The great improvement due to antiseptic surgery is equally striking in compound fractures, of which a similar record is preserved at the hospital. The compound fractures of the leg were selected for comparison in the early and late periods, excluding those which died of other injuries, and those in which primary amputation was performed. The result was the same as in the amputation list, pyæmia having, in the recent three years, never attacked any case treated by the complete antiseptic method. The history of the introduction of this method was traced from a striking case under the lecturer's own care, in which more than three inches of both bones were resected; and an old paper was referred to, published in the *St. George's Hospital Reports* in 1879, which showed that even then the treatment, though not so well understood at first as now, had produced great improvement.

Turning to the tables of strangulated hernia, the lecturer pointed out that here the antiseptic system could not be expected to produce equally definite saving of life, since death in these cases so often depends on neglect or procrastination before the patient's admission into hospital, or upon disease in the patient himself. He took occasion to deplore the fact that it is still true that a very large proportion of these cases are not sent to the hospital till the period for successful operation has passed. His present comparison was based on particulars of the last 200 cases in the book, as contrasted with a paper by himself on the first 200, which was published in the second volume of the *St. George's Hospital Reports*. The mortality of the last series was not less—on the contrary, it was more—than in the first; but this was due to the above-mentioned causes acting previous to the operation. The antiseptic treatment of the wound, which is now general, was first tried in 1879, and has produced as much benefit as could reasonably be anticipated, and the number of deaths has much diminished since its employment, though it would be wrong to attribute the diminution solely to that cause.

Another change of practice is the frequent addition to the ordinary herniotomy of an attempt at radical cure. This attempt is, of course, only justifiable in the milder cases. Too many of the patients are in such a condition as to forbid any prolongation of the operation. It was shown, however, that out of seventeen such cases only one had died, and this from causes independent of the attempt at radical cure, so that that attempt is plainly justifiable.

The lecture concluded with a few words on the accidents which sometimes complicate the operation, namely, reduction *en masse*, wound of the bowel and hæmorrhage.

The next lecture will treat of operations of expediency, namely, the operations for cure of varicose veins in the leg and scrotum, for the radical cure of non-strangulated hernia, and osteotomy.

PROSTATECTOMY: A SEQUEL TO THE OPERATION OF SUPRAPUBIC LITHOTOMY.¹

By A. W. MAYO ROBSON, F.R.C.S.,

Honorary Surgeon, Leeds General Infirmary, and Lecturer on Practical Surgery at the Yorkshire College.

ALTHOUGH, in order to save life in the case of old men suffering from stone in the bladder, it is necessary to remove the calculus either by crushing or cutting, the after-result cannot be very gratifying, either to surgeon or patient, if some of the most distressing symptoms continue. Therefore, if with the usual symptoms and signs of stone in the bladder the patient gives the history of nocturnal incontinence, with other symptoms of enlarged prostate preceding the symptoms of stone, I would suggest that the surgeon should seriously consider whether it would not be better in such cases to forthwith perform suprapubic cystotomy so as to be able to deal with both troubles at one sitting.

I had the good fortune to be present when my colleague, Mr. McGill, performed his first operation on a case of enlarged prostate, and some little time after, when I was operating on an old man for a large calculus, by the suprapubic operation, I found that the stone was lying in a pouch, behind a large prostate, which seemed to form an effectual barrier to the exit of urine from the bladder along the urethra; and I felt that if this was left, although my patient might be relieved of some of the symptoms, his nights would be as miserable as ever, and that in

all probability the urine would lodge in the pouched bladder and would set up a cystitis, dangerous to life, or that another nucleus might lodge in the pouch, increase in size, and necessitate a second operation. I therefore determined to remove the obstruction. The following is the history of the case, which has been kindly furnished by my house-surgeon, Mr. Berkeley G. A. Moynihan, M.B.

CASE I.—B. H., aged 67, for several years had had to get up frequently during the night to pass water; this symptom increasing up to four years ago, when he first noticed pain in the hypogastric region, which was more severe after exertion, and at the end of the act of micturition, when pain was also felt near the end of the penis. Blood was occasionally passed after he had exerted himself, but not otherwise. His general health had been seriously reduced. On admission, he looked much older than 67, and was thin and worn down by suffering. His radial arteries were hard and rigid, and gave the feeling of pieces of ipecacuanha root. He was passing water every half hour during the day, and more frequently if he exerted himself; and during the night he had to get up ten or twelve times. On sounding, a stone was felt, which on measurement seemed to be about two inches in length. The stream of urine was good, but issued with less force than natural. The urine was normal. *Per rectum* no enlargement of the prostate could be felt.

Diagnosis.—Vesical calculus with enlarged prostate (middle lobe).

