

general functional activity of sensory and motor nerves. He has, on the principle "*entia non sub multiplicanda*," been more inclined to adopt the latter view, and to regard, with Sigmund Mayer and Dr. Seguin, the muscles, nerves, and anterior cornua as forming together a functional and nutritive unity. In combination these structures exhibit what we call normal laws of reaction and nutrition; but when separated they are reduced, each to its own independent vitality, and exhibit the changes which we are accustomed to call those of degeneration, characterized by the retrogression of the more highly organized, and proliferation of the less highly organized structures. The recent important researches of Gaskell have thrown new light on the structure and functions of the nervous system, more especially the nerves which innervate the walls of the bloodvessels and the hollow viscera. There are two sets of nerves possessing diametrically opposite functions. One set, *katabolic*, excite activity and cause waste; the other set, *anabolic*, inhibit activity and promote repair. It may be that the inhibitory or anabolic influence is not, like the katabolic or motor, the direct result of nerve stimulation, but only a question of interference of nerves alike in function. But if the facts cannot be so explained, then there would appear to be (in the case of the muscles of organic life at least) a system of nerves which would be properly called trophic. Whether this differentiation of nerves obtains also among the muscles of animal life is a point which has not been, as yet, determined. He is of the opinion that more light will be thrown on this subject by the researches on thermal or heat centres now being actively pursued, and on which Dr. H. C. Wood and Dr. Ott have given us valuable instructions. The question is whether there are nerve centres which influence and regulate the production of animal heat, apart from those which are related to motion and sensation. Many facts have been adduced in favor of this proposition, but, he thinks, much will have to be done before we can regard it as proved. The muscles are the chief foci of heat production in the body. He should therefore argue that the centres of heat-production must be coextensive with those which minister to the