

It is true that not all parts of a higher organism are subject to this continued change, but those that are not—such as the skeleton of an animal or the trunk of a tree—are automatically deposited by the living organism for the purpose of external or internal support, protection, or communication. They are the permanent mechanism by which the economy and administration of the society of living units or cells are kept up. These it has been possible, in many instances, to analyse into stable chemical compounds, which have been reproduced in

logie' (Jena, 1894, neue Aufl.), especially the last chapter. Still more recent is the very careful analysis contained in the new edition of Mr Spencer's 'Biology,' notably vol. i. p. 111 *sqq.* The final conclusion arrived at by these two latest philosophers has much in common. Both strive after a dynamic conception of life; both confess that such is at present unattainable—a desideratum, not an achievement. Hauptmann says (p. 386): "The most primitive life, from which alone the living world on this earth can have sprung, can only be assumed to be a species the members of which varied in manifold ways and propagated themselves. Here we have to do already with an eminently complex interaction of elementary processes. . . . We still absolutely lack every conception of such a dynamical system. . . . Likewise the origin of the simplest living substance is mechanically quite unknown and uncomprehended. . . . The individual forms of life stand in the midst of a yet unintelligible higher order of the material world." Similarly Mr Spencer (*loc. cit.*, p. 120): "We are obliged to confess that life in its essence cannot be conceived in physico-chemical terms. The required principle of activity,

which we found cannot be represented as an independent vital principle, we now find cannot be represented as a principle inherent in living matter. If, by assuming its inherence, we think the facts are accounted for, we do but cheat ourselves with pseudo-ideas. . . . It needs but to observe how even simple forms of existence are in their ultimate nature incomprehensible, to see that this most complex form of existence is in a sense doubly incomprehensible. . . . While the phenomena (of life) are accessible to thought, the implied noumenon is inaccessible, . . . only the manifestations come within the range of our intelligence, while that which is manifested lies beyond it" (p. 122). There seems ample evidence that under different forms of words Claude Bernard and Du Bois-Reymond, in his later writings, arrived at similar conclusions. See 'La Science Expérimentale,' p. 210, and "Die sieben Welträthsel" ('Reden,' vol. i. p. 381). "The mystery is the more profound the more it is brought into contrast with the exact knowledge we possess of surrounding conditions" (Prof. Burdon Sanderson, 'Brit. Assoc. Report,' 1889, p. 614).