

Practical observations on strictures of the urethra : with cases illustrative of the comparative merits of the caustic and common bougie. To which is now subjoined an appendix, containing an improved method of treating urethral complaints by the employment of a new instrument, as well as by the catheter : with cases / by Thomas Luxmoore.

Contributors

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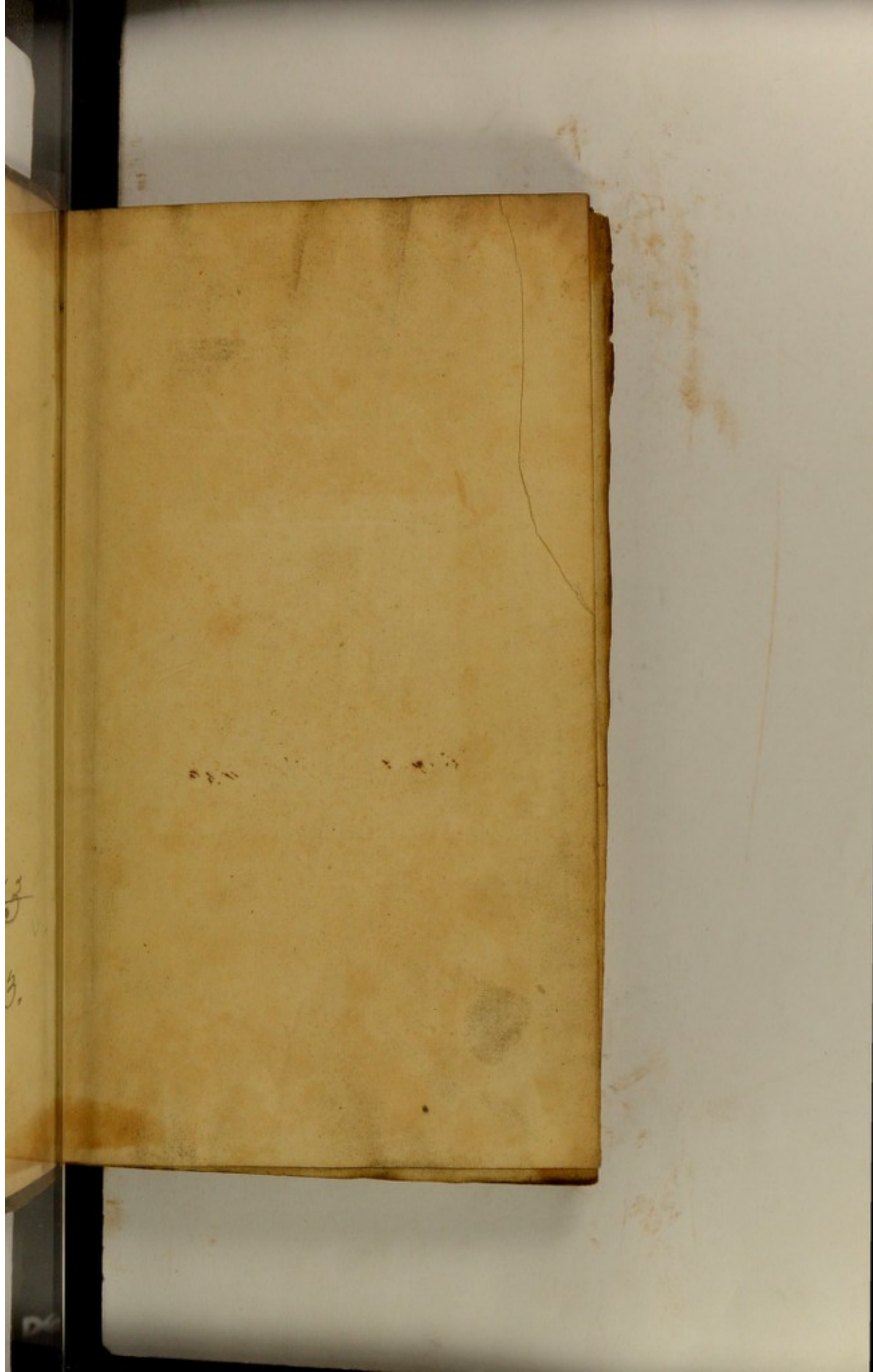
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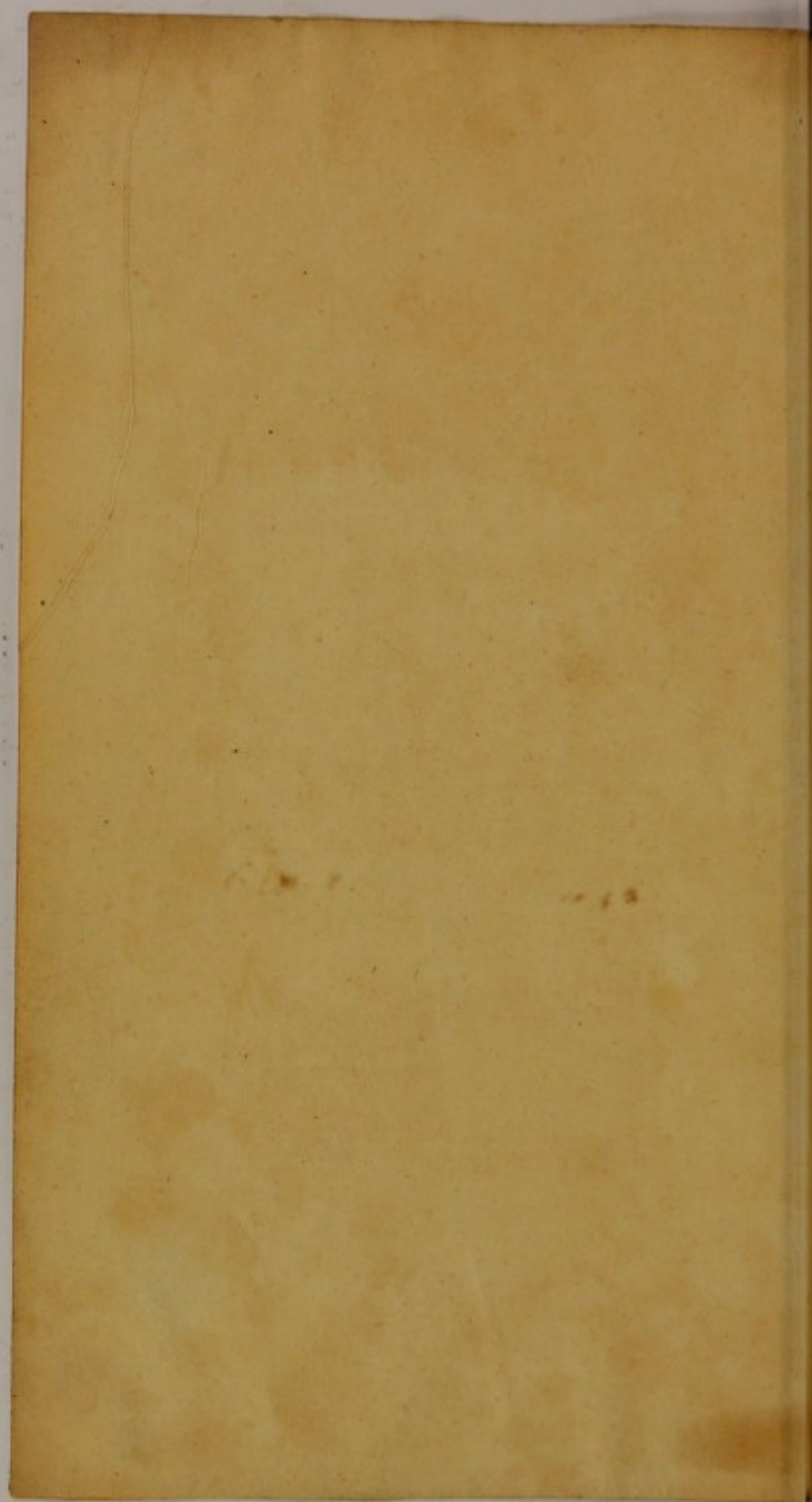
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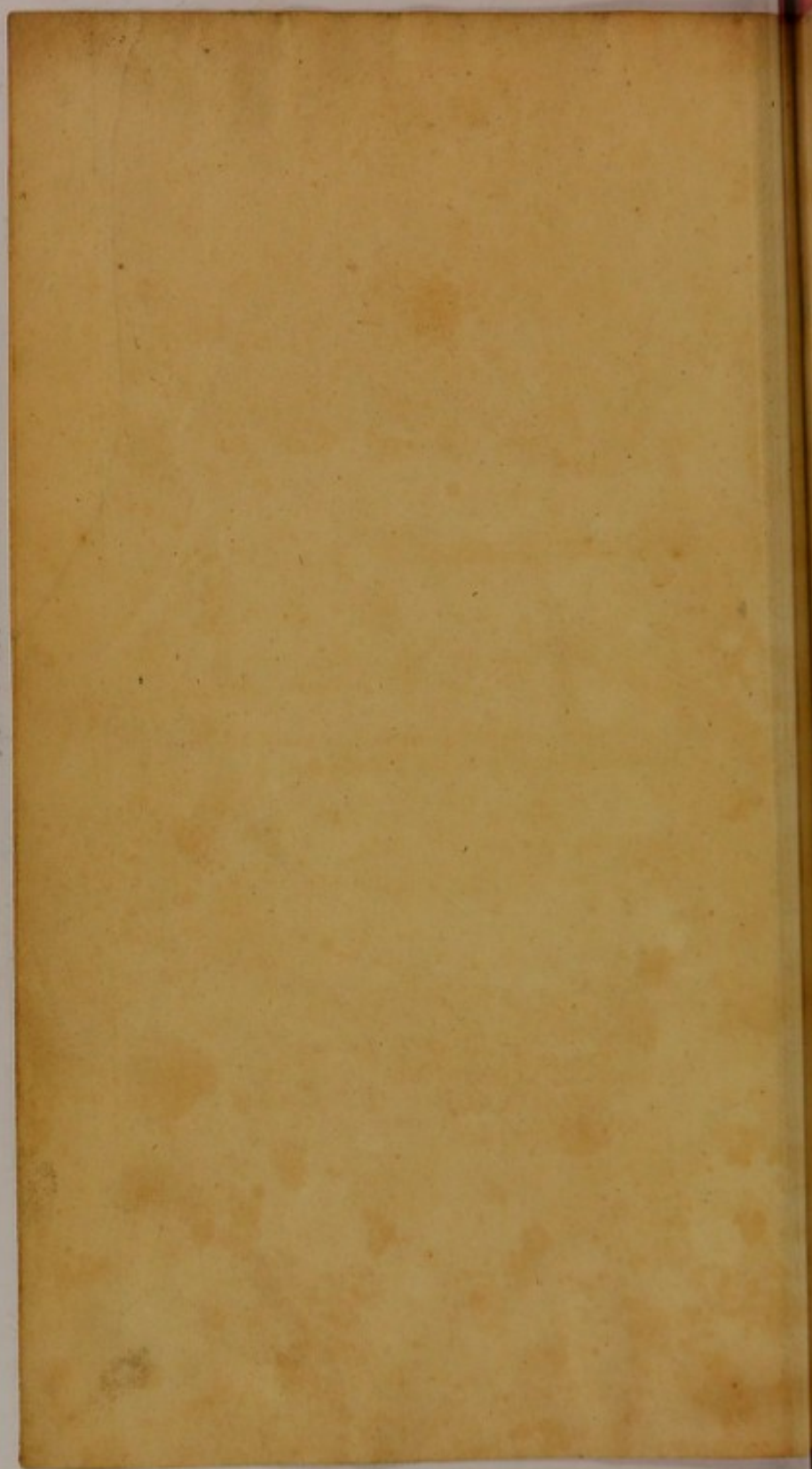
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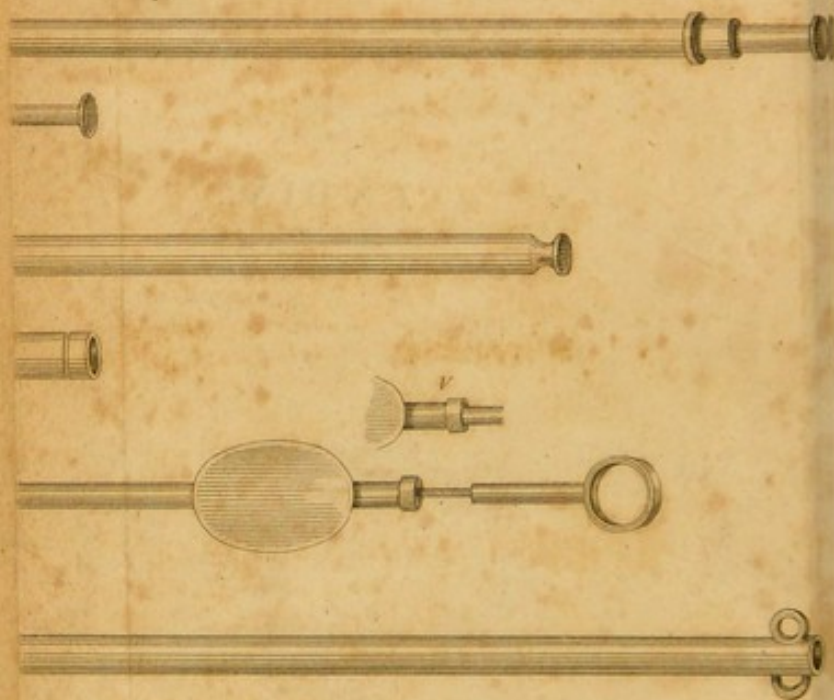












J. Busby Sc.

PRACTICAL OBSERVATIONS
ON
STRICTURE
OF THE
URETHRA:

FIVE CASES ILLUSTRATIVE OF THE COURSE
OF THE DISEASE AND COMMON

To which is now subjoined

AN APPENDIX

Containing an

UNUSUAL METHOD OF TREATING URETHRA
BY THE EMPLOYMENT OF A NEW
AS WELL AS BY THE CATHETER

WITH CASES.

BY THOMAS LUXM

Surgeon Extraordinary to the Prince Regent; Master
of the Company; Senior Surgeon to the Eastern

SECOND EDITION

London:

PRINTED FOR SAMUEL HIGHLEY, 4
W. CHURCH AND T. BRYCE AND CO

1812.

PRACTICAL OBSERVATIONS
ON
STRICTURES
OF THE
URETHRA;

WITH CASES ILLUSTRATIVE OF THE COMPARATIVE MERITS
OF THE CAUSTIC AND COMMON BOUGIE.

To which is now subjoined

AN APPENDIX,

Containing an
IMPROVED METHOD OF TREATING URETHRAL COMPLAINTS,
BY THE EMPLOYMENT OF A NEW INSTRUMENT,
AS WELL AS BY THE CATHETER.

WITH CASES.

BY THOMAS LUXMOORE,

Surgeon Extraordinary to the Prince Regent; Surgeon to the Hon. Artillery Company; Senior Surgeon to the Eastern Dispensary, &c. &c.

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London:

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1812.

TO

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A. Mary

TO ASTLEY COOPER, ESQ. F.R.S.

SURGEON TO GUY'S HOSPITAL,

&c. &c. &c.

DEAR SIR,

I feel the utmost gratification in dedicating the following pages to you, as it affords me an opportunity of publicly acknowledging your friendship on all occasions.

The world is too well acquainted with those talents which so eminently distinguish you as a surgeon, to require any panegyric. That you may long continue to ornament the profession, and benefit society, is the wish of

Dear Sir,

Your obliged humble Servant,

T. LUXMOORE.

St. Mary Axe, August 31, 1809.

TO ASHLEY COOPER ESQ F.R.S.

London to Mr. Cooper

Dec. 23. 44

DEAR SIR,

I feel the utmost gratification in dedicating
the following paper to you, as it affords me an
opportunity of publicly acknowledging your
friendship on all occasions.

The work is now well advanced with those
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and benefit society is the wish of

I am Sir,

Your obliged humble servant

T. LIZMOORE

1844

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INTRODUCTION.

DISEASES of the urethra and bladder, form one of the most important objects of Surgery. They are highly alarming and painful to the patient, and require the utmost skill and experience in the practitioner to afford relief. Of late years, many volumes have been produced on this interesting subject. The treatment of these complaints was, for a length of time, one of the chief opprobria of the profession. Modern Surgery, has, however, in a great degree, removed this, although not so completely as could be wished;

and the following observations, are intended to point out some defects in this branch of the healing art ; and to demonstrate, by a detail of actual cases, how far a successful application may be made of the means commonly employed ; conclusions deduced from facts, being more satisfactory than any fanciful hypothesis.

Mr. Home has written well on this subject ; but his respect for Mr. Hunter may perhaps have biassed his better judgment in favour of a practice, on which he himself has made great improvement ; though it ought not to be adopted without much discrimination. The other writers on this disease, since Mr. Home's

publication, are numerous; but their works contain so little new matter, that it would be unnecessary to enter into a review of them. Numerous treatises on any science, are proofs of the unsettled state of its principles; and the profession, as well as the public at large, is generally benefited by every new disquisition, which seldom fails to add something to the mass of information already acquired.

Although it be universally admitted that bougies are indispensable for the cure of strictures, still, the application of these instruments does not seem to have been clearly pointed out, nor their principles of action sufficiently under-

stood. The following observations are therefore offered to the public, as the result of much experience.

The advantages afforded to the author, in the public institution committed to his charge, have furnished ample opportunities of treating the complaint which is the subject of the present publication, in every form and variety, and according to the various modes recommended; nor have his opportunities of observation in private practice been confined: the chief object of these remarks is to limit the use of caustic bougies.

Mr Home has, it is true, in

his judicious publication, pointed out the cases to which caustic chiefly applies; but in doing so, it was evidently not his intention to recommend its application so indiscriminately as it is commonly employed; for every surgeon of experience knows, that not one case in ten requires its application; and that the generality of practitioners, not perhaps reflecting sufficiently on the rules which Mr. Home has laid down, are apt to employ a remedy which, in unskilful hands, is attended with the most dangerous consequences.

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A
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CHAPTER I.

IN order that the peculiar mode of practice which I have adopted in the treatment of stricture may be clearly understood, it will be proper to enter into a short review of the formation of the urethra. In so doing, it will not be necessary to examine it with minuteness, as every anatomical author is sufficiently copious on this subject, but merely to point out the leading circumstances in its natural structure, by which a correct idea may be formed of it in a diseased state.

Structure of Urethra.

