filiform bougie of gum, whalebone, or catgut, which will serve as a guide to a catheter in one of the several methods already mentioned; or again, if only the point of one of these fine bougies can be insinuated within the orifice of the stricture, and allowed to remain for a few moments, a small stream of urine will often follow its withdrawal, and, by repeating the process, the entire contents of the bladder be evacuated.

In these cases Thompson's "probe-pointed catheter" (Fig. 106) will often be found of service. This instrument is a catheter "combining tubular construction with minute size," the extremity of which can be made as small as the finest metal probe, and is solid up to about two and a half inches from the point, where the eye (*) is situated; while the hollow shaft above gradually enlarges, first to No. 1, and then nearly to No. 2. A steel rod capable of being screwed in during the introduction of the instrument, gives it solidity, and prevents the eye from becoming obstructed with mucus or blood. If the probe-pointed extremity can be passed through or fairly within the stricture, the hollow shaft can usually in a short time be made to follow, the necessary care being taken to avoid bending the point upon itself or engaging it in a false passage.

But attempts at catheterism may be prolonged to such an extent as to irritate and abrade the canal, even if no violence be used. Many cases also come under the care of the surgeon in which instruments have already been employed to excess by unskilful hands, and in no gentle manner, and in which the urethral walls have been lacerated or false passages made. Hence instrumental interference may require to be suspended, or for a time deferred.

If the condition of the bladder will admit of delay, we may now resort to the hot bath, carried to the verge of syncope, as previously recommended. We have also several agents which have been much relied upon, especially before the invention of the aspirator, to induce micturition. The chief of these is opium, which was thus highly spoken of by Sir Benjamin Brodie:

"From half a drachm to a drachm of laudanum may be given as a clyster in two or three ounces of thin starch. If this should not succeed give opium by the mouth, and repeat the dose, if necessary, every hour until the patient can make water. *According to my experience, the cases in which stricture does not become relaxed under the use of opium, if administered freely, are very rare.* The first effect of the opium is to diminish the distress which the patient experiences from the distention of the bladder. Then the impulse to make water becomes less urgent; the paroxysms of straining are less severe and less frequent; and after the patient has been in this state of comparative ease for a short time, he begins to void his urine, at first in small, but afterwards in larger quantities."

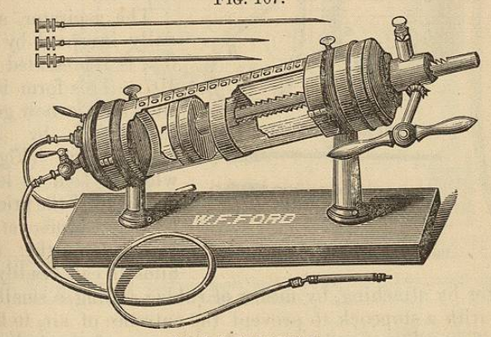
The muriated tincture of iron is also a valuable remedy in cases of retention, and used to be much employed, especially at the New York Hospital, in doses of fifteen to twenty drops every half hour.

Some doubt has been thrown upon the action of this agent from the fact that it is commonly administered in conjunction with opium, to which the credit in successful cases has been ascribed. I have used it alone in several instances with very favorable results, and am disposed to assign it a position second only to opium in the treatment of retention.

Retention of urine must not, however, be allowed to continue too long, since even in the absence of urgent constitutional symptoms, "it is certain that very mischievous consequences result from extraordinary distention (rupture of the urethra and extravasation of urine being passed over, as sufficiently obvious), in its effects upon the kidney, not merely in the way of temporary interference with the performance of its function as a depurating organ, but in the lasting injury it is conceived that a few hours of extreme pressure and dilatation may exert on its structure." (Thompson.) The least suspicion of organic renal disease should make us doubly careful in this regard.

If, then, attempts at catheterism have been continued without success as long as can be regarded as consistent with safety, the question arises, Shall we attack the retention and the stricture at once by one and the same operation, or shall we now merely empty the bladder, leaving the stricture until a subsequent period, when it may be more amenable to treatment than at present? No absolute rule can be laid down for the decision of this question, since each case must be considered by itself; but it may be said, in general, that if urethral abscess or urinary infiltration be evidently present, or even

FIG. 107.