Operation.—On December 15th, 1887, Jaques's catheter was passed, the urine drawn off, and the bladder irrigated with boracic lotion. A pear-shaped bag was introduced into the rectum and distended with 12 ounces of water; the bladder was then distended with 10 ounces of boracic lotion. An incision $2\frac{1}{2}$ inches in length was made in the central line of the abdomen, so that its lower end just overlapped the upper margin of the pubes; the several layers of the abdominal wall were then divided on a flat director, when the bladder was seen at the bottom of the wound. In front of it was seen the peritoneal reflection from the bladder to the abdominal wall, which during inspiration descended to the extent of an inch, almost to the level of the pubes, the chief prominence of the bladder being quite two inches higher. The peritoneum having been drawn up by a retractor, the tenaculum was pushed into the bladder, and by the side of that a scalpel was thrust in, the edges of the vesical wound being held up by nibbed forceps. The index finger being then passed into the bladder gradually dilated the opening, and the stone was felt lying in a deep pouch below the level of the urethra, the opening into the urethra being blocked by a nipple-shaped enlargement of the middle lobe of the prostate. The stone having been seized with lithotomy forceps was gradually withdrawn, the opening dilating sufficiently for its exit. By means of scissors curved on the flat, and with the help of Sir H. Thompson's bladder-forceps, the projecting lobe was easily removed; comparatively little hæmorrhage occurred. The bladder was well irrigated with boracic lotion, and a drainage-tube introduced; a suture above and below the drainage-tube limited the size of the wound, which was then covered with a pad of absorbent wool. The stone weighed 322 grains, and measured 2 inches in length; it was composed of lithic acid. The patient progressed favourably. On December 21st the drainage-tube was removed, and on the 24th urine was passed by the urethra for the first time. On the 28th the patient was allowed to sit up in bed, and was allowed to get up on the 31st. On January 31st he was made an out-patient, the urine then passing partly through the fistula over the pubes. The patient felt perfectly well, and a catheter, when passed, encountered no opposition on entering the bladder. On June 15th the patient returned to the infirmary on account of a small suprapubic urinary fistula; to this the actual cautery was applied, after which for a few days a Jaques's catheter was tied in the bladder. When the patient left in July, all the urine was passing *per urethram*. He was not at all disturbed in the night, and only required to empty the bladder thrice daily. He expressed himself as feeling better than for many years.

CASE II.—J. B., aged 63, was admitted on June 6th with the ordinary symptoms of stone in the bladder, which had existed for eight years, during the whole of which time he had had to pass urine very frequently, and lately as often as every twenty or thirty minutes. For some years he had had to get up several times during the night. For many years he had been in the habit of passing small calculi, the last one having been passed six months previous to admission.

¹ Read in the Section of Surgery at the Annual Meeting of the British Medical Association, held at Glasgow, in August, 1888.

On admission he was suffering from retention of urine, and 65 ounces of alkaline urine were drawn off; from that time up to the date of operation a catheter had to be passed thrice daily, and on each occasion gentle irrigation with boracic lotion was adopted.

Operation.—On June 6th, after irrigating the bladder, the rectum was distended by injecting 10 ounces of water into a pyriform bag introduced *per anum*, the bladder being distended with 12 ounces of warm boracic lotion. The usual suprapubic cystotomy was then performed. The peritoneum was not seen. After opening the bladder, which was very deeply placed on account of the obesity of the patient, large numbers of calculi were found; the smallest about the size of a small pea, the largest an inch and a quarter in length. Fifty of these were removed by means of a lithotomy scoop and forceps, from a pouch behind a greatly enlarged prostate. The bladder was much reticulated, and little calculi had to be dislodged from saccules formed by the reticulations. The prostate was enlarged in the shape of a thickened ring completely surrounding the internal orifice of the urethra. The ring was continuous below and on each side, but the finger could be passed through a natural slit in its margin above. It was easy to pass one blade of a pair of straight scissors into the urethral orifice, and the other blade over the vesical surface of the ring, and by closing the blades to divide the ridge between them. Thus the ring was divided into two halves by the natural slit above, and by the scissor-wound below. The index finger, assisted by forceps, being then passed into the lower slit, easily enucleated two masses the size of walnuts from either side, first on the right, and then on the left. The masses were lobulated, and presented the character of adenoid tissue. Comparatively little bleeding occurred. The bladder having been washed out with boracic lotion, a drainage-tube was introduced, and the wound partially closed by two sutures. The tube was removed on the third day, and the wound was gently supported and strapped. The patient was allowed to sit up on the eighth day. Urine began to be passed through the normal channel during the second week.

On July 16th, as some urine still passed by the suprapubic opening, a soft catheter was tied in the bladder, and the edges of the suprapubic opening were firmly drawn together by plaster. After the catheter had been retained in the bladder five days, it having been taken out every day and washed, the suprapubic opening seemed closed, and the patient was able to pass his urine by the normal channel without difficulty.

He was discharged cured on August 3rd, he being well in health and strength, able to hold his urine for six or eight hours during the day, and not having to get up once during the night.

The foregoing cases illustrate two of the three forms of prostatic enlargement which my colleague, Mr. McGill, described early this year at the London Clinical Society as giving rise to characteristic symptoms of obstruction to the flow of urine. First, the uniform projection surrounding the internal orifice of the urethra, well exemplified in Case II; secondly, the sessile enlargement of the middle lobe, of which Case I is a marked example. As the third variety or pedunculated enlargement of the middle lobe is simply a modification of the last mentioned, it would seem to me scarcely worth while adopting the three divisions.

