by Marchi, Biedl, and others; but there seems little doubt that it is derived from Deiters's nucleus, as was supposed by Ferrier and Turner. Some degenerated fibres reach both anterior columns of the spinal cord by way of the posterior longitudinal bundles, and terminate in the lower cervical region. Other fibres which enter the posterior longitudinal bundles have an opposite course, and were traced to the region of the quadrigeminal bodies, where they appeared to terminate. Some degenerated fibres passed from the seat of lesion across the *raphé* on the ventral side of the sixth nucleus, to terminate in the *formatio-reticularis*; others passed to the region of the opposite superior olive, some appearing to enter this structure, while others became associated with the opposite fillet, passing with its fibres to the region of the anterior corpora quadrigemina.

Section of the posterior columns and their nuclei in the medulla was performed in order to control certain of the other experiments, but no degeneration was met with other than that of the opposite fillet so clearly established by Mott, as following a lesion of the posterior column nuclei, and of fibres passing to the cerebellum in the *restiform* body.

In view of these results, the tract formerly known as the direct sensory cerebellar tract is regarded as an efferent tract from the cerebellum to Deiters's nucleus, through which nucleus the cerebellum is brought into connection with the anterior horn of the spinal cord on the same side, and to a lesser degree on the opposite side, throughout its whole length. Thus, although there is an absence of any evidence of a direct efferent tract from the cerebellum to the spinal centres, there is evidence of an indirect efferent path through Deiters's nucleus.

It appears probable that through the connections of Deiters's nucleus with the cervical cord, by way of the posterior longitudinal bundles, and with the corpora quadrigemina and superior olives, the cerebellum is brought into relationship with these centres, and that the connection thus brought about may have important bearings in regard to the movements of the head and eyes.

X RAYS: A SIMPLE METHOD OF INCREASING THE EFFICIENCY OF THE TUBES.

BY
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It is a matter of common experience with *x* ray workers that their results are vitiated by the faulty working of the tubes. The more a tube is worked the greater is the difficulty in making it fluoresce actively. Working in a warm room, or better still the application of heat to the tube itself, in some measure mitigates the trouble, but does not cure it. It has been suggested that this difficulty is due to increased electrical resistance in the tube, this resistance constantly increasing, till at last the current absolutely refuses to pass through and light up the tube, preferring to spark round outside the bulb. The possible explanation of this phenomenon is as follows: Whilst the current is passing the outside of the bulb becomes positively charged and attracts the negative particles inside, producing a polarised condition of the glass. A suggestion made by Porter seems to have been partially successful in overcoming this trouble. He surrounded the cathodal extremity of the tube with a ring of copper wire, closely approximating but not touching the glass, and attaching it to a wire either connected with the earth or to the cathodal wire. This method is fairly effective, but cumbersome. Dr. Arnold Berliner has devised an arrangement of a wooden cylinder pushed over the tube containing the cathode, moistening the inner surface with glycerine. But we have lately employed a very simple method of working, which entirely obviates these troubles. It consists in wrapping the cathodal extremity of the bulb in damp cotton wool or lint, one end of which touches and surrounds the bulb at the cathodal end, whilst the other is attached to the cathodal wire. The effect is instantaneous. A bulb that prior to the attachment of the wool had refused to light up at once became flooded with a most beautiful

blue green effulgence, the most effective form both photographically and optically.

We claim that the power of the tube is absolutely increased; that the working of the tube is constant, a large portion of the flickering being done away with; that as long as the current is passing the tube will continue to act efficiently; that it does away with the trouble of heating; that it prolongs the life of the tube, it not being necessary to have such frequent recourse to the pump.

The wool or lint cover must be carefully applied so that no loose fibres are allowed to hang round the bulb; and the anodal connection must also be carefully adjusted, no loose fibres being left to act as a brush. Given these precautions the trouble with sparking will not appear, and the general annoyance caused by the constantly increasing electrical resistance would seem to be entirely counteracted.

A successful demonstration of this method of treating bulbs was given at the Hull Medical Society on April 8th, 1897.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

PELVIC CELLULITIS FOLLOWING GONORRHOEA.

[Communicated by the DIRECTOR-GENERAL R.N.]

R. W., aged 20, was admitted on August 11th with a large venereal sore inside the prepuce, phimosis, and urethritis; circumcision was performed, and the wound healed by granulation. A month later he had an attack of cystitis and right epididymitis, which was treated by rest, irrigation of the bladder with listerine, and fomentations. On October 11th the left epididymis was affected, the inflammation involving the left cord; there was slight pyrexia.

On October 24th he complained of pain in the left iliac region, which was dull on percussion and somewhat tender; the bowels were loose, and the stools contained mucus. On examination *per rectum*, the prostate was found to be enlarged and tender. On October 26th there was hectic pyrexia. The patient now complained of very acute pain in the left iliac region, which was dull to level of umbilicus, and the left lower abdomen was distinctly prominent. The bowels were very loose, and there was a constant discharge of clear mucus *per anum*. On examination, the bowel was found to be almost occluded $2\frac{1}{2}$ inches from the anus by a rounded hard swelling on the left side, the size of a foetal head at term. Fluctuation was detected in the left scrotum. Assisted by Surgeon May, who gave ether, I opened a small abscess on the outer side of the left testis, and as the cord was very tense and swollen I extended the incision to the left internal ring; several localised collections of pus were found in the substance of the cord. As I now thought I could detect fluctuation in the left iliac fossa, I extended the incision towards the left anterior superior iliac spine, and on reaching the transversalis fascia above the internal ring a tense swelling presented; this was opened, and half a pint of pus escaped. The finger could then be passed over the iliac fossa to the brim of the true pelvis. A double drainage tube was inserted, and iodoform dressings applied. The cavity was irrigated daily and quickly closed. Five days after the operation the bladder and rectal symptoms disappeared.

HOWARD TODD,
Staff-Surgeon R.N.

FOUR CASES OF LOBAR PNEUMONIA APPARENTLY DUE TO INFECTION.

With reference to the article in the BRITISH MEDICAL JOURNAL of April 10th by Dr. A. Douglas Heath on "Three Cases of Lobar Pneumonia apparently due to Infection," the following brief history of four consecutive cases of that disease in one household within a period of eight weeks, which occurred recently in our practice, may be of interest. As in Dr. Heath's cases the facts would seem to point to the presence of an infectious or contagious agent in their causation.

C. H., aged 17, took ill on October 1st, 1896, with lobar