The urethra is a membranous canal, the extent of which from the orifice to the neck of the bladder has been estimated, according to the most accurate measurements taken by anatomists, to be between eight and nine inches. The surface of this canal, is the part which is the seat of the disease; and accordingly requires the careful attention of the surgeon. It is a continuation of the mucous membrane of the bladder, and furnishes a copious secreting surface, liable to constant irritation from the office it is destined to perform; it may be considered as a glandular apparatus, pouring out, by means of its excretory ducts, a secretion, mucilaginous in its nature, intended for a certain purpose in the animal economy. This peculiar organization, under the action of a morbid cause, has its natural secretion much altered; and the connection of the urethra with the bladder is such, that the latter frequently becomes more or less a partaker in every morbid state of the

former, and the former again is equally affected by changes taking place in the latter. Besides its secreting power, this membrane is capable, by means of muscles exterior to it, of contraction and dilatation. This contraction is much increased under inflammation of its surface, as from gonorrhœa, stimulating injections, or any other exciting cause. It can hardly however be conceived, that the parts themselves, as some have imagined, can have such discrimination as to accommodate themselves to the particular irritating cause applied; though this has been contended for by Mr. Home,* who is of opinion that this membrane has the power of self-adaptation to the emissions of urine and semen; that in the former it dilates, and in the latter contracts.

The urethra may be divided into three parts: the first commencing at the neck of the bladder, and running, behind the symphysis pubis, through the

* See Home, Vol. I. page 15.

prostate gland, terminates with it. The second division is called membranous, and extending from the prostate, runs immediately under the symphysis pubis, and is terminated at the anterior part by the bulb. The latter is therefore situated a little below the anterior part of the symphysis pubis. The third division, or spongy part, comprehends the remaining portion, which extends, from the bulb, to the extremity of the glans penis. By this division, the seat of the disease can be more accurately described and understood. In examining the canal, we find, in the natural state, three parts of it more dilated than the rest; one of these is situated at the prostate gland, the second in the bulb, and the third about the beginning of the glans. With these dilatations, it also possesses the same number of slight contractions; the first is at its origin from the bladder; the second, at the membranous part; and the third, at the point of the glans. This subject, of the diameter of the urethra, has been very accurately elucidated by Mr.

Home; and from the measurements he has made, the description now given is fully confirmed. But to make this perfectly understood, we shall here insert Mr. Home's table of the diameter of the casts of the urethra in different parts.*

	Years old.	
	80	30
At $\frac{1}{2}$ inch from the external orifice	$\frac{7}{8}$	$\frac{7}{8}$
At $4\frac{1}{2}$ inches from ditto	$\frac{7}{8}$	$\frac{7}{8}$
At the bulb of the urethra 7 inches from the orifice	$\frac{1}{8}$	$\frac{1}{8}$
In the membranous part, just beyond the bulb, seven inches and a half from the orifice	$\frac{7}{8}$	$\frac{1}{8}$
In the membranous part, near the prostate, eight inches and a quarter from the orifice	$\frac{7}{8}$	$\frac{7}{8}$
At the termination of the membranous part, and beginning of the prostate, eight inches and a half from the orifice	$\frac{7}{8}$	$\frac{1}{8}$
In the middle space of the prostate, $8\frac{1}{2}$ inches from the orifice	$\frac{1}{8}$	$\frac{1}{8}$
At the neck of the bladder, nine inches from the orifice	$\frac{7}{8}$	$\frac{1}{8}$

Having thus described the principal parts of the canal, it is to be observed, that strictures occur most frequently in those parts of the urethra that are smallest, particularly in the membranous part, or about seven inches from the ori-

* See Home, Vol. I. page 25.

fice; and the natural contraction that takes place here, may be considered as constantly laying a foundation for the disease. This part, even in a healthy state, is highly irritable; and, in cases of spasm of the urethra, the chief obstruction is generally found here: hence the attention of the surgeon should be directed more to this part, than to any other. What has here been said on the structure of the urethra will be sufficient, previous to entering upon the consideration of its diseased state in cases of stricture.

CHAP. II.

Origin and formation of Stricture.

From the structure of the urethra and its contractile nature, it must be subject to alternate tension and relaxation, and this relaxation in certain parts proceeding to a morbid degree, will occasion folds to take place of the internal or mucous membrane, similar to those which we find occur in the Schneiderian membrane of the nose, and such secreting membranes on exposure to irritating causes. Where this relaxation continues, a deposition of fluids must take place; and the thinner parts of these becoming absorbed, the remainder is gradually organized, acquiring firmness by time. Strictures we therefore, find to be of two kinds; one consisting in a circular contraction of the canal, the other in a mere thickening or enlargement at one or more

points ; the former extending in circumference, the latter in length.

From this view, relaxation may be generally considered as the proximate cause of stricture, produced by previous excitement from a variety of sources, and not limited, as some have imagined, to the previous effects of syphilitic irritation. Hence, it is known to arise from excess of venery itself, independent of any specific irritation ; for from the high degree of stimulus which attends the venereal intercourse, and its frequency, the quantity of blood sent to the urethra is increased ; the corpus spongiosum is kept too often and too actively distended, and the consequence of this excitement must be, in time, a corresponding inability of the parts to perform their necessary offices. In this state, some part of the membrane more relaxed than another, is liable to fall into one or more folds, the diameters of the vessels in the surrounding loose cellular membrane exterior to the urethra, become thus con-

tinually distended more than usual, and the cells are broken down; a deposition of coagulable lymph is gradually taking place, by the organized state of which a stricture ensues, the origin of which is not in the urethra itself, but in the cellular membrane. In this way, circular stricture, or that which occupies the circumference of the urethra is often to be accounted for, which may be considered as embracing the canal in the manner of a ligature. On the same principle, may be explained the stricture that succeeds violent inflammation in gonorrhœa, especially from the long continuance of chordee. The same effect will follow a practice, generally recommended to patients in the use of injections, of confining the urethra at a certain height, to prevent the injection passing further. It has by some authors been doubted, whether stricture be ever produced by the use of astringent injections. It has even been disputed by Mr. Hunter, but it is clear that the frequent use of an irritating fluid to the urethra,

by increasing the state of inflammation in a part more irritable than the rest of the canal, will occasion coagulable lymph to be deposited, which if not again absorbed, must frequently lay the foundation of stricture.

Of the causes of stricture, perhaps no one is more frequent than an excessive prolongation of venereal intercourse. The constant effect of this must be, to exhaust the energy of the muscular fibres, to throw them into irregular action, and thus to produce permanent contraction of the passage in one part or another. Indeed, so strong is its effect, that symptoms of spasmodic stricture have been known to arise in some patients after every repetition of venereal intercourse in an immoderate degree, and tho' these symptoms, at first, were found on examination not to be the effect of permanent stricture, yet this was generally produced in the end, and of the most troublesome kind to remove. In such cases also, it is to be remarked, that the symptoms of

irritation, are more extended than in common stricture. Besides the difficulty, heat, and pain in voiding urine, there generally prevails a constant propensity to discharge it; as it frequently cannot be retained more than a quarter or half an hour, so that the bladder partakes in the most sensible manner of the state of the urethra. This irritability of the bladder affects extensively the neighbouring parts; and pains in the groins extending down the thighs and legs, are common attendants on this species of the disease.

But though relaxation is the foundation of most permanent strictures, yet, the other species which is more extensive, and which, from its running down the canal may be termed the elongated stricture, is not formed in the same manner. This proceeds from a real thickening of the mucous membrane of the urethra itself: all increased action upon an irritable, sensible, and highly vascular membrane, if long and frequently continued, produces a thickening of it from

its increased circulation; hence gonorrhœa, stimulating injections, and every other exciting cause, evidently lay a foundation for this species of stricture. This cause is increased by the sympathetic irritation of the bladder, which on any morbid excitement in the urethra, is thrown into increased action to remove the irritating cause, which is again opposed by the urethra itself, and thus the excitement of the canal is increased. In the same way we find in the stone, or any other morbid cause existing in the bladder, that the urethra is excited in a similar manner, to sympathize in its state; and hence the well known pain at the orifice of the urethra, which attends all cases of calculi. The elongated stricture is always the most extensive, and that which, from the greater change of organization, requires the longest time to remove.

The above are the only two species of stricture that deserve the name of permanent. What is termed the spasmodic,

we consider merely as an occasional symptom, and one which occurs often through the whole extent of the urethra; being produced by too violent excitement of the muscles connected with the bladder. On this kind it will be unnecessary to enlarge, as it is generally of a temporary nature, and does not require the same mode of treatment. But in cases of permanent stricture, which are often complicated with spasm, surgeons should caution their patients against taking too long journeys on horseback, especially in winter; for though a cure of permanent stricture may have taken place, spasm, in such patients, is very apt to arise on the slightest irritation: and it is remarked by Mr. Hunter, whose opportunities of investigation were certainly very extensive, that he has known many patients who had laboured under such complaints, and were then well, to be taken ill in the middle of a journey, and obliged to stop for days on the road, continuing in great pain the remainder of the time they were from

home, and, on arriving at their place of destination, they have been confined for months.* Another caution in these cases where the urethra is subject to such spasmodic affections is, that the urine should never be long retained at a time. As soon as the smallest inclination is felt, it should be voided; for the stimulus of this fluid alone is sufficient to induce spasm; and if the bladder be much distended, its powers will not be sufficient to overcome this; while a partial distention of it, by allowing the muscular fibres to act with more energy, will more easily overcome any resistance.

It may be proper to notice here, that the bulb of the urethra itself is often thickened, and produces, in that case, the same effect as if stricture actually existed: hence it forms a peculiar species, of which surgeons should be aware in their examination, though the means

* See Hunter, page 168.

of relief do not differ from those proposed for the other kinds.

A peculiar kind of stricture has been mentioned by one author, brought on merely by the contact of the sides of the urethra when in an inflamed state. This cohesion, when of long standing, is more obstinate than the common stricture. As the surface of the urethra is here in a highly inflamed state, the treatment is attended with considerable nicety. The stricture being so irritable, the smallest touch of a bougie gives most exquisite pain; and it is only by gradual and gentle attempts, that a passage can at last be formed, joining with these every means of subduing inflammation, by the strictest antiphlogistic plan.

Though the cause of stricture is not so often to be ascribed to venereal intercourse, yet, where it occurs in the lower parts of the urethra, it may frequently owe its origin to this cause; the evi-

dence of which may be deduced from the feelings of the patient, a short time after having had a venereal complaint. Most strictures, however, are evidently connected with chronic causes; hence their progress is so slow, that they insidiously creep on before the patient is aware of their existence.

Authors have been somewhat divided in their ideas of stricture, whether to consider it merely a hardened state of the urethra, or combined with a thickening and alteration of its structure. The proof of the latter, they have generally drawn from the effusion of blood which commonly attends the introduction of the bougie: and there can be no doubt but that these two states are commonly combined, and that no hardening can take place without being conjoined with an alteration of structure.

CHAP. III.

Symptoms of Stricture.

THE first symptoms of stricture generally pass unnoticed: the patient, although the stream of urine may be somewhat diminished, feels no particular uneasiness, and till some difficulty is experienced in its expulsion, he seldom takes any alarm. Besides, the progress of the complaint in its early stage is generally slow; but from the time the patient begins to feel uneasiness, the advances become more rapid, and the disease is more distinctly marked.

The first symptom, besides difficulty in voiding urine, is a more frequent desire to discharge it; the effort is greater than usual, and a straining continues, even after the bladder is emptied. Oc-

casional irregularities from cold, indulgence in drink, change of weather, and even very trifling causes, are sufficient to cause the urine to pass only by drops, or to be totally obstructed for a time. This is generally the first time that application is made to the surgeon; and unless attention be paid to examine the state of the passage, he is apt to consider it rather as an occasional attack of incontinence of urine, than as a permanent disease. This can only be decided by the introduction of an instrument, which will ascertain whether a fixed obstruction exist.

The most certain symptom of this complaint, when an examination does not take place, is the gradual diminution of the stream of urine. In many cases it is found to pass in a forked or twisted direction, and cannot be thrown to the usual and natural distance, although the patient is sensible of the bladder making more than usual exertions during the discharge. Where no examination takes

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place, in order to judge of the manner in which the urine is discharged, the patient should be desired to make water; and from the appearance of the slenderness of the stream, some opinion may be formed of the extent of the disease. Even the thread-like stream, conspicuous in the advanced stage of stricture, often gives place to a discharge by mere drops, attended with the strongest efforts, and the most excruciating pain.

Not only is the progress of the disease to be judged of from the appearance of the urinary evacuation, but also something of the nature and extent of the stricture may be ascertained in the same way. Hence, practitioners have been led to apply the size of the first bougie in correspondence to what appeared to be the size of the stream of urine. But in this they are frequently deceived: for in many instances where it is supposed, from the apparent size of the flow of urine, that a middle-sized bougie will pass through the stricture,

it is found, on trial, that one of a smaller size can scarcely be introduced. Hence it has been suggested, as a point of much importance, to ascertain on what side of the urethra the aperture of the stricture is situated. It will therefore be necessary frequently to withdraw the bougie, and try it in different directions, before this point can be determined.

The effects of this complaint on the neighbouring parts, independently of the above symptoms, tend also to indicate its presence. Thus, in many cases, shooting pains are occasionally felt in the perinæum, extending to the thighs, or rectum; or a general tenderness and uneasiness in the perinæum, is complained of. A scalding sensation in perinæo is also frequently experienced at the time of making water, or else a similar feeling in the glans penis. Chordee is sometimes a symptom. A gleet discharge also attends this affection, which is often mistaken for gonorrhœa. One very common symptom is nocturnal

emissions, the only direct symptom is: then, there is such a cause usually ascribed to weakness, vesic. H. commended the practice of accurate examination of the much injured patient. He is generally his temper, in to prevent the urethra from the stricture and excision. Besides the constant sympathy.

emissions, and this has been frequently the only circumstance which has led to the detection of the disease. This symptom is generally considered by patients themselves as unconnected with such a cause as stricture; and is generally ascribed, from popular prejudice, to weakness, or to a fulness of the seminal vessels. Hence a treatment is often recommended under this impression, where the practitioner does not make an accurate examination, which increases the cause of the evil, and is productive of much injury to the constitution of the patient. If a person of regular habits, he is generally recommended to extend his venereal intercourse; and by attempting, in consequence of this advice, to overact his part, the irritation of the urethra becomes increased, the progress of the stricture extends, and the nocturnal emissions are more distressing.

Besides these symptoms in the part, the constitution at large suffers from sympathy. An irregular attack of fever

frequently takes place, resembling the fit of an ague, in which the hot fit is proportionably shorter than the cold, though more frequently the latter is entirely wanting. The paroxysm is very irregular in its return; one repetition often succeeds another in the course of a few hours. This symptom of fever, I understand, is more frequent in the warmer climates than in this country, and is often produced by imprudence on the part of the patient; as by excesses in eating, drinking, or exercise, acting as exciting causes of the malady.

Pains in the loins and lower part of the back are common constitutional symptoms of stricture; and these pains are chiefly felt on making any sudden exertion of the body.

Complaints of the stomach are mentioned as occasionally accompanying the disease, consisting in a want of appetite, and sickness, or that irritable and

uneasy state which occurs in many nervous patients.

From this detail of symptoms, though the disease may be suspected, no certain conclusion can be drawn of its existence but by the introduction of the catheter or bougie, which will detect the nature of the obstruction, its seat, and ultimately its extent. But though these constitutional symptoms are distressing to the patient, and shew the extent of the irritation of the urethra on the system, too great an attention is not to be paid to them, in making us suspend the treatment of the local complaint. The propriety of this is strongly evinced in a case mentioned by Mr. Home, which had been under the care of Mr. B. Bell.*

* Conceiving, from these constitutional symptoms, that the patient would not bear the use of the bougie or caustic, in a regular manner, so as to afford relief, he gave up the idea of the local treatment for a time. The patient, disappointed and uneasy at the continuance of his sufferings, put himself under the care of Mr. Home, who, not deterred by such

Although we have hitherto considered stricture as a local disease, yet it may occasionally be conjoined with other affections which may increase its violence, and render its effects more intolerable to the patient. Thus it is frequently attended with a diseased state of the bladder; and this is particularly evident by the quantity of viscid matter thrown out with the urine: for in a short time after the bladder becomes affected, the urine acquires a whey-like colour, arising from the mucous membrane of that organ taking on an inflammatory action, and instead of depositing its natural secretion of mucus, it now secreting pus.

Stricture may also be conjoined with calculus; and in this case, when the stricture is removed, the uneasiness of the bladder, from its more complete contraction in the discharge of urine, is

scruples, employed the bougie, by which he was perfectly cured.*

* See Home, Vol. II. page 4.

increased. It may likewise be connected with a diseased state of the prostate; and independent of local affections, it may occur in patients subject to constitutional diseases, which will increase its symptoms, and augment the sufferings of the patient. This particularly takes place in gouty habits during the attack of the paroxysm, but the violence of the complaint generally subsides when this is removed. Many other complaints might be mentioned, with which this disease may be occasionally blended; and where these complaints either produce any general irritation of the system, or particularly affect the functions of the bladder, they must render stricture more distressing for the time.

CHAP. IV.

Diseases resembling Stricture.

1. Disease of the Prostate Gland.

IN describing the structure of the urinary canal, it was stated, that the prostate gland was situated immediately behind the symphysis pubis: and to have an accurate idea of this disease, it will be proper to consider it in three different states, under the heads of irritated, inflamed, and schirrous.

The first stage may arise without any affection of the urethra whatever, and be induced by any irritation applied in its vicinity; thus we find it produced by irritating cause, applied to the rectum, as drastic purges, ascarides, piles, stimulating enemas, &c. The prostate gland, when swelled, generally becomes

firmer in its consistence, and by this swelling, the sides of the urethra approach each other, by which the ready passage of the urine is prevented, and, in certain cases, entirely stopped.

Inflammation of the prostate is attended with danger, and, like other inflammations, requires the employment of active means.

Schirrus of the prostate is rarely the consequence of the former state, or of acute inflammation. It generally arises from chronic causes, and particularly in those habits which denote a scrophulous disposition, in which inflammation always shews itself to be of an indolent and inactive kind.

In all these cases, the diseased state of the prostate is chiefly to be known by examination *per anum*, when the enlargement will be readily discovered. The passing of a bougie down the urethra,

is by no means an accurate mode of ascertaining it, and when surgeons trust to such a mode, they are apt to be deceived. The first two states of diseased prostate may occur at any period of life; it is the want of attention to these different states, that has caused writers generally to consider this complaint as an affection of age, and to form conclusions unfavourable to its cure. It is the last state only, where the prostate is affected with schirrus, which we are to consider of that fatal nature, which has generally been held out; the two former states admitting of a cure, by the means usually resorted to in cases of irritability and inflammation. Corresponding to these different states, the principles of the cure must be directed.

