occasionally do so is certain. Of course it is not asserted that either the risk to life or the chance of a stricture prohibits excision for the relief of so distressing a condition as is produced by an extensive prolapse; nevertheless it makes it incumbent to defer the operation until remedies of a less severe nature have proved a failure. In the linear cautery we have an alternative operation, founded upon sound physiological principles, and one in which the risk is inappreciable, while the result is generally most satisfactory if sufficient care is taken in the subsequent treatment. If the *rationale* of this method is to be properly understood, it must be remembered what has already been said with reference to the mechanism of prolapse, and how it appears to be primarily produced by the slipping of one coat on the other, together with a want of sufficient rigidity in the walls to prevent invagination. The indication for treatment is to find some plan binding the muscular and mucous coats together, so as to prevent this initial slipping, while at the same time, if a certain amount of thickening can be produced so as to give a little extra stiffness to all the coats of the bowel, invagination becomes mechanically more difficult. The necessary conditions can be fulfilled by exciting inflammation in the submucous tissue. The exudation thus produced cements the two coats more firmly together, preventing sliding, while at the same time it affords an increased stiffness to the whole bowel. The actual cautery, as advised by Van Buren, is an admirable means of exciting the necessary inflammation. The method of operating is as follows: The bowels having been thoroughly cleared out, the patient, being under an anæsthetic, is placed in the lithotomy position. With a little manipulation the prolapse can be generally made to protrude. Four lines of cautery are now drawn along the bowel in its long axis, one in front, one behind, and one on either side. It should be managed so that these lines commence well within the canal of the bowel at the apex of the protrusion, and terminate at the anal margin. The width of the lines should be about a quarter of an inch, and their depth such as thoroughly to sear but not actually to destroy the mucous membrane. The lines of the cautery are pretty sure to cross one or more large dilated veins. These should be tied on either side of the lines, a needle threaded with silk being passed beneath them. The whole operation should be done pretty quickly, and the bowel returned, otherwise congestion and swelling will make its reduction difficult. If the prolapse does not protrude at the time of the operation, the lines of cautery can be drawn along the bowel *in situ* by using a full-sized duckbill speculum, shifted as required for each line. Paquelin's cautery is not suitable for the purpose, for it is too hot when first applied and cools too rapidly. The instrument I employ is similar to that shown in the diagram. It is comparatively short in length,

so as to admit of easy manipulation, and is made with a conical head, half an inch in diameter, bent at right angles. The shaft at the bend is made thin so as to prevent the heat being transmitted to the handle. Two of these irons are required, heated over a large spirit lamp, and used alternately. A thick indiarubber tube, with a third of an inch calibre, seven inches in length, is passed up the bowel for about five inches. Strips of oiled lint are then arranged round the interior of the bowel extending as high as possible. Cotton-wool thoroughly well dusted with iodoform is then evenly and carefully packed into the bowel between the tube in the centre and the oiled lint on the sides. This gives a firm, even support to the lower few inches of the bowel, while the escape of flatus &c. is provided for by the tube. The support thus afforded at an early stage is, I consider, very material. The success of the operation depends on the care that is taken to prevent the descent of the bowel during the early stages of healing before the adhesions have become firm. After forty-eight hours the whole dressing is gently removed, the part thoroughly washed, and a clean dressing replaced. The desire to strain has generally passed off by this time, and it does not seem necessary to pass the dressing far up the bowel. After the first few days internal dressings can be dispensed with, but the tube, cleaned daily, is kept in for ten days or more. It allows the easy passage of flatus without straining effort. By a small nightly dose of opium the bowels can be kept confined for ten days. Small doses of castor oil can then

be given together with an enema if necessary. The patient must on no account sit up or strain, and the motion is to be passed lying on the side and the anus drawn a little from the middle line; and this should be enforced for at least six weeks, whilst consolidation is taking place, otherwise the whole advantages of the operation may be lost. I think it is from want of attention to these details that failure may often be attributed. My experience of this operation coincides with that of Mr. Herbert Allingham, and I am thoroughly satisfied with the results in those cases which have come under my care, though on one occasion the cautery had to be repeated. The following case, for the notes of which I am indebted to my late house surgeon, Mr. C. H. Roberts, serves as an example of the operation and the benefit that may be expected.

