments les moins utiles—c'est M. Souberbielle.

" Dans les derniers temps, depuis la publication des traités de Médecine opératoire de Lassus, Sabatier et du traité de Deschamps sur la Lithotomie, il y a quelques perfections introduits dans cette branche de l'art.

" 1.—M. Dupuytren a publié lors de son concours pour une chaire de Médecine opératoire à la faculté de Médecine de Paris, une *Dissertation* sur la *Lithotomie*, Paris, 1812.

" 2.—M. Sanson Clerc de M. Dupuytren a donné pour son Doctorat une thèse sur une nouvelle méthode de pratiquer la Lithotomie—Il arrive à la vessie par l'intestin rectum, Je crois avoir envoyé cette dissertation à M. Shaw, cette méthode a été mise en pratique en France et en Italie, Je sais que dernièrement Vacca Berlinghieri l'a pratiquée avec succès.

" 3.—M. Dupuytren a proposé, Il y a quelques années une nouvelle méthode de Lithotomie, il intéresse la vessie en haut et en avant, et fait son incision extérieure sur le raphé—cette opération est décrite dans l'ouvrage qui a pour titre.—*Histoire*

It will not be denied, that before a surgeon is entitled to condemn the lateral operation, that he must be acquainted with the anatomy of the parts which are cut in this operation. We shall not hypocritically say, that we are sorry to bring forward proofs from the same author, of his having at least a most extraordinary idea of the anatomy of the perineum, for we wish, in as strong a manner as possible, to shew the erroneous data upon which some imagine the lateral operation to be condemned—and in its stead, a most dangerous one proposed. It will not be necessary in proof, to quote the whole of pages 134 and 135, in which the author says,—“Before we consider what is done in the lateral operation, it is necessary that we should understand the situation of the bladder and its connections.” “If, for a moment, we consider the situation of the bladder and the parts connected with it (such as the levatores ani, the obturatores interni, the coccygian muscles, the muscles from the rami of the ischium), we shall find that those muscles act on a part (i. e. the bladder) which is but slightly attached to the pubes by cellular substance and by the lateral ligaments. These I find, by repeated dissections, are seldom the same in different subjects. I say, if we consider the action of these muscles, the situation of the bladder must vary under different circumstances.”

Now, we boldly ask, does any one who ever dissected these parts, either as a tyro, or in the investigation of the surgery of the part, imagine that the most convulsive action of the coccygeus, or obturator, which is not only separated from the bladder by a strong dense fascia, but is inserted into the femur, can have the slightest action on the bladder; or did they ever see them “as the parts connected with it?”

et description de la taille laterale suivant la methode perfectionnee par Chesselden, &c. traduit de l'anglais par M. H. Guerin suivie d'une methode nouvelle pour la taille trouvee par M. Dupuytren, 1818.

“4.—On a aussi publié des Memoires sur la Lithotomie Vaginale; M. Clemot de Rochefort et M. Flaubers de Rouen ont donné des observations.

“5.—Je ne vous parle pas de l'ouvrage de votre compatriote M. Carpue, il est, connu, jugé, et condamné par vous et par nous.

“6.—J'ai appris que votre ami M. Cross s'occupait d'une travail sur le même sujet—mieux que moi vous devez savoir ce qu'il en dit.

“Voilà mon chere confrere ce que Je sais sur le point de chirurgie pour lequel vous me faites demander des renseignements, si je puis vous être agréable en tout autre point J'y suis également disposé.

“G BRESCHET.