The first state or *irritable* prostate is chiefly to be relieved by the use of opiates, applied as nearly as possible to the vicinity of the part; as by glisters, and these to be repeated according to

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the urgency of the symptoms, not less than every three or four hours. Together with this, the state of the bowels requires particular attention, and laxatives of an emollient kind are to be exhibited, as the Oil: Ricin: and some others; and to this treatment is to be joined the use of warm fomentations, so as to affect particularly the seat of the disease. By a steady perseverance in this treatment, I have found that most cases of irritable prostate very soon get well; but it is necessary, that the patient pay particular attention to avoid in future every cause of irritation, which may give rise to the complaint.

The second state, or *inflammation* of the prostate, requires the most active means that can be employed to subdue inflammation in general, because of the dangerous consequences that may arise, if allowed to pass into the secondary stage, as an abscess of the perineum may be the result, or the inflammation may extend to the bladder.

Where an inflamed prostate is discovered, leeches should first be freely applied to the perineum, joined to the warm bath, and every other part of the antiphlogistic treatment. Nothing also is more useful than the free exhibition of saline purges, and, if topical bleeding do not prove sufficient in a short time, blood may be drawn very freely from the system. The use of antimony in small doses will be proper to be conjoined with the general antiphlogistic treatment.

The third, or *schirrhous* state of the prostate, is that chiefly commented on by authors, and to which their treatment has been chiefly directed. Indeed, this state of the disease is one which unfortunately admits of little prospect of cure, and more especially as it is seldom detected till in an advanced stage. The treatment commonly employed is the same as applies to schirrous affections elsewhere. The most successful remedies in this complaint I have found to be

small doses of the Pil: Hydrar: with a small proportion of Antim: Tart: and the Sal Sodæ in a decoction of Bark. These means have been assisted by topical remedies of an active nature. Leeches, I have occasionally applied to the perinæum, and, afterwards, the application of a blister has had considerable effect. On healing up the latter, a seton may be made, and continued for a length of time, till relief be obtained. In some cases, instead of this, I vary the mode of treatment, and keep up a degree of irritation by friction with the camphorated mercurial ointment. In the earlier stages of the disease, much will be effected by this treatment, but when it is advanced, no remedy with which I am acquainted seems to have much influence from that change of texture and morbid hardness which the gland has acquired.

2. Irritable Bladder.

The second change for which stricture is apt to be mistaken, is an irritable

state of the bladder; and the connection between this organ and the canal of the urethra, is so intimate, that an affection of the one must naturally influence, in a considerable degree, that of the other. Thus, diseases of the urethra will derange the functions of the bladder; and affections of the bladder in the same manner, produce morbid sensations in the urethra. This, we need not attribute so much to sympathy, as to a real connection of structure between the parts. The causes from which an irritable state of the bladder may proceed, are numerous. One great cause is the existence of calculi in its cavity, and the irritation of the urethra forms one of the leading symptoms of this disease. Passing the sound here is the only criterion by which the cause can be ascertained; and the introduction of this instrument will determine, whether any obstruction exists in the urinary canal.

3. The same irritability is, at times, produced by a morbid affection of the

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rectum. It is a frequent attendant on piles, in which case, the cause is obvious; and also on ascarides in this situation; it is proper that surgeons should be aware of these circumstances, lest they should direct their treatment for a disease which may not exist.

4. One affection, for which stricture may be mistaken, is a diseased state of the mucous or secreting membrane of the bladder. This may arise from a variety of irritating causes applied to the organ, or even to the urethra itself; hence, it is not unfrequently an effect of gonorrhœa, where the symptoms of inflammation are severe; and of its treatment by the use of astringent injections. This complaint I have found yield readily to the exhibition of uva ursi and cicuta with the aq. kali puri, and these means will be much assisted by the use of the warm bath. Blisters, however, from the cantharides in their composition, are inadmissible.

CHAP. V.

Consequences of Stricture.

INDEPENDENTLY of the uneasy symptoms which arise from the presence of stricture, the continuance of this disease lays the foundation of other affections, as formidable as the complaint itself. This should be a strong inducement, with every person, who suspects the existence of stricture, to apply early for that relief which surgery offers ; and in order to shew the necessity of this, I shall review the secondary diseases which arise from stricture.

1. *Thickening of Bladder.*

One constant effect of permanent stricture is to thicken the coats of the bladder, and to give it greater strength and

muscular power, from the state of irritation in which it is constantly kept by the interruption of the regular discharge of its contents. This thickening, we are told by Mr. Hunter, has been, in many cases, no less than half an inch, and the fasciculi of its coats so strong, as to form ridges on the inside of its cavity. In other instances, the organ has become irregularly thickened, and while some parts were preternaturally strong, others remained in their natural state, being thin compared with the rest; so that the bladder has been known to give way, in cases where it has become distended beyond a certain extent. In all cases of permanent stricture, there must be a partial distension of the bladder; and when irritation proceeds from the fulness of it, a circumstance which is very frequent, the contraction of the organ will always be violent, in proportion to the resistance. This contraction causes the abdominal muscles, from sympathy, to assist; and yet, so great is the resistance, that these efforts

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united, can seldom do more than bring off the water in very small quantities. Hence, the organ never becomes completely emptied; and that state of irritation is kept up, which is attended with the change of structure already described.

2. Gleet.

Another effect of stricture, is the appearance of gleet, or a discharge of matter from the urethra of various colours and appearances. This is a symptom which always proves highly disagreeable to those who labour under it; when long continued, it produces great relaxation; and where the patient supposes it to be of a simple nature, and applies the usual remedies, the original disease becomes aggravated, and the stricture, which is the source of the evil, is rendered more permanent and obstinate. Therefore, in all cases of gleet, it is a prudent plan to suspect stricture, and to make the examination necessary to ascertain it.

3. *Fistula in Perineo.*

The consequence of long continued stricture most to be dreaded, is the formation of a new passage in the urethra, above the seat of the obstruction. The urine becomes lodged in that part of the canal which is immediately behind the stricture, and consequently occasions an enlargement of it; so that, at last, part of the mucous membrane of the urethra ulcerates, and the urine becomes extravasated at every evacuation, into the loose cellular membrane of the scrotum, or contiguous parts. By this process, fistulous openings are formed in different directions, of which the most formidable is that known by the name of fistula in perineo. It often consists of different orifices, or sinuous sores, through which the urine is discharged, and it is very rarely confined to one. At every evacuation of the bladder, the patient feels most excruciating pain, from the irritation and inflammation which

it every where excites. Where these sores are of long continuance, hectic symptoms are induced, and the constitution becomes exhausted under the ravages of the local affection. The cure of the original malady will, of course, remove the secondary derangement of parts.

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CHAP. VI.

Of Caustic Bougies in Stricture.

Two methods at present prevail in the cure of stricture, the one by the caustic, the other by the common bougie. The former is as ancient as the time of Ambrose Paré, but was revived by the late Mr. John Hunter, with considerable improvement, by the construction of a guarded mode of applying it, and by the choice of a caustic of a fixed nature and limited operation. His first attempt was made with red precipitate, but having by this remedy merely excited inflammation, he substituted for it the lunar caustic. Mr. Hunter's attachment to this practice, led him to recommend its extensive use in strictures, which, from the other means we are possessed of, is unnecessary, nor can

indeed be executed without much distress and danger. This was observed by Mr. Home, who has, with much candour, pointed out the advantages and disadvantages which the operation of caustic entails. He has shewn, that fever and inflammation are its consequences, and often to such a degree, as to endanger the life of the patient. That the application of the caustic does not always succeed in effecting a permanent cure, and that other means must be resorted to in order to second its effects, as from the employment of the caustic, spasmodic strictures often arise and continue, so as to form a new disease. These are certainly strong objections to the general use of caustic in these cases, and when admitted by one who has had extensive opportunities of forming a correct judgment, they are unanswerable. I do not however mean to say, that the application of caustic is always unavoidable, and that strictures occur under particular circumstances, which defy the success of any other means. Hap-

pily, however, these cases are but few, and only form exceptions to a general rule. Where they arise, Mr. Home's method is certainly preferable to all others, as his instrument is improved, as far as possible, for the precise local application. The caustic he employs, is of a firm concentrated nature, with but little tendency to diffuse itself.

Conceiving that the injurious effects of caustic, arise from the nature of the matter used, rather than the principle of the cure, Mr. Whately imagined that he had made considerable improvement in the treatment of stricture, by substituting the kali purum for the lunar caustic. This alteration, as an improvement, we consider to be neither sanctioned by reason, nor confirmed by experience. The kali purum is a caustic of a diffusible nature; it cannot be circumscribed as the others, and consequently its action will be extended far beyond the seat of the dis-

ease. Being so easily combined with the mucus of the urethra, it produces much more pain than the lunar caustic, and on this account it would not be so proper a remedy.

The success of active applications, to so irritable a part as the surface of the urethra, greatly depends on confining their operation to the seat of the disease. This being the case, what must be the consequence of a caustic which diffuses itself far beyond the limits, intended by the surgeon, and which it is not in his power to controul? Violent inflammation, or sloughing will most commonly ensue; and should the caustic be successful in removing the stricture, it will thus form another disease more dangerous than the original affection. Mr. Whately has accompanied his Treatise on this subject, with a number of cases, to prove the superiority of his practice; but I do not conceive them sufficiently conclusive. In perusing his work, I should imagine every prac-

tioner would be struck with the novelty of its principles. "In every case of stricture, says he, before applying the caustic, we ought to be able to pass a bougie into the bladder, of at least a size larger than one of the finest kind. This is necessary, both to enable us to apply the caustic to the whole surface of the stricture, and likewise to put it into our power, to remove a suppression of urine, should it occur during the use of the caustic. In the greater number of all the cases of stricture, we meet with, a bougie, above the smallest size, may be passed into the bladder. These, therefore, are proper cases for the use of caustic, provided none of the above objections to its immediate application exists. If the patient bear the application of the bougie, without experiencing pain, faintness, or great dejection of spirits from its action, the use of caustic may commence immediately. It should, however, be here observed, that many patients very much dread the first introduction of a

bougie."* I cannot conceive what necessity can exist for the application of a caustic remedy, when a bougie, however small, can be introduced into the bladder; for if any instrument can be admitted through the strictured part, the urethra will be kept on the stretch, and this, together with the stimulus it produces, will be sufficient to excite the absorbents to remove the stricture. Mr. Whately proceeds evidently on the principle, that the morbid change of stricture is incapable of being removed in this way, but must be destroyed. Such a practice militates against the opinions of the most respectable practitioners, for it is laid down as a general maxim, that it is in those cases only where no advantage is gained by the use of a bougie for a length of time, that the application of the caustic is admissible. Where a bougie can pass, it is clear no suppression of urine, except from spasm, can oc-

* See Whately, p. 26.

cur, and therefore the very reason for preferring this remedy is entirely done away. Nay, Mr. Whately cannot avoid making an eulogium in favour of the bougie, however enthusiastic for his caustic. He says, "Is it not absurd to reject the use of an instrument which, operating as a wedge, attempts but little at a time, and this when cautiously applied, in the most gentle manner?"*

We have omitted, in our objections to the caustic, the danger of hemorrhage, which in a great degree is apt to attend its application. This is the more serious, as many patients in the worst stages of stricture, have their health so much impaired by the long continuance of the malady, as to be unable to bear this evacuation in any great degree. Even by writers in favour of the caustic, it is admitted, that effusions of blood have taken place to that extent

* See Whately, p. 37.

after the use of the remedy, as to fill a chamber-pot. What must be the consequence to many patients, should such a circumstance attend each application? and it has been stated by one of these gentlemen, that he found it necessary to apply the caustic, no less than a hundred times.* Such an accident must be particularly distressing both to the patient and surgeon. If this, therefore, were the only objection to the use of caustic, it would be sufficient to condemn its indiscriminate use.

The same subject, "on the use of caustic in stricture," has been lately prosecuted by Mr. Andrews; but his work adds little to the information given by Mr. Home. Even where the caustic is employed with apparent success, a recurrence of the disease frequently takes place, at longer or shorter intervals subsequent to the supposed cure, and such a

* See Home on Stricture, p. 101.

one as is generally of a more aggravated nature than the primary affection. Indeed, wherever a part is destroyed to any extent, the healing of the remaining surface in the urethra, will produce a contraction of the diameter of the canal.

remedy, as to fill a must be the consequence, should such a each application by one of these and it necessary to less than a burn- accident must be both to the pa- If this, therefore, on to the use of efficient to con- e use.

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CHAP. VII.

Of the Common Bougie.

I NOW proceed to the consideration of the cure of stricture by a milder mode, the mechanical operation of the common bougie; and it is to point out what I conceive to be the faults committed in the use of this instrument, that has induced me to offer the following remarks to the consideration of the public.

The bougie is a mechanical instrument formed to distend the passage of the urethra, and to act somewhat like a wedge upon it, though not entirely; for in the form of a wedge, the point being introduced, the rest of the substance, as more thickened, does not make progress, and thus its operation is arrested. It should therefore be formed

of an equal thickness throughout, so that the point being introduced, the progress of the remainder may be certain, and with this idea of the proper mode of constructing the instrument, we shall examine the forms of the different bougies in use, and afterwards their mode of application.

Bougies, are of various kinds, according to the materials of which they are composed: but those which are principally in use, are formed either of plaister or metal. The plaister bougie was first employed, and acquired much celebrity in the hands of a French surgeon, Daran. Actuated by his own interest, Daran attributed the cure to the composition of his bougie, which was due only to its mechanical principle. Hence, he endeavoured to preserve his composition a secret, and asserted that its action depended on its medical powers. This imposition was very fully exposed by Mr. Sharpe, in his "Critical Enquiry," who ascertained the true

principle of its operation: but he in so doing, unfortunately fell into a similar prejudice, by advising the introduction of mercury into the composition of the bougie. The composition of Daran, though known and published after his death, is pretended to be possessed only by Dufour, and the medicated bougie is accordingly held up by this person as necessary to a cure in every case of stricture. The proofs these authors adduce in favour of the medicated action of their bougies, viz. a discharge from the urethra attending their use, occurs under the operation of every bougie; being the effect of irritation; and therefore it affords no conclusion in their favour, as shewing the possession of specific powers.

An improvement on Daran's bougie was, some years since, attempted by a Frenchman named Lallier. Conceiving that Daran's bougie was formed of too irritating materials, he endeavoured to form one of a medicated quality, by in-

roducing soothing anodyne articles; and this secret is held out in some late publications. All such compositions, I consider rather as deceptions, to impose on popular credulity, than that their authors had any conviction of their superior utility.

The metallic bougie, is a modern invention, and has the recommendation of many eminent surgeons; but after repeated trials, I cannot but object to it, for several reasons. It is not so easily introduced as the plaister one, not taking so readily the curvature of the urethra, and giving more pain. The hollow metallic bougie, is, however, a very good instrument in particular cases. Having made these cursory remarks, I shall now offer my own opinion on the bougie, and endeavour to shew, that it is more from the improper manner of using it, than from the imperfections of the instrument itself, that it proves, at times, unsuccessful. This I can say with confi-

dence, from much experience on the subject.

The bougie, to which I give the preference, is the plaister one*. It possesses all the advantages, in point of smoothness of surface, and capability of pressure, that attend the metallic one, without any of its inconveniences; and if the materials, of which it is formed, be thoroughly intermixed, no part will be left in the urethra to excite irritation. This is an objection which has been insisted on by those who are partial to the metallic bougie; but it can happen only when it is badly made, and attention is not paid to the fineness of the articles, which enter into its composition.

* Those made by Mr. Guthery, of Lower James-street, are as good as any.

CHAP. VIII.

Application of Bougies.

IN attempting the cure of stricture, we should, in the first instance, endeavour to ascertain in what part of the urethra it exists; and this, sometimes, might be effected by the introduction of a very soft plaister bougie, by which a model of the stricture, or its aperture, will be frequently formed. If this can be done, by introducing a stiffer bougie into the opening, so large as to enter it with difficulty, we may generally effect a cure, by gradually increasing the size of the instrument; thus, by keeping the strictured part distended, absorption will be excited, and the disease be gradually removed. But it unfortunately happens, that the aperture of the stricture is frequently not to be ascertained. It there-

fore will be difficult to say, whether it be placed in the upper, under, or central part of the urethra; having therefore no guide to direct us, it would be in vain, by this mode, to attempt a cure. It is, under such circumstances, that I am desirous to point out another mode of applying the bougie, on which alone I conceive the success of the cure often depends. It is from experience only that we can decide on the proper mode of treating a disease; and it is only by comparing a number of cases together, with the success attendant on each, that we are enabled to determine which is the most rational method, the obstacles it presents to the remedies employed, and its ultimate issue. Though I have stated the action of the bougie to be mechanical, still we ought to consider that the parts on which it is to operate, are of a very different nature; endued with a high degree of organization, possessing much sensibility, and connected with an extensive system of action, which is easily deranged by any improper conduct

in respect to its treatment. To these circumstances sufficient attention does not seem to have been paid, either in taking advantage of the co-operation of the living powers with the mechanical efforts, or in conducting the mechanical efforts to avoid injuring the living powers. The idea taken up by most authors on the subject is, that there is nothing more necessary to the cure than to apply a stretching power to the parts, and that the urethra, like any other dilatable substance, requires only to be distended; not considering that the living fibre will resume its former state, when the extraneous body is removed; and, that unless the living powers be stimulated, so as to produce absorption of the morbid part, dilatation can produce only a temporary relief, but not prove the means of a permanent cure.

The first error into which surgeons have generally fallen, in the use of the bougie, is selecting one of too small a size. This is the practice of

some of the most eminent of the profession; the maxim laid down by them is, that the cure cannot commence with too small a bougie. Hence they assert, that where a bougie of the smallest size cannot be passed, an opening may be procured by a small steel or silver wire, which, on entering the stricture, will allow the bougie to follow. To this practice however there are various objections. Too small a bougie seldom fails to irritate the urethra, and to produce spasm; thus adding a new disease to the original affection, and rendering the obstacles to the cure more numerous. Besides, a small bougie, in the progress of its passage, must necessarily wound, as its point will entangle itself, as it proceeds, in some of the small openings or lacunæ, with which the interior surface of the urethra is every where lined, and whose orifices point towards the glans penis. Besides which, such a bougie cannot give a degree of pressure sufficient to have any material influence on the obstructing cause.

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The next circumstance that claims attention, is its use. For the reasons I have stated above, it has been my uniform practice, in all strictures, to begin with a bougie of a moderate size, or one so large as to make a sufficient impression upon the urethra to a certain extent. To judge of the propriety of this plan, we have only to consider the causes of stricture, or the change of organization which takes place in the passage, and occasions the disease.

The most frequent cause of this affection, I have already stated to be a previous attack of gonorrhœal, or other inflammation, which, when it produces great excitement in the urethra, occasions an effusion of coagulable lymph, which is deposited in the cellular membrane, in the manner stated in Chap. II. But this substance does not become so firmly organized as other parts of the living solid; hence it yields more readily to pressure, and consequently is more easily acted upon by the absorbent vessels.