"Mrs. P—, aged twenty-nine, was admitted into St. Bartholomew's Hospital, July 1st, 1889. The patient was a fairly healthy-looking woman, well nourished, but bitterly complained of her trouble, and was in a very depressed condition on account of it. She has had difficulty with her motions for eight years, being much troubled with constipation, at other times her motion coming away with a discharge streaked with blood. For the last four years the bowel has come down more or less on going to stool. This condition has gradually got worse, the quantity of bowel prolapsing increasing. At times constipation was very obstinate. She has little or no control over her motions. On rectal examination the prolapse was not down. The finger passed into a large cavity. There was absolute loss of all power in the sphincter. On asking the patient to strain, a large prolapse was apparent, the size of a fetal head. The measurements were 6 in. in length, with a circumference of 9 in. The orifice at the summit of the prolapse pointed backwards. In front there was a large hernial pouch, containing small intestine, which could be reduced with a gurgling sound into the abdominal cavity. There were two or three slight ulcerations in the mucous membrane, which was thickened and hypertrophied, and large hæmorrhoidal vessels traversed it. On pulling the prolapse with the fingers a further portion of the bowel could be brought down. In June, 1889, Mr. Harrison Cripps operated in the manner already described. Four lines were made by the actual cautery in the long axis of the gut, the large vessels having been previously ligatured; there was no hæmorrhage. The whole mass was then reduced, and strips of oiled lint placed in the bowel. A thick indiarubber tube was then passed into the rectum, and iodoform wool packed between it and the oiled lint. With the exception of some slight hæmorrhage and some rise of temperature, the patient did well. She had no pain, and the bowels were opened on the fourteenth day without any sign of the prolapse. After this the bowels were usually opened once a day after a small nightly dose of cascara sagrada. She was allowed to get up and walk about at the seventh week, and discharged on Sept. 2nd.

August, 1890: Examined to-day. The bowel feels quite healthy in every respect. She has to a great extent regained control over her motions, and has never had the least sign of prolapse since leaving the hospital a year ago.

THREE CASES OF INFECTIVE PNEUMONIA OCCURRING IN ONE FAMILY.

By THOMAS OLIVER, M.A., M.D., F.R.C.P.,
PHYSICIAN TO THE ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

WHETHER as the result of the wave of influenza which recently passed over this country, or of some other condition hitherto unrecognised, we have had during the summer months in Newcastle and the immediate district a large number of cases of pneumonia, many of which have been so virulent and atypical that it is just a question how far the pneumonia has not been simply an incident in the morbid state.

On June 13th I was asked by Dr. Slater of Newcastle to see Mrs. D—, aged fifty-two, a strong, well-developed woman, who had been in excellent health until the week previously to that in which I saw her. Her husband had returned from Antwerp on May 29th feeling very ill. At once he took to bed, and when seen on the following morning the case was regarded as one of pneumonia. This

patient, who was a stout, plethoric man, died on the fourth day of his illness, June 3rd. Mrs. D—nursed her husband during his brief illness. After the corpse was placed in the coffin, and the lid screwed down, there must have been rapid decomposition of the body, attended by considerable evolution of gas, for the coffin burst, and there escaped a large quantity of liquid which had a most disagreeable and offensive odour. For a day or two all the inmates of the house felt ill. On June 6th—i.e., three days after the death of her husband—Mrs. D—had a severe rigor, and soon after this the physical signs of pneumonia gradually presented themselves. When I saw her on June 13th there was double pneumonia with well-marked physical signs, rusty sputa, &c. Her temperature was 103° 8'; pulse 120; respiration 40; tongue dry. She was more or less delirious, flushed in the face, perspiring freely, and passing her urine involuntarily. On the following day she seemed rather better; her breathing was easier; she was less delirious, and her temperature, which at midnight had risen to 104°, had fallen to 103°. During the course of the day a very offensive diarrhoea occurred; this continued. Towards evening she was cyanosed; her respiration was difficult—44,—pulse 140, tongue very dry, and her pupils were slightly dilated. The case was regarded as one of severe blood poisoning rather than of pure pneumonia, and was treated accordingly. On June 15th she was in a heavy somnolent condition, the pupils contracted, face dusky and pinched, pulse 140, respiration 52, and diarrhoea continuing. In the evening she died. During our attendance upon Mrs. D— we found one of her sons, aged twenty, also suffering from pneumonia, with high fever. Until June 9th he had been quite well, when, on going to business, he was seized with a severe rigor, obliging him to return home, and take to bed. On the following day he developed cough; on the 11th he began to expectorate; on the 12th the expectoration was rusty; temperature 103°. When I saw him on June 13th there was dullness over the base of the left lung, with coarse, dry, tubular respiration. The heart was healthy, pupils slightly dilated, pulse 112, respiration 28, and temperature 103° 2'. During the night he had a profuse sweating (?critical). From this date he began to mend—temperature, pulse, and respiration gradually declining to the normal. Almost contemporaneously with the profuse sweating a mild diarrhoea appeared, which continued for three days, being gradually checked by tannic acid. This patient made a good and permanent recovery. During the early part of his convalescence the râles persisted in the left lung. The area of splenic dullness, it may be mentioned, was during his illness slightly increased.