P. S.—“Je sais que M. Souberbielle prepare un ouvrage sur le haut appareil mais il n'a pas encore paru.”

We shall only give one other striking instance of the anatomy:—"Hemorrhage,—a branch of the internal pudical artery, which is ramified upon the prostate, and the ramifications of which are as various as those of an oak, is frequently divided by the gorget, the bistoure-cachee, and the knife; and I have known several patients die of the division of this artery." In a foot-note he says, "a branch of this artery is sometimes wounded on withdrawing the gorget." In our dissections, which we may number at some hundreds, excepting once or twice, we never saw an artery of any importance on the prostate gland; that is, they were very numerous and small, and these we know are not the arteries to cause a dangerous bleeding. We have found, in two or three instances, the pudica communis pass along the prostate; and Dr. Barclay, who has collected every fact relating to the variety of arteries, mentions only three instances of this kind. Is it probable that the "several patients," whom the author has known to die in consequence of the division of this artery, had the misfortune to have both stone, and this very unusual distribution of the arteries? Is it not more probable that *if the patients did die of hemorrhage*, that it was in consequence of the pudica communis being cut, either in the forcing in, or in the withdrawing of the gorget? This we suppose must be the vessel the author means, when he says, "a branch of this artery is sometimes wounded on withdrawing the gorget."

The whole contents of the book have such an air of honesty, that we are perfectly satisfied the author supposed he was correct in what he wrote, and we believe that he has seen vessels of a very considerable size on the prostate, but that the vessels he saw were veins, not arteries; and he has probably been led into this mistake in consequence of using the glue injection, which all those accustomed to make preparations, know, finds a very easy passage into the veins. "In the course of my dissections and demonstrations I beg leave to observe, that I have been in the habit of injecting with glue, for a number of years, *every subject* that I have dissected." —p. 151.

We shall not here enter farther on the anatomy, we shall only remark, if this author believes that the danger of hemorrhage is from cutting the prostate, (p. 150.) what are we to think of the wonderful escape of the thousands who have had it cut?

Let us now examine how far the reasoning of the same authority would induce us to perform the high operation. We shall not argue fully upon the whole advantages, which he enumerates

as to be derived from the high operation, but we shall shortly state them.

Advantage 1st. "Because it is generally performed in less time." This has not been the case in London.

2d. "There is less pain." That may be a question.

3d. "There is no fear of a fatal hemorrhage." We have already shewn his fears of hemorrhage to be founded in error; we shall only add, that the instances of the pudic artery running over the fundus of the bladder, from the obturator, are more numerous, than of the artery running along the prostate.

4th. "There is no division of the prostate, nor of the inferior part of the bladder, nor is there any danger of wounding the rectum." This has been already sufficiently argued in the first part of this paper.

5th. "A stone, if of a certain size, cannot be extracted by the lateral, but may be extracted by this method." This is allowed to be *perhaps* one of the proper cases; but it is a question whether in this desperate case we ought not rather to try and break the stone, and then extract the portions by the lateral operation.

6th. "If the stone breaks, the particles can be extracted with greater ease than in the lateral operation." Does any other surgeon think so; and was not the difficulty of extracting the small portions, one of the principal reasons for abandoning the operation?

7th. "If the stone is concealed in a cyst, the cyst can be destroyed, and the stone extracted, as in Sir E. Home's case; there is also no danger of including part of the bladder with the stone, nor any danger of a fistulous opening after the operation." The latter part of this is not worth arguing, and it is a pity that an argument of so much importance should arise from a statement such as the first part of the paragraph; we shall not enter upon it fully, but put these queries: Is it generally necessary from the train of symptoms to operate where the stone is encysted? If a stone is concealed in a cyst, can it be easily felt with the staff? Will there not be at least some sensations conveyed in sounding, that should give the operator an idea that the stone is in a cyst; and were he suspicious of it, would he not say so before he commenced his operation? How many patients have died since the commencement of the practice of plunging the gorget, with what are called encysted stones, and how many examples of these cysts have been preserved and shewn publicly? We shall answer this, we have seen some where the cyst was the bladder unopened. How often did Chesselden, or Rau, send their patients to bed, saying the stone was encysted; and how often has this occurred in modern times? Does not the driving the bladder before the gorget, mentioned in the early

part of this Essay, account for some of the *cysts*? What can the author mean "by destroying a cyst?" Does he not know that the cyst is always on the outside of the bladder, and that if it is destroyed another wound must be made in the bladder? But neither our wishes, nor our limits, will permit us to enter farther into this subject at present.*

8th. "In case there should be any disease of the bladder, it can be examined, and proper means prescribed for the cure." We confess, we have not the slightest idea what this can mean.

