

## **Chloroform versus pain : and paracentesis of the bladder above the pubes.**

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### **Publication/Creation**

London : J. Churchill, 1870.

### **Persistent URL**

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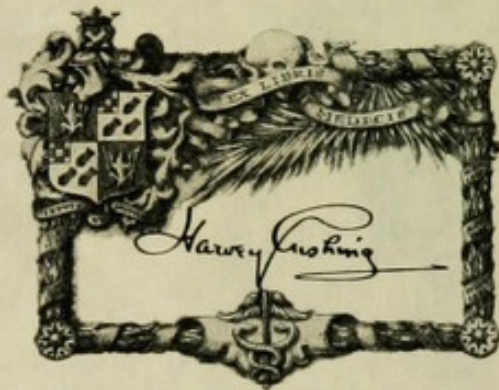
CHLOROFORM VERSUS PAIN

AND

PARACENTESIS OF THE BLADDER



J. H. JAMES.



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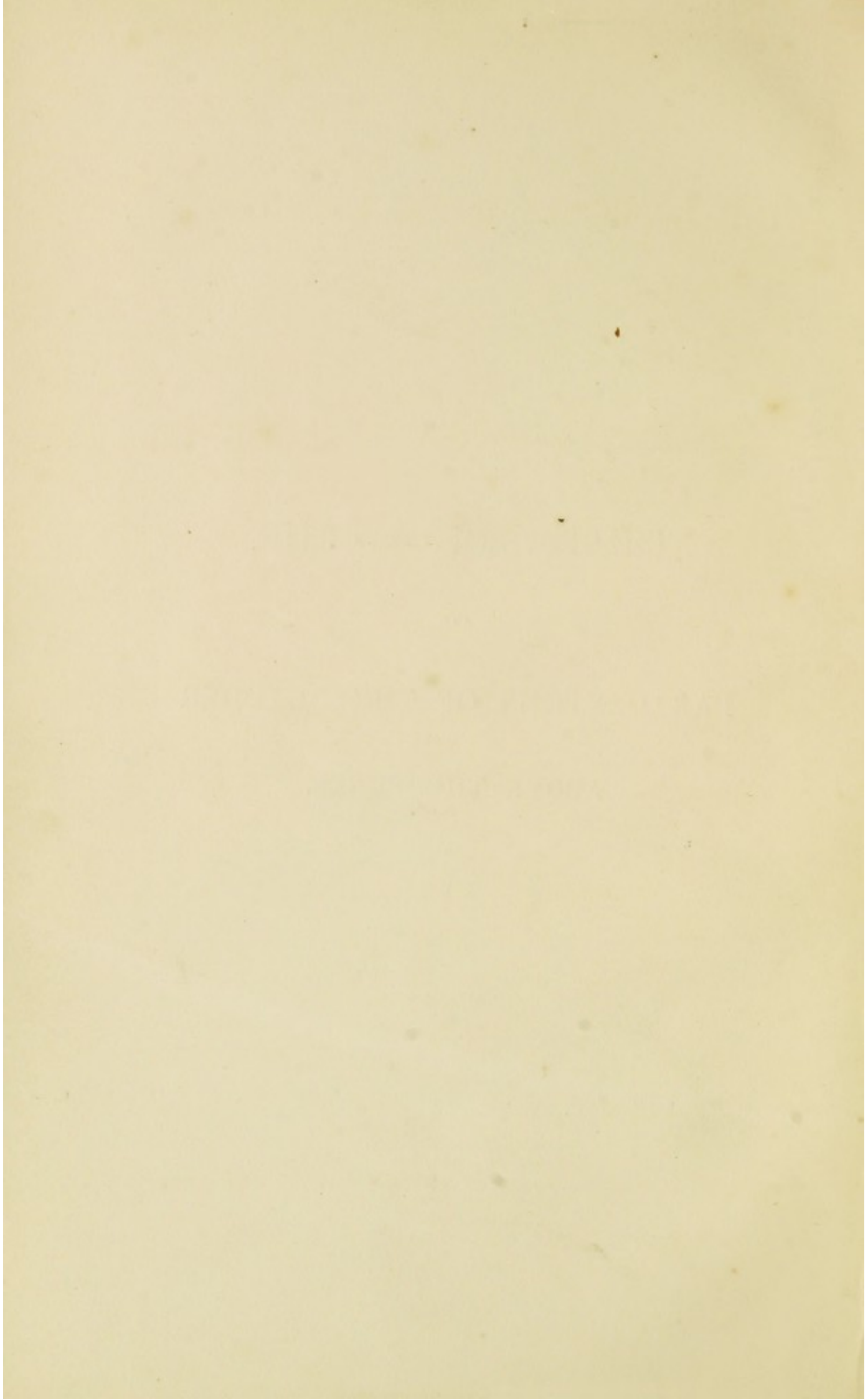
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PARACENTESIS OF THE BLADDER

ABOVE THE PUBES.



CHLOROFORM *VERSUS* PAIN,  
AND  
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ABOVE THE PUBES.

BY THE LATE

J. H. JAMES, F. R. C. S.,

ETC. ETC.



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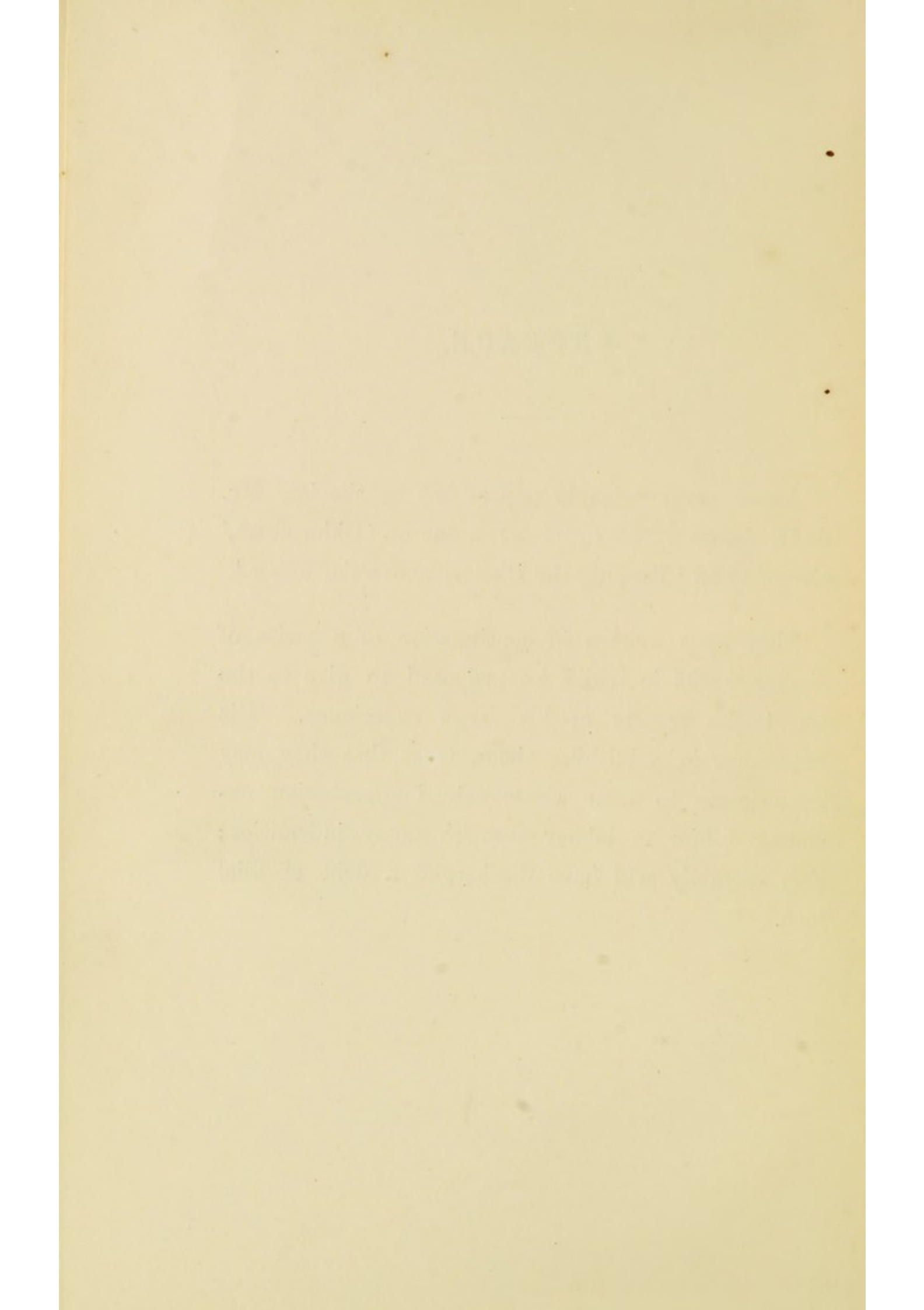