Dieulafoy's aspirator.

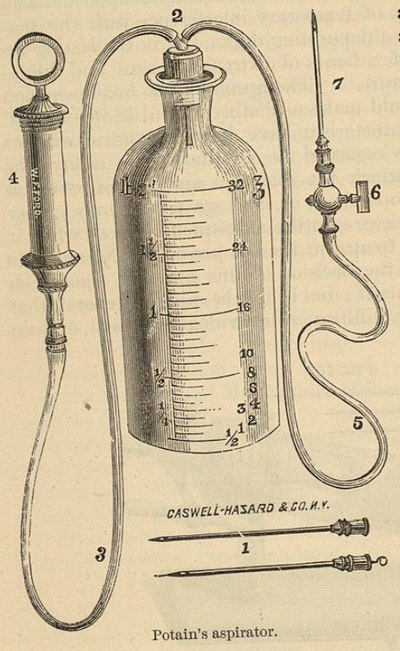
strongly suspected, the decided indication is to approach the bladder by way of perineal urethrotomy, and endeavor to relieve the retention and remove the obstruction at the same sitting. The different operations for this purpose have already been described.

In the absence of urinary infiltration and abscess, the retention of

urine being the only pressing symptom, I conceive that, in most cases, it is best to be content with emptying the bladder and to let the stricture for the time being alone, provided, always, that the patient is within convenient reach of the surgeon, so that further measures can be taken at any moment if required. In country practice, where the surgeon is called a long distance from home, the case is obviously different.

In the aspirator, already mentioned, we have fortunately an instrument which enables us, in a perfectly simple and harmless manner, to empty the contents of the bladder through a puncture above the pubes, and thus avert any danger so far as the mere retention is concerned; and this slight operation may be repeated, if necessary, in the hope that the inflammation and spasm will subside, and that a stricture now impervious will soon become pervious, or, at any rate, the most pressing danger will have been removed and time gained to prepare for a more serious operation, if required.

Fig. 108.



Potain's aspirator.

The aspirator, as originally invented by Dieulafoy, is represented in Fig. 107. This form is expensive, and is now generally supplanted by Potain's modification (Fig. 108), which is sold at less than one-third of the price of the former. Moreover, on an emergency, the surgeon himself can readily fit up an aspirator by attaching, by means of rubber tubing, a small trocar, provided with a stopcock to prevent the entrance of air, to the suction-end of any large syringe—preferably one of the india-rubber syringes of Davidson or Mattson. This plan was first suggested, I believe, by Dr. Gritti, of Milan.[1] Dr. Andrew H. Smith,[2] of New York, has also devised an impromptu aspirator, in which the suction is produced by the evaporation of ether. It consists of a pint bottle

[1] See Med. Rec., N. Y., 1876, p 790.
[2] Med. Rec., N. Y., Aug., 1874, p. 438.

with a tight perforated cork, fitted with a glass tube, attached to which is rubber tubing with a needle. The bottle, containing one or two drachms of ether, is to be placed in hot water; when all the ether is vaporized, the rubber-tube is to be adjusted and the trocar needle inserted into the cavity to be evacuated.

As already stated, the use of the aspirator appears to be devoid of danger, even if the trocar passes through a fold of the peritonæum. It would appear also that its frequent repetition is equally harmless, since, as believed, there is no authentic case on record in which mischief has been done. In one instance, Guyon[1] performed twenty-

Fig. 109. Fig. 110.

