On Stricture
by
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Structure.

As I suppose the reason why intending graduates are required to write a thesis is either, that they may bring before the notice of their professors any original communication or observation they may have made; or that if their essay is not original, it may at least show that they understand their subject, and that they possess such an average capacity of intellect and general scholarship, as will not detract from the good name of the time-honoured University of which they seek to become a member.

Such being the intention of the thesis, they leave to offer as mine, the following monograph on Structure of the Welthia; not that I can do such a subject justice, but that my application to it now may be of service to me hereafter.

I shall treat of Structure of the
urethra only, other structures occur in the body, but this is by far the most common and important. It gives rise to one of the most distressing maladies which can befall a person, but when relieved by surgical aid, as it fortunately can be, there is no affection for the cure of which the patient feels more grateful, & from which he derives greater satisfaction.

There are two sorts of Strictures recognised, the permanent, organic, or structure proper, induced by continued subacute inflammation, leading to induration from the deposition of plastic matter, and the spasmatic or inflammatory produced by transient causes.

Of the causes which induce the permanent form we find none more frequent than acute inflammation of the canal itself, but this inflammation is of a specific character, namely gonorrhea, simple or nonspecific, inflammation being rare in the urethra. It is only gonorrheas which have been unskillfully treated, or allowed to run on for a lengthened period, & thus keep up a constant source of irritation, that give rise to stricture. That it more frequently follows gonorrhea than any other cause has long been the opinion of surgeons; this is verified by the statistics given by Thompson
in his work on Structure. Of 220 cases, where the causes were correctly ascertained, 162 had previously suffered from gonorrhea, thus clearly establishing a relation between the two affections. Structure arises from other causes but much more rarely, accidentally as it were. Of other sources, injuries sustained on the perineum may be mentioned, the injury may be so violent as to rupture the urethra, then healing by the contraction of occasions, form a very intractable structure; or it may arise from inflammation thus caused in the surrounding tissues, spreading to the urethra causing a deposition of new matter.

The use of strong metallic injections in the treatment of gonorrhea is given as a source of structure, but I am not sure that the influence ascribed to the injection could be detected apart from the gonorrhea.

A putated and aerial state of the urine from errors in diet, or continued ill-health, from its constant irritation of the mucous membrane, may lead to organic deposit by narrowing, 

Horse exercise acts in exactly the same way, from the pressure of the saddle on the perineum, hence its frequent occur-
pence among the cavalry, but here again, we must recollect the common vices nearly as frequent occurrence of venereal causes to excesses in liquors. The unwholesome use of instruments might unfortunately be added to the causes of Stricture, but this must be a fact, and it would most likely induce only a temporary Stricture.

Cicatrizations following on ulcers often cause contraction, but this occurs at the external orifice chiefly.

That the action of all these causes, in producing inflammation, on or about the urethra, as in other parts of the body, is, I feel hard to say, greatly favoured and promoted, by the proneness to indulgence in alcoholic stimulants, so common in the mass of our population. This, I think, sufficiently accounts, for the comparative frequency of Stricture in Britain, as compared with some of the continental nations.

Temporary or Spasmodic Stricture arises from any cause, which irritates and contracts the muscles surrounding the urethra, or which inflames, contracts the neighbouring parts. The urethra is
now known, to be surrounded by involuntary muscular fibres in every part of its course, this would render it liable to simple spasm, from the many excitations to which the urethra is subject, spasmocic attacks of stricture are not so rare as some writers seem to think. With alternations of heat and cold, excesses in diet, especially in liquors, takes a tendency to organic stricture in action at the time, a fit of spasmotic contraction will be very likely to supervene. In some persons there is a peculiarly irritable habit of body. In them very trivial causes, such as passing a bougie, an acid state of the urine, or the passage of irritants like turpentine or causticides, or sympathetically with the neighbouring organs, will be pretty certain to give rise to an attack.

The union of the sexual, with the proper function of the male urethra, must also add greatly to its liability to irritation or consequent attacks of stricture. Protracted sexual indulgences, is mentioned by all writers as a source of permanent organic stricture.