## P R E F A C E.

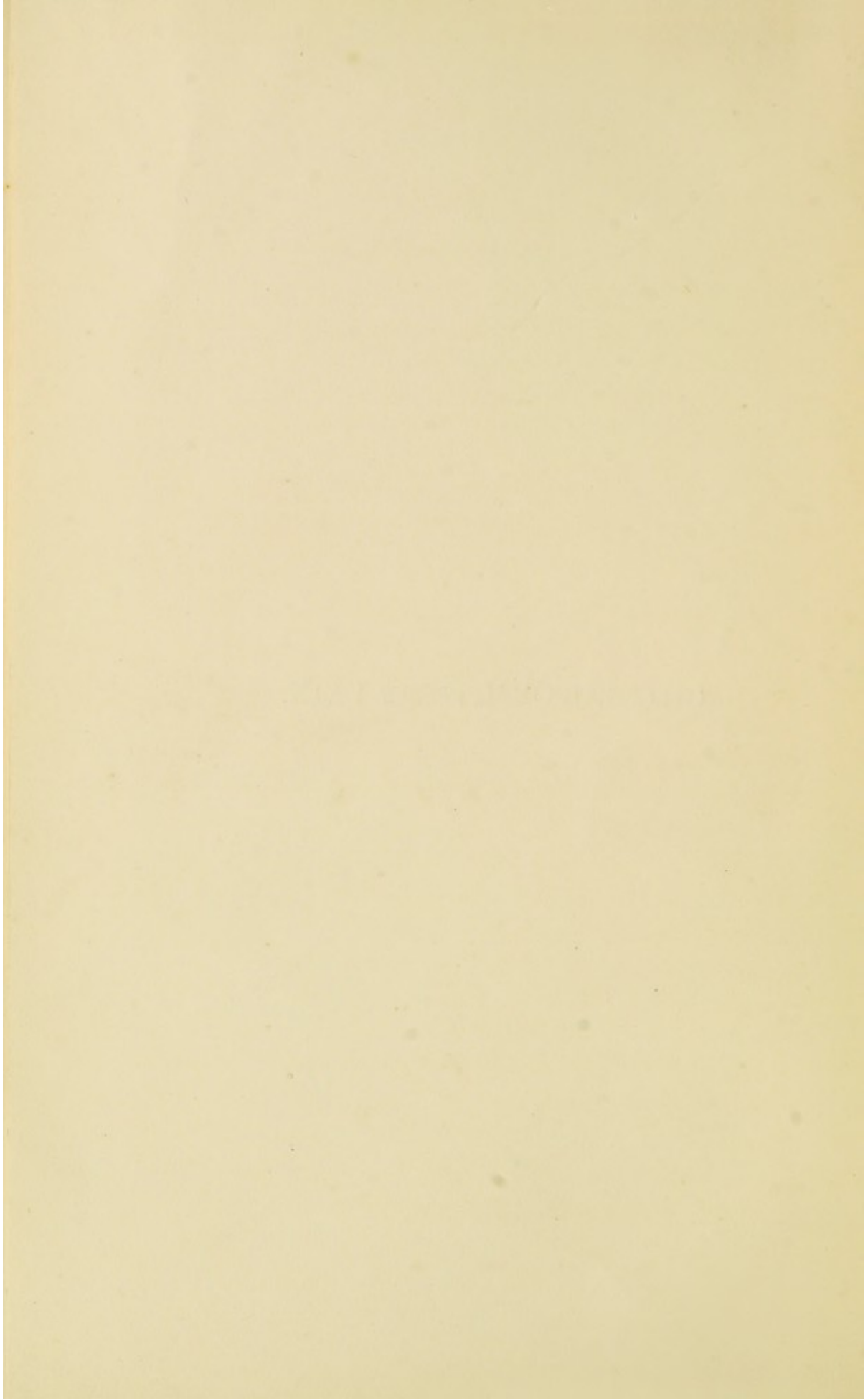
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AMONG many valuable papers left by the late Mr. J. H. James were two tractates, one on 'Chloroform,' the other on 'Tapping the Bladder above the Pubes.'

They were written in continuation of a series of similar works in which he proposed to give to the world the results of his large experience. His executors, in publishing them, trust that they may be welcome to some whose valued approbation encouraged him to labour through many infirmities; they certainly will have discharged a debt of filial love.



CHLOROFORM *VERSUS* PAIN.



## CHLOROFORM *VERSUS* PAIN.

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SECTION A.—*The necessity for the existence of pain—  
The pleasures and usefulness of existence depend upon  
the same organization, and are inseparable.*

THE question of the use of chloroform has been so much handled that it would seem unnecessary to say anything more about it, but I am not aware of having seen or heard of its being argued as against pain; the general impression appearing to be that pain is an evil which should be avoided, and that chloroform is the remedy which should do this. Now, I am bold to say that no pain was ever inflicted upon a human being by the Almighty excepting for his moral or physical benefit. I shall only incidentally make any reference to the moral contingencies of pain. In a physical sense the uses of pain have been frequently noted, but I do not think this has been the case so systematically as might have been wished. The object is clearly this, to warn the person of impending injury, and thereby to avoid it; and it would be found in the usual state of the body that certain parts are provided with sensibility in proportion either to their

importance, as the eye, or to their exposure to accidents and rough usage, as the sole of the foot.

It may be said that some parts are often excessively painful without any obvious advantage, as those who have had aching teeth are very apt to think, but the advantage is in preventing injury to the teeth while sound by taking things into the mouth too hot or too cold, or too hard, as a bit of gravel or other substance of the same kind. The pain which accompanies inflammation, and is considered as one sign of it, may at first sight appear an evil, but it is one means of procuring that rest which is necessary for the cure, and also prompts to the application of suitable remedies; and here is a very strong point in favour of the value of pain, for parts which, in the ordinary course of things, seem to have no sensation at all, as the membranes of joints or those which line the great cavities, under the influence of inflammation develop an extreme sensibility which demands speedy relief. By what physical changes this is accomplished, perhaps, deserves further inquiry, for nerves cannot be suddenly developed, and in ordinary conditions these parts are very scantily supplied with nerves of sensation. In addition to the membranes, where the sensibility to pain can be suddenly aroused, and that to an extreme degree, we must add other internal parts, as, for instance, the gall-duct, ureters, and bladder, in all which the warning eminently contributes to induce curative measures. With regard to acute diseases, as they are called, where the pain is generally severe, the damage

to the parts, or the ultimate danger to life, is far more pronounced than in the chronic, where the character of the pain is more moderate. Even in many disorders, where, *à priori*, no benefit might have been expected from it, yet, in reality, it has its use, as in rheumatism, for, if it were not for this, the muscular and fibrous tissues of the body might be incurring a continued damage from a moist and chilly atmosphere, where the remedy is obvious if appreciated, viz. the change to an opposite one. Even the pain of gout seems to be advantageous in a physical as well as a moral sense; the gout may have been produced by improper indulgence in food or drink, or may realise the denunciations contained in the second commandment, but the pain produces the necessity for rest, so that the disease may go legitimately through its course, and thus, in some almost mysterious manner, clear the constitution for a time from the elements of disease. It may not be too much to say that life would hardly endure a day but for the privilege which the body possesses of feeling pain, and, so far from considering it as a great physical evil, we ought to deem it one of the greatest boons that have been conferred upon us, calculated, as it is, to preserve the machinery and thus prolong the actions of life, it being well understood that the occasions on which it arises are only those which necessarily demand it.

If we look further into the matter we shall see that pain is the inevitable contingency by which all our pleasurable sensations are accompanied. Both pain and pleasure depend upon the existence of nerves, and



the impression produced upon them; but while pain is only an occasional, and perhaps a very rare infliction, the whole pleasure and the whole utility of our existence depend upon the constant occurrence of those impressions which are procured through the organs of sense—the eye, the ear, the touch, also taste and smell. The three former necessarily connect us with the external world, and they only who have lost those of sight and hearing can in the least comprehend the amount of pleasure and delight which they received through these media while they were in perfection; nor can there be the slightest doubt that, in conjunction with touch, they are the source of all intellectual improvement. Taste and smell are more purely physical in their nature, and are far from ranking as high as the others, but within due bounds they are the means of greatly enhancing the pleasure of existence, and also warn us to avoid those things which would essentially damage our frames. Let any one consider the great pleasure he has derived day by day and hour by hour during, perhaps, a long life, and compare these many days and many years with the comparatively short intervals of pain he may have suffered, and he will see how deeply grateful he ought to be for the share of the blessings of life which he has enjoyed, nor too hastily regret, as many have done, that they were born, if only it be considered that they have no mental regrets, which overpower all other considerations. We have adverted but little to the interior of the body, excepting to that marvellous

provision by which all the functions of living creatures are carried on without their consciousness, excepting when assailed by injury or disease, and then the dormant sensibility is roused to an extent surpassing greatly that which is awakened in any ordinary degree of injury or disease affecting external parts, thus warning and guarding the individual, so as to prevent him from allowing the injurious consequences to proceed unchecked. The agonies produced by gallstones, gravel, and stone in the bladder, may be mentioned as instances of acute suffering in parts of which we are, under ordinary circumstances, unconscious ; and here we must pause a moment to say that if pain must occasionally occur, the burden is alleviated in by far the greater number of instances. Accidents, operations, painful diseases, such as neuralgia, &c., although they are felt severely, yet their duration is but very short when compared with the whole of our existence, and even pleasure itself may be induced from these very pains, for those who have felt the agonies of toothache, or other causes not less severe, will feel the comparative comfort when such pains cease as fully equal to many of our greatest original pleasures. There are few which are continual, but such there are, as the pain of cancer ; even here, however, there are intervals of comparative relief, and in all ages of the world means have been afforded to give relief and to sustain. It is especially to narcotics—as they are called—that we look for aid. Now, of these, some are taken into the alimentary canal, and

of late, some have been inoculated ; others, again, have been presented in an aëriform state, and are inhaled, and although they have their drawbacks, they have the peculiar advantage of passing away speedily, so that when the purpose is answered there are frequently no such effects left as arise from opium and other direct narcotics. But while this is generally assumed to be the case, and to constitute one great source of advantage in their use, we must not too hastily conclude that they do not sometimes leave consequences behind them which as yet have not been duly appreciated.

It being granted that the use of narcotic or anæsthetic remedies is allowable, as reducing pain when it has once served its office as a warning, and when, in truth, they may be actually of great value as assisting the system in combating the effects of operations, injuries, or other maladies, yet here there is considerable occasion for reserve, especially when applied to internal pains. Thus, we may have acute pain in the region of the liver, its cause being, on the one hand, inflammation, or, on the other, a gall-stone. In the latter case opiates and anæsthetics are not only a relief, but *the* remedy, while in the former they may mask the symptoms of the disease, which cannot be too promptly met by other well-known methods, either alone or combined with them. Again, let us consider the case of lithotomy as compared with lithotrity or with sounding the bladder. The removal of pain in the former is an absolute benefit in every sense of the

word, especially by preventing those struggles which, suddenly occurring, are calculated to produce risk in the operative procedure. Now, as regards the introduction of instruments, forceps must, at all events, be used, and the stone must be extracted. There is no choice left to the surgeon, and but one course for him to pursue. In lithotrity it is quite otherwise; the object of the operation, which requires repetition more or less frequent, is to effect the reduction of the stone with as little irritation as possible. If the patient is rendered insensible, how can this be judged of? I have seen fatal results from the operative proceedings being continued long and harshly. Again, in sounding the bladder, when the patient is rendered insensible, we often see a great deal of what I should call severe, because not duly appreciated, manipulation, and the result frequently is that an irritable state of the bladder is brought on, and, not unfrequently, is continued, to the great injury of the patient. Of this I have known several instances, and among them some which occurred under the hands of the most eminent surgeons in the metropolis. In two of them chloroform cannot be blamed, for it was not exhibited, but they abundantly showed that great mischief might occur, and much more probably when it had been employed.