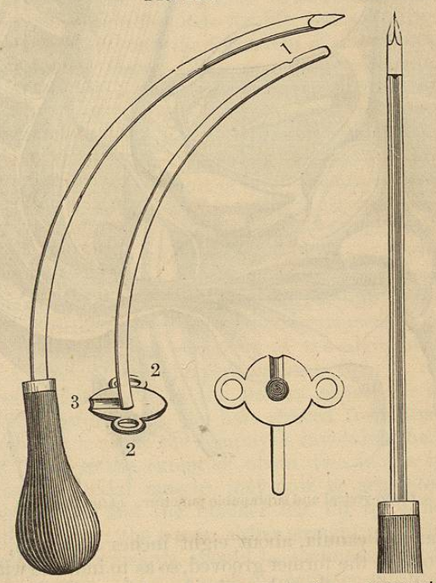


Fig. 109. Side view of canula and trocar. 1. Eye in the former communicating with the groove in the latter. 2. Rings for the purpose of attachment. 3. Channel for the escape of urine.

Fig. 110. Trocar seen at its convex aspect, and showing the groove, which is converted into a tube by insertion in the canula. (After Phillips.)

three aspirations upon the same patient in eight days, and "the most simple catheterization could not have been more harmless." It need only be added that this operation is almost free from pain and does not require the use of an anæsthetic agent.

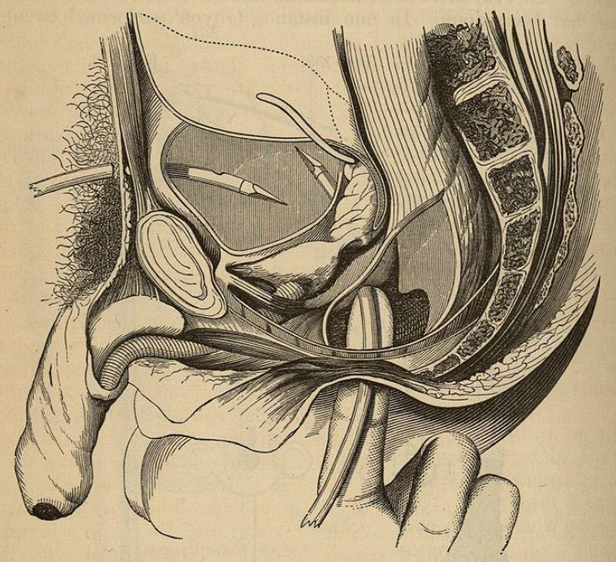
The use of the aspirator has almost if not quite superseded the old methods of puncturing the bladder. The latter, however, may

[1] Dieulafoy, Pneumatic Aspiration of Morbid Fluids, London, 1873, p. 102.

receive a few words of explanation, in case they should be called for in the absence of the proper means for aspiration.

Puncture by the Rectum.—This operation is inadmissible in case the prostate is much enlarged from hypertrophy or the presence of a tumor, on account of the danger of wounding this body; also if the bladder be greatly contracted, since the trocar may perforate its anterior as well as posterior wall. It may be performed with an ordinary

FIG. 111.



Recto-vesical and suprapubic puncture. (After Phillips.)

curved trocar and canula, about eight inches in length, but it is an advantage to have the former grooved, so as to indicate with certainty, by the flow of urine, when the point has entered the bladder.

The patient is to be placed as in the operation of lithotomy, with an assistant supporting each extremity. The lower bowel having been emptied by an enema, the surgeon introduces his left-forefinger, well oiled, into the rectum, and feels for the recto-vesicalwall just back of the posterior margin of the prostate. A tap upon the hypogastric region with the opposite hand should communicate an impulse to the point of the finger in the rectum, and this is to be regarded as indispensable before proceeding with the operation. The canula and trocar are now to be introduced along the finger as a guide, and, while an assistant compresses with both hands the lower part of the abdomen, the point is directed forwards exactly in the median line,

and, by depressing the handle, made to penetrate into the bladder, the accomplishment of which may be known by its freedom in this cavity and the flow of urine. The canula, carefully kept in place during the withdrawal of the trocar, is to be fastened by a T bandage, and may be retained until the permeability of the urethra is re-established. The risks of this operation are: wounding the peritonæum or vesiculæ seminales; consequent peritonitis, or inflammation of the appendages and substance of the testicle; persistence of the opening; and abscess between the rectum and bladder. In practice, however, these results rarely follow. The peritonæum is too high up to be much exposed, and the vesiculæ seminales may be avoided by adhering closely to the median line. The recto-vesical puncture has been known to remain fistulous for life, but generally exhibits a strong tendency to close; and the formation of abscess is rare.