The existence of the growths, papulations which are met with, on the free surface of the mucous membrane of the urethra, though not amounting to stricture, will present an
impediment to the natural flow of urine, in proportion, to their extent. These morbid growths are of two sorts, one kind where they are in the form of small separate excrescences attached to the mucous membrane. The older surgeons called them carnosities, thought them the most frequent cause of structure, throttled them by caustic to burn them out; they appear to be of the nature of small polypi, such is Rothstein's opinion. The other sort, is in the form of a membranous exudation, analogous to the false membranes in croup; hence some of the French writers speak of an croupous exudation in the urethra. Some of the forms of structure called bridle structure, may be due to this source, as when it occurs in bands across the canal.

Structure may be met with as a congenital malformation, but then it is found chiefly at the external orifice of the urethra.

Before noticing the sites, where the structures proper are met with, I shall refer shortly to the anatomical structure of the urethra. We find it to be about 8 or 9 inches in length, in its course, is divided into 3 distinct parts, the prostatic, membranous, and of which the last is the longest, about 6 inches, the other 2 portions being each about 1/2 inches,
In the state of rest, the sides of the canal are applied to each other, but are very distensible in health, easily admitting bougies of large sizes.

But the size of the canal is not uniform throughout, if the spongy part be looked on as the proper average size of the urethra, we have in the prostatic a dilatation; in the membranous portion a narrowing; this is indeed the narrowest part of the urethra. At the commencement of the spongy part we have again a dilatation; that of the bulb, it is now uniform till a little behind the orifice, where there is a third, the fossa navicularis. The mucous membrane requires no particular mention. But surrounding the urethra, we have a longitudinal layer of involuntary muscular fibres in its whole length; this is clearly shown by the researches of Helkiker, Hancock Ellis. Now many of the older surgeons, except Hunter, denied that there was any muscularity in the urethra, except in the membranous portion; that in that part alone could spasm or spastic structure take place, but we may now see that spasm may occur in any part of its length. The urethra is also subject to the voluntary muscles, to the erectile tissue surrounding it, which modify its capacity in various states, narrowing it during erection.

Now the situations at which organic structure occurs are constant & definite, they do not form
sites of stricture

at every part of the urethra. These sites are found to be 4th as the posterior part of the spongy portion just anterior to the bulb, this is beyond all question the commonest locality of true organic structure; 2nd at the part of the urethra behind the prostatic, at the natural curve of the penis & about 4 inches from the orifice; 3rd but much more rarely, at either end of the fossa navicularis, near the orifice. True strictures are not met with in the prostatic & rarely if ever in the membranous portion, but as this part has more muscle acting on it, if in consequence spasm should more frequently than usual, occur in a patient, it might lead to permanent narrowing which, I think may account for apparent structure in the membranous portion, according to some writers. Now a knowledge of the localities of stricture is important, especially when we meet in the daily periodicals (even at this recent date) with such remarks & objections to standard operations, as the following by Mr. Lee in the Lancet of 26 Feb. 1859: "That he regarded an incision, through the bulb of the urethra, as a very safe operation, an incision through the anterior part of the membranous portion, involving as it necessarily did, a division of the deep perineal fascia he looked upon, as a very unsafe proceeding, that the operation of perineal section was adapted only to cases of stricture confined to the bulb of the urethra." Now
such remarks are quite unnecessary, as we see that strictures do not occur in the membranous part, too the incisions for dreads are not required; they whisper away the good name of any operation.

I have often thought what could be the reason for strictures forming near the bulbous part in preference, as there is no difference in structure there from any other part of the canal; the arteries of the bulb being large, furnishing more blood to that part may have something to do with it, I have not been able to find any reason assigned in the works I have consulted. There are frequently two or more strictures found, especially if the principal one be far back.

On examining those who have died, while affected with stricture, we find the urethra everts around it variously altered. The stricture part is generally of an annular form, hardest in the middle, but the hardness extending a little on either side so as to resemble a double funnel. The mucous membrane may be unaltered, but oftenest it is thickened, puckered, or in longitudinal ridges, when thickened it is not stated to be always congested, hence the thickening will be due to plastic deposit. Sometimes we have fusions of lymph, forming false membranes, this is the "crampous sandation" of the French formerly mentioned; if one margin of the
false structure be loose, it may act as a sort of valve, but these membranes are very rarely met with, of no importance except in a pathological sense; lastly, connected with the mucous membrane, are found those capillaries or excrescences also mentioned before, they appear to be hypertrophies of the membrane or small polypi.