SECTION B.—*The uses of chloroform, and the exceptions thereto—Its five degrees—Differences determined by action of mind in opposition.*

It being, then, well understood that pain, in a very large proportion of cases, is to be considered as a safeguard, and in every case as necessarily connected with that benevolent provision of the nervous system from which all the pleasures and all the use of human existence are derived, yet as in a very large proportion, the warning of impending mischief having been given, the continuance of pain is often no longer necessary, and, indeed, constitutes in itself an evil which the bounty of a kind Providence has enabled us to relieve by various anæsthetics, it may not be amiss to say a few words with regard to that which is now most in favour—I mean chloroform.

Dr. Druitt has given us a very valuable *précis* of this agent as bearing upon its effects on the human system, and perhaps the best mode in which I can offer any observations on the subject will be by a short comment on his arrangement of its action. This he divides into five degrees—(1) that of exhilaration; (2) deep drowsiness, or drunken drowsiness; (3) profound sleep; (4) perfect insensibility, or anæsthesia; (5) approaching the condition of coma. These, although very striking when fully pronounced, yet shade into each other in such a way that we can hardly discern where one ceases and another commences. They

merge into each other like the colours of the rainbow ; but this is very certain, that in many cases the different degrees cannot be recognised, and that the effect passes at once from the second degree, or even the first, into that of insensibility. This is especially the case in children, who presently succumb to its influence, but who are rarely, if ever, known to die from it. In the case of children the cause may be physical, or moral, or both. Now, the physical state of children differs so much that it almost excludes the idea of exemption from that cause, but the moral influence presents itself at once ; the child is so unconscious of what is to be done that there is no struggle in the mind. Again, there is another class of cases in which, remarkably enough, we do not find insensibility, still less intoxication, seem to occur, I mean during parturition.

Now, it would be well observed that in both these classes there is little or nothing to disturb the mind. The child has no apprehension of the effects of the anæsthetic, and no direction to maintain tranquillity is, or can be, called for ; and again, with regard to cases of parturition, the woman understands that she is not to be rendered insensible, but that she merely takes it, like any other dose, to relieve pain. By her side sits the medical attendant, whom she knows and has selected, and around the bed she sees other kind faces, which obviate any feeling of alarm. Her mind is not insensible, as in children, but it is enlisted in favour of the remedy. How is it that the phenomena differ

so greatly in other adult cases? Why do they get into the stage of intoxication, and why do they often require such large and continued doses of the remedy until they are rendered insensible, while very small doses only are required to continue the effect? I should be much inclined to account for the difference by the state of the mind, which in many becomes alarmed by the first impressions of the chloroform, and struggles against what appears to be a state of danger, thus acting on the nervous material with which it is so mysteriously connected. That this view of the case is not without support may be proved by many well-known phenomena. Thus, when the poison of alcohol is passing through the brain, and *in-toxication* is produced, if the mind is not altogether lost, and information of a strongly excited character is suddenly presented to it, it is well known that the phenomena immediately cease, and that the person is said to be *sobered*—a term, like the former, singularly expressive of the facts; and no one can doubt that here the mind exerts a most powerful action on the material brain. If, then, the mind can so act upon the brain when alcohol is the poison, why should it not act when chloroform is employed? The answer is, we do not give it a chance. In the case of intoxication by alcohol we never continue its exhibition, and in the case of chloroform, if we discontinue it, the person is also sobered and the phenomena cease. It is when the chloroform is still continued that the struggle also continues, and it is to this I should attribute the

peculiar phenomena which, in certain persons, are produced by the resistance of the mind (confused as it may be) to the influence of the poison, for whether it be chloroform or alcohol, poison it is in the true meaning of the word. There are facts, however, which in a stronger degree, and in an unqualified manner, prove the influence, nay, the permanent influence, of the mind upon the material nervous system.\* In the year 1847 a stout farmer, aged about 60, came into my room expressing himself as very unwell, with evident paralysis of the left arm; his face was also drawn. I recommended him immediately to return home—about four miles—to send for his ordinary medical attendant (a particular friend of mine) and follow his directions. On the following Wednesday, five days after I saw him, when still ill in bed, the thatch of his house was ignited by a spark from a railway engine. The house was presently on fire, and burnt to the ground. In the alarm he got up, dressed himself, and went to a place of safety. The paralysis, which had not been previously relieved, entirely disappeared, and never returned, as I have reason to know, for he was to a small extent a tenant of my own.†

A lady, rather past middle age, had been for some years a patient of mine with one of those equi-

\* Connected with these remarks is the circumstance that the power of the mind in resisting the effects of alcohol has been repeatedly seen in the case of men who, without intoxication, could drink two or three bottles of wine. They were men of very powerful mind; nay, some of our greatest statesmen and lawyers.

† Vide Case-book, vol. ix, p. 71.



vocal spinal diseases which, in spite of all usual efforts, keep the patient in a position craving constant support. A fire also occurred in a neighbouring house, and in the agitation of the moment she allowed herself to be dressed and walked down stairs. From that time her condition was greatly improved. Such cases are not rare where it is merely inability, but not paralysis; in the former case, however, it was absolute paralysis which was permanently removed by a sudden impression on the mind.

Cases occasionally occur where insensibility is at once produced. A few years ago I was called in haste to a lady in this neighbourhood, who had been attacked with spasm of the larynx, to which she was subject. I had, on former occasions, tried various remedies, and was now resolved to try chloroform, but I well knew that caution was required. I sprinkled a few drops on a cambric handkerchief arranged quite loosely, and bade her merely smell it as she would Eau de Cologne, but not apply it to the nostrils. She had scarcely done so for a few seconds before the handkerchief fell from her hands, and a very alarming state of insensibility was induced (not connected with any increase of the spasm). These cases, I believe, are not very rare, and we should be prepared for them.

SECTION C.—*Practical remarks on some emergencies specially threatening life.*

IN the practice of medicine we very often find the existence of a patient dependent upon instantaneous action—say that from loss of blood or other evacuation, or from shock, life is immediately threatened. What is to be done? Although directions are given in most works, on surgery especially, yet we do not always find that they are carried out with the vigour and instant action required. We are told to dash water in the face, but if that cold water is allowed to remain it will depress, instead of excite. Plunge the corner of as rough a towel as may be at hand in the coldest water, slap the face well with it, rub it dry as hard as you please; repeat the process again and again until the colour returns and the patient revives. In the course of a long operation I have had this carried on during the whole of it.

We are told to admit fresh air. This should be done in a remorseless manner. Thus, in the coldest nights of winter I have let in fresh air from without, for fresh air is incomparably more stimulant than that which has been stagnant in a room or let in through walled passages. A remarkable example of this I shall give. A lady was delivered of a posthumous child, to whom great interest was attached. I found that life was ebbing, notwithstanding that the usual methods were

adopted. It was early in a cold morning during the month of April. Having sprinkled a large piece of warm flannel with brandy, I took the child over to a window and pulled down so much as to occasion a current, or rather cascade, of fresh air into the heated room, falling on the face and head. The effect was instantaneous; respiration commenced, and the child is living now, it being some eighteen years since this occurred.

Now, the object of these remarks is to indicate *immediate* succours. In cases of lipothymia various methods are proposed. Thus, on the one hand we have brandy and ammonia, on the other cold water, which is often the best, but then it should be just pumped, and containing, it may be, free oxygen—at all events, some peculiarly stimulating quality, and on this, more than on the temperature, its value depends. In cases of parturition, impelled, as it were, by necessity, we give brandy, ammonia, and other stimuli very largely, and yet find the powers of nature still ebbing away. Under these circumstances I have several times seen a patient vomit with power the accumulated mass of fluid, and as immediately revive. I have never lost a patient of my own under this formidable condition, although two cases have occurred to me in consultation. In one such was the hæmorrhage that nothing could avail, in the other there was time, and had I continued in practice I should, under the same circumstances, have given a strong mustard emetic—a load on the stomach depresses more than anything else. I have known rubbing the stomach with strong ammonia

powerfully to excite its action, and those who know how, on the other hand, tobacco applied to it depresses, will easily believe that stimuli are equally powerful to serve.

The application of a boiling-water blister may afford a most powerful, ready, and useful stimulus to the nervous system. A basin, say half a pint, should be filled with flannel hastily pressed in, and boiling water poured upon it to saturation. A plate or large saucer should be applied to its top, and, being inverted, the superfluous water can be forced out of it, the saucer removed, and the basin pressed upon the chest or elsewhere, a soft towel around the edge guarding the neighbouring parts. The effect is almost instantaneous. Of course it must not remain on long. When there is a decided amendment, a D'Oyley or spongopiline, or anything equivalent, may be slipped between the towel and the skin, the subsequent treatment being that of a common scald.\* Three remarkable cases are within my memory, which I shall give briefly. The first was in the autumn of 1826, during the prevalence of English cholera. The patient was of middle age, the wife of a Hebrew tradesman, and the symptoms were of great severity, resembling those of ileus—the vomiting constant and bilious, and the pain great. All the ordinary means had been tried in vain, and, recollecting the commendation which had lately been bestowed on this method, I was determined to try it. She roared

\* I regret much that I cannot do justice to the gentleman who introduced this plan, but whose name I do not recollect.

under the application ; the effect was almost immediate—the symptoms subsided, and she recovered.