To those who have not done the operation or seen it performed, it would seem to be a very formidable matter to remove part of the prostate; but the operation is really simpler and more easy than the description would lead one to suppose. As a rule, there is very little hæmorrhage, and by means of the curved scissors and of the forceps with sharp edges, it is comparatively easy to remove those projections that cannot be enucleated; but it is surprising to see how easily some of these masses will enucleate when the mucous membrane and capsule covering them have been cut through.

From what I have seen of prostatectomy in the hands of my colleagues in the Leeds Infirmary, and from my own experience, I do not believe that the operation adds materially to the dangers of suprapubic lithotomy, either in the way of immediate shock or retarded convalescence. I would therefore suggest, that wherever it is suspected in an old patient suffering from calculus, that the prostate is enlarged, the suprapubic operation should be performed, so that at one operation the stone may be removed and the hypertrophied prostate diminished, thus reducing the likelihood of nocturnal incontinence, of cystitis, and of recurrence of stone.

ON THE PHENACETINS.¹

By DR. DUJARDIN-BEAUMETZ,

Membre de l'Académie de Médecine; Médecin des Hôpitaux de Paris.

[TRANSLATION.]

THE number of remedial agents drawn from the aromatic series tends to increase every day. From this source we have obtained not only powerful antiseptics and active antipyretics, but more recently analgesics, which rival, and even surpass, those furnished by the vegetable alkaloids. To such analgesics as carbolic and salicylic acids have to be added antipyrin and acetanilid, and the group is now increased by the valuable addition of the phenacetins.

The phenacetins (or acetphenetidins) are three in number—meta-acet-phenetidin, para-acet-phenetidin, and ortho-acet-phenetidin. The first of these seems to possess no therapeutic properties. Two only have, up to the present time, been studied, the ortho-acet-phenetidin, and more especially the para-acet-phenetidin.

It was in 1887, only last year, that para-acet-phenetidin was used for the first time experimentally in the *clinique* of Professor Bamberger, the results of these experiments being published by Dr. Kobler.² Later in the year Dr. Hugo Hoppe made it the subject of an inaugural thesis. In France, whilst M. Lépine (of Lyons) was making public the results of his experiments, I communicated to the Société de Thérapeutique the first results of my researches, and in the thesis of my pupil, Dr. Gaiffe, will be found an account of the trials made in my *clinique*. Finally, in the month of May last, Dr. Misrachi and Rifat, of Salonica, communicated to the Society of Medicine of Salonica a very important study of phenacetin.³

Chemical and Physical Properties.—I shall not enter into the preparation of these phenacetins; they are derived from phenol, and to obtain them these phenols are submitted to five operations—first, the nitration of the phenol, the separation of the nitro-phenols thus formed, their ethylation, the reduction of the bodies so produced; and, finally, their acetylation. The general formula of the phenacetins is

The para-acet-phenetidin occurs as a white crystalline powder, liquefying at 134° C., barely soluble in water, very slightly soluble in chloroform, insoluble in glycerine, acidulated water, hydrochlorate of ammonia, oils, and liquid vaseline.

The ortho-acet-phenetidin presents itself in the form of brilliant white scales, without odour or taste, and fusing at 75°; it also is very slightly soluble in water, either cold or hot. Chloroform dissolves it in considerable proportions, and one gramme is taken up by three grammes of alcohol of 90° strength.

The recognition of the presence of the phenacetin is based on the following reaction; the phenacetin is brought into contact with dilute sulphuric acid; to these is added a solution of nitrite of sodium, and the whole is poured into a solution of bisulphophenanthol, this latter being obtained by dissolving the bisulphophenanthol in solution of ammonia; the result of this experiment is a very beautiful cherry-red coloration. This colour may be fixed by means of the chloride of sodium. A quantitative estimate may be formed by comparing the grades of coloration obtained with those produced by known quantities of phenacetin.

Physiological Action.—The insolubility of the phenacetins does not permit of their being used subcutaneously, and, for the same reason, experimentation on animals becomes very difficult. To a rabbit weighing 2 kilogrammes we have succeeded in administering 2.5 grammes without producing any toxic effect. MM. Misrachi and Rifat, also, gave to a fowl weighing 1.15 kilogramme, 1.2 grammes of phenacetin without inducing any sign of poisoning. They have even given to animals 2 grammes of the drug per kilogramme of their weight without untoward effect. It may thus be said that, if phenacetin is toxic in character, it must be so to but a very slight degree.

Therapeutic Action.—Like all the analgesic antithermics, the

¹ Read in the Section of Pharmacology and Therapeutics at the Annual Meeting of the British Medical Association, held at Glasgow, in August, 1888.

² *Wiener Med. Wochenschr.*, 1887, 26 and 27.

³ Misrachi and Rifat, "Contrib. à l'étude de la Phénacétine (Para-acet-phénéthidine)," *Bull. Gén. de Thérap.*, tome LXIV, p. 481, 1888.