

*With compliments of the author*

SECTION IV., 1907.

(8)

TRANS. R. S. C

I.—*The Influence of Electrolysis on the Nerve Centres.*

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(Read May 14, 1907.)

In 1854, when a student at McGill University, my attention was directed to the marvellous operations of the nervous system, since which time I devoted spare hours to the problems of this intricate structure. Tear and wear are the result of both mental and physical strain, at no time more marked than in the present century. For many years I applied electricity in the ordinary way, frequently with beneficial results, without knowing exactly the why or the wherefore.

The power of the galvanic current to decompose water was discovered, the first described by Nicholson and Carlisle in 1800. In 1806 Sir Humphrey Davy presented to the Royal Society a lecture on some chemical agencies of electricity, and the following year announced the discovery of the decomposition of the fixed alkalis. The phenomena of electrolysis are due to a modification, by the current, of the chemical affinity of the particles through which the current passes, causing them to undergo decomposition and recombination. In the electrolysis of inorganic substances, it cannot be expected to solve the mysteries of life and disease. As the body is largely composed of water, holding in solution salts of potash and soda, it thus becomes an excellent electrolyte. The current of a dry battery transmitted by an ordinary neurotone, is the simplest and most efficient method of electrical application. The umbilicus may be considered the storm centre, as far as collateral influence on the sympathetic system is concerned, as here the solar plexus approaches nearest the surface through its many *filaments*, which in turn accompany all the branches given off the abdominal aorta. It also interlaces with the nerve fibres of the phrenic plexuses, gastric, hepatic, and splenic plexuses, supro-renal plexuses, renal plexuses, superior mesenteric plexus, spermatic plexuses, and inferior mesenteric plexuses. Although according to Bastion a wide basis of positive knowledge does not exist, it is accepted that the sympathetic system of nerves, with its double ganglionated cord and great ganglionic plexuses, is to a certain extent an independent nervous system, penetrating deeply by its roots