

alteration in sensation. Now, let us place two inches of mercury in the same tube, and apply it to the sciatic nerve of another dog, and we shall find that motion will be affected in from a few minutes to half an hour, while sensation will become involved in about two hours. At the end of six hours we shall find total paralysis of motion and sensation. If the tube is removed at that time, within twenty-four hours, sensation, subjective then objective, will reappear. It would be six or ten days before motion would return. It follows that if pressure was kept up for a fortnight or more recovery of motion and sensation would be extremely retarded. In all these experiments before motor paralysis or paresis supervenes the reflexes gradually diminish or become lost. All the above symptoms have been brought about simply by the pressure preventing the stimuli or trophic influences from coming down from the cell body to the muscles in the extremity, with the result that the trophic influence being interfered with, secondary changes have taken place in the muscles and paresis or paralysis developed, the reflexes have been lost, and if the condition has been prolonged, atrophy has made its appearance and electrical changes have become pronounced.

Now, let us take up the clinical signs manifested when we have pressure applied to the spinal cord, as, for instance, in cases of fracture, dislocation or pressure from a neoplasm or in pressure following Pott's disease. If pressure is exerted on the spinal column, paresis or paralysis of motion is the first to appear, and as in the peripheral nerves, if the pressure is long continued or severe in extent, the motor paresis is followed shortly by paralysis of sensation. The reflexes at first are greatly increased, and this is due to the pressure exerted upon the upper motor neurones, stimuli being prevented from coming down; the inhibitory influence is removed from the lower motor neurone, with the result that tone is increased in the muscles, and we therefore have increased knee jerks. But if the pressure completely cuts off all the influences of the upper motor and sensory neurones, we have loss of the reflexes, but no alteration to faradic irritability. What is the explanation of this loss of the reflexes? Here we still have the lower motor neurones below the seat of the pressure in a more or less apparent healthy state, and one would expect that tone would be still present, if not increased. The reason for the loss of the reflexes cannot be definitely proven, but Ferrier's theory is, I think, the correct one. He points out that in the lower forms of life the nerve centres are more or less isolated and independent units. We find that the higher we go in the scale the fusion of the nerve units takes place, and the functions become more complex as compared with the simpler forms of lower animal life. Ferrier points out that even in the monkey the animal