

and Du Bois-Reymond¹ did not do away with this very evident property of living things, but only maintained

mann ('Die Metaphysik in der Physiologie,' 1894, p. 7): "However convincingly Lotze destroyed the conception of a vital force, he had no desire to criticise in a similarly destructive manner the principle of a soul, though both have grown up in the same climate, in the fertile country where substances blossom, &c. . . . And although he emphatically, and in many ways, urged that all organism is a definite form and arrangement of mechanism, he nevertheless accorded to the principle of inherent disturbances (soul, will) a partial control over the functions of the animal body," &c. Accordingly this view set only the physiology of plant-life quite free for a purely mechanical treatment, which it received—after the suggestive beginnings made by Schleiden—mainly at the hands of Julius Sachs, from whose 'Lectures on Plant Physiology' (1887) Kaufmann gives the following very characteristic extract: "The organism is only a machine put together out of different parts; . . . in a machine, even if only made by human hands, there lies the result of deepest and most careful thought, and of high intelligence, so far as its structure is concerned," &c. (p. 623).

¹ The two great facts which stare every unbiassed student of nature in the widest sense in the face, and which always upset a purely mechanical view, are Purpose and Will. Lotze recognises both, and in all his writings never forgets or ignores them. Naturalists, who for the nonce are deeply interested and fully absorbed in the analysis of some definite organ, or some special chemical power in the organism, may usefully ignore

these two facts, of which the first only intrudes itself if we rise to a general, a comprehensive aspect; the second is a result of individual experience. Nor did Du Bois-Reymond ignore these facts. It is interesting to see how he deals with them in his earlier and later writings. In the earlier period he eliminates the problem of free will as not a scientific problem at all, and gets over the question of purpose by a reference to the evident existence of purpose in inanimate nature also,—an idea which really comes ultimately back to an assumption of a general animation of the whole of nature, such as has been maintained by many philosophers and naturalists in very various forms. See, for instance, the further remarks of Julius Sachs in the passage quoted above. But there is no doubt that this method of viewing the teleology of nature did not really satisfy Du Bois-Reymond, for in the reprint of his paper on vital force he refers to it as superficial ('Reden,' vol. ii. p. 26), having in the meantime adopted the explanation of Darwin, whose "highest title to glory" will, "so long as philosophy of nature exists," be this, that he to "some extent allayed the agony of the intellect that ponders over the problems of existence" ('Reden,' vol. i. p. 216). In 1887 he holds that what he wrote as late as 1859, before the appearance of the 'Origin of Species'—for instance his celebrated Éloge of Johannes Müller—is antiquated, though it still gives a valuable picture of the "tormenting confusion of those who could not free themselves from the embarrassing fetters of the fixity of species, the incompleteness of the palæontological records, and, more than all,