It is in the parts surrounding the urethra, that the most important changes are found; the submucous cellular tissue is found to be very much thickened & indurated, even hard & gristly; this destroys the natural elasticity & permits the extensibility of the urethra. Very often the hardening extends to the spongy structure itself, obliterating its cells making them hard & gristly too. This hardening is the cause of the permanent structure, when any of the causes mentioned are in action, they lead to congestion, interstitial deposit in the tissues around the urethra, this by continued accessions ultimately forms the hard tumefying contraction.

This process takes place so gradually, that patients generally don't observe it is in progress, till the canal to stream of urine are reduced to such thinness, that almost complete retention occurs. The object of the ordinary treatment is to produce such an amount of counter-irritation, as shall lead to the absorption of this effused interstitial deposit.

Whenever the urethra begins to be narrowed in this manner, other changes take place.
curate with it. A very early important one, is the
dilatation of the canal behind the stricture; this
is occasioned by the increased muscular efforts to
overcome the obstruction. On laying open a struc-
tured urethra, it is found to be like a double funnel
with the apices at the seat of stricture. Sir B.
Brodie records a case, where the dilatation was so
great, that at every act of micturition, it formed
a tumour in the perineum, the size of an orange.
The strictured part is not sharply defined, hence
in the operation for external division, it is ne-
necessary to make the excision so extensive, as com-
pletely to divide the stricture; Mr. Syme attributes
some of the relapses after that operation to this cir-
cumstance. As to the degree of contraction or per-
meability of the urethra in stricture, in spasmotic
contraction it is quite entire or permeable, the stric-
ture being owing to the muscles keeping the sides
in close contact; but in organic stricture it has
long been affirmed that the canal is, in some
cases, perfectly obliterated or impermeable, but
this principle is disappearing, as a guide to
operative surgery on the urinary organs, since
Mr. Syme has sufficiently proved that no organ-
ic stricture is really impermeable, in theory, re-
marking, that so long as the patient passes
water, in however thin a stream, so long there
membrane also, from the chronic irritation takes on a puriform discharge. Proceeding still backwards, we often have the uters & pelvis of the kidney largely distended, the substance of the kidney is found altered in structure. The prostate also frequently enlarges, irritability of the bladder, & calculous deposits may be owing to the irritation of the structure.

A much more important complication is Fistula in perineum. This is said to occur when there are openings in the perineum, connected with the urethra, through which the urine & discharge escape chiefly, instead of by the urethra, this leads to much narrowing of the whole canal anterior to the fistula. The origin of a fistula may be explained thus: the irritation attending the formation of a stricture, leads to inflammation in the perineum, in the tissues outside the urethra, an abscess forms, which naturally opens outwards, by continued irritation, at length opens inwards on the urethra, the urine comes through the new channel, a fistulous opening is formed, usually more succeed the first one.

The inflammatory congestion hardens the circumference of the opening, prevents extravasation of urine into surface-takes on the character of mucous membrane. Now were a fistula to form
according to the generally accepted explanation, namely, that ulceration begins in the urethra & proceeds outwards, we must first have extravasation of urine, but we do not find this stated to occur at the commencement of a fistula. If this were the case, some one, among all the post-mortems performed where structure has existed, might have caught a fistula in the very act of forming, that is to say, might have found the opening from the urethra, half-formed, on its way outwards; I do not recollect to have seen this stated, but I do recollect, in reading, accounts of post-mortems, that in some cases, circumscribed collections of pus were found outside the urethra, might not there be fistula in the act of forming. We are here again indebted to Mr. Syme, for the correct explanation of this point in pathology.

Extravasation of urine, from rupture in expulsive efforts, is happily a rare consequence of structure, as it is sufficiently dangerous if remediable when it occurs. Retention is the consequence of structure, for which our art is called to remove it but need not be further noticed here. Structure however well marked, in its later or confirmed stages, is not generally detected by the patient till it has proceeded so far as to reduce his flow of urine, to an almost
Thread-like stream. The difficulty in making water, the time required for the full evacuation of the bladder, soonest attract the patient's attention. Often too, when he thinks he has expelled the whole, a few more drops, or a little dribbling takes place which soils his clothes. The stream of urine gets gradually smaller, is not straight, full as in health, but twisted, forked, or scattered. There is straining, frequently pain attending the acts of micturition. In tight structures the patient is liable to spasmatic attacks causing complete retention. The desire to make water becomes more frequent, urgent, occurs chiefly during the night; gradually pain is complained of, in the thighs, perineum, back bones. The patient's health fails, he becoming irritable and sleeping. He is also subject to feverish attacks, this life rendered miserable. The testicles, sympathising, become enlarged, painful, from the straining, haemorrhoids, prolapsus ani may occur. To recapitulate— if a person has difficulty in passing water, with the stream small, dejected, if he has also uneasiness in the thighs, loin, with frequent urgent desire to micturate, oftenest during the night, we may conclude, he labours under structure of the urethra. All structures are not alike as regards their
varieties of structure

nature, amenity to treatment, some being much more distressing to the sufferer, more intractable than others. The following are the chief varieties of structure, which are found to exist.