Another case was that of a lady who resided at a short distance from Exeter, and who had suffered from two or three attacks of acute laryngitis. I was sent for at night, and took out a tube and instruments to perform laryngotomy, from having previously seen her with symptoms of extreme urgency. Before, however, proceeding to more decided measures, I determined to try this. The application, as in the preceding case, was attended with severe pain, for, as it is continued for a time, it is far more intense than a common scald, but I believe it saved her life, for the symptoms immediately abated. She recovered, but her condition would have been a most unfavorable one had it gone on.

A third case was that of a lady from the north of Devon, who was at the time lodging in Exeter under my care. She had naturally a weak and loaded heart, and she was then suffering from bronchitis. On one occasion, while with her, symptoms of a very alarming nature took place, and I apprehended fibrinous deposits in the heart or vessels. Her distress was extreme, and she appeared to be dying. I immediately determined on using this method, and she as immediately obtained relief, and, far from evincing any extreme degree of pain, as soon as she was able to speak, asked me if I had applied any preparation of chloroform.

The observations I am now offering simply relate to

cases of sudden and extreme urgency, where immediate and powerful remedies must be at once sought. Among extreme cases may be mentioned the not uncommon one of the effects of swallowing liquids "the wrong way," as it is termed, where the patient is already in a very exhausted state. I witnessed the death of a patient in fever, to whom a teaspoonful of wine had been given, although with the usual precautions; as it excited a strong fit of coughing, fatal exhaustion took place. In such a state I have always endeavoured to persuade the patient and his friends to obtain support by the use of nutrient and stimulating injections, which avoid this risk and the labour of deglutition, and furnish larger supplies—no new practice, but not so frequently employed as I think it ought to be in cases where comparatively little can be given by the mouth, for we often see that immense quantities of stimuli may be given with the greatest advantage where the power of swallowing remains. I may also mention that there are two or three cordials which, on such occasions, may be used with advantage, but have fallen into disuse. One of these is saffron, which is a well-known ingredient of the aromatic confection, but its independent use is by no means to be overlooked, in the shape of an infusion or tincture, and those who merely employ it for its colour little think how effective its qualities really are. Another remedy, which is rather to be found in a public house than in a pharmaceutical shop, goes by the name of peppermint cordial, and I really have seen this of more value in some heart cases than

what O'Halloran emphatically calls the "filthy slops of the shops."

While speaking of these incidents which threaten and often terminate life I may advert to a circumstance sufficiently known and appreciated, but not always enforced with sufficient urgency; it is that of patients getting out of bed under circumstances which ought decidedly to forbid an upright posture, and this remark applies more especially to what, since the time of Laennec, has been commonly called "bronchitis," when, in point of fact, it is neither more nor less than the "peripneumonia notha" of Sydenham. The Rev. J. G—, a clergyman, residing a few miles from Exeter, had been urged by my friend, his ordinary medical attendant, as well as myself, on no account whatever to leave his bed. The nurse, however, thought proper to go down stairs, and the noise of his fall was immediately heard. Previously the case was not desperate, but from that moment he had not a chance.

An elderly gentleman, who had spent many years in India, had a similar attack and was similarly advised, but he was always what is called "*entêté*," and for a similar disobedience paid the same penalty. It is just when the scales are turning that life or death will depend upon a similar issue.

Among cases of emergency those from chloroform sometimes occupy a very undesirable precedence, and the worst of it is that in a large proportion they come on without sufficient warning. I have alluded to them before. In these cases chloroform, accumulating, will

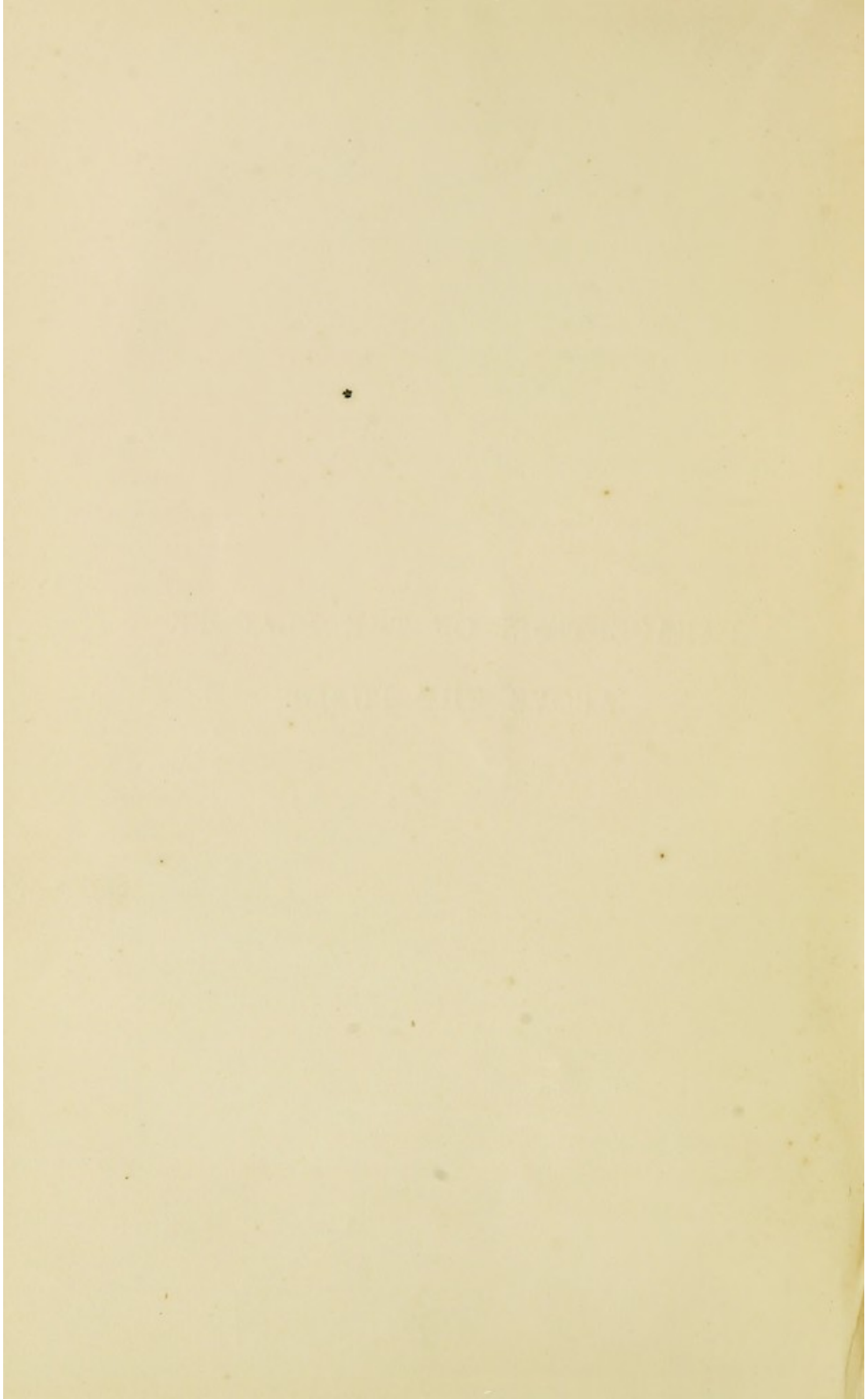
go rapidly to a fatal termination or otherwise. As, however, it passes off rapidly as well as enters rapidly, if the patient can be preserved while the accumulation is thrown off life is saved. As the poison must be thrown off from the lungs, one great object is to assist the respiration, another to prevent the inspiration of air otherwise than pure. For the former I might suggest raising the head of the table or bed a few degrees would assist the powers of respiration, and by placing hassocks, pillows, or other suitable materials at hand, the best degree of inclination might be obtained. Secondly, that all useless persons should immediately leave the apartment, and that the air be kept in motion by pumping the room by the door or by fans, and opening every door or window; also that the chloroform vapour which emanates from the patient be destroyed, if possible, and I would suggest for this purpose Sir W. Burnett's solution, of suitable strength. This, sprinkled upon fans, might play around the patient's head, and, I believe, would not be found to be in itself injurious; if not injurious, it would have the further advantage of destroying that portion of the chloroform vapour which still inheres in the lungs. Two powerful remedies are generally at hand—vinegar and salt, mixed in a basin. A rough towel wetted with this solution might be briskly rubbed over the chest and stomach, and followed immediately by the application of a large piece of hot flannel. The boiling-water blister, too, is worth considering.

I have alluded to the admission of fresh air, and



although it is extending the view, I cannot help making a remark on the extraordinary care which has lately been adopted to render the admission of fresh air unnecessary. In many public buildings and private houses the air admitted into the dwelling apartments is artificially heated, or the walls of the apartment are so warmed as to heat the air it contains. It is true a change is provided, but I do not believe that air artificially heated ever has the invigorating quality which air immediately rushing into an apartment possesses. There is as much difference between the stimulating qualities as there is between water proceeding immediately from a spring and that which may have stood for some time in a dwelling apartment. Everything that approaches to stagnation lowers. Action seems to be the principle of existence, and, therefore, however agreeable the temperature of a room may be, if not kept in constant motion it oppresses. I have often observed that, in the case of a large pond, if a stream, however small, is constantly running in and also from it, the results of complete stagnation do not occur, while if no stream enters and leaves it it becomes loaded with weed and its surface becomes more or less green.

PARACENTESIS OF THE BLADDER  
ABOVE THE PUBES.



## PARACENTESIS VESICÆ.

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AMONG the many important operations which have engaged the attention of surgeons during the last century there is one which from its importance deserves, perhaps, more attention than it has generally received. It has happened to me to have been engaged to a considerable extent in cases requiring the paracentesis of the bladder above the pubes, and now, considering at my leisure what I have seen, I cannot help thinking that, in some respects, more precise views as to the mode of performance of this operation ought to be entertained than we find in the greater number of authors which I have consulted from the time of Sharp downwards. Thus, we find a very considerable difference in the instruments employed and the mode of employing them, *e. g.* as regards the *length* of the trocar, we have it stated at from four to five inches; as to its *form*, either straight or curved; if curved, by some slightly, by others as forming a segment of a small circle; as to its *introduction*, either through a previous incision, or by an immediate thrust, as in ascites or ovarian dropsy; if by incision, the

length of that rated at from one to three inches; as to the *direction* of the trocar, either directly backwards to the base of the sacrum, or obliquely downwards in the axis of the bladder, or parallel to that axis.

