

question was definitely settled and the road quite clear for research. To those—and they comprised the second class of thinkers referred to above—who were unwilling or unable to follow Lotze and Du Bois-Reymond into the details of their criticism of the illogical conception of force as employed in the term “vital force,” but who looked at the great facts of economy, design, and recurrent order which are exhibited in the living creation, these criticisms had little that was convincing. If the term “vital force” was illogical, some other term such as “vital principle” might be substituted. The enormous difference between the phenomena of living and of dead matter remained and impressed itself on them. Liebig, and many naturalists in France and Germany, had approached the study of nature from the practical side. Their methods were not mathematical but rather experimental, and very frequently not limited to the laboratory and dissecting-room, but carried out in the workshop of nature itself. In spite of his successful attempts to establish clearer views regarding the economic processes of living nature and the application of chemical analysis, Liebig<sup>1</sup> to the end

the mystery which attaches to all beginnings as well as to the great transitions in the ascending scale of natural phenomena being further emphasised and forcibly driven home in the last-named address, which, as has been said, bears the title “The Seven Enigmas.” The three deliverances of Du Bois-Reymond, together with the copious notes and references which he gives in the latest reprint, serve as a very good and lucid exposition of the inherent difficulties of the problem, and should

be studied by every one who desires to be at home in the ancient and modern literature of the subject. The position of the author has been many times criticised. See, *inter alia*, Kaufmann, ‘Die Metaphysik in der modernen Biologie’ (Jena 1894), *passim*.

<sup>1</sup> Lord Kelvin in his essay “On the Dissipation of Energy” (reprinted in ‘Popular Lectures,’ &c., vol. iii. p. 464) has the following interesting note: “The influence of animal or vegetable life on matter is infinitely beyond the range of any scientific