But if a bougie be used in such a manner, as to excite too great a degree of inflammation in the urethra, the very cause of the malady is renewed, fresh depositions of coagulable lymph ensue, and the disease does not yield, as it otherwise would, to the management of the surgeon. It is obvious, therefore, that we should never attempt to pass the instrument too far at once, nor use violence in penetrating the stricture. The bougie should never be carried further than the feelings of the patient will admit, nor should we persist in passing it when resistance is firmly opposed to its passage; as suddenly overcoming the obstruction may injure the sides of the urethra. Instead of accelerating the cure, such a practice will evidently retard it, and occasion much mischief. This plan, we understand, was followed by the late Mr. Cruickshanks, who, in all cases, attempted to force a passage through the stricture, and employed the bougie on this principle. This method we conceive to be even more

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dangerous than the use of the caustic; for, by lacerating the delicate mucous membrane of the urethra, a considerable hemorrhage generally followed, high inflammation was excited, and a foundation laid for ulceration, and its evil consequences. Hence, our proceedings should be so cautiously conducted, that a bougie, once passed, should be continued for no greater length of time in the urethra, than the patient can easily bear; for it is the great fault of those who are engaged in the treatment of these affections, that when a bougie is once lodged in the urethra, they are of opinion that it cannot be too long retained; not considering, that the introduction of a foreign stimulus too long continued, or too often repeated, must, in a certain degree, excite morbid as well as healthy actions; and, if the former prevail, which will be the case should inflammation be produced, fresh coagulable lymph will be deposited, and a new organization take place. Instead then of twenty

minutes, or half an hour, (which is the usual time for each application of the bougie) I seldom continue it longer than a minute or two, at each successive introduction. Having once passed a bougie, in this slow and cautious manner, through the stricture, I seldom consider this instrument any longer necessary. I find the case more easily and successfully conducted to a termination, by means of the catheter, or sound, which I accordingly substitute, as soon as circumstances admit. The progress of this plan will be better understood by the detail of cases subjoined to these observations, than by any rules which can be laid down. But, both the success and quickness of cure, I attribute, in every instance, to the largeness of the bougie at first employed. By a large size, the stricture becomes dilated to a greater extent, and pressure is also made on the surrounding parts. By this distension, the vessels which supply the circulation of the stricture, and proceed from a circumference towards a

centre, have the flow of their contents arrested, and absorption is at the same time powerfully excited. But still the pressure which such a size produces, must not be greater than the patient can easily bear; and must be regulated in its degree by his sensations. By attending entirely to this, I regulate my practice in the use of the bougie. The urethra, in different patients, possesses different degrees of sensibility; by introducing the instrument at first, for a short period, there are few persons but can endure its application. As the sensibility of the urethra becomes lessened by its use, I gradually extend the period of each introduction, which can be done with safety, and without harassing the feelings of the patient, for whatever length of time may be required. I am not anxious to penetrate the stricture at once, for if the bougie be only partly admitted, absorption from pressure will necessarily ensue.

By the adoption of this method, one

of the most troublesome symptoms that arises, and a symptom much noticed by practitioners, is greatly avoided, viz. the occurrence of spasm in the urethra. This generally proceeds from the long continuance of the instrument in the passage, and from not gradually accustoming the part to it in the manner already pointed out, and seldom, or never, arises during the short period in which I apply the bougie in my first attempts. In irritable constitutions, this symptom is more troublesome than the disease itself, and tends to interrupt the progress of the surgeon in his attempts to cure; it is also more apt to arise from the use of a small, than of a large instrument, which is another argument in favour of the plan suggested. One bad effect that attends the occurrence of spasm in the urethra, is, that the disease, when once begun, is liable to continue from habit; and the patient having experienced much pain in the introduction of a bougie, according to the usual method, has the same sensations

every time the attempt is made. From this circumstance the cure is protracted, and a new sort of malady is opposed to the efforts of the surgeon, in his attempts to relieve. I have found it useful, in the first stage of the cure, after having got through the stricture, occasionally to introduce in the evening a catgut bougie, which is to remain in the passage some part of the night. From its structure, the heat and moisture of the part causes it to swell, thus gaining considerably in the progress of the cure, and requiring the other bougie to be less frequently employed.

From this view, the principles on which I proceed are as follow:

1. That in every case of stricture, the dilatation made should be extensive.
2. That the dilatation should not, at any time, be carried further than the feelings of the patient will allow.

3. That the continuance of the dilatation, at each application, should be short; not exceeding, at most, a minute or two, till the urethra becomes accustomed to the use of the instrument.

4. That the stricture being once passed by the bougie, the catheter or sound should be substituted to complete the cure, as instruments which admit of a more equal pressure.

But the application of the bougie, though the principal object, is not the only one which is necessary to be attended to, in conducting the cure of stricture. The patient's constitution must be considered as prone to inflammation, or otherwise; and thus liable to increase the symptoms of the affection that occupies the urethra: for, besides that inflammation increases the action of the parts connected with the stricture, the stricture itself, when inflamed, becomes much tighter, and of course more impervious to the passage of an

instrument. If the disease occur in a patient, where a fulness of habit prevails; where a tenseness of fibre exists, and where those other marks which indicate strong action of the system are evident, the antiphlogistic plan must be pursued to its fullest extent, as a necessary auxiliary means; for a neglect of this point has often rendered the treatment of diseases of the urethra more difficult, and been the means of producing formidable morbid symptoms in the progress of the cure, which otherwise would not have arisen. Nor is attention only necessary to the constitution in general, but also to those parts which are particularly affected by the action of the bougie. Thus all excitement in the rectum and neighbouring parts should be avoided, and every means employed to quiet and soothe the system. In plethoric habits, therefore, general bleeding should not be omitted. The bowels should be kept soluble and free, by means of saline laxatives. The skin should be kept

relaxed by a free use of antimony and opium, and wherever a fulness exists in the neighbourhood of the urethra, leeches to the perinæum will afford certain relief; these means will also be assisted by the occasional interposition of the warm bath.

In this disease, there is something peculiar which cannot be easily accounted for, and which every practitioner must have experienced; that some cases yield, with the greatest ease, to the use of the common bougie, and the cure will continue permanent; while, in other instances, it is not only difficult to obtain a temporary relief, with every care and attention in the introduction of the instrument; but even, if procured, such relief does not prove permanent, as a relapse almost immediately ensues. A moderately sized catheter will sometimes pass into the bladder, when a bougie will not penetrate the stricture; and this, I believe, depends upon one circumstance, that the curvature of the in-

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strument remains stationary ; and probably, as the stricture is often situated at the under part of the urethra, the catheter slides over it.

In the preceding observations, we stated, that one species of stricture was produced by coagulable lymph organized in the cellular membrane which connects the urethra with the corpus spongiosum, tending to compress the sides of the urethra together at this part. The knowledge of this fact, leads to a practice which regards the use of external applications, as an auxiliary means of cure. Under such circumstances, I have frequently witnessed the best effects from the employment of friction in the under part of the penis and perinæum by stimulating applications ; as by the weak mercurial ointment with camphor, oil and camphor, or tartarized antimony united with the cerat: alb: These remedies seem to excite a powerful action of the absorbents, and thereby

assist the operation of the bougie, in a greater degree than might be imagined. Local bleeding also is frequently useful. To such a plan of treatment, regulated according to particular circumstances, there are few cases which will not eventually yield; but, at the same time, it cannot be denied, that many circumstances occur which prevent the disease from giving way without the aid of caustic; happily, however, these cases are comparatively few, and, when they do occur, I have stated my reasons for giving the preference to Mr. Home's practice, with the *argentum nitratum*. It cannot, however, be applied with impunity where the stricture is situated between the bladder and membranous part of the urethra; or, where it approaches very close to the neck of this organ. In applying the caustic, its success much depends on the nicety with which it is introduced; so that it may come in contact with the stricture itself, without injuring any contiguous part of the urethra.

Thus, priapism, a caustic, a size as can be put in, this will dilate the urethra, as to the seat of the stricture, be well guarded, exactly in the middle of the instrument it should be drawn, as is at the length of by the feel very slight introduction but merely fresh inflammation

* N.B. D by caustic is attention to the ulcer for you state, seized?

Thus, prior to each application of the caustic, a common bougie, of as large a size as can conveniently be introduced, should be passed down to the stricture; this will dilate the urethra to such a degree, as to admit the caustic more safely to the seat of the disease. We should be particularly careful, that the caustic be well guarded on its sides, so as to be exactly in the centre of the extremity of the instrument; and, when introduced, it should not be instantaneously withdrawn, as is commonly done, but retained at the strictured part for a moderate length of time, which must be regulated by the feelings of the patient.* If only a very slight application is made at each introduction, it will not tend to destroy, but merely to stimulate the stricture; fresh inflammation will thereby be ex-

* N.B. Do we not stimulate the centre of an ulcer by caustic in a slight degree, when we want organization to be expedited, and do we not retain it to the ulcer for a greater length of time, when in a fungous state, when we wish absorption to be quickly excited?

cited, coagulable lymph deposited, and the stricture be increased instead of diminished. It should not be applied more than once in the course of every two or three days; and, in the intermediate time, the common bougie should be introduced, which, by its pressure on the stricture after it has been thus weakened, will, after a few attempts, frequently pass through it; by which means, much time and anxiety on the part of the patient will be undoubtedly saved.

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CHAP. IX.

I SHALL now proceed to make a few observations on a disease of the urethra connected with the prostate gland, the symptoms of which so much resemble those of stricture, as to be often mistaken for them. The affection to which I allude, has been particularly noticed and described by Mr. Abernethy,* and seems to be caused by an irritable state of that part of the urethra, passing through the prostate. It would appear, that the circumstance of inflammation and irritation, taking place in a remote part of the urethra, frequently produces uneasy sensations here, as well as in other parts of the canal; depending on the state of spasm which these primary affections induce. It is an acquaintance with this fact, that enables us to account

* See Abernethy, page 206.

for that permanent relief which is obtained in many cases, after passing a large bougie not more than two or three times, although the symptoms appear to denote the existence of permanent stricture, where no such complaint actually exists. Thus, it would seem, that an increased sensibility of the mucous membrane of the urethra, may occasionally take place; in the same manner as a similar affection of the membrane lining the bladder, produces the sensations occasioned by the presence of stone. The cause of this increased sensibility, however, cannot be accounted for; but it may be connected with a degree of idiosyncrasy, which is occasionally met with in the animal economy. I have, however, found it occur more particularly in persons immoderately addicted to venereal intercourse. This state of parts, though frequently existing alone, may occasionally be connected with an irritable bladder. Where this affection of the bladder has produced death, the parts, on dissection, are stated by Mr.

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Abernethy, to shew very slight appearances of disease. The practical conclusions he has drawn from them, perfectly coincide with the opinion I have delivered in the former part of this work, respecting the use of the bougie, viz. that the morbid sensibility of parts will be diminished by the gradual and limited introduction of this instrument. Thus, the urethra becomes gradually reconciled to its action; much violence is avoided, and the cure generally proceeds, though more slowly, without the occurrence of those sufferings, which so often arise when great force is employed. I cannot, however, agree with Mr. Abernethy, in the propriety of using a small bougie in the first attempts to cure the disease; as such an instrument will not sufficiently distend the canal, but rather produce that degree of irritation, which excites muscular contraction; thus the diameter of the urethra becomes more narrowed, the bougie impacted in it, and its progress of course arrested. On the contrary, I have uniformly found, that

one of a moderate size, by producing a greater distension of the muscular fibres connected with the urethra, obviates their disposition to contract, and leaves the canal in a dilated state. The morbid sensibility which affects more particularly that part of the urethra connected with the prostate, seems to be confined to this spot alone; for, in most cases it has no tendency to produce any morbid affection of the bladder. It may be worthy of remark, that even when accompanied with an enlarged prostate, the gland does not seem to partake of its irritability. Hence, the disease of the prostate, seems to be an original complaint, and not necessarily connected with the irritable portion of the urethra which we have remarked. But though, in the treatment of this complaint, we object to the size of the bougie, as recommended by Mr. Abernethy, we think much attention should be paid to his directions, by curving it considerably, and by keeping the point in contact with the upper surface of the urethra, as it

passes through the prostate gland. As excessive sensibility is here the great obstacle to the progress of the cure, in the use of the bougie, every means of lessening irritation by auxiliary measures should be adopted, as warm fomentations and leeches to the perinæum, together with the occasional use of the warm bath; all which, as well as every other means of lessening irritation, will prove highly serviceable.

CHAP. X.

IN order to illustrate the practice I have proposed, I shall proceed to give a statement of cases of this disease; and thus shew the principles of cure which we recommend. Candour and impartiality should be the first objects of every practical writer; I shall therefore enumerate, in every instance, not only the favourable, but unfavourable circumstances which accompanied it; and thus enable the reader to judge, how far the plan pursued was applicable to the case.

It must be admitted, that however complete the cure of stricture may be, there is generally a tendency to a return of the disease, and too frequently surgeons are enabled to remove the complaint only for a time. This fact

should be strongly impressed on the minds of patients, that they may not omit to employ, occasionally, the same means which have given them relief, and to continue them, for the purpose of guarding against any renewed attack. Indeed the best idea we can form of the nature of stricture, is to consider it in the greater number of instances, as an affection to which every canal of the body that is covered by a secreting membrane, is more or less exposed. In some persons, the predisposition to stricture is as evident as the tendency to warts in others; hence, it occurs, in the œsophagus, stomach, and rectum. It is, perhaps, that idiosyncrasy of constitution which favours a disposition to the return of the complaint; and at least, in two-thirds of the cases where this disease has been removed, the stricture may, with certainty, be said to recur. To make, however, some distinction in the nature of strictures, we may observe, that, in any constitution, it may probably be

produced by the excitement of specific irritation, provided the original symptoms of morbid action, are of so high a degree, as to produce a deposition of coagulable lymph into the cellular membrane, which is not afterwards absorbed. Where, however, stricture arises without any apparent cause, or this previous specific excitement, the constitutional tendency to be strong; and, although a temporary cure be effected, a relapse of the complaint is always to be feared. It would also appear, that in certain constitutions the urethra possesses a peculiar disposition to contract; and this not in one part, but through the whole extent of the canal, in which cases, the slightest cause will be liable to produce this affection.

Wherever a patient has been cured of stricture, and its origin can be certainly referred to venereal intercourse, the greatest care must afterwards be taken on his part, to avoid further infection. If he unfortunately contract a gonorrhœa, a return of his former com-

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plaints is generally the consequence; and the treatment of this new disease requires the greatest attention, in order to prevent inflammation and the occurrence of the secondary symptoms that induce stricture.

CASE I.

In January 1798, a tradesman, whose avocations required much confinement to the house, consulted me for a continual inclination to make water. It had been coming on, in a very gradual manner, for the space of four years; and for the last six months, previous to his making application to me, he did not void it more than twice the number of times which are natural in the course of twenty-four hours. Being an intemperate man, and much addicted to punch and late hours, he was continually liable to general indisposition; but, when he became more regular for a week or fort-

night, which he occasionally did, his complaints were lessened. In consequence of being exposed to duty in a military corps, to which he belonged, on a winter's night, and standing in the sentry box for two hours, he soon afterwards found himself unwell, and took some brandy and water; but being obliged to lie on a mattress for the remainder of the night, he found his complaints increased to a very great degree, with strong symptoms of fever. Early on the following morning, he had a continual inclination to void urine, even to the extent of five or six times in the course of every hour. His health being much impaired by his habits of life, I was obliged to regulate the antiphlogistic plan with much caution. However, by maintaining a determination to the skin, keeping the bowels open by saline purges, and employing the semicupium, the symptoms of irritation, in the course of three days, became considerably diminished. In a week, the fever had completely subsided;

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but the local symptoms still continued, though in a much less degree. I then had recourse to opiates, guarding against constipation by the occasional use of the *Ol. Ricin.*, and as a tonic gave him the *Tinct. Ferr. muriat.* in the proportion of 15 drops, three times a day. In about three weeks, his general health was considerably recruited; and though the strangury was not completely removed, it was very inconsiderable. In this convalescent state, however, he had recourse to his usual intemperance; and, in six weeks, applied to me again, his nights being continually disturbed by a constant inclination to void urine, unattended with pain. I then ordered him a dose of the *Ol. Ricin.*, and, on the following day, passed down the urethra a moderate sized bougie, which at about a quarter of an inch from the glans penis, met with some resistance; but, by gentle and slow perseverance, I got through it. Much spasm took place in the urethra, during the progress of the bougie, but finding it embraced, I imme-

diately stopped my proceeding, till the spasm had become relaxed, and then carried it on by very slow degrees, till I found a permanent stricture about the membranous part of the urethra, which I could not penetrate, in consequence of the exquisite pain. I then allowed the bougie to remain pressing on the stricture, for about a minute. On withdrawing it, I found its extremity had just entered the stricture, and had made a kind of notch in it. The patient, after this, became very irritable, and the propensity to void urine was considerably increased. In this state, he was desired to sit over the steams of warm water; his bowels were opened by means of the Ol. Ricin.; and at night, an opiate was administered. We had occasion to repeat the Ol. Ricin. next morning, by which time the irritation had much subsided. I then passed the bougie down to the stricture, and kept it there longer than before. The next day, I suffered it to remain between three and four minutes, when he did not complain of

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near so much pain as applications. The subsequent passed more comfortably, irritation being produced, and recourse to the stricture, and took an opiate the following morning. I at the same sized bougie, pressing on the stricture for an hour; but it did not much ground. The were administered on the morning, when, by keeping the stretch, and, by pressing on the stricture, it succeeded. The patient of a burning sensation, and a much larger stream than for years before, though pain. The next day, I found it difficult to again penetrate the stricture; but, at last, the patient still complained of pain, when the bougie of the bladder. On he made water in a very

near so much pain as on the preceding applications. The subsequent day was passed more comfortably, without much irritation being produced; he again had recourse to the steam of warm water, and took an opiate at night. The following morning, I attempted to pass the same sized bougie, and kept it pressing on the stricture nearly a quarter of an hour; but it did not seem to gain much ground. The same medicines were administered on the following morning, when, by keeping the urethra on the stretch, and, by pressing the bougie on the stricture, it suddenly entered the bladder. The patient then complained of a burning sensation, and made water in a much larger stream than he had done for years before, though with excessive pain. The next day, I found some difficulty in again penetrating the same stricture; but, at last, succeeded, though the patient still complained of great pain, when the bougie entered the neck of the bladder. On the following day, he made water in a very copious stream,

though still with much pain. The same treatment was still continued; but much tension appearing about the perinæum, leeches were applied. He was also next day briskly purged with the magnes. vitriol. and the bougie now entered rather more easily. The spasm of the urethra became greatly diminished, and the difficulty of passing the bougie was, of course, less experienced for the three following days; at the expiration of that period, I increased the size of my bougie, but did not succeed in passing it; accordingly, I had recourse to the former sized instrument, which entered with tolerable ease. I proceeded, on this plan, for three days longer, when tension and fulness were again perceived in the perinæum, for which leeches and brisk purges were again employed. The same sized bougie was then introduced, every other day, for four weeks, without experiencing any impediment in its passage; and the days on which that was not introduced, a catgut one was worn at night. The first night he bore

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it about three hours; on the following one, I gave him a full dose of opium, and he retained the instrument for the whole night. This plan of night and day bougies, was continued for a fortnight longer, when the patient was perfectly restored. He, however, kept bougies by him, for some time afterwards, which he occasionally passed for two or three weeks.