Puncture above the Pubes.—This operation, performed with an ordinary trocar, was a favorite with Abernethy, and, according to Dr. Wilmot,[1] was practiced by Dublin surgeons, in preference to recto-vesical puncture, but has not been so generally adopted in this country as the preceding method. It is entirely inadmissible when the bladder is contracted, and difficult of performance when the patient is corpulent; though in spare subjects, with the bladder much distended, its execution is very easy. The chief danger attending it is from the infiltration of urine, which should be guarded against by making a free external incision, and by leaving the canula in place for twenty-four or thirty-six hours, and until lymph has been effused around it, before substituting a gum-elastic instrument. Fatal results have sometimes ensued from sloughing of the edges of the wound, and also from perforation of the peritonæum.

In performing this operation the patient should be placed in a semi-recumbent posture, with the hair shaved from the pubes; an incision is to be made above the symphysis involving the integument and cellular tissue to the extent of about two inches in a vertical direction; the pyramidal muscles may now be separated with the handle of the scalpel, and the bladder felt for by a finger introduced into the wound; the trocar, either straight or slightly curved, with its concavity downwards, should be inclined towards the lower portion of the sacrum, and a gum-elastic catheter substituted for the canula at the end of one or two days.

Puncture through the Symphysis.—This operation has been too infrequently practiced to admit of an expression of opinion regarding it. It was first proposed by Dr. Brander, in 1825, and since performed by him; by Dr. Leasure, of New Castle, Pa., and a few others. Its execution is very simple, consisting merely in introducing a trocar, by a rotatory motion, either with or without a previous incision through the integument, between the pubic bones, in the direction of the promontory of the sacrum, and afterwards insert-

[1] Stricture of the Urethra, 1858.

ing a piece of flexible catheter through the canula. It possesses the advantage, as suggested by Dr. Leasure, of enabling the surgeon, in the absence of other instruments, to relieve retention by means of a simple hydrocele trocar.

Opening the Urethra posterior to the Stricture.—This is best done in the manner described upon page 344, when speaking of "Cock's operation." At a meeting of the Clinical Society of London, Oct. 25, 1878, Mr. H. G. Howse reported a noteworthy case of traumatic stricture, in which Cock's operation, performed in order to open a way into the bladder, was unsuccessful in consequence of a displacement of the urethra from its normal position and the formation of a urinary cul-de-sac. Cystotomy from the perinæum through the prostate gave temporary relief, but the normal passage of the urine was not restored until a suprapubic incision was made and a sound passed through this into the bladder and thence into the urethra, to serve as a guide for perineal section.[1]

Treatment of Extravasation.

The general principles upon which the treatment of extravasation of urine is to be conducted are: To give free exit by incisions to the escaped fluid and disorganized tissues; to support the vital powers by nourishment and stimulants; to remove and render inert the noxious products of decomposition by cleanliness and antiseptics. At the earliest moment that any external symptoms of extravasation can be detected—nay, before this, if constitutional shock and deepseated pain lead to the suspicion of the escape of urine, although its presence behind the deep perineal fascia be indicated by no sign appreciable upon the surface—a free incision should be made in the median line of the perinæum, where there is but little danger of wounding important vessels. When the extravasation has attained more superficial parts, numerous incisions are required in the scrotum, and wherever else there is distension and a tendency to sloughing or gangrene.

We are generally called upon to sustain the sinking powers of life by the free exhibition of nourishment and stimulants, as beef-tea, brandy, milk-punch, carbonate of ammonia, quinine, etc. Opium is of much value when there is much pain or nervous irritability. Nothing can be done for the relief of the stricture during the continuance of the shock consequent upon rupture, but usually, as this passes off, catheterism may be successfully performed. In case this cannot be accomplished, and if the bladder be found on percussion to be still distended, owing to the small size of the rupture, it is desirable to resort to puncture at once, or to extend the incision in the perinæum to the urethra behind the obstruction. The discharge is fetid and ammoniacal from the first, and especially so as the disorganized tissues are cast off by suppuration; hence, frequent ablutions, poultices with the addition of Labarraque's solution, or bags of powdered charcoal, and antiseptic lotions are required.