First, there is the simple, chronic or slight structure, which yields to the bougie alone.

Second, the confirmed or unyielding, where we have a structure of long standing, with much narrowing, hardening, but without the irritability, tendency to re-contraction of the next two.

Third, the irritable, we have here in addition to the structure, excessive sensibility of the canal, so that the introduction of a bougie occasions severe pain, rigors, sometimes bleeding; the urine in its flow, often produces severe scalding pain, like that attendant on gonorrhea. There is generally constitutional irritation and debility present.

Fourth, the contractile structure. These structures have a marked tenancy to return to their original state, even after they have been dilated fully by bougies, so that their dilatability is no proof as to their non-recurrence.

The spasmodic, formerly noticed, is a distinct sort.

Mr. SYNGE punk's imaginary structures, among the varieties, there is here no real structure, though patients present themselves fancying they labour under the symptoms of a structure.
The impassable stricture is a prominent variety with most authors; but it is now becoming apparent, that it ought not to be reckoned a distinct part as it formerly was.

Having now discussed all the points regarding stricture, preliminary to the treatment, I proceed to that important part.

In approaching this subject, I am appalled at the number of writers on it; for they are not all authorities, each with his own "speedy & efficient" cure for stricture. The ancient poet might well have written of the "sacra fames scribendi" in reference to this subject, as well as the "sacra fames auri". I think my best plan will be, to discuss serially the various methods of treatment, their value, & applicability.

When we have a case of spasmotic stricture to deal with, it is better not to begin by the introduction of the catheter, for this would but increase the contraction. An opiate should be administered, with fomentation to the perineum, or warm bath; this allays the irritation, the textures around the strictura are relaxed, the sufferer is often relieved without recourse being had to instrumental aid. If there is much congestion or inflammation, a little blood taken away by leeches will be of service. Spasm superimposed on an organic structure, which it is very apt-
to do, should be treated at the time in the same way, the structure after the acute attack has subsided.

Of the methods for the relief of structure, the earliest that which most naturally suggested itself, is that termed Dilatation, from its enlarging the structured canal to its former width. Dilatation consists in passing instruments through the structure at intervals, commencing with the largest size which the structure will admit. The introduction of the bougie is the most important part of the treatment; it should be held very lightly, no force should be used to get it through the structure, "arte non vi" otherwise a false passage will certainly be formed. Having ascertained the size of the structure from the instrument it allows to pass, the treatment proceeds from this point by introducing every day or every second day, a bougie of a size larger than that used the preceding. In this way we expect to dilate the urethra to its former size, in a case of simple structure, within a time varying from 3 to 6 weeks. It may be useful to ascertain the mode of action of the bougie in such cases. That the first direct result of the introduction of the bougie is mechanical, is admitted, the immediate perceptible increase of the stream of urine proves this; but that the whole action of the bougie, in dilating a structure, is mechanical, is plainly controverted by the fact, that inflammations, furnish attacks of the
vital symptoms occur, from the introduction and retention
of instruments in the urethra. And also, were the
action of the bougie mechanical, it must necessarily
by compressing the structures around the urethra;
how whoever be the degree of expansion obtained in
this way, on taking away the compressing force, the nat-
ural elasticity of the parts coming into action, would re-
induce the narrowing. We see this actually occurring,
in the cases, treated on this principle of rapid dilat-
ation; that now a full-sized bougie easily passes in
a short time they are as contracted as before. The only
way in which the bougie acts beneficially, is vitally,
by allowing it to remain a short time in the urethra,
it acts as a foreign body, excites an interstitial ab-
dorption of the deposit which surrounds the urethra,
thus enlarges the canal, allows larger instruments
to pass. If the instrument be retained too long, or
re-introduced, before the irritation caused by its last
introduction has subsided, it induces more effusion
which will render the structure more intractable
than before. A knowledge of the mode by which
dilatation is effected is rendered important, when we
see educated men, proposing plans of treatment,
which ignore physiology, proceed as if the urethra
were a piece of inorganic matter, not subject to the
vital laws of organized bodies. Of this sort are the
sliding tubes, advocated by Mr Wakley of London,
one being pushed over the other, rapidly dilating the stricture. Conical bougies have been used, the forepart of the bougie nice small, to get through the stricture, the rest rapidly increasing up to sizes of 8 or 10. In this class also must be included the method of using elastic material introduced into the urethra, then distended by fluid or air; invented by Sir Arnott; also the instruments with the blades expanding in the urethra, these are Mr. Hold's of London. Since all these modes of treatment proceed on an erroneous principle, namely, that the urethra can be mechanically dilated, kept so-like the finger of a glove, it would be strange if their success in practice, were to realize the expectation of their originators. That it has not done so, is apparent, from the little reliance placed on them, and the desuetude into which they have fallen.

