

crusade was accordingly started in Germany by philosophers, as well as by naturalists and biologists, against the vitalists—those who believed in a special principle of life; and an impression was created in the minds of thinking outsiders that a purely mechanical explanation of life and mind was finally decided on, and within possible reach. Among those who assisted in bringing about this impression, I need only single out two names—those of Hermann Lotze,¹ the philosopher of Göttingen, and of

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Lotze and
Du Bois-
Reymond.

¹ The position which Lotze occupies in the history of the conceptions of life or of vitalism is peculiar. If we read works dealing specially with the history of medicine, such as those of Haeser or Hirsch, we do not come across the name of Lotze at all, and it is only in quite recent times, fifty years after the appearance of Lotze's writings dealing with vitalism, that experts in physiology have reverted to his discussion of the subject. See notably the following: 1. Rauber, "Formbildung und Formstörung in der Entwicklung von Wirbelthieren" ('Morphol. Jahrbuch,' Band vi.), 1880. 2. Wilhelm Roux, "Einleitung zu den Beiträgen zur Entwicklungsmechanik des Embryo," 1885 (reprinted in 'Gesammelte Abhandlungen,' vol. ii. p. 11, Leipzig, 1895). 3. O. Hertwig, 'Zeit und Streitfragen zur Biologie' (Heft 2, Jena, 1897), pp. 23-29. 4. Carl Hauptmann, 'Die Metaphysik in der modernen Physiologie' (Jena, 1894), p. 3. These and many other recent references go back to Lotze's article, "Leben und Lebenskraft," in Rud. Wagner's 'Handwörterbuch der Physiologie,' 1842; and to his larger publications, 'Allgemeine Pathologie und Therapie als mechanische Naturwissenschaften' (Leipzig, 1842), and 'Allgemeine Physi-

ologie des Körperlichen Lebens' (Leipzig, 1867). The reasons why Lotze's expositions were so little regarded at the time were probably twofold. He taught that the phenomena of life constituted a mechanical problem. This was enough to dismiss in the eyes of many empirical naturalists the further, but not easily comprehended, statement of Lotze that life was not merely a mechanical problem. The definition and solution of the second part of the problem was much more difficult, and Lotze delayed his expositions on this side of the question for ten years, when he published his 'Medicinische Psychologie oder Physiologie der Seele' (1852), which contained a metaphysical introduction apparently little in harmony with the supposed purely mechanical or even materialistic standpoint of his earlier writings. In the meantime several important works had appeared which carried out in wider or narrower regions the purely mechanical or inductive and experimental treatment, and quite revolutionised physiological and medical studies. I need only mention such works as Jacob Henle's 'Allgemeine Anatomie' (1840), and his 'Handbuch der rationellen Pathologie' (1846-53). Henle, as von Kölliker