Remarks.—I have been particularly minute in the statement of the circumstances of this case, as pointing out, in a strong manner, both the most frequent cause of the complaint, and the means necessary to be employed with the bougie, in order to complete the cure. From the state of the patient's constitution, and from his habits of life, this was clearly a case of general irritation, connected with a local cause; and together, with my attempts locally, the general irritation of the system, was a chief object that engaged my attention. I therefore began my endeavours at a cure, on

a strict antiphlogistic plan, till the irritation had somewhat subsided; and, I next endeavoured to amend his general health, by the use of tonics. Having gained my point so far, by means of these preliminary steps, I examined the state of the urethra, to ascertain whether the complaint were the effect of stricture, or, merely of an irritable state of the bladder. Having ascertained that stricture was the source of the disease, I conducted my treatment according to the principles laid down in the preceding part of this work; guarding against an increase of irritation by not persevering in my efforts longer, at one time, than the patient could bear; and using every auxiliary means of lessening increased action, by the use of warm steams, by keeping the bowels open, and by administering opiates. In this way, I gradually gained on the disease, till such a relaxation of the passage took place, that the bougie almost unexpectedly entered the bladder. Having thus far succeeded, my subsequent at-

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tempts were conducted with the same caution; I continued the means of lessening inflammation both by brisk purging, and the application of leeches to the perinæum: and the advantage gained by the introduction of the common bougie in the day, was increased, by the introduction of a catgut one at night; a practice that was continued from this period, till a complete cure was effected, which took place in the space of four weeks. To prevent the possibility of a relapse, the precaution was adopted of using occasionally, a bougie, for some weeks afterwards, and he has since continued free from any further attack.

CASE II.

A gentleman, aged 42, residing at Wandsworth, in Surry, who was accustomed to a very active life, and occasionally hunted, had been subject to many claps, for which, he always used an injection of white vitriol he kept by him.

For two years before, on making water, he found it necessary to use much straining, especially after riding on horseback: this, at length, became so violent, that he could hardly void his urine at all, after using any exercise, except in divided streams, (generally two,) or in a very small stream. On his applying to me, I passed down a moderate sized bougie, and found a stricture about the bulb of the urethra, which I could not penetrate. I then tried a smaller one, and that also failed. This did not excite much irritation, and, therefore, the next day, I again passed the middle sized one, and kept it pressing on the stricture for about five minutes. It then gave him some degree of uneasiness, and I was obliged to withdraw it, in consequence of a violent inclination he felt to make water. The next day, I passed it again; and after keeping it in the passage about ten minutes, it suddenly penetrated about an inch through the stricture, and was followed by some discharge of blood; but I could not get it beyond this part.

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The patient then became faint, and I was obliged to withdraw it; when he made water with a great sensation of burning. The next day, he would not permit me to introduce it, on account of soreness. The following day, I again passed the same stricture, when the bougie stopped; I next tried with a very small one, but could not find the orifice of the stricture; I repeated the attempt, on the following day, with a small bougie, but to no purpose. The next day, I introduced the middle sized one, and kept it at the stricture for nearly half an hour. By this, some degree of soreness was produced; however, I again introduced it on the following day, but gained no ground. The bougie was, in this manner, introduced every day for a week longer; when the stream of urine became much larger and less separated; but the patient complained of great irritation about the rectum. To relieve this symptom, I threw up forty drops of tinct. opii. to 3 ij of sweet oil, which, in the course of three hours, in

a great measure, took off the irritation. This was regularly continued every night, keeping up pressure with the bougie in the day. Great soreness was produced in the urethra at the seat of the stricture; a slight discharge of mucus took place; and I got the instrument into the bladder after a trial of three weeks. The day after, I could not pass the instrument more than four inches, which I conceived to be in consequence of spasm; for the next day it went in on using a very slight force. The patient introduced bougies almost every day for the space of two months after this period. It is now some years ago, and he has had no relapse.

Remarks.—The above case is chiefly to be remarked, inasmuch as the cause of stricture was evidently the use of astringent injections. It has been strongly asserted, by Mr. Hunter, that this could never occasion the disease; but so many proofs of this kind come before the surgeon, that I believe his

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opinion is more ingenious than well founded. In this case, I first followed the common mode of using a small bougie, but experienced no success from this effort; on the contrary, I found the application of a middle sized one, to be the only means of gaining any ground. In my attempts here, I deviated a little from my usual plan, and employed more force in pressing against the stricture, than I have recommended. The consequence of this was that I gained ground, and passed the bougie suddenly for an inch through the stricture, but at the same time it produced such a degree of irritation, that the patient became faint. Soreness prevented my proceeding; and, on making an attempt the following day, I could not pass the stricture. These trials were repeated on the subsequent days, and it was only by regular perseverance, in pressing upon the stricture for a certain period, that I at length succeeded in procuring a passage into the bladder. This clearly shews, that the mild method of procedure is both

the safest and most successful; and that a gradual and continued pressure will overcome difficulties apparently insurmountable; for in this case it required eight weeks to procure a free passage.

CASE III.

A butcher in Whitechapel applied to me for a running, which had continued upon him for about eighteen months, being sometimes very trifling, and at other times more copious. He was a married man, and had not been the subject of any venereal affection for the last six years of his life. His urine was passed in a dribbling manner, and when asleep, it frequently came away involuntarily, and during the day, when he wanted to make water, he felt an inclination to go to stool. I passed down a moderate sized bougie, and found a considerable contraction in the canal about four inches from the orifice; which, however, I penetrated, and proceeded till I got the instrument into the bladder. He immediately felt

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this inclination to go to stool, which was so unpleasant, that I was obliged to withdraw the bougie. The following day, the discharge was considerably increased, and there was some degree of tenderness in both testicles. I then purged him briskly with the Ol. Ricin. for two days. The third day, I again introduced the same bougie into the bladder, where it remained about five minutes. The next day it was retained for three minutes longer; and, on the subsequent one, for the space of a quarter of an hour. This was continued with the same sized bougie for four days more, when he retained it, without any inclination to go to stool, or to void his urine, while the instrument remained in the passage. I then kept it in for an hour at a time; but, as he was obliged to walk much, I introduced a small catgut bougie in the evening, which was suffered to remain in the urethra till morning, and was then withdrawn. At this time a degree of hardness took place along the under part of the urethra, for

which I directed him to sit over the steams of warm water every morning, and to rub into the part a little of the weak mercurial ointment with camphor, which he did for four days: in consequence of this, the urethra became more relaxed; the urine was passed in a larger stream; and at the expiration of three weeks he was perfectly cured.

Remarks.—The above case is principally entitled to our attention, as shewing the extensive influence of stricture both on the urethra and bladder. In the first, it produced a disagreeable and irregular gleet, and, in the latter, was attended with an involuntary discharge of urine, and an unpleasant affection of the rectum. This latter sensation was so violent, as even to interrupt the progress of the cure; and I was obliged to attempt the removal of the irritation, by the antiphlogistic plan, previous to repeating my efforts. In this case, my proceedings were conducted in the slow and gradual manner I have recom-

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CASE IV.

A gentleman put himself under my care, about four years since, for nocturnal emissions, under which he had laboured for some time. His stream of urine was very little altered from the natural size, but it was small; and he had no irritation or sense of pain in voiding it. I passed with ease a bougie to about the bulb of the penis; when by making some pressure, and holding it

there a short time, something seemed to give way, and it went about two inches further. Here, however, I was obliged to stop; but, after repeated trials, for several days, it suddenly passed into the bladder: from that time, he made water in a full stream, and the nocturnal emissions soon disappeared. He used the bougie about three times a week, on going to bed, for the space of two hours; a plan which he continued for nearly four months; keeping, at the same time, his bowels in a relaxed state, and avoiding wine. He has since, occasionally, used a bougie; but voluntarily, and not from any inconvenience he has sustained.

Remarks.—This case shews that most of the common symptoms of stricture may be absent, and yet the disease exist. The only symptom here that could give suspicion, was the nocturnal emissions, which is by no means a certain or constant attendant on this affection. It would also appear, that the stricture,

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though not so permanent as the others I have described, not having even much influence on the stream of urine, was yet capable of producing such irritation, as powerfully to affect those parts connected with the secretion and discharge of semen; and this irritation being removed, nothing further was necessary to restore the parts to their proper tone, than to remove those deranged sensations which occasioned the involuntary discharge.

CASE V.

I was called up, one night, by a gentleman who was seized with a total retention of urine, after riding on horseback. He told me, he had for some time suspected that he was the subject of stricture. I endeavoured to introduce a bougie, but without the least effect; it seemed only to increase his pain. I immediately bled him, till syncope was nearly induced, and then attempted

to introduce a small catheter, which, with very little difficulty, passed down to the neck of the bladder. The sphincter muscle, however, seemed to resist for about five minutes; but, at the expiration of that time, it relaxed, and the catheter suddenly entered the bladder, when he discharged nearly a chamber-pot of urine. I left the instrument in the urethra all night; but, the next day, he becoming rather uneasy, it was withdrawn, and he was briskly purged. On the following day, I introduced a hollow gum catheter, which was passed with a little difficulty. This was suffered to remain for two days and nights, till he made water very freely, after which it was withdrawn. He has since experienced no relapse.

Remarks.—This case, together with some of the former, is a proof how readily retention of urine is brought on, where there is any obstruction in the urethra, by riding on horseback. This shews how strict a caution should be

given to patients in the state of the urethra; the first instance, the bougie; and the catheter employed, shews the effect of this remedy, also locally on the alone I attribute to the catheter into the of the utmost importance should be aware the remedies, so far from consideration, should the leading indication attempt should be had their full influence relaxed state of the and of the muscles of

A gentleman, who years in Russia, contracted a virulent gonorrhoea to travel, suffered

given to patients on this head. The state of the urethra here prevented, in the first instance, the introduction of a bougie; and the copious bleeding which was employed, shews the powerful effect of this remedy on the system, and also locally on the urethra. To this alone I attribute my success in passing the catheter into the bladder; and it is of the utmost importance that surgeons should be aware that antiphlogistic remedies, so far from being a secondary consideration, should, in such cases, form the leading indication; and that no local attempt should be made, till they have had their full influence, by inducing a relaxed state of the urethra and bladder, and of the muscles connected with them.

CASE VI.

A gentleman, who had been for some years in Russia, contracted, while there, a virulent gonorrhœa, and being obliged to travel, suffered the complaint to take

its course. He informed me that the discharge left him in about the space of four months; but that he had never since been free from a cutting sensation in perineo, on making water, nor was any other particular inconvenience experienced from it, except that, after riding on horseback, he was obliged to strain violently, before he could void the smallest quantity of urine. At other times, he made water more freely; the stream being lessened, but less force was necessary in discharging it. He applied to me, about three years after these symptoms had first appeared. I told him that I suspected the presence of stricture in his urethra, and requested he would allow me to examine the part by a bougie. To this, however, he would not submit, saying, that he conceived it to be nothing more than gravel, as considerable quantities of this matter were constantly found in his chamber-pot. As he objected to my proposition, I merely kept his bowels open, and ordered him some mucilaginous medicines.

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Having tried this plan, for about six weeks, without relief, he allowed me to pass down a bougie; on doing which, I found a sensation of roughness in the urethra, about the bulb. The patient scarcely complained of any pain in passing the instrument, I therefore allowed it to remain for a quarter of an hour, but found a resistance which I could not surmount. I tried bougies of a smaller size, for five successive days, still without effect. On the sixth day, I passed down a bougie, armed with the argent. nitr. and kept it in the part for nearly two minutes, the patient hardly complaining of any pain, and describing it merely as a smart. The following day I introduced a small bougie, but gained no ground. The next day, I passed the caustic; and on the subsequent one, I again introduced a bougie of rather a larger size than before, which producing no effect, the caustic was again applied. On the following day, I passed down a tolerably large gum bougie, and after keeping it in about a minute, it suddenly penetrated

an inch further, when it seemed firmly wedged; but on taking off the patient's attention, by conversing on another subject, and making use of a slight degree of pressure, it passed with some difficulty into the bladder, when I immediately withdrew it. On the following day, the same sized bougie was again introduced; and, as the parts seemed so insensible, I passed a small catheter into the bladder at night, at the same time giving an opiate. This was continued for three successive nights, when it seemed to produce a slight degree of irritation, and I accordingly employed some antiphlogistic means: the irritation subsided, and the catheter was introduced every other night, for the space of a fortnight, after which period the patient made water in a very free and easy manner. He remained in England for two months longer, and then departed for India. I have since heard from him, and understand that he has had no return.

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the effect of a neglected gonorrhœa. The pain was chiefly confined to the perinæum, and, like several of the former cases, was much aggravated by riding on horseback, which brought on a difficulty in the discharge of urine. Together with this sensation in perineo, according to the patient's account, there would seem to have been a discharge of mucus from the internal membrane of the bladder, which he falsely termed gravel. The principal circumstance in this case was the great insensibility of parts, during both the action of the caustic and the application of the bougie. It materially differs in this respect from the most usual cases of the disease. This insensibility was very favourable to the progress of the cure, and there was scarcely any occasion for the use of antiphlogistic remedies during the whole period. The alternation of the caustic with the bougie, certainly much expedited the cure; and, from the insensibility of the parts, it was a case well adapted to Mr. Home's plan. We therefore think, that in many

instances, as in the present, the caustic forms a valuable application; but such a state of parts cannot be distinguished beforehand, and therefore the use of caustic must always be restricted in its application, and requires judgment in its employment to avoid the mischief which would arise from the irritable constitution of the patient.

CASE VII.

A man applied to me, as a patient of the Eastern Dispensary, for a difficulty in making water, and so severe was his complaint, that he could scarcely make half a tea-cup full at a time. I passed a moderately sized bougie, as far as the middle of the spongy part of the urethra, where it seemed to be firmly grasped. The patient immediately complained of extreme pain, and the extremity of the bougie when withdrawn was covered with blood. On the following day, the penis was considerably swollen, and some degree of swelling ex-

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tended to both testes. This, however, subsided in the course of five days. On the sixth day, he made water in a full stream, and without pain; but would not again permit me to pass the bougie. I saw him about a month afterwards, and he was perfectly cured.

Remarks.—This case may be considered as a contrast to the former, in respect to the irritability of the urethra. The difficulty of voiding urine was here great and permanent. The bougie was passed into the spongy part of the urethra, with the degree of pressure usually employed; it was here firmly grasped, and the effect of this moderate pressure was so great, as to occasion the patient to complain of extreme pain, and to cause the extremity of the bougie to be covered with blood. The irritation was indeed so considerable as to produce inflammation, and a swelling of the penis on the following day; but the application of the bougie, though so powerful, had evidently removed the source of the evil: for,

when the inflammation subsided by the proper use of antiphlogistic means, the patient voided his urine in a full stream, and it was not found necessary to pass the bougie a second time, nor would he consent to it, on account of the pain he had experienced.

CASE VIII.

A gentleman put himself under my care, three years since, for a sensation of weight, as he described it, in perineo, and considerable tenesmus, with much straining on making water. On passing a bougie, such a degree of pain was produced, as to be almost insupportable. Great irritation came on the same evening about the parts, with a continual inclination to void urine. The perinæum was therefore fomented, and a large poultice applied that night: an opiate was also administered, joined with the pulv. antim.; but the irritation returned as soon as the effects of the

opiate went off. Suspecting some disease of the prostate, I requested permission to pass my finger up the rectum, and on doing so, found the prostate to be much larger than usual; and so much pain was occasioned by pressing upon it, as to be insupportable. Leeches were applied to the part, and he was put into the semicupium. A bladder of hot water was kept to the perinæum, and a dose of Ol. Ricin. administered, to obviate the constipation produced by opium. From the violence of the symptoms, he appeared, towards evening, much reduced in strength; on this account, I did not think it advisable to repeat the bath, but only the opiate and pulv. antim. On the following day he was much better, yet still had great inclination to make water, accompanied with tenesmus. He now allowed me, which he would not do before, to throw up the rectum a small quantity of oily injection with opium, by which the above symptoms became much relieved. The whole of these means, viz.

leeches, the warm bath, &c. were alternately used for about a week longer, when the tenesmus, and inclination to make water, both completely subsided. I now gave him the bark with soda, which soon recruited his strength. On making an examination *per anum* at this time, I found the prostate nearly in its natural state; he now took calom. gr. j. c^m extr. cicut. gr. x. every night; and, at the expiration of six weeks from the commencement, the disease of the prostate was entirely cured, and his health re-established.

Remarks.—This was clearly a case of what I termed the inflamed prostate; and the extensive influence of this gland on the contiguous parts was here rendered evident by the symptoms which were produced. These were entirely confined to the perinaeum and rectum, and such was the irritation that occupied the whole passage, that the slightest touch of the bougie was insupportable. This affection is easily ascertained

by examination *per anum*; and thus, wherever the symptoms are so strongly confined to the perinæum and rectum, such an examination should never be omitted. The plan of treatment in this case consisted in the employment of antiphlogistic means, directed particularly to act on the seat of the disease. The remedies which here proved most effectual, were, bleeding in perineo, and opiate glisters. The relief in those cases generally remains till the opiate has lost its effect; and on these two means the cure should chiefly depend. When the inflammatory symptoms have entirely subsided, a tonic and alterative plan may be begun; for it is surprising in how short a time active inflammation of the parts situated about the neck of the bladder debilitates the constitution, and exhausts the patient.

CASE IX.

A man put himself under my care,

two years since, for a tumour, or enlargement of the corpora cavernosa penis, just behind the glans, for which he had consulted several surgeons, most of whom had treated it as stricture, but some did not advise the use of a bougie. Conceiving from the appearance of the corpora cavernosa that coagulable lymph had become deposited in its cells, and had formed a degree of organization, so as to compress the urethra, I determined to endeavour to excite its absorption, which I effected in about a fortnight, by means of leeches, and by friction with strong camphorated oil; so that in a month he was completely cured. As a medicine, he took very small doses of emetic tartar with calomel, which produced a trifling degree of nausea every night.

