versalis and internal oblique muscles and the conjoined tendon were now clearly defined, and the muscle fibres were drawn down by catgut sutures and placed against the pectineus muscle, from the surface of which the fascia had been in part removed. The muscle was also fixed to Poupart's ligament by sutures passed at a higher level than the first series. This was done so as to pack down as much muscle fibre as possible against the opening, and also to relieve any tension that might be thrown on the primary sutures. The sac was treated somewhat after the method of Kocher. Over all a continuous suture closed the slit in the fibres of the aponeurosis. The closure of the crural canal by this means seemed to me very satisfactory and it was effected with great ease.

There are two objections which may be urged against the operation. First, there is a danger of wounding the deep epigastric artery—and this, as a matter of fact, happened in the present instance. I do not regard this as an accident of any serious consequence. Secondly, a direct inguinal hernia may result. I do not myself think there need be much anxiety on this score, for very few fibres of the aponeurosis are divided, seeing that the opening is made in the direction in which they naturally run, and also because the conjoined tendon is well drawn down to protect this region.

I am not certain about the best method of dealing with the sac. It might be better to remove it altogether and stitch up the rent in the peritoneum.

A CASE OF ENTERIC FEVER OF THREE MONTHS' DURATION.

By WILLIAM MURRELL, M.D., F.R.C.P.,
Physician to Westminster Hospital.

THE following case presents many points of interest:

C. S., a clerk, aged 28, was brought to the Westminster Hospital on an ambulance on November 18th, 1899, suffering from enteric fever. He had been ill since November 1st, and had been nursed at home. On admission his temperature was 103° , and he was in an extremely prostrate condition. No enteric spots were to be seen, and none appeared during the whole course of his stay in the hospital. No enlargement of the spleen could be detected, and although he had been a heavy drinker, the liver was normal in size.

At 8 P.M. on the night of admission the temperature was $103^{\circ} 6'$, and he had passed a typical typhoid stool. The urine had a specific gravity of 1024, was acid in reaction, and free from sugar and albumen. Vidal's reaction was obtained without difficulty. The patient was placed on 3 pints of milk, 5 ounces every alternate hour.

On the 21st the temperature fell suddenly to $99^{\circ} 8'$, and a few hours later there was a profuse hemorrhage from the bowel. During the following week the temperature ranged from 102° to 104° , and the patient remained in a semi-comatose condition, with occasional attacks of delirium. The bowels were open either once or twice a day, the motions being of the same character. He was now on 9 ounces of brandy in the twenty-four hours. On November 25th he was found to have some bronchitis, but there was no pneumonia. There was some expectoration, which was examined for tubercle bacilli, but none were found. On December 3rd—that is, on the thirty-third day of the illness—he had a sharp attack of diarrhoea and for the remainder of the week had from two to seven motions a day. The temperature rose to $104^{\circ} 8'$, and he had to be sponged two or three times a day. His pulse was usually 130 and of poor quality, and his general condition was unsatisfactory. On December 6th, 7th, and 8th he was given an enema of 2 ounces of mucilage of starch with half a drachm of tincture of opium. This was retained, but exerted no influence on the frequency of the motions. On December 9th he was ordered drachm doses of bismuth carbonate in milk and this checked the diarrhoea. During the following week the temperature ranged from 102° to 103° , and the bowels were open from four to six times a day. In the next week the temperature was slightly lower and the motions were less frequent. There was, however, no improvement in his general condition and he was evidently steadily losing ground. The only hopeful feature was that the three pints of milk and 9 ounces of brandy were taken with unflinching regularity.

