

THE INFLUENCE OF THE NERVOUS SYSTEM ON CELL LIFE (METABOLISM).*

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In a paper entitled "A Physiological Basis for an Improved Cardiac Pathology," read in abstract in August, 1887, before the Canada Medical Association, I endeavored to show the relation of the cardiac nerves to the nutrition of the heart; but the subject grew as I proceeded with its study, so that I perceived that the theory I applied to the heart was equally true of the other organs and tissues. In that paper, which was published in the *New York Medical Record* of October 22nd, 1887, I advanced a large number of facts derived from common experience, physiological experiment, pathology, and clinical medicine, in favor of what I termed a theory of *constant neuro-trophic influence*.

Briefly, this theory was to the effect that in mammals, if not also in some lower groups of vertebrates, the nutritive processes are all under a *constant* regulative influence by the nervous system, in the sense that they are so dependent upon this influence that they do not, and would not, go on without it. It was also pointed out that function was not a thing totally distinct and alone regulated by the nervous system, but that function was only one *phase* of a general metabolism, and was no more under the influence of the nervous centres than the other less recognized phases.

A year's additional study of the subject has convinced me more than ever of the necessity of widening our views of the relation of the various organic processes, so that instead of terming the theory, I would offer for your consideration one setting forth a constant neuro-trophic influence, I would replace it by the expression *constant neuro-metabolic influence*, as it implies a wider and truer conception of the subject, as I view it; and I am not sure but that it would be well to abandon the term "nutrition" altogether, or, if not, certainly to define it afresh.

* Read before the section in Physiology of the Congress of American Physicians and Surgeons, at its first annual meeting, September, 1888.