

consensus of many mechanical, physical, and chemical processes in the living organism does exist, but it can only be answered by attacking it from all sides and reducing it to ever narrower issues. The stronghold in which life is intrenched is to be conquered by surrounding it on all sides by the attacking forces of dynamics, physics, and chemistry. It will have to yield some day, though that day may be far off. The number of those who treat biology in this way has increased very much ever since Descartes,¹ and still more Lavoisier, applied

¹ The claims of Descartes to be considered as one of the founders of modern physiology are put forward by Huxley in several of his addresses, notably in that of 'On Descartes' Discours,' &c., 1870 ('Lay Sermons,' &c., p. 279); and in that on 'The Connection of the Biological Sciences with Medicine,' 1881 ('Science and Culture,' p. 325). In the latter address he says: "Now the essence of modern, as contrasted with ancient, physiological science, appears to me to lie in its antagonism to animistic hypotheses and animistic phraseology. It offers physical explanations of vital phenomena, or frankly confesses that it has none to offer. And, so far as I know, the first person who gave expression to this modern view of physiology, who was bold enough to enunciate the proposition that vital phenomena, like all the other phenomena of the physical world, are, in ultimate analysis, resolvable into matter and motion, was René Descartes. . . . And as the course of his speculations led him to establish an absolute distinction of nature between the material and the mental worlds, he was logically compelled to seek for the explanation of the phenomena of the material world

within itself" (p. 335). It is interesting to contrast with this announcement of the banishment of the animistic aspect from modern physiology what Prof. Bunge says in the introductory chapter to his well-known 'Text-book on Physiological and Pathological Chemistry' (Engl. transl. by Woolridge, 1890): "The mystery of life lies hidden in activity. But the idea of action has come to us, not as the result of sensory perception, but from self-observation, from the observation of the will as it occurs in our consciousness, and as it manifests itself to our internal sense" (p. 7). "Physiological inquiry must commence with the study of the most complicated organism, that of man. Apart from the requirements of practical medicine, this is justified by the following reason, which leads us back to the starting-point of our remarks: that in researches upon the human organism we are not limited to our physical senses, but also possess the advantage afforded by the 'internal sense' or self-observation" (p. 11). "The essence of vitalism does not lie in being content with a term and abandoning reflection, but in adopting the only right path of obtaining knowledge, which is possible, in starting