Now, observe how this instrument behaves in action. My attempt to pass the staff without its flexible guide has failed. So now the guide is attached, and easily passes onwards into the bladder, followed by the staff. Now some urine escapes along the groove in the staff, so that the staff is through the stricture and in the bladder. Next, the knife is pushed along the groove and opened just beyond the stricture. The scale on the staff enables me to do this quite accurately.

Fig. 1.
Groove staff
and guide.

Fig. 2.
Knife which
runs in groove
in staff.

Fig. 3.
Knife exposed.

Fig. 4.
Knife hidden.

As the knife is pulled forwards against the stricture a decided resistance is felt, and as soon as this ceases the knife blade is pushed back into its slot. Very little bleeding ensues. I do not, however, rely upon this urethrotome for the thorough division of a stricture. If the fibrous ring which constitutes the stricture be merely notched, a relapse is sure to ensue; but if the fibrous ring be completely severed, then the ends separate and are spliced together with new material, and the calibre of the urethra is permanently increased. Therefore, to make sure of a complete division I insert Otis's dilating urethrotome, and by dilatation and cutting ensure the passage of this 28 mm. bougie, which has entered the bladder with great ease. Having withdrawn the 28 mm. bougie, the blood is washed away with biniodide of mercury lotion (1 in 2,000), and an antiseptic dressing fastened over the penis. This of course has to be removed and replaced whenever urine is passed.

The after-treatment of these cases is very simple. The first passage of urine is usually attended with pain and haemorrhage, which, however, both quickly subside. The patient is of course kept in bed, and on a light diet, and is encouraged to partake freely of liquids, such as barley water, milk, and soda water, or weak tea. On the tenth day the urethra is occluded and a 26 to 28 mm. bougie passed for the first time. After this has been done and the patient instructed in the use of bougies, he returns to his work. I usually advise that the bougie be passed once a week for a month, then once a fortnight, then once a month, then once a quarter, then once in six months, and at last once a year. I could adduce ex-

amples of cases which have proved to have been cured when examined years after the urethrotomy.

Note.—The operation was done on December 7th, 1901; it was followed by no complication whatever, and on December 17th No. 28 mm. bougie was passed under cocaine. A very small quantity of blood followed the dilatation, but it soon disappeared. Since such rigid antiseptic precautions have been taken, a series of cases have pursued the same course.

TOTAL EXTIRPATION OF THE PROSTATE: FREYER'S OPERATION.

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I HAVE no desire to add anything to the inkshed which has already occurred on the subject of Freyer's operation for the total extirpation of the prostate, the possibility of accomplishing which seems, in the minds of some surgeons, to be doubtful. The following case may be of some interest, particularly as I found the operation easy of performance and the result highly satisfactory to the patient. There can be no doubt that the operation suggested and carried out by Mr. Freyer is a valuable addition to our means of dealing with a distressing malady and one which has hitherto been treated in an unsatisfactory manner. And I would like in this place to acknowledge my indebtedness to Mr. Freyer for bringing before the profession an easy and effective means of overcoming and removing what has been up to this time in many cases, the greatest affliction of old age.

Fig. 1.

H. G., aged 67, was admitted into the Swansea Private Nursing Home on July 2nd, 1902, suffering from retention due to enlargement of the prostate. He had been compelled to use a catheter regularly for the last twelve months; but during the week preceding admission he had been unable to pass the catheter himself, and was obliged to seek the assistance of his medical man, who was able to relieve him for a couple of days, after which it was found impossible to pass a metal instrument, and for the next three days the bladder was punctured suprapubically, drawing off a quantity of blood-stained urine.

When I first saw the patient the bladder was considerably distended, and by means of a coudée catheter, which passed easily, the bladder was emptied. After this the catheter was

tied in, and the rubber tube connected with it was led into a vessel containing antiseptic lotion. During the first four days the urine contained a quantity of blood, which frequently blocked the catheter with clot. Subsequently the urine became clear, and the patient was asked if he would not be willing to go on again using the catheter as he had done for the last twelve months. The prostate was much enlarged, especially the right lobe, smooth, firm, and elastic, and on passing a metal instrument distinct obstruction was encountered at the prostate. He was a frail old man, and one did not care to undertake the operation without first giving him the option of continuing the use of the catheter if he preferred to do so. Without hesitation he decided to undergo the operation, which was performed on July 10th.

