re-grown as before, and this part will not be dealt with again till the patient can arrange for continuous sittings.

It would seem, if the above case can be taken as a guide, that 10 short exposures are useless, that about 20 exposures will clear the ground for electrolysis or simple traction if for any reason the ray treatment has to be suspended, while some number of exposures between 30 and 40 will probably result in permanent alopecia, though it is to be expected that with further experience this number may be reduced, so that a treatment which neither pains nor disfigures may take its proper position in practical therapeutics. It is right to state that the whole of the technical arrangements were designed and most intelligently carried out by Mr. Isenthal, to whom I wish to express my great indebtedness.

Elvaston-place, S.W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF RECTAL DEFORMITY.

BY I. G. MODLIN, M.D., B.S. DURH.,
HONORARY SURGEON TO MONKWEARMOUTH HOSPITAL.

DURING September, 1899, I was asked to operate on a woman for deformity in the perineal region. On examination I found a well-formed perineum and a slight dimple in the position in which the anus should be, but no opening or sphincter. The vulva to external appearances seemed to be normal, but on separating the labia a moveable septum was seen, which proved to be formed of the posterior vaginal and anterior rectal walls. It was about one-sixteenth of an inch in thickness and was freely moveable from before backwards. The condition was not one of cloaca. The vagina and rectum were, excepting at their orifices, intact, so that the urethra, vagina, and rectum all opened into one common vulva. The vaginal and rectal tubes might be compared to the two barrels of a double-barrelled gun, the muzzles of which were seen on separating the labia. The patient was 24 years of age, had been married four years, and had had two abortions. The condition described had evidently existed from birth. It had given rise to no symptoms beyond an obstinate constipation and the unpleasantness due to the abnormality. The constipation was extremely troublesome and had probably been to some extent caused by the patient putting off the act of defecation as long as possible owing to the pain and discomfort produced. An aperient and generally an enema were necessary to procure relief. The act usually took about half an hour and caused such severe pain that the patient nearly always fainted, and it always caused hæmorrhage.

After the usual preparation I operated, the patient being anaesthetised with chloroform. I first cut through the perineum in the middle line from the posterior angle of the vulva to the normal situation of the anus. I continued the incision upwards through the fibrous tissue filling in the space between the rectum and the coccyx. I then separated the posterior wall of the rectum for about two inches. The next step was to dissect up the recto-vaginal septum, thus separating the two passages. The sides of the rectum were then separated from the surrounding tissue and the lower end of the rectum was freely moveable. I brought it backwards through the opening I had made for it in the fibrous tissue to its normal situation and sutured it with fine silk sutures posteriorly and laterally to the skin of my first perineal incision. I then again brought to the middle line the two flaps produced by the first incision to form the new perineum and sutured them together with silk sutures, deep and superficial. The posterior border of this new perineum was sutured to the anterior wall of the rectum, thus completing the new anus; and the anterior border of the new perineum was sutured to the raw surface of the posterior vaginal wall, thus completing the vagina.

The case went on very promisingly, the temperature never rising above 99.8° F. for 12 days after the operation, when constipation proved very troublesome; there had been a motion every day, but scybalous masses formed, so that chloroform was again administered and the scybala were broken

down with a Volkmann's spoon. From this time the patient made an uninterrupted recovery. The present condition is most satisfactory. There is a good, firm perineum one and a half inches long and the vagina is perfectly normal. The constipation is greatly improved and is still improving under treatment by cascara, strychnine, belladonna, and aloes. There is no hæmorrhage with defecation and the act is easily performed. There is perfect control over the bowel, so that I believe the muscular fibres of the rectum have accommodated themselves to circumstances and have undertaken the functions of a sphincter.

I publish this case as I have never seen reported, or heard of, one in which the condition of the parts was precisely similar.

Sunderland.

SOME REMARKS ON THE DIAPHRAGM.

BY ROBERT LEE, M.D. CANTAB., F.R.C.P. LOND.