That I have not misstated the differences between the length and form of the canula and the direction of its introduction, I shall refer to the following authorities :

*Straight Canulæ.*

Sharp (Cooper's 'Surgical Dictionary,' page 154) seems to have employed a straight trocar, but mentions the inconvenience arising from too great length.

Abernethy ('Surgical Works,' vol. ii, page 189), "Common trocar of middle size."

Sir Astley Cooper ('Lectures on Surgery,' vol. ii, page 309), "Of sufficient length." It is to be regretted that he did not state more particularly what that length should be.

Sir W. Fergusson, it may be presumed from the figure given ('Practical Surgery,' page 761), uses a straight trocar, but he does not say anything of the length of the canula.

Sir H. Thompson says (Holmes's 'System of Surgery,' vol. iv, page 419), "Straight or slightly curved."

*Curved Canulæ.*

Desault ('Œuvres Chirurgicales,' tom. iii, page 317),

“Curve the segment of a circle of eight inches’ diameter.”

Richerand (‘Nosographie Chirurgicale,’ tom. iii, page 499) employed the trocar of Frère Cosme.

Chelius (South’s ‘Chelius,’ vol. ii, page 432), “Slightly curved;” length not stated.

South (*ibid.*), as Desault.

Malgaigne (‘Médecine Operatoire,’ page 683), curve corresponding with seven inches’ diameter.

Sir H. Thompson (*ut supra cit.*), “Straight or slightly curved.”

Erichsen, in the last edition of his important work on surgery, gives no definite information as to the instrument to be employed above the pubes.

It is to be regretted that Sir B. Brodie, a surgeon so eminently practical, has given us very little information with respect to the paracentesis of the bladder.

#### *Direction of introduction.*

Sharp (*ut supra cit.*), “Downwards.”

Sabatier, “In the axis of the bladder.”

Abernethy (*ut supra cit.*), “Obliquely downwards in the axis of the bladder.”

Sir A. Cooper (‘Lectures,’ vol. ii, page 309), “To the basis of the sacrum, *i. e.* a little obliquely upwards, and not directly downwards, to avoid passing between the bladder and pubes.”

Desault, downwards; immediately above the pubes.

Richerand, immediately above the pubes, without any previous incision.

Chelius (*ut supra cit.*), "A little downwards."

South (*ibid.*), as Desault.

Malgaigne ('*Médecine Opératoire*,' page 683), curved trocar; an inch and a half above the pubes.

Sir W. Fergusson (*ut supra cit.*) makes an incision three inches long above the pubes, but does not give the exact point or direction of puncture.

Sir H. Thompson mentions the method employed by Dr. Brander, of Jersey, viz. passing a hydrocele trocar horizontally through the symphysis of the pubes. It is obvious that the usual trocar would be too large to pass between the bones.

*Whether Catheter introduced.*

Abernethy.—Yes.

Sir A. Cooper.—Yes.

Chelius recommends a blunt tube, and gives directions for the withdrawal of the tube, stating the seventh day as the proper time.

Desault also recommends a blunt tube.

Sir H. Thompson uses a blunt canula or elastic catheter.

Erichsen.—Yes.

There are many points connected with this operation which are of great interest, independently of the mode

in which the operation is performed, and here I must presume to say that these differences may be in a great measure reconciled by reference to a point which these high authorities could not be ignorant of, but which have not been set forth in their writings in the decided manner which might have been expected, and, indeed, have been rather incidentally alluded to than offered as a broad ground of distinction. In describing paracentesis above the pubes most authors refer to a condition which belongs only to one class of these cases, viz. where the bladder itself varies but little from its ordinary thickness, and where its cavity will allow of great enlargement. These are cases taking place at early periods of life, and little difficulty may be expected to occur in the operation for their relief, whatever troubles may follow. On the other hand, we have those cases which occur in later life, *where long-continued disease has thickened the bladder and contracted its cavity*, so that, far from containing from forty to eighty ounces of urine, it will sometimes barely contain any, examples of which will be given. Now, the instruments and methods which are proper in the first description of cases are very liable to failure in the second. For example, we will take the length of the instrument. In the case of a normal bladder a canula of five inches is not necessary, and, as it has been observed, its extremity is liable to bear on the opposite side of the bladder, producing great irritation, and, perhaps, serious mischief, as observed by Mr. Sharp especially; while, on



the other hand, a canula of four inches employed in the second description of cases, where the bladder is much thickened, its cavity contracted, and the abdomen overlaid with a great quantity of fat, may fail to reach its cavity, and merely pass into its substance. Again, if we take the curved form, this may be easily lodged in cases of the first class, and be less liable to escape from it than a straight tube. Used by such surgeons as approve of it, it may answer well, but still there is some cause for surprise when we find so great a difference in the degree of curvature recommended; but if we assume that the length of the instrument is five inches, and its curve a segment of a circle of seven or eight inches in diameter, as has been stated, the chord of that curve will bring it back to the dimensions of a short straight trocar. The object proposed by this instrument is, I presume, that of obtaining a direction approaching the axis of the bladder, it being understood that the convexity is upwards. It is, however, necessary to state that one of the latest authors upon the subject, Mr. Paget, of Leicester, who speaks highly of the operation above the pubes, employs a curved trocar directed towards the lumbar vertebræ, with its *concavity* upwards.\* Great authorities are opposed to this direction, although I am bound to say that I have seen cases in which this direction with a straight trocar was successful. Here we must refer to the different advice given as to the direction of the straight trocar.

\* 'British Medical Journal,' 1859 and 1864.

When introduced obliquely downwards, in a direction parallel to the axis of the bladder (for in the true axis of the bladder I presume it cannot be passed, as represented by Sabatier, since that would extend from the centre of the fundus to its neck), much will evidently depend upon the point at which it is introduced, for if the finger be placed close upon the pubes, and that be taken for the point of puncture, it is obvious that even in a normal bladder it may pass between it and the pubes, if directed downwards, especially in young subjects, where the neck of the bladder naturally rises high in the pelvis; also in a much thickened bladder it would be more likely to pass into the substance of that viscus than to penetrate its cavity. On the other hand, if it be passed at a greater distance from the pubes, in a bladder which has not risen to any considerable extent, as often happens in old cases, there may be some risk of its wounding the peritoneum. Mr. Erichsen has given us a very valuable account of the absolute relations of the peritoneum in a case he examined, and it would tend to free us from apprehension where the bladder is normal, but where the swelling above the pubes is solid bladder it may be that it has not carried up the peritoneum to the same extent as in the former case. In these old cases it would seem probable that a horizontal direction, or nearly so, would give the best chance of entering the cavity, and this, of course, would exclude the curved form of trocar; but, as I have reason to know, these cases are not

without their difficulties. It is not always easy to distinguish their exact character, for we may find above the pubes a swelling reaching nearly to the umbilicus, yet where the abdomen is loaded with fat it is not easy to ascertain whether this may be owing to fluid or chiefly to thickness of the walls of the bladder, and an examination by the rectum may not afford that definite feeling of fluid which is so satisfactory. These cases have considerable difficulties, and I can only here regret that in this, as in many other cases of operative surgery, we find but too often in the works we consult the clear and graphic account of a standard operation, while the *adversaria omnia* often receive but little notice.

The causes of retention of urine have been stated with the most minute accuracy by our principal surgeons for many years last past, but with respect to the condition of the bladder itself there has been but little discrimination between cases of the most simple character and those of the most complicated disease. It is true that several authors allude to cases of old diseased bladder, but little is to be found to mark the important differences, and when the young surgeon regards the very various instruments and modes of using them he must be at some difficulty to ascertain which is the best. This, in reality, can scarcely be determined excepting by reference to the particular case in hand. In the lectures of Sir Astley Cooper and Brodie, as well as in those of more modern surgeons, there are brief but accurate accounts of the

state of things as regards those cases which occur in the early or middle periods of life, but which are not by any means applicable to cases of old diseased and thickened bladders. In the former we easily find a globular, or perhaps oval, tumour rising up from the pelvis, mounting towards the umbilicus, sometimes passing it, and obviously full of fluid, whether examined from before or from the rectum; very tense, very tender, with frequent, violent, painful spasms urging the patient in vain to pass his urine. The condition of the parts immediately above the pubes is simply and easily stated, but here we come to no small variety of operative proceedings recommended, and that, too, by surgeons of great experience and authority. It cannot, of course, as I have just stated, be a matter of indifference which instruments are used, and in which direction. In cases of the first class, such as I have described, a trocar of moderate length, say four or four and a half inches, introduced about one inch above the pubes, and directed a little downwards, will generally answer the purpose, and a slightly curved trocar will probably be less likely to quit the bladder than one perfectly straight; but the difficult cases really are those of the second class, *i. e.* old and diseased bladders. As to the first class of cases, I quite agree with the many able surgeons who have stated that cases requiring the operation seldom occur, provided, however, that two things are granted, first, that these cases are really of the first class, and secondly, that they come early under the treatment

of those who are thoroughly conversant with it; but to place the matter fairly before the young surgeon, I really think another and not unfrequent picture should be presented to him. I shall now offer some observations on the second class—that is, bladders thickened and contracted by disease, of which two very remarkable cases occurred to myself, and of which I have also seen a few under the care of my colleagues.

(1) Vol. xi, pp. 92, 225. October 10, 1859.