Operation.—The patient being anaesthetised, a coudée catheter was passed into the bladder, and connected with the rubber tube of a large douche can containing hot boracic lotion, and raised about a foot and a half above the patient. The distended bladder was then opened by the suprapubic route, when the lotion began to flow out, and continued to do so till the operation was completed, so that the whole of the parts concerned were continuously irrigated throughout the operation with hot lotion. Within the bladder the prostate was found considerably enlarged, forming a circular, hummocky mound round the urethral orifice, and a circular trench of bladder outside the prostate. The mucous membrane over the most prominent nummock was snipped through with scissors, and the forefinger of the left hand insinuated into the opening thus made, which readily yielded to pressure. The finger was then carried over the surface of the prostate and close to it and the fibrous bands connecting it with the

Fig. 2.

surrounding tissue (the capsule) broken down; the whole organ being meanwhile pressed up and steadied by two fingers of the right hand in the rectum. The only difficulty occurred in separating the apex of the prostate from its capsule, but this was overcome by firmly pressing up the prostate per rectum, when the apex became more accessible. No line of separation between the lobes could be made out, and it was felt that the urethra must be divided. The finger was then carried down the urethral canal, between the mucous membrane and the tumour, and the mucous membrane stripped off. With the finger outside the tumour, it was gently raised into the bladder, and then delivered with a volsellum. The haemorrhage, which had been trifling, now

became free for a few moments, but rapidly ceased under the stream of lotion still flowing through the bladder.

The catheter was left in for three days and a drainage tube placed through the suprapubic wound into the bladder. The bladder was daily irrigated with hot boracic lotion. There was a free discharge of pus for about fourteen days, when a slough about the size of a goose-quill and about $1\frac{1}{2}$ in. long came away while irrigating, after which the pus rapidly diminished and the wound was allowed to close.

The patient passed urine voluntarily while on the night-stool about the end of the third week, the first time for twelve months, and he returned home at the end of the fifth week after the operation, the urine being then voided voluntarily but at frequent intervals. Seven weeks after the operation the patient expressed himself as being quite comfortable and able to retain his water for between two and three hours.

The patient was weakened by an attack of bronchitis at the end of the first week, which was followed by an obstinate attack of diarrhoea that persisted till the end of the fourth week.

The labour of nursing and the discomfort of the patient were much relieved by the use of Sprengel's pump, which reduced the necessity of changing the bed to one twelfth of what it had previously been.

The distension of the bladder and continuous irrigation during the operation, a method I always adopt where possible was first used by the late Mr. Greig Smith. No rectal bag was used, and my experience in operating on bladder cases leads me to think that it is altogether unnecessary.

The tumour weighed $3\frac{1}{2}$ oz., was pear-shaped, flattened from before backwards, firm and elastic. The lobes were firmly united, the tissue of the tumour passing over the middle line both in front and behind, and connecting the two lateral portions into one continuous mass. The part of the tumour which corresponded to the right lobe of the prostate bulged into the urethral canal, so as to give the canal a curve to the left as it swept round this projection, and showed a marked encroachment on and obstruction to the canal.

The rupture of the prostatic portion of the urethra did not seem to produce any untoward effect except some increase in the haemorrhage, and did not in any way interfere with the introduction of the catheter, nor has the patient suffered any appreciable trouble on that account up to this time.

CASE OF BULLET WOUND OF BLADDER AND BOTH HIPS: OPERATION: RECOVERY.

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As cases in which recovery takes place after a bullet wound of the bladder are rare, the following case, in which drainage was used with success, appears worthy of record:

Private R., 1st Northumberland Fusiliers, was wounded on February 25th, 1902, in the attack upon and capture of Colonel Von Donop's convoy, near Klerksdorp, W. Transvaal.

History.—He states that he was hit at a range of about fifty yards, the convoy having been surprised; that his wounds were dressed with his first field dressing, that he lay out on the veld for two days, after which he walked into Klerksdorp—a distance of about twelve miles—and that he was admitted to the hospital there on the morning of February 28th. On March 4th he was transferred by hospital train to 18 Stationary Hospital, Krugersdorp, where he arrived in the evening. This was the eighth day after he had been wounded; his temperature was 101.8° on admission.

Condition on Admission.—The entrance wound was small, and situated 2 cm. above the right great trochanter; it was practically healed. The exit wound was situated immediately behind the left sacro-sciatic notch; it was large (2 in. in diameter), ragged and suppurating, and from it urine was leaking. There was a marked "urinary" smell; there was great inflammation of the surrounding tissues, and suppuration had extended upwards and forwards.

Operation.—After consultation with Mr. Howard Ensor, D.S.O., Lieutenant R.A.M.C.—my colleague on the surgical side of the hospital—I decided to at once drain the bladder through the perineum. Accordingly, next morning (March 5th), under chloroform, I performed Cock's external urethrotomy, and left in the bladder a soft rubber catheter, which I secured to the skin of the perineum with silk sutures. I also scraped the exit wound, and inserted a large rubber drainage tube.

After-history.—The drainage from the exit wound not being free, and the pus continuing to collect, I had to make a large counter-opening on March 6th well behind the left great trochanter, and I connected this with the exit wound by a drainage tube. The temperature rose to 102.6° and 102.8° respectively on the two evenings following the first operation; but after this, drainage being established and no urine leaking, as the urine all passed through the perineal catheter, the temperature fell to about 100° at night and normal in the morning.

Recovery.—Captain J. D. Alexander, R.A.M.C., took over charge of the case on March 14th, on which day the evening temperature was only 99° , and I am indebted to him for the following extract from the detailed