

cylinder processes with its terminals, represent all taken together integral parts of a single cell of the body, a single neurone. It is not easy, therefore, to think of an injury to a nerve fibre without assuming alteration in the structure and function of the whole neurone of which the axone of the fibre forms a part. Experiments on unicellular organisms, *e.g.*, a *moebæ*, have shown that injury to one portion of the protoplasm leads to disturbances in the vital manifestations of the whole of the cell. If this be the case in what we are accustomed to look upon as simple, more or less undifferentiated protoplasm, it would not be surprising to find that injury to any portion of the nerve cell, which represents, from the standpoint of irritability, the cell in the animal kingdom most highly differentiated, results in disturbances of metabolism and functional activity through all parts of the unit. We are not without experimental evidence upon this point. Neisser has shown that if a peripheral nerve be cut, in addition to the Wallerian degeneration in the distal ends, and the changes demonstrated by Bregman, Darkschewitsch, Marinesco, and others in the central ends of the nerve fibres, that also, very early, definite changes occur within the cell bodies of the corresponding neurones. Even if the nerve be not cut through, but be simply injured by the application of the chemical substances, *e.g.*, common salt, nearly all the cell bodies of the central nucleus giving rise to the fibres injured show within twenty-four hours distinctly recognizable alterations. These alterations consist in a modification in the appearance of the substances within the protoplasm of the cell body, which stain of a deep blue color by Neisser's method. There is some evidence, too, that injury to the dendrites of a given nerve cell will affect the whole neurone deleteriously, and, of course, injuries to the cell body itself are always followed by retrogressive processes in both dendrites and axone. One portion of a neurone, therefore, cannot be injured without influencing materially the health of the whole nerve unit. Inasmuch as an anterior horn cell with its protoplasmic processes, its axone running out through the anterior root to form the axis cylinder of a motor nerve fibre, together with the collaterals and terminals which come off from the latter, all represents part of one neurone, it would not be surprising if in peripheral neuritis affecting especially the motor nerves that there should sometimes be symptoms referable to intra-medullary disturbances. That permanent lesions of the spinal cord are not more common than they are after neuritis is not, however, surprising when one recalls the regenerative power of the neurone. As long as there is no absolute interruption of the continuity of the axone, or if there has been interruption and the subsequent conditions permit a re-establishment of the connections between the axone and its corresponding peripheral organ, there may be a complete *restitutio ad integrum* of the central parts of the neurone,