Sent for to a town a few miles distant from Exeter, to see Mr. M—, æt. 75, a most unfavorable subject, long suffering from urinary disease, passing his water very frequently and in small quantities day and night, and having repeated retention, which his surgeon had relieved until the present occasion, when he had made a false passage. Nothing could be more unpromising. He had a large hydro-sarcocele on the right side, and a large irreducible hernia on the left; the abdomen was so loaded with fat as to bring the whole to a level, in which the penis was sunk, the prepuce being scarcely visible; the lower limbs were quite rigid from rheumatism. The retention had been only a few hours, and occasioned by cold. I could not succeed in passing an instrument into the bladder, but passed a small bougie into the stricture, and allowed it to remain there for some time; when it was withdrawn, a stool being passed at the same time, a little urine dribbled away, and he felt much relief. On the following day he was able to pass nearly a teacupful in a small stream,

it was also continually dribbling away. The pain and distress were so much relieved, and his general appearance so much improved, that there seemed to be no occasion for an operation. So matters were on the 13th. On the 16th I was sent for again, and found not only that the distress in his bladder had returned, but that severe bronchitis had also come on. Under such circumstances the chance of relief was but small, but still it was necessary to puncture the bladder. The abdomen was so loaded with fat that the form of the bladder could be made out only with great difficulty, and it was with even greater difficulty that it could be reached from the rectum. It was evidently much thickened, and the event showed that its capacity was very small, for, when tapped, eight ounces alone could be drawn off—a quantity quite without import in a healthy bladder, but quite sufficient to distress a diseased one. From the description given of the parts, take it altogether, nothing could well be more opposite to the ordinary descriptions than was this case. In addition to the load of fat there was also a tympanitic state of the abdomen, notwithstanding the bowels had been duly attended to; the total quantity of urine had been small, and possessing little true urinous character, so that this offers an example of partial suppression united with retention.

I made the incision in the usual position, and at the depth of one inch could feel the pubes. Pressure being made in the region of the bladder, I passed a long straight trocar, and evacuated eight ounces of urine,

as stated. From this time to his death water passed constantly through the canula, and as far as the bladder was concerned he seemed to have had complete relief, and the secretion from the kidneys, which had before been very small, though we could not ascertain the exact amount, became increased, and developed an ammoniacal odour, which at first it had not. The bronchitic symptoms, however, rapidly increased, and on the 20th he died. No examination was allowed. The important circumstances in this case are, as regards the operation, the abnormal condition of the scrotal region and abdomen, the thickness of the viscus itself and its small capacity, partial suppression of the secretion and the less than usual prominence of the bladder. These tended to confuse the matter very much. Had no bronchitis, or rather peripneumonia notha, occurred, his life might have been spared for a considerable time.

(2) Vol. x, p. 154. August 8, 1856.

Mr. T—, an elderly man, a free liver, who had urinary complaints for forty years, frequent retention relieved by ordinary means, urine often dribbling away, especially of late. He had been ill a week before I saw him, and had had hiccough. I was called to see him at 8 a.m. The stoppage had not been complete till 2 a.m. He had been drinking freely for several days. Abdomen seemed full above pubes. Catheters, &c., tried without relief.

9th, 12 noon.—With Mr. D— and W. W. J—. Bowels

acted. Sheets considerably wetted from urine—this considered to be surplusage. Very drowsy, supposed from urea. Ordinary catheter failed; an anterior stricture favorable for Stafford's instrument, being three and a half inches. I used it with considerable force, and could then pass a large *prostatic* catheter to a second stricture at the bulb, which was impermeable, and another operation with Stafford's instrument in that situation was not deemed advisable, but, in preference, the puncture above the pubes. There was an immense quantity of fat on the abdomen, which rendered the examination of the bladder doubtful, but there was dulness nearly to the umbilicus, while above it was resonant.

The incision two inches; the muscles being laid bare, and strong pressure made from above, I felt the bladder protruded against the finger, and pushed in the trocar horizontally; but, although the canula was pressed to the bottom of the wound, no urine followed, nor did the introduction of a director or of an elastic gum catheter offer any result. We then agreed that the instrument should be passed at an angle a little above the former. It was, but with no better success. The attempt was then abandoned, to see what the result of the opening by Stafford's instrument might prove.

10th.—Appeared better. Urine dribbled away freely from the penis.

11th.—Urine still passing freely, and some voluntarily. The abdomen resonant nearly to the pubes. Abdominal respiration has been free throughout.



12th.—Refused nutriment of every kind. Tongue getting dry, and hiccough. Bowels free throughout.

13th.—Gradually sank and died. An examination could not be procured.

That such should have been the termination of this case is not to be wondered at, for in many old diseases of the bladder, where the kidneys also had become diseased and urea was not properly separated, such is frequently the immediate cause of death, and in this case there was no such distress or pain as to account for any especial suffering from the retention. The most interesting question here is where the trocar went, and why no results occurred from the introduction of the director or gum elastic catheter? It may be that the cavity had been reduced to a very small size, and what was felt above the pubes was the thickened and hard viscus, the cavity merely sufficing to receive small quantities of urine as they were secreted, but which, from the entire constriction of the anterior stricture, could not pass away till that was divided by Stafford's instrument. The only objection to this explanation is that on the 11th the abdomen is described as being *more resonant*. The first puncture, being in a horizontal direction, and as deep as it could be carried, gave the best chance of reaching any cavity; but if this case be considered in reference to the ordinary directions for the operation, it will be seen that there is an immense difference in the conditions from those described where the bladder is altogether normal. There can be little doubt that in such cases the trocar may easily miss

what cavity there is, and be buried in the substance of the viscus.

(3) Vol. vi, p. 434.

In addition to the cases of the anterior operation I had one through the rectum; the patient a very unpropitious subject, being eighty-one years of age, having an enlarged prostate and a much thickened bladder, as shown in a preparation in our Museum, No. 494. A false passage had been made by a surgeon who had attempted to relieve his bladder, and seeing that the symptoms were urgent, with little chance of relief, I performed the operation without delay, September 11th, 1836. I introduced two fingers into the rectum, and passed the trocar along the groove between them—a plan I have often found useful in getting a prostatic catheter into the bladder. One pint and a half was discharged, and the patient much relieved. Urine speedily began to pass by the side of the canula, but on the 14th the canula slipped out during the action of the bowels, and subsequently urine accumulated again, but I succeeded in getting an elastic catheter through the urethra, and so relieved him until he unfortunately removed it himself, when accumulation again took place; but his state had become so unfavorable from stupor that it was judged useless to attempt anything further. There is no evidence whatever of any injury having arisen from the operation.

We have also a preparation in our Museum which I

put up (No. 343), and which bears very importantly on this class of cases—and, no doubt, they are not very uncommon—of a bladder which, if deprived of its appendages, would much resemble the section of a large fibrous tumour with a small cavity in its centre. It was taken from a man who had several fistulæ in his perinæum, with as many little canals about the bulb as there are mouths of the Nile, but who did not die from urinary disease, but from fracture of his ribs. The difficulty of puncturing such a cavity may be easily conceived, but it is evident that the best chance would be given by an instrument passed horizontally.

This group of cases, if I may be allowed to include the pathological specimen in our Museum, illustrates in a striking degree the difference between cases of retention early in life and those which occur in old and diseased bladders. The truth of what I have stated before is proved by such cases as these. The difference which was pointed out as to the instruments to be used, and the mode of using them, is also very much illustrated by the peculiar circumstances of these two classes of cases. Thus, for instance, an ordinary trocar of four or four and a half inches would suffice in what we would call the first class, while in the second, *i. e.* of old thickened cases, we should have little chance excepting with the long instrument. Again, in the first class we might use the curved trocar, or might give the straight trocar a direction parallel to the axis of the bladder; while in the second class they would have little chance of entering the

cavity at all. Again, if the instrument be entered *close* upon the pubes, and directed downwards, it would probably in any case pass between the pubes and neck of the bladder, while if entered horizontally it would, as in Dr. Brander's cases, obtain its object. Mr. Cock seems invariably to have preferred the puncture through the rectum,\* but a much larger experience than I have had of both operations would be required to enable me to deal with this point of practice. I make these observations with great deference, and while in active practice I had not the opportunity of making myself acquainted with many of the authors I have since consulted, but the leisure which has resulted from a long illness has given me opportunities I never before possessed.

The position of the surgeon with reference to these cases is, from various causes, a very difficult one, and by no means exaggerated by Mr. Cock. We have been considering *how* the operation is to be performed; perhaps the more important question is *when*? What are the chances of relief from the treatment of the retention? What are the chances of death from the operation?

Now, we find that surgeons of the highest authority speak of the operation as one that can rarely be requisite. Thus, we find that Desault in ten years was only obliged to operate in one case at the Hôtel Dieu.† To this might also be added the experience

\* 'Medico-Chirurgical Transactions,' vol. xxxv.

† 'Œuvres Chirurgicales,' tom. iii, p. 316.

of Mr. Liston, who only had occasion to operate in one case.\* Sir B. Brodie speaks of it as a matter of rare necessity,† and in later days we find Mr. Erichsen speaking much to the same effect; and, certainly, speaking from my own experience, I should say if an uncomplicated case of the first class came under the care of a surgeon accustomed to deal with such cases, relief would generally be obtained without the operation. But, on the other hand, we have the highly valuable series of cases given by Mr. Cock, the only record, that I am aware of, substantially supplied without omission (from 1846 to 1852). These were all at Guy's Hospital, and amount to forty cases. The operation was performed in the majority of cases by Mr. Cock, but there were nineteen by Mr. Hilton and other colleagues, showing a fact of which I am but too well aware of myself, that a large number of cases of both classes will in some shape or other come under the consideration of an operation to be performed. It is a matter of no consequence to the present argument that the operation was in all these cases posterior.

The question naturally presents itself, what has been the result of my own experience? I shall be able hereafter to show that other cases were especially operated on by myself, or were under my own cognizance, of whom two were undoubtedly saved by the operation, and another would have been (Case 1,

\* 'Liston's Surgery,' vol. iii, p. 143.

† 'Lectures on Diseases of the Urinary Organs,' Third Edition, p. 44.

already given) but for his having had an attack of bronchitis. There were other cases which came under my own observation, but were under the special treatment of other surgeons, and I do not think proper to add them.