On Christmas Day, the fifty-fifth day of his illness, he was watched with unusual care to make sure that nothing was given him by visitors to the wards. On the following day, however, his temperature rose to $103^{\circ} 2'$. At noon on December 27th it was $103^{\circ} 4'$. At 4 P.M. he was given 5 grs. of phenacetin. An hour later the temperature had fallen to $101^{\circ} 4'$. At 8 P.M. he had a severe rigor lasting over half an hour, for which stimulants had to be given freely; the temperature fell to 100° , rising again to 102° at midnight. On December 28th at 4 P.M. the temperature was $103^{\circ} 2'$ and he was given another dose of phenacetin, 5 grs. This was followed by a prolonged and very severe rigor, and at 8 P.M. his temperature was 96° , a fall of $7^{\circ} 2'$ in four hours. At midnight, however, the temperature was $104^{\circ} 2'$, showing a recovery of $8^{\circ} 2'$ in four hours. On January 1st, the sixty-second day of the illness, diarrhoea returned, there being from six to ten motions in the twenty-four hours. Again the starch and opium enema proved useless, and again drachm doses of bismuth carbonate were successful. On January 8th the patient was in an extremely critical condition and he was given champagne freely in addition to the brandy. Strychnine and digitalis were also administered from time to time. His temperature ranged from 102° to

103° , his pulse was almost imperceptible, and the motions were passed constantly under him. For many days he had been unconscious, only muttering to himself at intervals. He was given an enema of 2 drachms of Warburg's tincture in an ounce of milk, but it was not retained. On the following day 2 drachms were given by mouth, and there was some improvement. On January 11th Warburg's tincture was ordered in doses of 3 drachms twice a day, and almost immediately the diarrhoea was controlled, the temperature fell to 100° , and the pulse improved in quality.

On January 13th a more liberal dietary was adopted, and the patient was ordered, in addition to his milk, a teaspoonful of plasmon every alternate hour. This was taken without difficulty, there was no rise in temperature, and the bowels were moved only once in the twenty-four hours. This was practically the turning point in the patient's illness. The plasmon was continued for a week, and at the expiration of that time the patient was given solid food. It was not, however, until January 20th, the eighty-first day, that the temperature fell to normal. From this day his appetite became ravenous, and on January 23rd his dietary consisted of chicken and potatoes, beef tea (12 ounces), bread, four eggs, custard pudding, plasmon (6 ounces), milk (10 ozs.), brandy (4 ozs.), and port (4 ozs.). He was allowed up for the first time on February 8th, the one-hundredth day of his illness.

The long period during which the temperature was maintained is remarkable. It was not a question of relapse, for there was never any complete defervescence, and it was not post-typhoid pyrexia, for the diarrhoea with typical stools continued almost up to the end. The freedom from complications is a subject for congratulation, for, with the exception of a transitory attack of bronchitis there were none. There was never any dulness either at the apices or at the bases of the lungs, and the expectoration showed no trace of tubercle bacilli.

It is noteworthy, considering the large amount of fluid taken for so considerable a time, that there was no distension of the abdomen. There was never any doubt about the diagnosis, and Vidal's reaction was obtained from the first. The case was practically one of the ambulatory type, for although the patient did not walk to the hospital, he was moved a considerable distance in the third or fourth week of the disease. We have taken November 1st as the date of the onset of the illness, but that was the day on which he took to his bed, and he had been ailing for many days previously. During the first eighteen days he was treated at home, and it is probable that the nursing was not of the best. He had been drinking heavily for a considerable period before the onset of the illness, and this is not a good preparation for passing through so grave a crisis.

This case illustrates several therapeutical points. The enema of opium is useful in checking many forms of diarrhoea, especially the diarrhoea of advanced phthisis, but it is useless in the diarrhoea of enteric fever; at all events in this case it proved of no avail. The carbonate of bismuth in drachm doses administered in milk gave excellent results, probably by its mechanical action, in covering over and protecting the ulcerated Peyer's patches. The maximum dose of bismuth carbonate given in the B.P. is 20 grains, but this is far too small, and there is not the slightest danger in giving drachm or even half-ounce doses. At one time this salt contained traces of arsenic and tellurium—indicated by the "bismuth breath"—as impurities, but this is a thing of the past, and the drug is now supplied in a condition of perfect purity, so that it can be administered freely, without fear of producing toxic symptoms.