9th. "In patients where the staff cannot be passed in consequence of stricture, or disease of the prostate, or where the calculus is of a certain magnitude, there is no choice of the mode of operating; either the high operation must be performed, or the patient is doomed to linger out a life of wretchedness." This truly is a desperate case; but it strikes us that the only way of being satisfied that there is a stone in the bladder, is by sounding. Would we make an opening into a man's belly, because he had the symptoms of stone? Might it not be an ulcer, or an abscess at the neck of the bladder, &c. &c.? Then if we can sound him, we may cut him by the lateral operation.

Thus far we hope we have treated the matter fairly, and if any thing is wanting to substantiate the argument with which we

* It would appear, that in all ages the common excuse for not extracting a stone has been, that it was enclosed in a sac; for Rosset, in a very curious Treatise on Lithotomy, printed at Paris in 1590, commences one of his chapters with this head. "It is a crafty device to say, that the stones in the bladder are covered with skins." When portions of the bladder were pulled away with the stone, he says, "for it does not seem that any of those membranes, which those impostors (with the leave of the honest and skilful operators be it spoken) put upon us, are different from the solid body and substance of those bladders that are found in the bodies of them that are newly dead." "Besides, what need would there be of cutting the bladder if the stone were invested by a membrane; for the membrane by its smoothness would prevent the stones sticking and rubbing against the bladder, and consequently would abate the pain, which nevertheless is intolerable, as is plainly evident from this alone, that it forces the unhappy persons who are thus afflicted to run, in spite of their teeth upon this hazardous way of cutting. But this one thing particularly (they themselves being judges), is a plain proof of its being a lie, by which they excuse their killing of mankind. Every stone which they extract uses, before they extract it, to be perceived by the sounding noise the catheter makes on the stone; for if that be not heard, they never attempt extracting it. But no stone invested with a membrane can be perceived by that sounding noise of the catheter against it, for the membrane intervening hinders it. Therefore no stone invested with a membrane, is ever extracted by them, whatever they may prate to the contrary."

set out, we shall say that this author has not said one word of the danger of wounding the intestine, when the bladder is small ; not one word of the danger of wounding the colon and rectum, should they adhere to the fundus of the bladder in consequence of inflammation. The wounding of the peritoneum, he treats as a very trifle. "Though this accident is not attended with any danger, it embarrasses the surgeon."

By studying the anatomy of the pelvis, and by comparing the deductions which we draw from it, with the observations of those authorities who have written upon the subject, and by witnessing the performance of the operation on the living body, we are fully convinced that the high operation is, in the greater number of cases a most dangerous one ; still, when we look to what we have written, we see that it may be supposed that some of our arguments may have been strengthened by the weakness of the modern advocate for the operation. For this reason, we are desirous of meeting the question fairly, and this we hope to have an early opportunity of doing, as we have been promised a Memoir on the subject by the venerable Scarpa. At present we shall only make a few remarks on the alleged superiority of the present mode of operating over that followed by the older surgeons.

1. It is *now* argued that the danger of the high operation consists in previously injecting the bladder, and it is, moreover, said, that if we operate on a full bladder, that the case is necessarily fatal. Why this should be, we cannot imagine ; but in answer to the assertion that the injection of the bladder is very dangerous, we have to remark, that Chesselden injected the bladders of the nine boys, whom he cut successfully ; and that in the greater number of the cases prior to the time of Frere Cosme, this plan was followed. The objections to the injecting of the bladder are conveyed, in all the treatises on this subject, in a very vague manner ; and as for the bursting of the bladder, we should suppose it very improbable that any surgeon in his sober senses would use so much force as to burst one, and particularly a bladder where the coats were thickened by the irritation of the stone.

2. That now the catheter is introduced by the urethra, which prevents the urine flowing by the upper opening. In answer to this we say, that Frere Cosme invented the cut in the perineum, because he found that though the catheter was passed, still pus and urine were lodged in the cellular membrane, above the bladder. It is a little extraordinary that it should be argued, that the catheter in the urethra should carry away all the urine, and prevent any coming from the upper opening, when it has happened, that even though a canula

was in the depending part of the bladder, that still the urine has passed by the upper opening.