[1] Reported in The Doctor, London, Nov. 1, 1878, p. 230.

Treatment of Urinary Abscess and Fistula.

Urinary abscess, as already observed in the present chapter, may arise from ulceration of the urethra and consequent escape of urine, often in minute quantity, into the cellular tissue, in which case it communicates with the canal from the outset; or, it may be produced by simple irritation of the neighboring parts, and, although isolated at first, eventually open into the urethra. In both cases, the sooner the abscess is evacuated by external incision, the better; in the former, in order to quiet the constitutional disturbance which ordinarily ensues, and prevent the extension and burrowing of matter; in the latter, to effect the same purpose, and also, to avoid, if possible, any lesion to the urethral walls and the formation of urinary fistulæ; for when once the urine has found an abnormal outlet, it acts as a constant irritant, and renders difficult the closure of the passage, either by nature or by art. When matter is pent up behind the triangular ligament, it is often exceedingly difficult to detect its presence by external examination; there is usually, however, even in obscure cases, some degree of hardness and tenderness on pressure, and if its existence is rendered probable by the general symptoms, as a chill, nausea, rapid pulse, etc., an incision should at once be made in the median line of the perinæum in front of the anus; even if pus be not at first found, a passage will be formed for its subsequent exit, and the tension of the parts will be relieved. In some exceptional cases, urinary abscess assumes a chronic character, and is attended by little febrile excitement or inconvenience; thus, a small tumor, formed by an abscess communicating with the urethra, sometimes exists for months before being discovered by the patient or surgeon, unless a careful examination of the perinæum be made.

Urinary fistulæ, in most cases, contract and close spontaneously when the stricture has been thoroughly dilated, especially if the general condition of the patient be maintained at a proper standard of health. Assistance may be derived from stimulating applications to the sinus, as of nitrate of silver, nitric acid, tincture of cantharides, or iodine, etc. The end of a probe may be coated with nitrate of silver and passed along the fistulous track; one of the tinctures just mentioned, either pure or diluted with water, may be injected, and plugs of compressed sponge may occasionally be inserted to advantage. The method, however, we have found to be most successful, is first to thoroughly cauterize the fistulæ, then wait for two days, after which the urine is drawn off with a soft catheter every time the desire to pass water is felt, and the patient should be taught to do this for himself.

Fistulæ in front of the scrotum frequently require plastic operations, a description of which may be found in works on general surgery.

Proposed Set of Urethral Instruments.

The following rather generous set of instruments will be found sufficient, in nearly all cases, for the exploration and for the immediate

treatment of affections of the genito-urinary organs. Since the surgeon is often called from home in cases of emergency, it is well to have these instruments fitted into trays (two are sufficient, each about thirteen by twelve inches). These trays may rest upon cleats in one or two drawers of the office-table. A hand valise is provided, into either side of which one of the trays will fit, so that the surgeon, when hurriedly called out, has only to transfer the trays from the drawers to the valise, and he is sure of having all his instruments with him. Without this arrangement, he is usually subjected to the expense and annoyance of having a double set of instruments, one for office, and the other for outside use.