In cases of the second class the patients will generally die of uræmia or other consequences of diseased bladder, *suppression especially*, unless they can be relieved; but a chance is afforded them by the operation, if performed in sufficient time. There is no evidence that I have seen, nor does there appear to be in Mr. Cock's cases, of any material injury having been inflicted by the operation, not even when the puncture has been repeated. When a death occurs after an operation it is often imputed to that, and I cannot help thinking that this is too often the cause of improper delay. The surgeon must run the risk of adverse opinions, but still it cannot be made too strongly a matter of fact that it is rarely the operation, but the delay, which is the real cause, just as much as it is in cases of strangulated hernia.

Here I may pause for a moment to speak of the favorable or unfavorable indications in cases of retention. If there has been no false passage made, and the stream of water was considerable before the retention took place, there is a fair chance of relief by the catheter; and here I would be permitted to say that, in my judgment, the catheters of the present day do not present the most favorable curve. An old catheter I had was almost invaluable. The curve was an **S**, the

distal end being bold and forming a large segment of a small curve, it corresponding to the canal from the bulb to the bladder, the proximal end being a segment of a much larger curve, and inverted so as to complete the recurved or **S** form. This instrument applied itself most readily throughout to the upper surface of the urethra, turned readily under the arch of the pubes, and its beak would elude the third lobe of the prostate. It was of the size of a small No. 4. (It must be remembered that these observations apply chiefly to cases of stricture at the bulb, still, however, being adapted to those where the prostate was somewhat enlarged.) With patience this was generally capable of being passed through a stricture, if not of the smallest dimensions, but with an instrument below No. 4 I always felt that there was much chance of perforating the canal, and certainly, whether the instrument be an elastic gum catheter or silver, when we come to the smallest size it requires no little dexterity to guide it in.

There was another mode in which I have sometimes succeeded, and that was lodging a small wax bougie in the stricture, and allowing it to stay there. This was strongly recommended by Brodie (who, however, employed catgut for the purpose). Sometimes water would begin to dribble by its side, or, at all events, if slowly withdrawn, after a time a stream of water would follow it. Unless, however, wax bougies are, like those of Guthrie and Co., of perfect manufacture, little is to be done with them, but if they are they are

capable of receiving a bend at the extremity, which will often find out the course of the canal.\*

If mechanical relief cannot be obtained, the methods generally resorted to are sufficiently known. Among them, leeches to the perinæum, opiate enemata, and warm baths, I have found most useful. And I must now mention that we have the important authority of Mr. Erichsen and others that chloroform is a most invaluable agent, but, I presume, not in cases where there was a tendency to uræmia. The same observation applies to opium.

The question often presses, Are *we* gaining ground, or is the *disease*? If we find the bladder less tense and painful, the spasms less frequent, the tumour not increasing, and a little water dribbling away or passed in a small stream, it may be hoped that things are gradually returning to a better state. But it will naturally suggest itself, What are the limits to which the bladder may be distended? In cases of the second class a thickened and diseased bladder will admit of little distension, while in the first class it may be carried to a very high degree. Thus, in case No. 4 I drew off no less than eighty ounces, and the tumour extended considerably above the umbilicus. The man recovered. The case shows that we must not be too rigidly bound

\* Speaking of strictures generally, I may here add that I have succeeded to a very great extent in the treatment of even the closest by these excellent bougies, and I only wonder to find so little mention made of them at the present time. When, by patience and management, I succeeded in passing a No. 3, I generally finished the treatment with a metallic instrument.



down to the quantity of thirty or forty ounces, as supposed to be the outside measure. In speaking on this point, I must advert to a circumstance which hardly seems to have received sufficient notice, viz. that not only does the warm bath greatly relieve spasm, but, if long continued, will, by the profuse perspiration it induces, not only check the further secretion from the kidneys, but may probably cause considerable absorption from the fluid in the bladder—at least, such appears to have been its effect in some cases I have seen.

The treatment of retention, then, being either mechanical or by other means, the question naturally arises, When is it the proper time to use the one or the other? Where the previous stream has been pretty ample, the surgeon will decide whether the catheter or the other remedies should precede, a question always connected with the absolute condition of the patient at the moment; but when time may be fairly allowed, the other means may have a trial, for if they do not succeed in removing the retention they may facilitate the passage of instruments; but in the second class of cases time must be very closely measured, and the operation be not long delayed. Leeches very often relieve in the first class, but are a doubtful remedy in the second. But I shall not enlarge upon this branch of the subject.

We have hitherto been considering the introduction of the trocar, but there is another and a very important difficulty which often occurs. I mean the escape of the bladder from the canula. We may have

apparently secured the end on the surface of the abdomen with great care, still it is often found after a time that the water ceases to pass through it. It is said to have slipped out, but it is rather that the bladder has escaped from it. Now this is generally ascribed to two causes, but I think a third might be added. The first is exceedingly obvious. When the bladder has ascended high in the abdomen, the point which presents itself for puncture above the pubes will only preserve its relation to that puncture if the instrument employed preserves the relative position of the opening in the parietes and in the bladder, but will naturally sink vertically to its normal position when the cavity is empty. So also it will recede horizontally, or tend to do so, and the punctured point in the bladder cease to coincide in that direction. I presume it is chiefly to meet this difficulty that so many varieties occur in the length of canulæ, the obliquity or horizontal introduction, their being curved or otherwise, and more especially the employment or not of an internal blunt canula or an elastic catheter (as recommended by high authorities), it being also considered that the second cause I allude to tends to displace the canula, viz. the contraction of the bladder upon any foreign body, and calculated to expel it. The third cause I would submit is as follows:—That the parts surrounding the canula inflame, and the result of that inflammation is not only that there is a thickening laterally, but longitudinally, which will increase the distance between the surface of the abdomen and the

opening into the bladder; and here I may venture to submit a proposal which in one case I successfully adopted, and which, it strikes me, is deserving of further trial, viz. that when the bladder has been punctured it should not be entirely emptied, but a portion of the fluid be allowed to remain, which would both tend to prevent the end of the instrument from irritating the bladder and would keep the points of puncture in better approximation. We have no means of judging of the comparative frequency of the escape of the canula for want of a regular series of cases, in as far as the anterior operation is concerned; but we have that very valuable and faithful series by Mr. Cock, and there we find that, out of forty cases, in four the canula escaped from the bladder, and we have the further highly important information that the bladder was again punctured without producing any evil effect, but the contrary. Without dwelling further on a subject on which we have, comparatively speaking, so few data, I would briefly mention three cases which are not without their interest.

(4) Vol. x, p. 159.

A labourer, æt. 40, was admitted into the hospital under my care December 4th, 1856. He had a large abscess juxta urethram, which had been freely opened by his surgeon in the country, and was in a sloughy condition, and erysipelalous inflammation of the perinæum and scrotum. There was retention of urine, and the bladder was enormously distended, indeed,

above the umbilicus. We had tried in vain to introduce some instrument, but none would pass beyond the root of the penis. I made free incisions, to relieve the perinæum and scrotum, which fully answered their purpose, and checked the inflammatory action; neither pus nor urine escaped from any of them. I detached the slough at the back of the perinæum, and endeavoured to reach the bladder in that direction, but did not succeed. As there was considerable stillicidium through the penis, my colleagues advised me to wait and see what the result of that would be, but as no relief had been obtained on the following day, paracentesis above the pubes was determined on. There was no difficulty in this, and no less than eighty ounces of urine were discharged. This was slightly fœtid.

On the 6th symptoms favorable, and urine passing off freely till the evening.

On the 7th it had entirely ceased, the bladder again beginning to fill, the canula having evidently quitted it, and it was found necessary to make another puncture. In the first place I tried a long curved trocar, entered in the direction of the first operation, but it was not followed by any urine. I then passed a long straight trocar, but no urine followed when the stilette was withdrawn. I then examined with a probe through the canula, and after withdrawing it, our excellent house-surgeon, Dr. Biggs, on smelling this, said it was urinous. Without this I might have hastily withdrawn the canula with very fatal consequences. A small elastic catheter being then passed, to my great con-

tent about a pint of urine was withdrawn, and as much more escaped in the course of the day.

On the 8th urine passing the right way.

11th.—Going on quite well. Withdrew the canula and elastic catheter, the latter very carefully, not to detach any calculous concretion. The caution was not unnecessary, for there was a very considerable quantity, and the result might have been the formation of a calculus, as in two cases to be hereafter related.

I need not pursue the details of this case. Suffice it to say that I was enabled to dilate the strictures, and that on March 11th I passed No. 8, when the man chose to go home.

Now, this case, shows, *first*, that in this as in many other cases, incisions made in the perinæum in time anticipate and prevent the formation of pus and sloughs (*an observation not inapplicable to carbuncle*); *secondly*, that the bladder is capable of being distended much beyond the size stated by some authors; *thirdly*, that the great change effected in the position of the point of puncture after the subsidence of the bladder, both vertically and horizontally, in all probability caused the escape of the canula from the bladder; *fourthly*, that although the trocar must have entered the bladder on the second occasion, since the probe manifested the presence of urine, and a pint was drawn off by the elastic catheter, yet, although it is expressly stated that strong pressure was made upon the abdomen, none passed through the canula before the elastic catheter was introduced. That the bladder should have been

so far paralysed by the extreme distension as to fail in expelling the urine would be a very natural conclusion, but how to account for the pressure failing to do so I cannot at all tell. The elastic catheter certainly passed further, and, what is more, it is most probable that the proximal end was placed in a basin, and might have acted as a syphon. At all events, there is much interest in these details. *Fifthly*, and lastly, here is a case where a deposit had soon taken place on the elastic catheter, and a needless withdrawal might have left a nucleus for a stone.

(5) Vol. xi, pp. 3, 202.

Mr. B—, a stout man, æt. 50, was operated on by a friend of mine May 24th, 1857, and with success. The bladder had been very tense, reached umbilicus; the prostate stated to have been very much enlarged.

On the 15th an elastic catheter substituted for the silver canula.

On the 27th urine ceased to flow, from the catheter becoming sodden, a circumstance which, in point of fact, becomes equivalent to the escape of the instrument from the bladder. My friend endeavoured to make way into it with a director, but failed. I now tried a small firm wax bougie, which I passed by the side of the director, and was able to get it in, and having done this I got in a female catheter by the route so established.