Shortly afterwards I saw in a neighbouring town on Tyne-side three cases of pneumonia. The patients lived within a few yards from each other. In them the illness showed itself suddenly. The rigor was severe, as were also all the symptoms from the first. The pneumonia was double. Two of the patients were teetotallers. The disease ran rapidly to its termination, death occurring on the sixth and seventh days. One of these patients, a man aged forty-one, had a rigor on July 5th; he died on the 12th. The case had been going on apparently satisfactorily, when all at once, and without any explanation, the pulse rose to 240 per minute. Delirium and restlessness supervened, so that the patient could not be kept in bed. In this hopeless condition I saw him, with extremely rapid pulse and breathing, and deeply cyanosed. He died two hours after our visit. In one of the other cases—two doors away from the last—the symptoms of a less severe pneumonia were followed by those of toxæmia. The symptoms were those of meningitis, but without headache and vomiting; there were great sleeplessness and picking of the bed-clothes. Large doses of sulpho-carbolate of soda were given, and one draught of tincture of hyoscyamus soon quieted him. On the following day he showed signs of amendment, and in a few days after this he recovered. Earlier on in the year, in a case which I saw with Dr. Drummond of South Shields, the patient had quite recovered from a severe attack of pneumonia when suddenly his temperature rose, a right-sided hemiplegia developed, and he died comatose, the paralysis in this case being evidently due to the plugging of a cerebral artery by an embolus of a septic character. I mention this latter case not as an illustration of infective pneumonia, but to show that even after recovery from pneumonia has been complete the individual is not free from the risk of septic infection. Our patient had been

perfectly well for at least seven or eight days, when, after sitting up for the greater part of a day working at his ledger, he had a rigor, followed by a rise of temperature, and it was noticed that his speech was slightly affected. Next day the aphasia was complete, and there was paralysis of the right arm. Two days subsequently he had a fit, and after this the right leg was seen to be paralysed. He died shortly afterwards comatose. The only explanation we can offer of this infection is that the man, who was a poultry salesman, lived above his shop, and during convalescence he moved into a room immediately above it. Sitting here all day breathing an atmosphere tainted by emanations from below, there had been doubtlessly carried into his lungs—not yet thoroughly rid of pneumonic material—organisms of a septic character.

Newcastle-upon-Tyne.

TWO CASES OF GASTRO-ENTEROSTOMY.

BY GEORGE T. BEATSON, B.A. CANTAB., M.D. EDIN.,
ASSISTANT SURGEON, WESTERN INFIRMARY, GLASGOW.

I HAVE preferred to publish these two cases together, as they were under observation almost simultaneously, and had, as the sequel will show, some bearing one upon the other.

The first case was that of P—V—, a miner, aged forty-five, who was a patient under Professor Gairdner in the Western Infirmary, and who was transferred to Sir George Macleod's surgical wards for operative treatment. Owing to Sir George Macleod's prolonged attendance in London at the Medical Council, and looking to the somewhat urgent condition of the case, it was deemed advisable that I should deal with it before his return. According to the statement of the patient on his first admission to Professor Gairdner's wards on April 24th of the present year, his illness was of twelve months' duration, and had commenced with pain in the stomach and other signs of indigestion. The pain was almost constantly present, but was always worse after food, when it would become severe for some hours. It never caused vomiting, though on one or two occasions he had himself induced sickness with the view of obtaining relief. He began to lose flesh, and in the early part of last March he noticed a lump in his abdomen in the region of the seat of pain. For a short time before his admission to the infirmary he thought the pain had been less, and he did not consider that there had been any great increase in the tumour since it was first observed. His condition on admission in April was as follows: He was emaciated to a considerable degree and had a rather sallow complexion. There was no doubt as to the existence in the right hypochondriac region of a tumour of an irregular and oval shape, somewhat like a large turkey's egg, one side and end of which seemed to rest on the lower surface of the liver. On the whole, the tumour had considerable mobility, and in particular it could be moved from side to side, showing that it was not firmly attached to the liver, although not separated from it by percussion with absolute distinctness. On inspiration it descended to a perceptible extent with the diaphragm, but the amount varied, and sometimes it was not quite easily appreciable. The longest diameter of the tumour, taken in the line of the hypochondrium, was four inches as against three across. On manipulation there appeared to be only one mass with a few inequalities on its surface. No history of any gastric or intestinal hæmorrhage could be made out. In fact, the bowels were apparently very little affected by the presence of the tumour, and the patient was otherwise healthy as regards lungs, heart, and kidneys. No hereditary tendency to cancerous disease was elicited. During the patient's residence in hospital it was established from the distinct succussion and other symptoms present that there was a moderate degree of dilatation of the stomach, and the diagnosis arrived at by Professor Gairdner was that the tumour was connected with the pyloric end of the stomach and was probably malignant, but he could not satisfy himself that there was complete occlusion of the orifice. Examination of the vomited matters and of the contents of the stomach, when that organ was washed out, was purely negative, and never revealed any sarcinæ. At this time the question of surgical interference was raised, but the patient was rather averse to any operative measures, and he left the hospital on May 9th after a residence of about a fortnight.