Many authorities speak highly of the value of antipyretic drugs in the treatment of enteric fever, and when the temperature persistently remains above 103° recommend the administration of malakin, lactophenin, or phenacetin. Phenacetin, especially in from 10 to 15-grain doses, is said to be free from danger, but this is not my experience, and in this case on two occasions a single 5-grain dose produced a condition bordering on collapse, and undoubtedly endangered the patient's life.

The administration of Warburg's tincture at the most critical period of this man's illness was attended with the best possible results. It may be objected that it is inexpedient to use proprietary medicines, but the composition of this preparation is no longer a secret. As long ago as 1875 Professor W. C. Maclean, of Netley, with Dr. Carl Warburg's permission, published its formula and mode of preparation. It is a proof spirit tincture containing sulphate of quinine (1 in 50), aloes (1 in 40), opium (1 in 4,000), with rhubarb, camphor, myrrh, gentian, cubebs, zedoaria, boletus, and various other substances, chiefly aromatics. My first experience of it was in a case of pneumonia I saw many years ago with the late Sir Richard Quain. The patient was apparently moribund, but

the injection of half an ounce into the rectum produced profuse perspiration followed by a rapid fall of temperature, after which the symptoms cleared up with surprising rapidity. Since then I have frequently given it both in pneumonia and in enteric fever.

The question of feeding typhoid patients has of late attracted considerable attention, and the commonly accepted rule that no solid food should be given until the temperature has been normal for ten days may sometimes be departed from with advantage. In this particular case a high temperature was persistently maintained until some addition was made to the orthodox 3 pints of milk in the twenty-four hours. The selection of an appropriate food with which to commence is one which requires much consideration. White of egg is undoubtedly very useful, but for this purpose I think very highly of plasmon, an albumen preparation made from milk from which the fat has been removed. It is a colourless dry powder, free from odour and taste, and is undoubtedly a valuable nutritive agent. I usually give it in tea-spoonful doses in five ounces of water every alternate hour. It is assimilated without difficulty, and produces no rise in temperature even in the early stages of typhoid. Dr. C. Virchow of Berlin finds that it is best prepared by adding one ounce of plasmon and one ounce of sugar to half a pint of boiling milk, and stirring thoroughly for a few minutes. A more complete solution may, however, be obtained by allowing the milk to simmer for a short time in a vessel of boiling water. It forms a useful addition to beef tea, soups, and other articles of dietary.

Another point of interest is the amount of alcoholic stimulant administered in this case. For nearly two months the patient took over three pints of brandy a week, with a very fair allowance of champagne and port. I am convinced that without the alcohol we should never have tided him over his illness. Of the quality of the brandy administered I know nothing, probably it was good of its kind but not the best. In private practice I should have adopted the hint given by Dr. Wm. Murray of Newcastle-on-Tyne in his *Rough Notes on Remedies*, and ordered liqueur brandy made from the finest grape, known as the champagne grape, grown in the Charente (Cognac) district. This old brandy is a most valuable remedy in cases of extreme exhaustion when the patient is sinking, in spite of all the food, medicines, and stimulants which can be given. It has quite a different action to the new coarse spirit commonly sold under the name of brandy. Age is of the utmost importance, and Dr. Murray recommends 40 years old brandy. This, however, is not the best that can be obtained, and I usually prescribe either the 1828 or the 1820 vintages, both of which are still procurable.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

CASE OF BROMOFORM POISONING: RECOVERY.

I THINK it right to record the following case owing to the rarity of its occurrence:

On the morning of April 6th, 1900, I was urgently called to J. H., a girl aged 6 years, who had, at 8.30 A.M., in her mother's temporary absence from the bedroom, swallowed 3jss of pure bromoform. She had taken a liking for it through having 2 drops on sugar thrice daily for whooping-cough. Immediately after swallowing the drug the child was observed to walk to the parlour for breakfast as if intoxicated, and then suddenly become unconscious. The parents meanwhile, having smelt the bromoform in the breath, very properly administered 3ij of mustard in half a cup of water, and as this had not the desired effect, 3j of ipecacuanha wine was given.