On the 30th tried to pass a large bougie by the urethra; I think it entered the bladder; some tinge of

blood afterwards in the urine which passed through the catheter.

This patient died subsequently of hæmorrhage from the right kidney (I was unable to attend the examination); but my object has been to show that a good firm wax bougie may be of service, and more likely to find its way into the bladder than another straight instrument less capable of accommodating itself to any tortuosity in its course. Such bougies were those of Guthrie and Co.

I may mention here that when I passed the female catheter I left some of the urine in the bladder, to lessen the chance of the instrument slipping out again. This instrument was found in its proper place at the post-mortem examination.

From the age of the patient and the account of the prostate, I think it highly probable that this was a case of the second class.

(6) Vol. xi, p. 253. September 8, 1863.

An elderly gentleman, but hale and stout, had been for some years subject to irritable bladder, with occasional retention, from which his surgeon had been able to relieve him, but on the present occasion failed to do so. I was desired to see him, and, it being found impossible to pass any instrument, it was determined to puncture the bladder above the pubes. Having relinquished operative surgery for some considerable time, my son, who succeeded me at the hospital, was desired to perform the operation. The bladder had

extended nearly to the umbilicus. Although the patient was very fat, the operation was accomplished with facility, the long trocar being employed, and two pints of urine tinged with blood (from a false passage) were drawn off, and the canula carefully secured.

On the morning of the 9th urine ceased to flow through the canula. Impatient of the pain, he got out of bed, and the canula came out or was removed by him. It could not be reintroduced, and at 2.30 p.m. it was found necessary to make another puncture, when about a pint was drawn off. An elastic gum catheter was introduced.

The further details of this case were very interesting, but my own illness supervened so soon afterwards that I was unable to complete them. My chief object, however, is to show that the elastic gum catheter which was introduced on the 9th became sodden, and its sides collapsing, it became useless on the 12th. I have no further record, except that on June 13th, 1868, I find it stated that this gentleman got well after a third puncture, and called at my house a considerable time after my attack.

The last (No. 6) is not the only case where gum catheters have been found to fail from becoming sodden. The same thing occurred in No 5, and we meet with the remark in the perusal of the best authors (I may especially mention Mr. Abernethy) that these instruments are not always to be relied on.

I will further make some observations on the deposit of calcareous matter on canulæ, and the consequent



formation of stone. We find in most authors the necessity of cleaning the tubes insisted upon, but rather, as it should seem, to obviate their blocking up with mucus, but it has happened to me to see cases where concretions on the tubes have become the nuclei of calculi, and it would be easily understood how a small bit of such deposit may give rise to this misfortune. In Case No. 4 I removed the elastic tube with great care lest I should detach any concretion, and the caution was not unnecessary, as appearances showed, although the tube had only been five days in the bladder. That caution was suggested by the following cases.

(7) Vol. viii, p. 454.

I was desired to see Mr. H—, an elderly gentleman of stout make, who had long suffered from urinary complaints, and occasionally retention, which had hitherto been relieved by his surgeon, who was a very experienced practitioner. A bloody shirt, however, showed a failure in the present instance, nor could we succeed in passing any instrument into the bladder. The prostate being enlarged, it was determined to puncture above the pubes. This was done by the gentleman I have mentioned, and an elastic catheter was introduced through the canula; two and a half pints of urine were drawn off. It is not necessary to detail the circumstances of this case, but he remained in a doubtful state for a considerable time, and, although I did not see him myself after April, yet, I

apprehend, there is no doubt he died with calculus in his bladder, this being caused, in all probability, by concretion on the tube being separated, of which I shall give an additional case.

(8) Vol. viii, p. 451.

A young man, *æt.* 31, was admitted into the hospital on the 6th of September, 1845, having had retention nine months previously during a gonorrhœa. The bladder was punctured and a canula kept in for three months. When he came in the bladder was in a very diseased state, with much irritation, and he had also a dysenteric state of the bowels. On examining the bladder a stone was found near its neck, and lithotomy was determined upon. It was performed with the gorget. The bladder was found to contain two stones of the size of a field-walnut, and a quantity of débris. After the forceps had been applied the stones crushed so easily that it would have been an admirable case for lithotrity, had we commenced that practice. As my object is merely to show that the formation of calculus from deposits on canulæ is not an infrequent occurrence, I shall not go into the details of the case, which were of a very unfavorable character. Suffice it to say that, after various changes more or less satisfactory, he was discharged at the beginning of April, and returned to his native county. For a time, I understand, he improved, but ultimately sank.

Opening the urethra beyond the bulb is a procedure which has everything to recommend it, if it can be

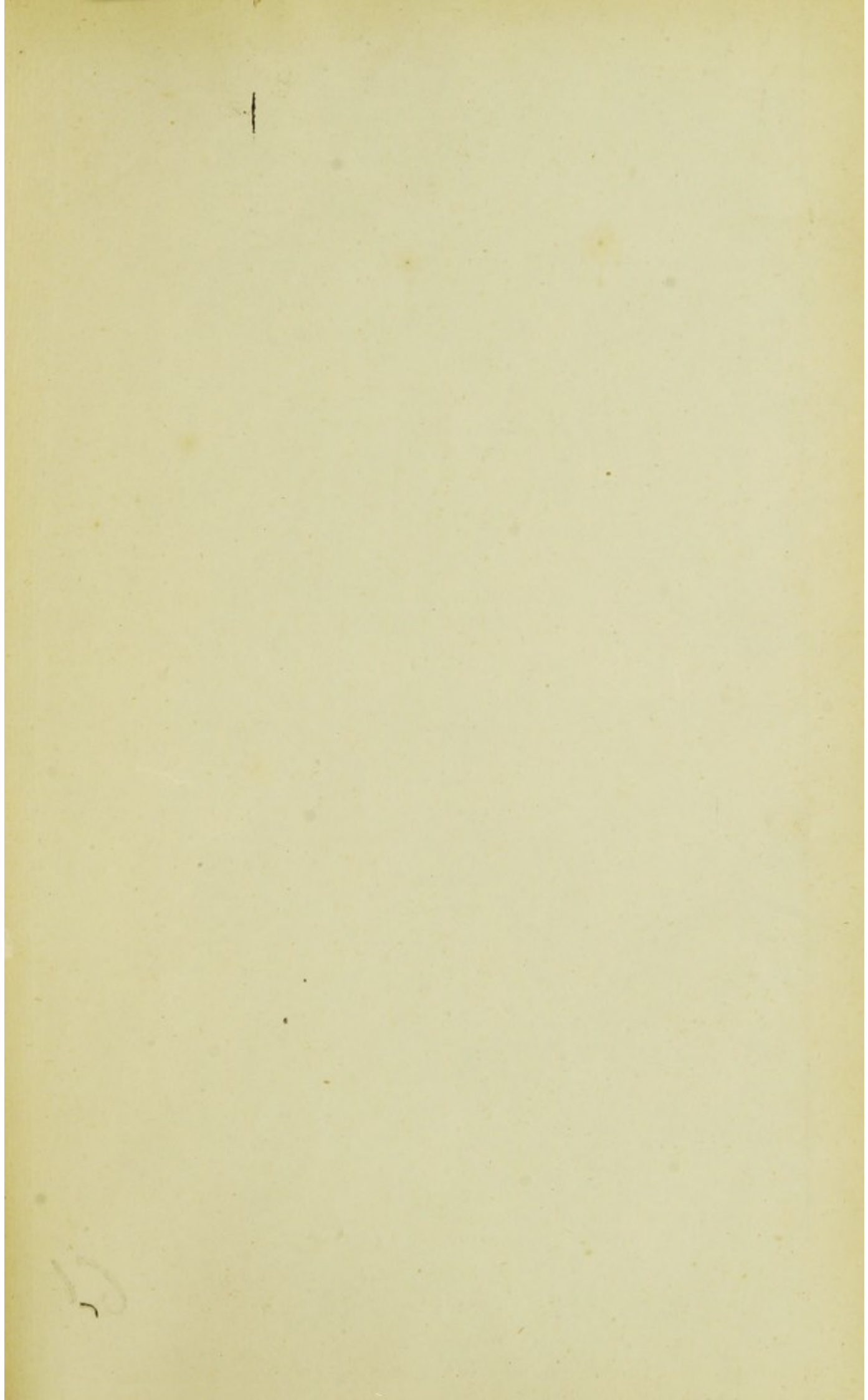
accomplished, but in a deep perinæum is so difficult if we have no guide, and is subject to so many objections, that we have the high authority of Brodie for considering it often impracticable. If we can get a grooved staff into this part of the urethra, it is very much more easy to accomplish it; but this implies the probability that a small catheter might be passed, which would render any other proceeding unnecessary. Two cases occurred to me which are not without their interest. In one I succeeded in getting a small metallic bougie, but in attempting to cut upon this I was completely foiled. I then took a pair of scissors and cut directly across. The man was then able to discharge the urine, and if this course had been adopted at an earlier period he probably would have been saved, but urine had been so extensively extravasated and such sloughing produced as proved fatal.

I have hitherto, in any communications I have made bearing upon facts, been enabled to support these by reference to my case-books. I shall not, therefore, for a single case, vary my procedure, nor build alone upon my memory. There is no reason, however, why I should not suggest that, where it is impossible to pass an instrument beyond the bulb, the following operation might be proposed. The patient being placed in the position for lithotomy, and a sufficiently deep incision made in the median line, let the finger be placed between the bulb and the prostate, and the patient be directed to make a forcible effort to expel the urine. Then let the tube of the urethra, thus filled, be cut

across with a pair of scissors, and as the urine gushes forth secure the edge by a tenaculum, as in taking up an artery, and at once pass a female catheter into the bladder. Such, I believe, was the course of an operation which I performed subsequently to the last alluded to, but the notes of which I cannot recover.



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Accession no. 26286

Author James:  
Chloroform versus  
pain.  
1870.

Call no.

Anesthesia