3. That though the bladder may be small and contracted, that it may be projected above the pubes by the sonde a-dard. Upon this M. Dupuytren, in his "*Lithotomie*," remarks, that there is great difficulty in introducing a sonde a-dard, between a large stone and a thickened bladder. We have seen cases where the bladder has so closely invested the stone, that this part of the operation must have been almost impossible; for in one case the operator found that he could not introduce a staff, farther than into the neck of the bladder. In this case there had been for a long time incontinence of urine; and here we may remark an error into which not only the older surgeons, but a modern one has fallen, in calling a bladder thickened by the irritation of the stone a *scirrhus bladder*. Were an operation above the pubes, for the extraction of a large rough stone, where there had been great irritation, to be fatal, we have no doubt that we should hear that the cause of the patient's death was a scirrhus ulcerated bladder, and we should have it *proved* by a *sectio cadaveris*.

4. It has been said that it is easier to get at the stone by the high operation. We have measured the distance (in a stout but not a fat man), from the cut in the linea alba to the part of the bladder behind the prostate, where the stone generally lodges, and found it to be more than six inches; in the same man, the stone could be touched from the perineum by the forefinger, the distance not being four inches. Here we may add one of the arguments against the lateral operation, which is rather amusing; "but the grand and insurmountable objection to the lateral operation is, *that we are operating in the dark*." This infers that we are operating in the light, in the high operation, but *our eyes* are not quite so well adapted for looking into such a bloody pit as is made in the high operation, as to see all that is going on there, or even to examine a disease and prescribe for its cure. See 8th reason for preferring the high operation.

In conclusion we may remark, that there are not many successful cases on record, where the stone has been very large. Frere Cosme himself allows that in many cases the operation is the direct cause of peritonitis, even without epanchement d'urine dans le Peritoine—and also, that it causes abscess in the cellular tissue of the pelvis—que ces absces tiennent aux déchirures et aux desordres produits par l'operation ou a des infiltrations d'urine. This we must consider the grand objection, for with proper care we may avoid wounding the peritoneum; but, if infiltration of urine, or abscess take place, we have no means

of making a channel to prevent its spreading among the loose cellular membrane between the peritoneum and pubes.

We of course can have no experience in this accident, and must trust to the evidences of history, which cannot be *all* wrong. We know that two patients have been operated on in London by the high operation, and have not died; but these were young and healthy lads, where the stone was small. In such patients, we know that the healthy inflammation will very quickly form a channel from the wound in the bladder to that in the skin; moreover, there is a fact entirely forgotten by the modern advocates of this operation, that the anatomy of the bladder in boys is very different from that of adults—that it lies much higher, and it was perhaps this which led all the old authorities to say, that this operation was almost inevitably fatal after the age of thirty.

We may sum up by saying, that all the accidents which are generally assigned as the reason why patients die after the lateral operation, are more apt to take place after the high operation; we need only particularize inflammation of the peritoneum, and infiltration of urine.

We have to apologise for the length of this article, and for the form which it has taken. We commenced it in the hope of being able to impress upon our readers, the necessity of the drawing off the urine by a canula, after the lateral operation; and in the expectation, that the facility with which the lateral operation with the knife may be performed, when a large staff is in the bladder, would be so evident, that surgeons would be convinced, that it was really an easier operation than that performed above the pubes. May we hope that we have proved that much of the danger incident to the lateral operation, may be obviated by the use of the canula. It was impossible in an Essay of this kind, at the present moment, to avoid touching upon the question of the high operation; and we trust we shall be believed when we say, that the inquiry into the merits of the proposal for the renewal of this operation has been a most unpleasant task—it has been forced upon us by the consideration of its importance, and by our desire to protest against the opinion which prevails in London, that the high operation is the one now generally recommended in the west end of the town.

[The following note was sent to the Editor with this Essay:—

Albany, Dec. 10, 1820.

“DEAR SIR—I think you will agree with me, that *I ought* to acknowledge myself to be the author of this paper. Your’s truly,

“JOHN SHAW.”]