But there are 2 other modes of using the bougie, which tho' not mechanical, are yet not to be much recommended; these are, the Vital Dilatation of Dupuytren, or cross-tunnelling as some call it, which consists in passing an instrument down to the stricture, pretaining it pressed against it, in the hope, that the pressure of the bougie in front, that of the urine behind, will cause interstitial absorption or removal of the stricture. No doubt a passage may thus be formed, but, independently of the
inflammatory consequences, there would be the much greater chance of tunnelling a false passage, than of enlarging the proper one; hence I would not be inclined to adopt this plan, from its uncertainty. The other mode of continuous dilatation, by retention of the catheter for a long period. This has the very consequence of it, namely excess of inflammation, would make me inclined to reject it; as the cases for which this method has been recommended, may be relieved by the prolonged ordinary use of the bougies. Dilatation is effectual in all structures, which are not too irritable, contractile, or unusually indurated.

An entirely different mode of treating structure, is by means of caustics. This originated with the older surgeons, who, thinking that structure was owing to fibrous growths, endeavored to destroy them with nitrate of silver. The caustics used are nitrate of silver, potassa fusa; they are introduced in a catheter, out of which they are made to protrude, back on the part, when the instrument has arrived at the structure. At first the caustic was used with the intention of destroying the tissue, but when this was found hurtful, its advocates insisted on its being only used so lightly, as to induce counter irritation sufficient to cause interstitial absorption; but as it is nearly impossible to manipulate so
nicely, to limit its action even with our most perfect instruments, we must conclude, that it destroys more or less the tissues it is brought in contact with. We can besides induce any amount of counter-irritation by the bougie that more safely. And as this action is liable to be followed by severe consequences, inflammation, swelling, ulceration, contraction of the urethra, we need not wonder, that the treatment by caustic has fallen into disrepute.

A caustic potass is much more unmanageable than nitrate of silver; (and if the urethra is first lined with oil, to mitigate its effects, it must be apparent that its effects are useless, for a harmless soap results) but in addition to the difficulty in limiting the action of these caustics, we have, the great pain, uneasiness they occasion, the length of time required to perfect a cure by their means, as in a case related by Sir E. Hone, where the caustic had to be applied 486 times before a catheter could be got into the bladder. Caustic is rarely resorted to now, chiefly by Mr. Wade of London.

But unfortunately, neither dilatation nor caustic are sufficient for very many of the cases of stricture which present themselves to us. We meet with structures so narrow, that dilatation is absolutely powerless, others again so irritable that the slightest passage of an instrument is un
bearsable, and thus treatment by dilatation rendered impossible. The contractile form again, the easily dilated to the natural size, immediately becomes as narrow as before, thus we have 3 forms, where the methods already detailed are ineffectual. And though other plans were had recourse to in such cases, it is only within the last few years, that the profession has been furnished with a method which meets those cases, which enables us to relieve them effectually permanently.