Remarks.—This case is an affection not often met with. That it arose from an enlargement of the corpora cavernosa, in consequence of a deposit of coagulable lymph, was evident by the success of the treatment; and to have considered

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it as a case of stricture could not lead to any proper mode of cure. It also affords a proof how quickly absorption of coagulable lymph may be produced by means of alterative remedies, joined with leeches, and succeeded by the use of friction with stimulants, to remove the accumulation of the surrounding vessels.

CASE X.

About a twelvemonth since, I was consulted for a gentleman, who, when he wanted to make water, (to use his own expression,) "felt as if his bladder were tearing to pieces," so that without the aid of hollands and water, he could void scarcely any at a time. I tried bougies of various sizes to no purpose, a plan which was repeated for several successive days. The urethra, for some extent anterior to the bulb, felt exceedingly rough. I told him, that I feared I should be unable to be of service to him, except by the use of the caustic,

which, however, he refused to have applied. I then introduced a catheter, and retained it in the passage, without using any force to propel it forwards, which suddenly penetrated through the stricture, when a violent hemorrhage ensued. The catheter was allowed to remain in the urethra the whole night, and the patient soon recovered.

Remarks.—This may be considered as a cure of stricture by forcible destruction, such as Mr. Cruickshank, and some others, were accustomed to employ. That I was here sanctioned in my mode of proceeding, will be readily granted, from having first used the bougie unsuccessfully, and being afterwards prevented by the patient from applying the caustic. In introducing the catheter, it was not my intention to use much force, nor did I actually do it; but it unexpectedly penetrated through the stricture, and the violent hemorrhage which ensued, denoted the manner in which the obstacle was removed. Such cases as

this will occur to every practitioner, and could the above plan be always safely employed, it would certainly produce a more speedy cure. A practitioner, however, must be directed by the circumstances of particular cases; and, however judicious his general plan may be, he must occasionally deviate from it, rather than leave his patient to certain destruction.

CASE XI.

A person, residing at Limehouse, had for some years been afflicted with stricture, for which he put himself under the care of a surgeon, who several times applied the kali purum. I was suddenly called to him, in consequence of an inability to void his urine; he was in great pain, the urethra had given way about the membranous part, and the urine had become extravasated into the cellular membrane of the perinæum and scrotum. I immediately made an opening through the integuments, to correspond with that

formed in the urethra, and the urine became absorbed in the course of two days, by the application of a solution of sal ammoniac and vinegar. I endeavoured to introduce bougies, but in vain; some part of the urine passed through the urethra in a very minute stream, and neither catheter nor bougie would enter for some weeks. An eminent hospital surgeon saw the patient with me, but could not succeed in passing an instrument. He therefore took him into an hospital, for the purpose of performing an operation, for being a poor man, it could not be done at his own habitation; and, on the day appointed for its performance, he thought he would once more attempt to introduce the catheter, when the trial proved successful by its unexpectedly passing into the bladder.

Remarks.—The above is one of those uncommon cases in which we cannot altogether account for the particular state of the stricture, and the resistance

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made by it to the introduction of the bougie. That the stricture was of the most permanent kind, appeared from its having produced fistulous openings in the perinæum and scrotum. So firmly satisfied was I, together with the surgeon who also saw him, as to the impossibility of passing an instrument, that he took the patient into the hospital to have an operation performed on him. While there, anxious to make a last effort, he had recourse to the catheter; and its passage into the bladder was a matter of the utmost surprise both to himself and me.

CASE XII.

In the beginning of last year, a gentleman of high rank, aged 44, applied to me, from having a sharp cutting pain in making water; a difficulty of retaining it for any length of time; a necessity of employing considerable force when he endeavoured to expel it; an in-

ability of ejecting it to any distance, and a sense of weight in perineo. The stream was small and rather twisted. He had found these sensations gradually coming on for a twelvemonth past. To ascertain the cause of the affection, I passed a bougie down the urethra, with great ease, till it reached the prostate gland. Much pain was experienced on its passing through the membranous part. I could not introduce it through the prostate, but, in its stead, was obliged to have recourse to a smaller sized bougie, which I passed into the bladder. With these symptoms, he also felt a sense of weight in the rectum, a circumstance which led me to examine it, and on introducing my finger, and carrying it up anteriorly, I found a considerable enlargement of the prostate, which was by no means sensible to the touch. On this discovery, I first rubbed in the mercurial ointment with camphor, and gave him calom. gr. j. c^m. extr. cicut. gr. v. nocte et mane. These remedies were continued

for the space of three weeks; but he did not appear at all benefited by their use. I then blistered the perinaeum, which seemed to afford temporary relief; but, as soon as this was healed, all the symptoms returned as before. Mercury was then continued only every night with calom. gr. j. and the cicuta increased to gr. x. nocte et mane, which was given without any sensible effect for a week longer. Half a grain was now added to the cicuta every day for a fortnight, and five grains continued every morning, which were gradually increased to six grains. This plan having been persevered in for six weeks, without relief, except when the blister remained open, I was led to introduce a seton in perineo, which was kept open for a fortnight; but, though it seemed for a day or two to alleviate the symptoms, its effects soon subsided. The mercurial plan having produced some degree of debility, he took the ferr. ræci p. c. m. soda, went to the sea-side, and made use of the tepid sea-bath for

a month, when his general health became in consequence improved; his propensity to make water less painful and frequent; and, on the whole, he was much better, when I discontinued my attendance, than when he first applied to me.

Remarks.—In this case the symptoms of diseased prostate, were strongly marked; the weight in perineo, and disagreeable sensation in the rectum, may be considered, in this affection, as denoting it more certainly than in any other. The circumstances in voiding the urine are more doubtful, and will attend every case where there is an obstruction in the discharge, whether from stricture, diseased prostate, or even spasm of the passage. Having ascertained the case to be a diseased prostate, I determined to push mercury and cicuta to such a length, as to give the medicine a fair chance of success; and I am fully satisfied from this, and a number of other cases, that no advan-

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tage is ever derived from this plan of treatment; but, on the contrary, that the patient becomes debilitated by its continuance, and the symptoms of irritation are increased rather than relieved. Whatever merit may be attached to cicuta alone, I have never seen it prove beneficial in the present disease; it is a remedy which is more prescribed from habit, and the authority of some great names, than from any good effects experienced from its administration. In this case, the prostate displayed little or no sensibility to the touch, when compressed; and was apparently in that confirmed scirrhus state which admits of no relief from the powers of medicine. On finding the deobstruent plan abortive, and that the constitution of the patient had suffered under its continuance, I changed the method of treatment, and gave him the steel and sal sodæ, considering that the amendment of the general habit, by giving the organ more power of action, would benefit the local affection. The

application of a blister to the perinæum, was not attended here with that alleviation of symptoms, experienced by Mr. Hunter, in some cases he describes; nor was the insertion of a seton more fortunate, for though it afforded some relief for a short time, this did not extend to weeks, as stated in the cases of some authors. Perhaps this may be attributed to the confirmed state of the scirrhus, and the same application might be successful, where the prostate was simply irritable or inflamed. The warm sea-bath was certainly useful here. On the whole the sufferings of the patient were diminished, and I have reason to infer, that the progress of the disease was somewhat suspended.

CASE XIII.

In the beginning of last summer, a gentleman put himself under my care, for what he conceived to be stricture; for which he had been treated during

eighteen months, having had several applications of caustic made to the urethra. His health and strength were much impaired at the time I saw him, and his complaint was more aggravated than relieved. In this case, both the urethra and bladder were in a highly irritable state, attended with a discharge from the former; in consequence of which his mind was exceedingly agitated, and his bowels very irregular. His application was made from a reluctance to suffer again the pain of the caustic, which had been so severe in its effects. At this time he much wished me to introduce a bougie, to ascertain the nature of the stricture. This, I told him, would be highly improper, under existing circumstances; but that I would first endeavour to get the parts, which were labouring under much irritation, into a quiescent state. With the view of lessening his uneasiness, I attempted to persuade him that he imagined himself much worse than he really was. My first plan was to get his bowels into

a regular state by the use of calomel and rhubarb, and a small quantity of magnes. vitriol. with a solution of emetic tartar in the morning. He then went three times into the warm bath, leeches were applied to the perinæum, and he commenced regularly with the pulv. dover. at night. By these means his pain became considerably alleviated, but his urine deposited a very thick sediment. For this he next took the uva ursi three times a day, and the aq. kali puri, combined with a strong solution of gum arabic, in rather large doses. By these remedies, the bladder gradually acted less frequently, and the urine was propelled with considerable force; though I never observed from the first that the stream was either divided or twisted. This plan was continued for the space of three weeks, and he became completely cured, without once passing bougies.

Remarks.—This case is one which should point out to surgeons the caution which is required in deciding on

any plan of treatment, without having fully ascertained the cause of the affection. In this instance, no stricture whatever had existed; the patient had repeatedly submitted to a painful and dangerous operation, to remove a morbid state which did not exist; and in consequence of the applications which were made, his general health had considerably suffered, his mind was harassed by the idea of the danger of his situation, and the urethra and bladder rendered so irritable, as to keep him in a very painful and disagreeable state. Conceiving the general health, and morbid state of the urethra and bladder, to be the chief points requiring my attention, I immediately opened his bowels by small doses of rhubarb and calomel, joined to the magnes. vitriol. with a solution of emetic tartar; a combination whose beneficial effects have never disappointed my expectations, where a mild effect was required to be produced on the bowels, joined with a tendency to an increased discharge by the skin.

These means were assisted by the use of the warm bath, which, I conceive, in these cases, where it can be employed, to be a useful remedy. Leeches were applied to the perinæum, and small doses of the pulv. dover. given at night. The relief obtained by this plan was both speedy and great, as he made water easily, though it deposited a thick sediment. From this circumstance, conceiving that the irritation had much affected the mucous coat of the bladder, I had recourse to the uva ursi, with a strong solution of gum arabic; which I consider almost a specific remedy against this symptom. By this plan, the bladder gradually regained its functions, the urine was propelled in the usual forcible manner, and the cure completed in the space of three weeks, without passing a bougie.

CASE XIV.

A rider to a mercantile house applied to me, in the year 1807, for what he conceived to be stone in the bladder. He had frequently been the subject of gonorrhœa, and boasted much of a secret specific injection which he employed for its cure, which was found to be, on examination, a strong solution of blue vitriol; and he said that, by the use of this, he always accomplished a cure in the course of a few hours. The reason of his believing the complaint to be stone was, that the surgeon, under whose care he had been, had told him (to use the surgeon's own words) that he had burned through two strictures, and that the symptoms which continued, of violent straining in making water, with excessive pain, and a great length of time in voiding it, were not to be ascribed to stricture, but to the presence of stone. I desired him to make water, which was done with much difficulty, and after a great

length of time. He then requested me to pass down a sound, to ascertain whether a calculus really existed. Being a very strong man, of a full habit, and who drank freely, I immediately took away sixteen ounces of blood from his arm, and purged him briskly, by means of calomel, rhubarb, and jalap. As there was much tension in the perinæum and region of the bladder, these parts were fomented with the decoc. papav. alb. and he also sat over the steam of warm water, as the warm bath could not be conveniently obtained. Glysters of gruel and oil, were also thrown up the rectum twice a day, as a fomentation to the bladder: in the course of three days, by these means, he was considerably relieved; the stream of urine became very much increased, but, still the sense of tenderness in the perinæum remained, and the secretion of urine was very small. His tongue was furred, with a dry skin; for which symptom I thought proper to exhibit small doses of emetic tartar, so as merely to excite

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nausea. The first dose that produced this effect, brought on a great discharge of urine, but as he had an aversion to keep his bed, he was allowed to remain up; in consequence of which no determination to the skin seemed to take place, nor was there any alteration in the appearance of the tongue. His skin was yellow, with a fulness of pulse; and, suspecting, from these appearances, some congestion about the liver, I gave him *calom. gr. j. nocte et mane*. In a month he became perfectly well.

Remarks. — This case is another proof of the bad effects of astringent injections, in producing general contraction, and irritability of the urethra, independently of stricture. The difficulty in making water was here equally great as if stricture had really existed, and all the sensations which are produced by this affection, as well as by stone, may be excited by a different cause. Conceiving this case to be, like the former, one of violent increased action, brought on

by a similar cause, the indication was clearly to remove irritation; and, considering that his habit of body admitted a free use of antiphlogistic remedies, I bled him at once to the extent of sixteen ounces; purged him briskly, as in the former case; applied fomentations to the perinæum and region of the bladder; and made him sit over the steam of warm water, so as to remove the tension from these parts. These means were assisted by the injection of glysters up the rectum, composed of gruel and oil. The effect of this treatment was a considerable alleviation of the symptoms; in the course of eight days the stream of urine became much increased, though its secretion was small, and some degree of tension still continued in the perinæum. To relieve these symptoms, I thought it necessary to determine to the skin; and for this purpose, gave him the emetic tartar in nauseating doses; but, as he could not be prevailed on to lie in bed, the medicine, instead of affecting the skin, immediately acted on the kid-

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neys, and produced a copious secretion of urine. Having thus far gained on his complaints, and observing from the appearance of the skin that some accumulation was present in the liver, which I conceived might keep up irritation and retard the cure, he was put upon a course of calomel, for the space of a month, at the expiration of which he was completely cured,

CASE XV.

A gentleman complained of great tenderness in perinæo, when he rode on horseback, producing a sense of weight and a degree of slowness in voiding urine, which was passed in very small quantities, and at distant intervals; so that he could suffer twelve hours to elapse without voiding it, and even then, the water rather dribbled, than discharged itself in a stream. With these symptoms there was a sensation of pain apparently about the membranous part

of the urethra, of a cutting kind. He first applied to a surgeon, who introduced a bougie; as he told him that unless this were done, a total suppression of urine would ensue. This instrument he passed three times a week, and continued to do so for the space of half a year. The patient was of a very delicate and irritable habit of body, with much yellowness of the skin, having for a long time resided in warm climates. He had experienced, however, no relief from the above treatment, but on the contrary was afflicted with a severe lancinating pain, on its entering the membranous part of the urethra, which even extended towards the bladder. From the combination of symptoms he complained of, I had some suspicion of the presence of a diseased prostate; I therefore introduced my finger up the rectum, and found much tenderness of the gland, but neither enlargement nor hardness. Conceiving his general health to be the chief object of attention, I requested him to wear flannel

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next his skin, and to sit over the steam of warm water night and morning. In addition to this, he also rubbed into the perinæum the lin. ammon. cm . antim. tart. which brought out a copious eruption; and took every night 5 grains of the pil. hydrar. with a small quantity of antim. tart.; and in the morning, a moderate dose of the ol. ricin. By this plan of treatment, the symptoms gradually subsided; and he then took the pulv. sarsap cm . cinchon. equal parts, twice a day. In about three months he perfectly recovered his health and spirits.

Remarks.—This is another instance of the consequence of severe exercise, particularly riding on horseback, in aggravating all affections of the urethra. It is evident, no stricture existed in this case, and that the symptoms were entirely produced by that irritable state of the urethra connected with the prostate gland, which has been so accurately described by Mr. Abernethy. The use of

the bougie here, instead of relieving the symptoms, served only to aggravate them, and it is surprising that the surgeon, to whom the patient first applied, should have continued the use of this instrument, when he must have been sensible on passing it, that no stricture really existed. The plan which appeared to me the most clearly indicated, was in the first instance to attend to his general health. From having been long resident in a warm climate, I conceived it of great moment to keep the skin moist; and therefore ordered him to wear flannel. After opening his bowels, and applying such local means to the perinaeum, as might tend to lessen the irritability of the urethra, I put him upon an alterative course of mercury, conjoining this with a small proportion of antim. tart. a combination which I have invariably found prove highly beneficial. The symptoms being subdued by these means, the cure was completed by the use of bark with sarsaparilla; so that

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in the space of three month, she became perfectly well, without the least necessity for the application of a bougie, or any other means to the urethra itself.

CASE XVI.

A gentleman, aged 24, applied to me, in March, 1809, for a gleet, which had existed for two years, and for which he had employed various remedies. Cautic bougies had been repeatedly introduced; but, in consequence of almost a total suppression of urine, which had taken place about a month before, he would not admit of their further introduction, he said, that he had not been at all benefited by their use, but, on the contrary, had been rendered rather worse. He experienced, at this time, considerable pain in making water, which was voided in four streams, as if proceeding from the spout of a water pot. He ejected it, however, with but little straining, to some distance, though not

so far as usual. He immediately requested me to introduce an instrument, to ascertain the state of the stricture, a request I declined complying with, as he had much tenderness in both testicles. He was also of a full habit of body, and lived freely. I immediately bled him rather considerably from the arm; purged him briskly, and desired him to lie in bed for two days, which he did. In consequence of this, the irritability of the urethra subsided, and likewise the tenderness of the testicles. I now endeavoured to pass down the urethra a moderately sized bougie, for a short distance, which he could not endure more than a minute. The next day, this trial was repeated; but still it could not be retained, as it brought on great inclination to void the urine. I now gave him an opiate every night, and a dose of Ol. Ricin. in the morning. Four days after, I again tried the same bougie, which continued in the urethra for the space of two minutes, without producing the least uneasiness; but it was passed only a very

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short way down the canal. The next day it was borne a little further down, for the space of four minutes. On the following day, I penetrated to what I supposed to be the seat of the stricture, as the bougie struck against a firm resistance. This part, however, was so sensible, that I was, almost immediately, obliged to withdraw the bougie. This plan was continued for a week; varying the time of keeping in the bougie, according to the feelings of the patient. It seemed to gain a little; and at the expiration of a fortnight, from the continual pressure of the instrument, it penetrated through the stricture. In five weeks longer, by introducing it three times a week, the patient got completely well.