ONE of the symptoms that occur frequently in influenza is pain in the back and round the lower part of the thorax. Having made observations from personal experience I have come to the conclusion that this symptom is due to some trouble affecting the diaphragm and that probably some of the symptoms which we find difficult to explain may be referred to the peculiar characters of the diaphragm and the important part which it plays in the physics of respiration. The line of pain round the thorax is that of the insertion of the diaphragm tendon, while that in the back is due probably to its connexion with the two lowest ribs and the transverse processes of the two first lumbar vertebræ. The question of interest when we are considering the diaphragm is how far the sympathetic nervous system regulates its action. The two ganglia diaphragmatica lying just above the suprarenal capsules connect the phrenic nerve with the solar plexus, and as the diaphragm is in action at all times and to a great extent independently of the will we may conclude that it differs from the muscles which are supplied only with voluntary nerves.

Another peculiar symptom of influenza is the dry and somewhat spasmodic cough, which is apparently due to a spasm of the diaphragm, and it has occurred to me that the cases of collapse or sudden death which we have been accustomed to attribute to heart-disease, though we find nothing clearly to account for them, may be due to some cramp or spasm of the diaphragm.

When we consider how vomiting, hiccough, and certain other disturbances of the thoracic and abdominal organs are apparently caused by the action of the diaphragm we may give more attention to this very important muscle than it has yet received. Some years ago, when the subject of sudden death required my attention and I had opportunities of making many post-mortem examinations for Mr. Bedford and others of Her Majesty's coroners, it was not by any means unusual to find no definite cause to account for death. Whether the diaphragm is liable to cramp and consequently respiration may be arrested suggests itself as a question worth reflecting upon, and though it is not in any way proper to theorise on such a matter we may do well to make inquiry by observation or otherwise when reason induces us.

West Kensington, W.

POTT'S DISEASE OR FRACTURE OF VERTEBRÆ?

BY W. R. TOWNSEND, M.D.

THE patient, a girl, six years of age, had an obscure history. Two years ago, when living with her grandmother, after an accident in which she fell down a flight of stairs, striking the back of her neck, a bony prominence was noticed. This was accompanied by difficult respiration and a habit of supporting her head with the hand placed under the chin. Kyphosis was marked, as shown by the accompanying illustration, the sixth and seventh cervical and the first and second dorsal vertebræ being involved. There was a depression of the upper cervical vertebræ. Dr. A. B. Judson, when the case was shown at the Section of Orthopædic Surgery at the New York Academy of Medicine,

thought that the number of the involved vertebræ pointed away from fracture and towards Pott's disease. Dr. Sayre said that although a forward position of the head in cervical Pott's disease was frequently attended by difficult breathing, he thought that the child had suffered a fracture

Pott's disease or vertebral fracture?

and recalled the case of a man who had fallen downstairs, striking the back of his head, when partial paralysis of the arm developed from pressure.

The treatment was not doubtful even if the diagnosis was not clear. The affected vertebræ should be given complete rest. This must be effected either by a plaster jacket and head-spring or by a posterior spinal support and chin-piece. The latter would be less conspicuous and give better support, with or without the addition of supports going up the back of the head, as might be determined by the progress of treatment, which should be prolonged until the disappearance of all signs of an acute condition. Ultimately the patient should carry the head erect without much deformity, as is the rule in cervical disease thus treated.

New York.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF COMPOUND SEPARATION OF THE LOWER EPIPHYSIS OF THE FEMUR; RECOVERY WITH USEFUL LIMB.

(Under the care of Mr. E. W. ROUGHTON.)

THE valuable suggestion made by Mr. Jonathan Hutchinson, jun., as to the treatment of separation of the lower epiphysis of the femur is not equally applicable to all cases. The complete replacement of the separated epiphysis effected by flexion is in part dependent on the integrity of the periosteum; if this is extensively separated or if it sloughs, then the forced flexion of the knee will not suffice to bring into apposition the displaced surfaces, and this is probably the explanation of the difficulty met with in the case recorded below. Compound separations also are less suited for this method of treatment, which is, however, highly ingenious and of the greatest service in suitable cases. For the notes of the case we are indebted to Mr. C. Sprawson, late house surgeon.