Dilatation Haustic failing then in certain cases, relief by incision was the only alternative. The incision was either begun from within, or from without the urethra, but this makes a vast difference in the results; and first of internal incisions. The division of structures from within the urethra, was effected, by instruments introduced in a sheath, from which they are made to protrude when arrived at the part to be divided. The lancet-ted catheter of W. Stafford is the instrument chiefly used by those who incline to give this method a trial. The French have excelled in their ingenuity in devising instruments for performing internal urethrotomy, but unfortunately they are invented only to be thrown aside, they are all inferior to the instrument of W. Stafford. I do not think it necessary to describe minutely these
operations or instruments, as this would be merely a transcript from the works on the subject. Now as to the value of all internal incisions, we see at once that they are deficient in several important points, that they are unnecessary in cases which can be relieved by dilatation, ineffectual in those which cannot, which require the operation next to be described to be performed. In the first place, there is the great uncertainty, where with those instruments even, which limit the depth of cut, how can the operator be certain, whether he has cut sufficiently deep into the indurated part without which the operation is ineffectual, if he cuts deeper than he intended, he has the additional difficulties of hemorrhage, infiltration of wine to contend with. In all cases, the passage of such a fluid as the wine over a raw surface, adds to the patient's danger this comfort. Besides in those cases most requiring relief, with hard and narrow structures, it is impossible to get the instruments for internal incision pasted. Lastly, the results of internal incisions, are found not to be permanent, the contraction soon returns, the good of the operation is rendered nugatory. It is not often had recourse to, those who advocate it most, allow that it is only for small orificial, or structures occurring 4
or 5 inches from the orifice, that it is to be practiced.

Our only recourse now, in cases intractable to any of the foregoing methods, is to cut on the urethra from without. The old way of performing this operation, called the “Boutonnière”, consisted in introducing a catheter as far as the contraction cutting down upon the end of it, continuing the incision through the hardened part, in the direction of the canal of the urethra; a catheter was now introduced to the bladder, the wound left to heal, hoping the urethra would remain of the proper size. But this operation was looked on, only as a chance for the patient, the contraction so frequent by proving intractable the dangers of the operation being great, as even in the most favourable cases, there was the uncertainty whether the incision had actually passed along the very narrow canal in the middle of the stricture, there being no guide to it, or through the surrounding hardened parts; hence extravasation of urine, hemorrhage from wound of the arteries of the bulb, by not cutting fairly in the centre, were the cause of many fatal results. So that the Boutonnière was had recourse to, with the favourable result, more wished for than expected.

Happily this uncertainty in extraneous division is now done away, for sure permanent cure is afforded to those cases of stricture, which were former
Syms's operation

by the opprobrium of our art. For this invaluable
bloom, the profession need hardly say, are indebted
to Mr. Syme. The essential nature of Syme's oper-
ation by external division, consists in dividing
the structure on a grooved director, introduced
through the structure, thereby giving that certain
ity to the incision, which was so great a desideratum
its long overlooked. Its certainty of division sim-
plicity are its distinguishing features.

The points to be attended to, necessary for
a fair trial of the operation are, using a director
with the point of a smaller size than the body, thereby
affording a steadier hold to the instrument, indicating
more accurately the extent of structure; making the in-
cision exactly in the mesial line, to avoid the arteries
on either side, this is very important as no arteries
are in the mesial line. Therefore cannot be cut into
we have no haemorrhage; making the incision suf-
ficiently extensive to divide the whole structure, as
unless this is done, it may return. If the operation set
down as a failure, now we must recollect the strict
is of an hourglass shape, hardest at the centre, ther-
fore requires the cut to extend a little on either side
of the hardened centre; not allowing the edges of the
wound to heal too quickly, this they are found to do
if not prevented, Mr. Syme now thinks it better
to keep a tube in the wound for a few days, to make
it heal regularly, it also prevents the urine coming in contact with the wound. Dilatation may be judiciously employed during recovery. By attention to these points, to the after treatment, the operation may now be considered perfect, and also what its proponent first intended, a quick, safe, permanent cure for hitherto incurable structures; this is the more gratifying, as it has triumphed over the most violent opposition, invective, but we find few important advances ever to have taken place in science, without giving rise to endless discussions, abuse, differences of opinion. During convalescence, patients are sometimes attacked with very alarming symptoms, of which, if the practitioner is unaware of their occurring in such cases, he may imagine the case is about to end fatally. These symptoms are very like those of an ague fit, have been mistaken for such, rigors, vomiting bilious distempers, fever, aching pains, prostration of strength are the chief; they generally occur, on the 2d, 3d or 4th day after operation, always within the week, for the most part disappear without any treatment, but opiates, stimulants will be beneficial. These symptoms are not peculiar to this operation, tho' form no objection to it as has been alleged, but may occur in irritable constitutions, from any operative interference
with the urethra.