When Dr. McCheyne Miller and I arrived shortly afterwards, we found the child extremely collapsed and almost moribund. We could feel no pulse at the wrist, but the heart was beating very irregularly, about 120. The respirations were very shallow, about 8 a minute, and the breath had a strong odour of bromoform. There was a marked lividity of

the face and lips; both pupils were pin-point and did not react to light, and there was no conjunctival reflex.

We at once washed out the stomach by means of a No. 11 rubber catheter with tube and funnel attached. The fluid returned smelt strongly of bromoform, and we continued lavage with warm water and sodium bicarbonate for an hour and a half, until there was no longer any smell of the drug. We then washed out without Condy's fluid, and gave some strong coffee and sal volatile both by the tube and *per rectum*. Sinapisms had also been applied to the precordia.

The pulse gradually improved, and the heart became regular. The pupils appeared now more normal, and even at times dilated, but unless we kept rousing the child they were apt to contract again. At 11 A.M. there were signs of returning consciousness, but there was the greatest tendency to sleep. At 11.30 the child was able to answer questions, the words at first being drawled out very slowly. I was able to leave the child in the parents' charge by 11.45, but she had to be kept from sleeping during the whole day. Her stomach did not retain anything till evening. Next morning she was in her usual health, and able to enjoy her food.

Regarding the amount of the drug taken (3jss), I can vouch for it myself, as the 3ij bottle had been renewed the previous evening, and there was only 3ss remaining in it.

Edinburgh.

T. BROWN DARLING, M.D.

A CASE OF RIGID OS UTERI TREATED WITH COCAINE.

A MULTIPARA, aged 37, was taken in labour at 11.30 P.M. on December 17th, 1899. She had had seven children. Her previous labours had always been lingering, but there had never been any call for operative interference. The pains were severe, but not frequent, only one or two taking place in the hour. She remained in this condition until December 19th, when at 3.30 A.M. the "waters broke," and a midwife was sent for. The midwife examined and found the os about the size of a shilling, and then left the patient for another case.

At 11 A.M., December 19th, I was called to see her. I found her tired and rather worn out; the pains were severe, and coming every four or five minutes; her pulse was good and regular, and beating at the rate of 90 per minute. I found the os uteri dilated to the size of a half crown; the walls were thin and tense. No bag of membranes presented. The position of the occiput was in front and to the left. I waited for several pains, but finding that the os was very unyielding I decided to apply cocaine (a 10 per cent. solution) on a piece of cotton wool; the head came well down, and easily compressed the pledget of cotton wool between it and the walls of the os. After the occurrence of two pains I again examined the patient, and found the os fully dilated and the walls quite soft. I could easily sweep my finger round the presenting head (which was a small one) and between it and the pelvic walls, but to my surprise the head did not advance with the pains.

I now introduced my hand into the vagina, and found that the neck of the child was securely gripped by the lower part of the body of the uterus; the part below this situation, extending to the external os, was soft and flabby. I tried to pass my finger between the neck of the child and the band, but failed to do so. I now applied forceps (without an anæsthetic), and by steady traction on them for a minute or so overcame the resistance of the band, and the child was quickly delivered. The placenta was removed without any trouble, and the patient made an excellent and uneventful recovery.

I have now used cocaine in a good number of cases of slowly-dilating or of rigid os, and all cases so far have been most successful, this being the first case in which any difficulty arose.

Wotton-under-Edge.

E. F. CLOWES, M.R.C.S., L.R.C.P.

RESORCIN IN RODENT ULCER AND OPERATIONS FOR CANCER.

AFTER reading the very interesting Lettsomian Lectures of Sir William Banks, I feel induced to record the following short experience, as it bears on the question of local infection of wounds in removing malignant growths.

In the year 1891 a patient presented himself with a typical epithelioma of the lower lip. This was removed in a London hospital in May of that year. In June, 1892, the growth recurred, but I was struck with the fact that it did not origi-