THE
MONTREAL MEDICAL JOURNAL.

VOL. XXXIV. APRIL, 1905. No. 4.

REGENERATION OF THE AXONES OF SPINAL NEURONES IN MAN.

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Gentlemen,—The subject I have to discuss to-day is regeneration of the axones of the spinal neurones in man. I shall deal with the results of personal observation to a large extent and have considered it expedient to make but few references to the extensive literature bearing upon the subject.

Considerable doubt as to the possibility of regeneration taking place, is widely expressed. Numerous experimenters have operated upon monkeys, dogs and other animals; but so far as I am aware—except in the recent paper by Dr. James Collier in *Brain*, where he states that immediate suture experiments upon the spinal cords of animals have shown that regeneration is possible—have failed to establish the fact that regeneration takes place in the spinal axones.

Sir William Gowers, in his text book on Diseases of the Nervous System, Vol. 1., in discussing transverse myelitis of the cord refers to the possibility of regeneration taking place, and he notes a case where at one time a very considerable destruction of the cord was present with symptoms approaching transverse division, namely, complete motor paraplegia, grave sensory disturbances, increased reflexes, bladder and rectal retention, etc. After many months a fair return of motion and sensation took place, spasticity being a marked feature. After the lapse of years the patient died from some intercurrent ailment. Pathological sections of the cord were obtained at the seat of the myelitis, and in the crossed pyramidal tracts and other areas of the cord were found a number of very minute axones in a situation where normally large nerve fibres are usually seen, and he was of the opinion that those smaller fibres were regenerated axones.

I do not know of any case in the literature in which transverse divis-

Read before the Pan-American Congress at Panama, January, 1905.