Remarks—This is another proof of the frequency of gleet, as a symptom of stricture; and it offers also another confirmation of the objections we made to the use of caustic as a remedy in this disease. The existence of stricture here

was very evident, even by his manner of making water, and from the stream being divided in so singular a manner. The patient's uneasiness made him anxious, on applying to me, that I should immediately pass an instrument; but conceiving here, as in the preceding cases, that the state of the parts was unfavourable to such examination, I declined it, in order to pursue a general plan of antiphlogistic treatment, by copious bleeding, brisk purging, and confinement to bed, in consequence of which, the local symptoms of irritation, both in the urethra and testicles, soon subsided. I then complied with his request, by passing a moderately sized bougie a short distance down the urethra; but this he was unable for a minute to endure. This attempt was repeated, and with the same result, on the following day, and brought on a strong inclination to void urine. In this irritable state, I found it necessary to suspend my efforts, and to have recourse to opiates regularly continued, with attention to the state of the bowels. In

the course of four days of the urethra was so this plan, that the bougie was not retained in the passage, more at a time, and after several attempts, gradually passed further down, till it reached the stricture, which gave assistance. Here I was obliged to the plan I have recommended, of keeping the bougie upon the stricture, and made. By this mode, in four days, I was enabled to pass through the stricture more, by the continuation of the instrument three times, complete a cure. This was the mind of every practitioner, gradual introduction of the bougie, the giving of it no more than can be admitted by the patient, is, in every respect, a better plan than the forcible means; which, successful, always produces

the course of four days, the irritability of the urethra was so much lessened by this plan, that the bougie could be retained in the passage, first, for two minutes at a time, and afterwards for four minutes; gradually passing every day further down, till it arrived at the stricture, which gave considerable resistance. Here I was obliged to resort to the plan I have uniformly recommended, of keeping up a regular pressure upon the stricture, till progress be made. By this mode, in the space of a fortnight, I was enabled to penetrate through the stricture; and in five weeks more, by the continued application of the instrument three times a week, to complete a cure. This case must satisfy the mind of every practitioner, that the gradual introduction of the bougie, and the giving of it no more action at once than can be admitted by the feelings of the patient, is, in every respect, a much better plan than the employment of forcible means; which, should they be successful, always produce effects equally

disagreeable with the disease itself, and often of long duration.

CASE XVII.

An old gentleman put himself under my care, in May last, for a supposed stricture, under which, he conceived, he had laboured for some years. He had applied to various practitioners, some of whom had passed the common, others the caustic bougie; each of which not only failed in producing relief, but aggravated all his symptoms. About a fortnight previous to his applying to me, the liquid caustic was used, on Mr. Whately's principle, which excited much inflammation and pain. When I saw him, he had a continual inclination to make water, which he voided in very small quantities, not more than a table-spoonful at a time. I applied some leeches to the perinæum, put him into the warm bath, and gave him an oleaginous enema with some tinct. opii. On the following morning, he was briskly

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 wishes of the patient, but contrary to my
 own ideas, I now introduced a bougie,
 which, when it reached the membranous
 part of the urethra, though I found no
 obstruction, still gave him extreme pain.
 Meeting, however, with no resistance, I
 carried it on, in a very gentle manner;
 still, the pain was so intolerable, that
 when it arrived behind the symphysis
 pubis, I thought proper to withdraw it.
 Having every reason to suspect a diseased
 prostate, I next introduced my finger

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Remarks.—This case is an additional confirmation of what we have frequently had occasion to condemn, viz. the anxiety, manifested by surgeons, for the introduction of instruments, when the parts are incapable of admitting them, from their state of extreme irritation. Deviating entirely from this plan, the circumstances of the case formed the leading indication, and instead of having recourse to local means, I employed the general antiphlogistic treatment, directed especially to subdue the local inflammation, as a necessary prelude to any

plan which might afterwards be found requisite. The effect of this was a total relief of the symptoms; I was therefore convinced, that no stricture had ever existed, and that the whole of the symptoms depended on an inflamed prostate; an opinion which was confirmed on my passing a bougie, which gave intolerable pain at the seat of this gland; as was also produced by examination per anum, when the prostate was pressed, and found also somewhat enlarged. The establishment of the proof of a diseased prostate producing all the symptoms of stricture, is justly due to Mr. Abernethy; but, though he has ascertained the circumstance, he has not followed it up by a detail of cases, and therefore could not impress it sufficiently on the minds of practitioners, nor fully shew the effect of the usual antiphlogistic means, when skilfully directed, in removing all the painful symptoms which attend this morbid state of the passage.

CASE XVIII.

A gentleman put himself under my care, in April last, for stricture. He had no pain in making water, nor any great increase in its frequency; but he complained that he was obliged to employ violent straining, every time he attempted to void it. He attributed the commencement of his complaint to cold, and to drinking hard while affected with gonorrhœa: after the inflammatory symptoms of the complaint had subsided, he first found, that his stream of urine became twisted. A medical gentleman, to whom he applied, endeavoured to pass a bougie; but, after some fruitless efforts, he was obliged to desist, however, he made the attempt with a very small one, which he succeeded in passing into the bladder, but it produced extreme soreness through the whole extent of the canal. From what he had suffered, he would not permit his medical attendant

to continue his attempts, but lived low for some time, and took salts occasionally. In the course of two months more, the symptoms were so much increased, that he became unable to pass his urine without the greatest labour, and much pain, so that he was nearly a quarter of an hour in emptying his bladder. In this state, after opening his bowels, and after putting him into the warm bath, I passed a bougie of a moderate size. Finding very little sensibility in the canal, I kept it there for the space of ten minutes, making pressure on the obstruction. I, next day, increased my pressure to a quarter of an hour; and on the following one, for twenty minutes; and for the space of half an hour, on three successive days. But gaining no ground by this mode, and the urethra being very insensible, I endeavoured to pass a gum elastic bougie, to find the opening of the stricture; but, making no progress with this instrument, I next day introduced the caustic, and kept it for two minutes at the strictured part.

A little blood followed its introduction, with a trifling sensation of burning pain. On the following day, I passed a moderately sized catheter, and kept the parts on the stretch. I applied the caustic and catheter eight times, alternately; when, with a little pressure, the latter instrument passed through the stricture. In consequence of this, about four ounces of blood were lost; the catheter was introduced into the bladder in the evenings for about four hours; and the patient was completely cured, in a fortnight, after passing the stricture.

Remarks.—This case shews the danger which attends the neglect, or improper management of gonorrhœa. The patient dated the symptoms of stricture, immediately subsequent to the termination of the inflammatory stage of his former complaint. On his application to a practitioner, a bougie of very small size was passed, with difficulty, into the bladder, but attended with so much pain, that the patient would not allow the at-

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tempt to be repeated; this was not merely confined to the seat of the stricture, but extended through the whole canal. After this, the patient preferred pursuing his own method by endeavouring to alleviate the symptoms by mild antiphlogistic means, and particularly by attention to the state of his bowels. The disease, however, continued to proceed for two months longer, when he made application to me. Having endeavoured to lessen the irritation of parts for a day or two, I attempted to pass a moderately sized bougie to the seat of the obstruction, and continued my pressure upon it for at least ten minutes. This was repeated for a quarter of an hour on the following day, and the period progressively extended for three days longer. The urethra, during this time, betraying very slight signs of sensibility, it enabled me to make my pressure more powerful, and to continue it, for some time, at each application. However, with these advantages, I made but little progress, and, therefore, intro-

duced an elastic gum bougie, to penetrate the aperture of the stricture; but I failed with this instrument, and resolved, in consequence, to employ the caustic; and by means of this, alternated with the regular use of the catheter, I succeeded in effecting a cure. This case was evidently favourable to the use of the caustic, from the insensibility of the passage; hence, it excited little pain in its application, which is rarely the case where this remedy is employed; this insensibility was further proved, when the patient was afterwards enabled to retain the catheter for four hours at a time; but, even in so favourable a case, the application of the caustic was attended with considerable hemorrhage; and, though I allow, that it becomes, under certain circumstances, a necessary remedy, yet this case forms no exception to my former objection to its indiscriminate application, and the mischievous consequences which it must produce, when applied to an irritable and inflamed surface.

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CASE XIX.

A married gentleman applied to me, some time since, for what he conceived to be gonorrhœa, from his having a discharge from the urethra, and having had a suspicious connection a fortnight before. He voided his urine with extreme labour, and had a frequent inclination to discharge it, but could not pass more than a table-spoonful each time. His bowels being constipated, I first endeavoured to open them by means of the Ol. Ricin.; but this exciting nausea, I was obliged to substitute some other remedy. I therefore gave him a powder of calomel and rhubarb at bed time; and on the following morning, a dose of magn. vitriol. in infus. rosæ. This produced several copious fluid evacuations, and while under the influence of this discharge, there was a considerable cessation of symptoms. The next day, I merely gave him mucilaginous drinks,

but these produced no effect, and his pains became more intolerable. I now put him into the warm bath, gave him an opiate glyster with oil, and a dose of pulv. dover. at bed time. This caused a cessation of the symptoms during the night, but they returned by 11 o'clock the following morning. I now gave him another dose of magn. vitriol. which produced only two tolerably copious evacuations. He again became easy while under the influence of the laxative; in the evening, he took the dover's powder and passed a tolerable night, but on the following morning the symptoms recurred with the same violence as before. Finding opiates to have merely a temporary effect, I was induced to try the cicuta, as I thought this a good opportunity of ascertaining the effects of this medicine in cases of irritable bladder, conjoining it with the use of the warm bath and leeches; but notwithstanding, I continued it for the space of five days, even to such an extent, as to affect the head, it caused no mitigation of the

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symptoms. I now gave him large quantities of the aq. kali. puri. joined with the uva ursi. as well as mucilaginous drinks during the day, and opiates at night. He had not taken these medicines more than four days, before his inclination to make water, became less frequent, and his pains much diminished. In two days more, the opiate was omitted at night; his complaints became gradually lessened, small portions of calculi passed with the urine, and, in a week more, he was completely cured, nor has he since suffered any relapse.

Remarks.—This case strongly shews the influence of gonorrhœa, as an exciting cause of other affections of the urethra and bladder. The patient had no uneasy symptoms for a fortnight after his suspicious connection. The symptoms evidently indicated the antiphlogistic plan, particularly by freely opening the bowels; and during the operation of medicines for this purpose, a relief of the symptoms was expe-

rienced, but they recurred with the same violence on the cessation of this. As the substitution of mucilaginous drinks had no influence in this respect, it is clear that purging, by lessening the secretion of urine, and thereby rendering the action of the bladder less frequent, had alone the effect of affording momentary relief; for though opiates produced temporary ease, it was not so complete as that produced by purging, nor did it remain longer than during the continuance of their narcotic influence. The repetition of purging seemed uniformly to produce the same beneficial effect. Conceiving this to be a case of irritability of the bladder, on whatever cause that irritation might depend, I resolved to try the powers of cicuta, so much boasted of in this respect, by exhibiting it in a very liberal manner, but I found it fail in producing any mitigation of symptoms. Conceiving further, that this irritation might be connected with a calculous disposition, I resolved, by another mode of treatment,

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to determine this point; and, accordingly ordered him the aq. kali puri, joined with mucilaginous drinks, and the uva ursi. In the space of four days, this plan greatly relieved all the symptoms; and, in the progress of the cure, portions of calculi were passed, which denoted the irritating cause, and that all the symptoms which attend stricture may be derived from a variety of other sources. This case shews the propriety of caution on the part of the practitioner, in any opinion he may give, as to the existence of stricture; and that, in all cases of this complaint, the medical treatment is as essential as the surgical, so that by attending to the former in the first instance, the latter may be superseded in many cases, where permanent and deranged organization of the urethra does not exist. The cure, in this case, I attribute entirely to the aq. kali puri, which I conceive to have some specific operation on the mucous or secreting membrane of the bladder, which seems to obviate the disposition to the

formation of calculi. The attack of gonorrhœa was evidently here the exciting cause of the malady, and the bladder was rendered irritable on this account.

AN APPENDIX

TO

PRACTICAL OBSERVATIONS

ON

STRICTURES

OF THE

URETHRA;

Containing an

IMPROVED METHOD OF TREATING URETHRAL COMPLAINTS,
BY THE EMPLOYMENT OF A NEW INSTRUMENT,
AS WELL AS BY THE CATHETER.

WITH CASES.

1812.

IN APPENDIX

THOMAS BURNARD, ESQ. F.R.S.

STATIONERS

of the Stationers' Company, and of the Stationers' Hall, London.

THE STATIONERS

of the Stationers' Company, and of the Stationers' Hall, London.

THOMAS

In testi
respect, and
regard and
is inscribed

TO
THOMAS BLIZARD, ESQ. F.R.S.

SURGEON TO THE LONDON HOSPITAL,

&c. &c.

*In testimony of the highest professional
respect, and of the most sincere personal
regard and esteem, the following APPENDIX
is inscribed by*

THE AUTHOR.

EXPLANATION OF THE PLATE.

- No. 1. A straight hollow Instrument containing the Stillet.
2. The Stillet of the hollow Instrument.
3. The straight solid Instrument.
4. The hollow Instrument with Stillet withdrawn.
5. The Screw of the Dilator.
6. The Dilator expanded.
7. A Catheter of exact form referred to.

APP

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THE Appendix now subjoined to my Essay on Strictures of the Urethra, is designed to render it more worthy of the favourable reception it has met with from the profession and the public; although the time has been but short since the publication of these observations, still the cases which have occurred, during that interval, have been sufficiently numerous and various to enable me materially to improve the practice then recommended, and to offer several additional and interesting facts relative to the treatment of that disease. I consider every man a debtor to his profession, and bound to communicate, without reserve, or unnecessary delay, such circumstances which he may deem either novel or important. This will,

I trust, be a sufficient apology for again obtruding myself on public notice. So complicated have been the cases of Stricture, which of late have fallen under my observation, that could I then have figured to myself the degree and variety of misery occasioned by this distressing malady and its consequences, I might have shrunk with reprehensible timidity from the treatment of the various diseases of the urethra. However, from a conviction that promulgation of principles must always tend to excite investigation, and promote science, I am strongly induced to prosecute my researches into the subject with increased, rather than diminished, ardour.

Among the many lamentable diseases to which the human body is liable, few require greater skill and attention on the part of the surgeon, than those which affect the urinary and generative organs. On the due performance of their functions depends, in a great degree, the

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comfort and health of the individual. It is obvious, that whatever deranges them, must be the source of various constitutional disorders; and often of death, after long protracted and severe sufferings. It is almost unnecessary for me to remark, that empirics too frequently succeed in deluding afflicted persons with their pretended remedies; which, however inert or dangerous, from the terms of confidence in which their recommendation has been accompanied, have imposed on the credulous. The surgeon is called upon to expose their deceit, and to recommend those means which experience has taught him to be most effectual.

Remarks on the Disease, and on the Instruments generally.

Whenever a canal becomes obstructed, the result must necessarily be dila-

tation of its capacity posteriorly, and contraction anteriorly to the seat of stricture. These phenomena, in particular instances, will be modified by the structure and functions of the organs liable to such diseases, but the principle applies generally to affections of every tubular part, not only of the urethra, but also of the lachrymal and other canals. Such analogies are no less useful in the attainment than in the application of rational methods of treatment. It would, however, be foreign to my present purpose to extend these illustrations, or to attempt to detail the various principles of practice which have guided surgeons in the conception and use of means intended to effect a cure of urethral obstructions. It is sufficiently obvious, that temporizing methods of relief are infinitely more detrimental to the patient, and prejudicial to the surgeon, than active measures if skilfully employed.

In the treatment of Stricture, mechanical means are indispensable; and it becomes a point of great importance to select those which are entitled to preference. A principal object of the Essay was an attempt to supersede the employment of caustic bougies, on account of the alarming symptoms they produced, and their frequently fatal termination. I formerly used the lunar-caustic, as recommended by Mr. Home, but now believe that there are few, if any cases, in which such a remedy as caustic, under any form, can with safety be applied; and I cannot imagine that the small prospect of success, can sufficiently compensate for the risk in using it, where other means have failed.

I now wish to examine the application of a common bougie, and the principles on which it acts. I formerly preferred the plaister to the metallic or any other bougie; but am now fully convinced, that all such instruments are generally

inadequate to the cure of Stricture. Their pliancy and tendency to yield when they meet with much opposition from stricture, form an objection to the whole class. The materials of which they are composed do not render them sufficiently firm to preserve any determinate figure when in the urethra.* They therefore readily enter any false passage leading from that canal; and we too frequently witness instances where patients, and even their surgeons, have been decidedly of opinion, that the instrument has passed into the bladder, while, on more accurate examination, it has been found to have taken a direction between the bladder and rectum. This can only be accurately known by examination per anum, for the sinus itself becoming callous from the frequent introduction of the instrument, little pain is occasioned to the patient in passing it; he is therefore not easily per-

* The same objection applies to the metallic bougie.

suaded that the instrument is not in the course of the canal. On these accounts, for some time past, I have generally been in the habit of employing an unyielding instrument, made hollow to allow the escape of the urine, and much rounded at the point, so as not to endanger the urethra by its introduction.

But in attempting the cure of Stricture, it is of the utmost importance to ascertain the exact seat of the disease, whether it be placed anterior or posterior to the bulb of the urethra. If it be in the former situation, a straight instrument is preferable to a curved one. It is easy of introduction, and if it be formed of polished metal sufficiently firm, it will slide along the canal without being tightly embraced by it; and the possibility of its taking a false passage will be easily prevented, if, at the same time, its progress be traced, by passing the fingers along the outside of the urethra. When, on the

contrary, the stricture is situated posterior to the bulb, no straight instrument can succeed; and in such case the catheter is the most preferable, the particular form of which appears to me a point of the highest importance. Its curvature should be such as is represented in the annexed plate, as it will be found to pass with less difficulty and pain than any other—in addition to which, much depends on the method of introducing it, the particulars of which will be mentioned hereafter.

On the Figure of the Silver Catheter.

PREVIOUS to describing the manner of using the catheter, it will be proper to make a few observations on the instrument itself. It has been a subject of general remark, that all sounds have the same degree of curvature, while that

of the catheter varies considerably; every surgeon being attached to a particular form of the instrument, or otherwise it is left to the discretion of the instrument maker, who is seldom accurately acquainted with the natural figure and direction of the urethra. The catheter delineated in the plate is an exact representation of the one I am in the habit of using; this I consider as nearly a model of the form of the canal as can well be made. It is longer than those commonly employed, being thirteen inches and a half in length; the silver forming the cylinder is also considerably thicker, which renders the instrument stronger than usual. Its smoothness of surface ought also to be particularly attended to; it should be cylindrical rather than conical, the point rounded, and instead of having many small holes, an aperture of a moderate size, on one side of the point, is preferable.

The different Modes of Passing the Catheter.

IN introducing the catheter, two modes are generally adopted. One consists in passing it with the convexity towards the abdomen. This method, however, has many strong objections; the point of the instrument passing along the inferior surface of the canal, has no other additional support than the common integuments, while all the upper part of the urethra, anterior to the bulb, is defended by the corpora cavernosa penis. The instrument may lacerate the sides of the canal if passed with much force, or in a wrong direction; and should laceration occur, the urine will diffuse itself into the cellular membrane, and produce a very formidable disease.

The second mode is the difficult exact point at which should be turned. at a proper time, the instrument will enter the bulb; and if this part may be catheter should point downwards frequently be pushed into the cellular perineum, in suppurations from Bougies very small cul de sac, in certain the sea them, which has supposed strictures.

Another cause of an instrument fasciculus of muscles tears the membrane.