Maisonneuve's urethrotome (Fig. 92).
Holt's or Voillemier's rupture instrument (Figs. 97, 98).
Author's silver catheter, size No. 7, French, with filiform bougie-conductor (Fig. 82).
Six filiform bougies, with screw-heads which will nicely fit any and all of the above.
Thompson's probe-pointed catheter (Fig. 106).
Otis's straight dilating urethrotome (Fig. 95).
Catheter-gauge, either Charrière-filière (Fig. 60), or Handerson's gauge (Fig. 62).
Tape-measure.
Set of acorn-pointed sounds, seven and a half inches long, Nos. 12 to 40 (Fig. 70).
Six acorn-pointed sounds, curved, alternate Nos. from 24 to 34 (Fig. 71).
Otis's (Fig. 75), or Weir's urethrometer (Fig. 76).
One or two meatometers, ranging from Nos. 16 to 34 (Fig. 73).
Twelve steel, nickel-plated sounds, Nos. 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36 38, and 40, their points conical and tapering to two sizes smaller than the shaft, and of Thompson's short curve.
Thompson's searcher for stone.
Two silver catheters, Nos. 8 and 22, Thompson's curve.
One compound catheter (Fig. 63).
Prostatic catheter.
Thompson's urethral forceps.
Potain's aspirator (Fig. 108).
Curved trocar and canula for puncture of the bladder (Fig. 109).
Syme's staff (Fig. 99).
Silver grooved director, 9 in. long.
Otis's staff for Jaque's flexible catheter (Fig. 65).
Probe-pointed meatotome (Fig. 84).
Phimosis forceps (Fig. 26).
Sands's artery forceps.
Strong, blunt-pointed scissors (Fig. 25).
Ear-syringe of hard rubber, the nozzle of which unscrews and allows Taylor's phimosis nozzle (Fig. 25) to be attached.
Straight bistoury and tenaculum.
Box containing vaseline.
" " needles and ligatures.
" " suppositories of morphine and belladonna.
" " styptic cotton.
A few fine flexible bougies, whalebone bougies, flexible catheters, and Jaque's catheter (Fig. 64).
Hypodermic syringe.
Thermometer.

N. B.—The danger of communicating disease from one patient to another by means of urethral instruments, especially those whose grooves or joints may harbor septic matter, should never be forgotten. All instruments should be scrupulously cleansed, and metallic ones be plunged for a few minutes into boiling water before they are used again. Moreover, the lubricant employed should contain a disinfectant, as, for instance, ten drops of the "impure carbolic acid" to each ounce of oil or vaseline.

CHAPTER XXV.

SEXUAL HYPOCHONDRIASIS.

No small proportion of the patients, who apply at the office of the venereal specialist, are afflicted only with hypochondriasis, relating either to the appearance or the functions of their genital organs. These patients may be divided into two classes: first, those who are ignorant of what the appearances of the genital organs normally are, or how far these appearances vary in sound persons, or who are ignorant of the influences which affect the function of these organs in all men, even the most healthy. This class of patients, if blessed with common sense and confidence in their medical adviser, need only information to set them all right.

But there is a second class of such patients, unfortunately the more numerous, whose minds are really unsound in reference to their sexual organs; who are unwilling to accept the statement of their physician that there is nothing the matter with them; who go on brooding over their imaginary trouble; who fall the ready victims of quacks; and who, after leading a miserable existence, a burden to themselves and their friends, sometimes become the inmates of a lunatic asylum, or seek a suicide's death. If such patients cannot be made to listen to reason, and a manly spirit cannot be roused up in them, there is no hope for them, for neither medicine nor surgery can cure them. I propose to mention some of the grounds of complaint, which the subjects of sexual fear or hypochondriasis most commonly set forth to their physician.

With some the complaint is almost ludicrous, as, for instance, that one testicle hangs lower than the other—a condition, which obtains with the great majority of men; or the patient thinks that his penis or testicles are smaller than they ought to be, even when they are of very fair dimensions; or he complains of an itching or crawling sensation in the parts, which is not strange, while his thoughts are constantly directed upon them. Again, it is the cheesy excretion, which forms in the furrow at the base of the glans; a few herpetic vesicles appearing from time to time, or a slight eczema of the penis or the eczema marginatum, which is so often developed in the inguinal fold, that makes him unhappy. A prominent professional man applied to me, a few years ago, for a little follicular abscess on the sheath of the penis, which he kept open by constantly picking at it. His mind was perfectly clear on every other subject, but was insane on this. He imagined he had syphilis, and had communicated it to his wife and children. After a few months, he committed suicide. Again, enlarge-