A boy, aged five and three-quarter years, was taken to the Royal Free Hospital in a collapsed state on July 28th,

1899. He had been riding on the back of a cab and had caught first his right and then his left leg between the spokes of one of the wheels. On examination there was on the left side a simple fracture in the upper third of the femur; on the right side the diaphysis of the femur was protruding to a distance of three inches through a popliteal wound about five inches in vertical length. The periosteum was stripped from this part, whilst the lower end presented the roughly stellated facet which is characteristic of an epiphyseal junction. The patient in addition was slightly concussed. The wound was purified as far as possible and the boy was admitted into the ward. Two hours later chloroform was administered in order that a more thorough examination might be made. The popliteal artery was now found to be uninjured and the arteria dorsalis pedis could be felt pulsating. With a finger in the wound the lower epiphysis could be felt to be rotated backwards, as is usual, whilst the displacement could be reduced in the manner recently described by Mr. J. Hutchinson, jun.—i.e., by right-angled traction on the leg with complete flexion of the knee. After purification of the wound and its surroundings two tubes were inserted for drainage into the wound, a dressing was applied, and the leg was bandaged in a completely flexed position, hot water-bottles and sand-bags being used to assist in propping it up. The fracture of the left femur was treated by being placed on a Mackintyre splint. On the next day (July 29th) the leg was found to have slipped from its completely flexed position to an angle of about 45 degrees with the thigh. The temperature was 102° F. and the child was slightly delirious. At this time the urine was found readily to reduce Fehling's solution, possibly an after-effect of the anæsthetic. On the 30th, the temperature being 103·6° and the patient very delirious, Mr. Roughton ordered the head to be shaved and an ice-bag to be applied. On the 31st it was evident that the wound was very septic and numerous periosteal sloughs could be seen. The child was still delirious and the leg was kept at an angle of about from 45 to 60 degrees. The flexed condition of the limb was painful if beyond 60 degrees and was difficult to maintain even at this; the displacement of the epiphysis recurred, however acute the angle. The dorsalis pedis artery could still be easily felt pulsating.

On August 1st an anæsthetic was given. The sloughs were removed as far as possible and the wound was syringed out with a 1 in 40 carbolic lotion; one drainage-tube was left in and the limb was fixed upon a posterior right-angled splint, intended originally for an anterior arm splint. The left leg was now put up upon a long Liston splint and extension was applied in order to keep the boy more steady in the bed. On the 3rd the delirium ceased although the evening temperature was still 102°. For the next few days the limb did not improve; the smell from the wound was very foul, the position of the epiphysis was not good, and the daily dressings caused the child great pain. His general condition was feeble although he took his food very well. It was evident that drainage was imperfect. On the 11th, therefore, Mr. Roughton examined the limb under an anæsthetic with a view to determine the question of amputation. Deciding to give the limb a further chance Mr. Roughton sawed off the lower half-inch of the shaft of the femur which was necrosed, and chipped off other fragments up to the line of demarcation between the dead and living bone. Much periosteal slough was removed and it was now found that the knee-joint was affected and full of pus. The whole wound was syringed out, the posterior wound was enlarged, and two anterior vertical incisions were made one on either side of the patella, drainage-tubes being passed through from these to the posterior wound. The limb was now put up in a straight position and on the next day, for the sake of convenience in dressing the wound, a long Liston splint with a bracketed interruption at the knee-joint was applied and an extension of six-pound weight was put on below the knee.

For the next week the boy seemed to be rather better, although there was still much purulent and foul discharge. On August 23rd, however, his temperature at last came down to normal, beyond which it did not rise at any later date. On Sept. 11th he was much better and smaller drainage tubes were used. These were omitted altogether a week later, when also the extension was removed from both legs and the splint was removed from the left side. The left femur was found to have united well. There was half an inch shortening of the right limb and a slight flexion, making an angle of about 155 degrees, at the knee-joint. A very small range of movement was present in