Permeability of the urethra is essential to this operation, this have before said is the case in organic strictures, however difficult it may be, to get an instrument through the structure, this difficulty indeed, in some cases is so great, that the, permeable to an experienced manipulator, it would be almost impermeable to a great number of surgeons.

The more expert one becomes, in the management of the bougie, the more purely will he meet with impermeable strictures. Of the cases to which Syme's operation is applicable, have said that they are those, which from their irritability, contractility, extreme hardness, narrowness it is impossible to relieve by any other method which has yet been resorted to. The sweeping assertions, terms which have been applied to it, as that it was "neither a certain cure for structure, nor unnoset with danger to life," could only be made by those who have not the fairness to consider what it was intended for, what are its results. Such an expression, I was astonished to see used by Mr. W...
we would ask, would those who thus concerne it in such general terms, recommend as a mode of treat-
ment in the cases indicated, if they reject this operation.

Now let us enquire into the attendant results of this operation, which has been so mercilessly dealt with. And first as to its safety; the operation is acknowledged by all, to be easy to certain in its performance; Mr. Syme up to 1835 records 108 operations only 2 deaths, but since then, I have seen many more, between 20 & 30, during my attendance at the Infirmary, without any bad results, which makes the total mortality small indeed. But Mr. Thompson of London, furnishes the most important statistics on this point; so anxious was he to set the operation in its proper light, that he has collected 219 cases of extrametal division by 38 operators, with the gross mortality, within 3 months after the operation of only 15, or about 7 per cent. This is very satisfactory, but if we analyse the cases, we have much more cause of satisfaction of these 15, 9 were certainly due to pyemia, but what surgical operation can we insire against this as a consequence, this can not properly form an objection to its safety, more than to that of any other operation, in other 4 ex-
tensive organic disease was found, thereby pen-
daring any patient less fit to undergo an operation, I was due to peritonitis, merely, directly due to the operation, this from hemorrhage, which is said to have been caused by inattention on the part of the attendants. What after this is the value of the magnificent assertions of Mr. Wadie and his opponents. That surely it must be a strange perversion of reason, when gentlemen well knowing the deplorable results of Mr. Syme's operation, continue to write in praise of it as being perfectly safe and satisfactory in its effects. With the late calamitous terminations of this operation, like beacon lights to warn us of its dangers, I cannot but think, that we are bound by every means in our power to relieve a suffering patient before having recourse to the knife. "P. 214 of his book, this in 1853, but even so recently as 1859. May he says "That external division from its disastrous results, is an operation justifiable only in the most urgent cases." It is unfair, disingenuous to continue to make such statements. Mr. Thompson sums up by saying that "it will be contrary to ample, irreproachable evidence, if the statement is again made that the results of the operation in question are to be classed in point of danger to life, with that of the capital operations in surgery." This statement is completely confirmed, its perfect safety demonstrated by the experience of the several surgeons, which Mr. Thompson
proceeded from the operators themselves. 

The dangers of hemorrhage extravasation of wine, which of course have been duly brought forward against it, can doubtless always to be avoided by cutting exactly in the mesial line, not so far back as to endanger the deep fascia; for it has before been seen, that no structure occurs so far back, as to require division of the deep fascia.

Lastly as to the insufficiency of permanency of the cure; this might have been alleged at first without contradiction, when there was no time for the results of the operations to declare themselves; now however after 10 years experience, these objections must also vanish. The structure are as a whole permanently cured, if an amount of recontraction occurs, it is infinitely less than there would be by any other treatment, and when a return of the structure does occur, it is diligently reported, while the 99 effectual cases are unnoticed. Mr. Paget of London says in the Medical Gazette of 10 April 1858 that "no instrumental treatment, unless it be the perineal section, will prevent the increase of strictures in those who will not live prudently."

When relapses do occur, it is likely they are due to either of the causes supposed by Mr. Syme.
or proportion of cases.
Second, that the employment of caustics, 
is unnecessary, as any result which should be 
expected from them, may be obtained, with much 
more safety, from the bongie used as an ir-
ritant.
Third, that internal incisions are also un-
necessary, are always dangerous & uncertain.
Lastly, that in cases not amenable to 
other treatment, from their irritability, resil-
ience, great narrowness, hardness, recourse is 
to be had to external division.