The second objection against this mode is the difficulty of ascertaining the exact point at which the instrument should be turned. If this be not done at a proper time, the point of the instrument will enter the cul de sac of the bulb; and if much force be used, this part may be lacerated: but if the catheter should be passed on with its point downwards, it will not unfrequently be pushed through the bulb into the cellular substance of the perinæum, in which part gangrenous suppurations frequently supervene.—Bougies very commonly stop in this cul de sac, in endeavouring to ascertain the seat of stricture with them, which has often given rise to a supposed stricture when it never existed.

Another cause impeding the passage of an instrument into the bladder, is a fasciculus of muscular fibres which sustains the membranous part of the ure-

thra; and which often contracts on the introduction of an extraneous body. Mr. Wilson, who first noticed this circumstance, has described them with great accuracy. His description is inserted in a paper written by him and published in the Medical and Chirurgical Transactions.* To the existence of these muscles, Mr. Wilson attributes a difficulty occasionally experienced in introducing a bougie or catheter into the bladder. This, he says, "induced him to lay before the Society a description of certain muscular fibres, not generally known, the contraction of which must occasionally prove a considerable impediment to the entrance of any instrument. These muscles," he then proceeds to remark, "are of a triangular shape, united below by one common tendon; but each having a separate tendinous attachment to the inside of the symphysis pubis, and which are so

* See Vol. I., p. 175.

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disposed as to surround the membranous part of the urethra. One action of these muscles," he observes,* "is to draw the membranous part of the urethra upwards, so as to compress it against the inside of the cartilaginous edge of the pubes, and another action of them must be to contract the membranous part of the urethra."

The second mode of introducing the catheter is with its concavity towards the abdomen. This is certainly a good one; but in passing the instrument where no stricture exists, I generally carry its concave part towards the right ilium, until the point has passed just beyond the bulb of the urethra. The head and shoulders being slightly elevated by a pillow, and the thighs raised and supported, so as to relax the abdominal muscles; standing on the right side of the patient, I hold

* Page 177.

the penis in my left hand, keeping it nearly in a perpendicular line, and sufficiently stretched, to prevent the urethra being thrown into folds, which would impede the passage of the catheter. Having introduced the point of the instrument into the canal, I pass it steadily onwards with its concavity towards the right side, until the point gets immediately beneath the symphysis pubis: when it has reached this part, I give it nearly a quarter turn, carrying the concave part towards the abdomen: I next depress the handle between the patient's thighs, when it enters the bladder.* If, however, there be any stricture in the membranous part of the urethra, or enlargement of the prostate gland, I then introduce my finger into the rectum, and support the point of the instrument in its course towards the bladder, by which any reasonable

* I here suppose no stricture to exist—the cul de sac of the bulb is, by this means, avoided.

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degree of pressure with the instrument can be employed, consistently with the structure of the parts.* If I find great resistance to its introduction, it is allowed to remain in the urethra pressing against the stricture, particularly avoiding any violent efforts to overcome it. This is repeated as often as the circumstances of the case will admit, allowing it to remain in the canal a greater length of time at each successive introduction. When it has overcome one or more strictures at the membranous part, the passage of the instrument will frequently be opposed by spasm of that part of the canal which passes through the prostate gland. By a little attention, this cannot be mistaken for permanent stricture; for, on withdrawing the instrument a little, and allowing it to remain a short time in the urethra, the spasm

* By introducing my finger into the rectum I am also enabled to ascertain when the instrument has entered the bladder.

will generally soon relax, and on a second attempt it will readily enter the bladder; but in all such cases we should be particularly careful not to employ any violence. When the prostate gland is diseased, I believe that it seldom, if ever, diminishes the capacity of the canal, but the urethra is generally lengthened; the catheter, therefore, in such cases, should be longer than usual, otherwise it will not enter the bladder. Besides the difficulties already stated, under the present head, one or more obstacles often present themselves, particularly where patients have been the subjects of stricture in the membranous part of the canal. These arise from spasmodic actions of the sphincter muscle. The detrusor gradually acquires strength, to enable it to overcome the resistance. Its antagonist muscle, the sphincter, acts with additional force, which, however, is readily overcome by proper perseverance, without any necessity for using violence.

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When the catheter has penetrated the stricture, it should be passed every second or third day, depending on the feelings of the patient, which will require to be persevered in for a length of time, and continued for at least a month or two after the stricture has been completely removed; varying according to circumstances. When this is effected, I then introduce the caoutchouc, or elastic gum catheter with a brass stilet, every evening; and after a few introductions, allow the patient to use it himself. This is borne by the bladder better than a metallic instrument, and tends to allay the irritability of the mucous membrane of that organ, which has generally acquired a morbid sensibility where stricture has long existed.

When the catgut bougie has been continued a sufficient length of time, with a view to obviate the irritable state of the bladder, I allow my patient to use it in the evening for a few hours,

until he is enabled to bear it in the urethra, without inconvenience, the whole night. The heat and moisture of the canal tend to expand the instrument, without producing the least uneasiness to the patient, and a permanent cure is by this means completely established.

That the application of these principles may be properly understood, I shall consider the different species of Strictures most commonly met with.

CASE I.

A Gentleman, aged forty, consulted me for a gleety discharge of a very yellow colour, and so acrid, as frequently to excoriate the glans penis. This discharge had existed for two years and a half, and had been treated by several surgeons upon the usual plan in such

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cases, as the copaiba, cold bath, sea-bathing, steel injections, &c.; it would at times considerably subside, but be renewed on the least exertion from walking or riding, and sometimes in an increased degree. The patient being a married man, was rendered extremely uncomfortable by his complaint, particularly from its excoriating effect, and from its staining his linen. After making the necessary inquiries into his complaint, and finding that no instrument had ever been passed into the urethra, I introduced a small straight silver one, as large as the orifice would admit, but to which a very firm resistance was opposed, immediately behind the glans penis. I therefore allowed the instrument to remain in the passage, exerting pressure upon the seat of resistance as long as could be endured by the patient without complaint. On the following day it was again introduced, and pressed with increased force upon the stricture. On the third day, however, he com-

plained of so much soreness, that it was found necessary to desist. The penis was fomented with warm water, and on going to bed was covered with a poultice of linseed meal. On the following day the instrument was again introduced, when, on employing a very gentle degree of pressure, it penetrated the stricture, which at the moment gave the patient much pain, and was followed by some discharge of blood. As, however, the pain soon subsided, the instrument was allowed to remain in the urethra for twenty minutes. On the following morning much soreness being complained of, the instrument was not introduced, but the poultice was directed to be continued, at the same time causing the bowels to be freely opened. On the subsequent day the instrument was kept in half an hour, when it passed up the urethra about four inches. Various instruments of the same description, always of as large size as could possibly be introduced, were used daily. In the space of a fort-

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night, by attention to diet, rest, and the state of the bowels, the gleet entirely disappeared, and the urine passed from the orifice of the urethra in a very large and regular stream. The patient informed me that, when a single man, he had for many years been in the habit of using an injection which he called a preventive; this was formed of a solution of blue vitriol in water, and was thrown up the urethra by an ivory syringe. The point of this instrument was made to extend at least half an inch within the urethra; and in order to prevent the injection from returning, it was kept firmly pressed upon the part, which I conceive would account for the production of the stricture. A number of cases, nearly similar to this, might here be mentioned; but as they merely differ in trivial circumstances, it would be unnecessary to detail them.

CASE II.

A Gentleman, aged twenty-five, applied to me, accompanied by his medical attendant. He complained of being obliged to employ considerable force or straining whenever he wished to pass his urine. The stream was exceedingly small, and the efforts to void it so frequent, as to prevent him from sitting in company for any length of time. His surgeon informed me, that he had, for some time past, been in the habit of using small bougies, but they had never passed further than about four inches up the urethra. As a commencement of my treatment in this case, I introduced the largest possible instrument, which was about double the size of a probe, straight, and of a similar form, having a very rounded extremity. On its introduction into the urethra, it

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stopped at the usual situation, and met with a very firm resistance. It was passed on four successive days. On the fifth day the smaller straight silver tube was allowed to remain in the urethra some time; after which, the dilator was passed down just within the orifice of the stricture, dilating it by one turn of the screw, which gave very little pain. This plan was continued every day nearly a fortnight, when I tried to pass a metallic instrument through it. In its passage it gave the sensation of great irregularity of the surface of the urethra at the strictured part, where it again stopped about five inches up the urethra, in which part the resistance felt almost of a cartilaginous hardness. I tried a smaller dilator, to endeavour to discover the orifice of the stricture; but this could not possibly be accomplished. I therefore contented myself with the introduction of the straight hollow silver instrument, beginning the application at first every other day, and re-

taining it but a very short time during the first week, keeping up a very firm pressure upon the stricture. At the expiration of this period the patient could bear the continuance of the instrument for two hours at once, there being scarcely any remaining morbid irritability of the urethra; but it was not until a month had elapsed, that on keeping it in contact with the stricture, and without exerting much force, I found something suddenly yield, with a slight crackling noise, when the patient complained of a trifling uneasiness. He was then purged, and the penis fomented. The instrument was not again introduced for two days, when on passing it, I merely entered the stricture, but could not get through it. I then employed the dilator, enlarging it by means of the screw at each successive application; and in about two months, that part of the canal where the stricture had existed had become smooth. I then used the hollow silver instrument daily

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CASE III.

A middle aged man, who is land steward to a gentleman in Hertfordshire, applied to me for a complaint which he termed a dribbling in making water.— It was unattended with pain, but was occasionally accompanied by a discharge of a small quantity of yellow fluid from the urethra. Under this affection he had laboured for the last twelve years. From the smallness of his stream of urine, and the considerable time required to evacuate the bladder, he experienced much inconvenience. My first step in this case was to introduce

an instrument to ascertain if any stricture were present: having discovered one, a small silver tube was every day, for a length of time, kept in the urethra; and, by degrees, force was exerted upon the stricture, but without the least sign of getting through it. However, after several days, the instrument penetrated the resisting part, but did not pass completely through it, though sufficiently to admit the point of the dilator, the introduction of which was persevered in daily for three weeks, at the expiration of which time it had completely opened the whole of the stricture.

CASE IV.

A person, aged forty, applied to me for several tumours about the penis, with a difficulty in discharging his urine. These lumps had existed a considerable

time, and two years before he had been told that he was the subject of strictures in the urethra. In consequence of this opinion, he had recourse to bougies, which, he stated, would pass some distance down the urethra, but still his complaint was not relieved by their application. On his first visit he brought with him a bougie, which he introduced. I repeated the attempt, but found that, instead of taking a straight direction, it inclined towards the right side of the urethra. On a more minute examination, it was ascertained that a false passage had formed; the urethra having given way anterior to the stricture, through which opening the bougie had passed. In consequence of this, being aware that on introducing my straight hollow silver instrument, it would deviate from the natural direction of the urethra, by the external application of my finger I directed its course along the canal, until it arrived at the seat of the stricture, where it stopped.

Some degree of force was then employed to overcome the resistance, but it had little effect. The introduction of the instrument was repeated every day for a fortnight, gradually augmenting the degree of force, together with the use of frequent fomentations to the penis, and allowing the instrument to remain in sometimes an hour at a time. By this plan, at the expiration of three weeks, the resistance was so far overcome, that the instrument gradually penetrated the stricture; after which, a catheter was every other day passed beyond it, and kept in a length of time. Having thus far succeeded, it was deemed expedient to ascertain, by the introduction of a catheter, whether any other strictures existed; but finding no farther obstruction, the use of the same instrument was persisted in. In the progress of the cure, the swellings in the course of the urethra disappeared, as well as in the cellular membrane, and the patient completely recovered.

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CASE V.

I was consulted upon a case of Stricture, in the treatment of which bougies had been frequently employed. The obstruction was seated in the anterior portion of the urethra, which is included within the scrotum, on examining which part there was an evident fluctuation. I passed down the urethra a straight instrument, which immediately entered the scrotum. On discovering this I withdrew it, and introduced, in its stead, a staff, knowing that the curvature and groove of this instrument would materially assist me. Having made an opening into the scrotum to communicate with the aperture of the urethra, I passed my straight instrument down the canal towards the bladder. The introduction of this, alternated with the use of the dilator, was repeated occasionally for

the space of four months, and by persevering in this practice, the patient was completely cured.

CASE VI.

A gentleman, aged forty-five, came to town from a distant part of the country to put himself under my care for stricture of the urethra. He had made water in a very small stream, not larger than a packthread, during three months previously to my seeing him. I passed a straight instrument until it arrived just anterior to the bulb of the urethra, where it was strongly resisted; finding a prudent degree of force unequal to overcome the obstruction, and the patient experiencing much irritation, after allowing the instrument to remain in a short time, it was withdrawn. On the following morning it was again in-

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roduced, and was kept some time pressing on the stricture. Its use was regularly persevered in for a fortnight, but without making any impression upon the disease. I, however, determined to follow up this plan to the extent of a month, at the end of which period the instrument penetrated the stricture. I then began the introduction of the dilator, which was gradually enlarged, and was passed every other day. The hollow straight silver instrument was then worn great part of the night for a week, during which time the patient complained of excessive pain in the region of the kidneys. Shortly after he became delirious, and died. I had no opportunity of examining the body.

CASE VII.

A gentleman, about thirty years of age, had laboured for two years under a stricture, which was situated just anterior to the bulb of the urethra. He had employed bougies for the space of eighteen months, and an eminent surgeon whom he consulted, informed him he was rapidly getting well; but the extreme difficulty he still experienced in voiding his urine, with the constant desire to go to stool whenever he made an effort to expel it, induced him to doubt his surgeon's declaration. He applied to me, bringing with him a bougie, which he introduced. It entered with so much readiness, that he was at a loss to account for his symptoms, as he conceived that a bougie of such size could not have passed if stricture existed. It had, however, evidently entered a false

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Having now detailed some cases of strictures anterior to the bulb of the urethra, with a view to exemplify more particularly the principles of treatment which experience has suggested to me as best calculated to remove the complaint when in that situation; I shall next endeavour to point out how far the

catheter has been successful in the treatment of disease of the urethra situated posterior to the bulb, by a similar mode of detail.

CASE I.

A Gentleman, aged between twenty and thirty, applied to me for considerable difficulty and straining in voiding his urine, which he passed in a stream not larger than a small wire, and a great length of time was required to evacuate the contents of the bladder. He had also lumps along the upper part of the scrotum, taking the course of the spermatic cord. I passed a very small elastic gum bougie which he had brought with him, and which he seemed to introduce with perfect ease until it reached the membranous part of the urethra, where it was firmly opposed.

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I gave it as my opinion, that nothing could be done for him without confinement to the house; avoiding all exercise, stimulant diet, &c. This advice, however, he would not follow, but went a distance of about sixty miles into the country, and thought that he became better during the journey, from the constant calls he had to evacuate the bladder, which had become extremely irritable in consequence of the motion of the carriage. When he arrived at the end of his journey, which he accomplished comparatively in a short space of time, he took a large quantity of warm gin and water after supper. During that night he was not disturbed by any irritation of the bladder; but on the following morning, previous to rising from bed, he had repeated calls to discharge his urine, which was effected with great difficulty, for the most part in an extremely small stream, and often by drops. In this situation he sent for a surgeon in the town where he then

was, who attempted to pass a very small catheter to draw off his urine, but did not succeed. He then endeavoured to introduce a very small bougie which the patient had with him, and which he was accustomed to pass, but it, likewise, failed. On withdrawing the bougie, however, a small stream of urine followed, mixed with blood. As he complained of great uneasiness from distention of the bladder, his bowels were well opened, and he was put into the warm bath. An opiate was also administered, which afforded some relief during the night. The next morning he left that place for town, and during his journey voided his urine frequently, but in very small quantities. The scrotum and parts about the perinæum now began to swell; and on his arrival in London a catheter was attempted to be passed, but unsuccessfully; although several efforts were made. The bladder was greatly distended. At last, with much difficulty, the instrument passed

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into this organ, when a large quantity of thick fluid, of a coffee colour, was discharged. He was then purged, put into the warm bath, and the instrument left in the bladder, and allowed to remain in, in that situation, for five days. It was then withdrawn, and was not again introduced for twenty-four hours, during which time he voided urine tolerably well. On the following morning its introduction was attended with much difficulty, when it was allowed to remain in the urethra for eight days longer, during which time strict attention was paid to the state of the bowels, and the skin was kept perspirable by small doses of antimonials, with the occasional use of the warm bath. The silver catheter was now withdrawn, a gum one was introduced, and allowed to remain in the urethra at night for the space of three weeks; he could then void his urine without much effort. A circumscribed hard tumour next formed in the scrotum, and on introducing a catheter at

this time I found it actually entered the scrotum. A staff was therefore cut upon in this bag, which evacuated about a table spoonful of matter, and a hardened sinus was dilated. After this operation the part was poulticed, and a silver catheter was passed into the bladder, which was allowed to remain in three days. A gum catheter was then introduced into the urethra every night for two months, at the expiration of which time he was completely cured. A catgut bougie is now occasionally worn, and though he does not pass his urine in so large and forcible a stream as in the natural state, he is enabled to perform that function with comfort.

CASE II.

A man, aged about thirty-five, much addicted to dram drinking, put himself

under my care for a difficulty of discharging his urine, which was only effected by considerable efforts of straining. His constitution was exceedingly irritable, and there were evident symptoms of an enlargement of the liver. I represented to him that the employment of means for the cure of the obstruction would be comparatively useless, and might be prejudicial in his present state, without confining himself to the house, and employing mercury, with such other means as would conduce to restore the digestive and chylo-poietic organs to the regular performance of their functions. This course took up a month, when he appeared to be fit to commence the introduction of instruments. He had, for many years, occasionally employed a very small bougie, which passed along the urethra for a certain extent. This instrument he passed before me, which went on to the distance of five inches, when it stopped, though at times, from its entering a sinus by

the side, he was able to penetrate a little farther down the canal. The stricture was evidently situated at this spot, and I proceeded to introduce my straight silver instrument with much caution. It was afterwards passed, and kept in every other day for various periods, pressing upon the stricture to a certain degree. One day, while acting in this manner upon the resistance, he complained of pain, when it suddenly passed much farther than usual, posterior to the bulb. At first I suspected that it was not proceeding in the natural direction, but soon perceived the fallacy of this idea, as he shortly began to void urine in a larger stream, but still not without much straining. In this case I was not in haste to employ the catheter, but continued to introduce the straight instrument for six weeks longer. At the expiration of that period the straining still continued, when a silver catheter was introduced, of as large size as could be passed to the seat of stricture. I

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proceeded with the same instrument for eight weeks longer, when I got into the bladder. During this time he had been confined to the house, and kept under a course of medicine which considerably amended his general health. For some time the catheter was left in at night. The straining to void urine gradually subsided, and he made water perfectly well. The instrument was then left off, and a catgut bougie only worn every night. Being a traveller, he was desirous to make a journey into the country; while there, however, he was seized with retention of urine, inflammation in the perinæum followed, and as no instrument could be passed, he died.

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