

in passing that his theory of life can have no more validity than the first principles of his philosophy in general have. This consideration, however, is not pushed against Spencer in our examination of what he holds in regard to the nature of life in general.

That our examination may be the more intelligent it may be well to give Spencer's definition in its various forms. Life, he says, is "correspondence with environment." This is the shortest form of the definition, and seems to be the one which Drummond draws chiefly upon. Again, life is "the continued adjustment of internal and external relations." This is the form of the definition chiefly criticised by Birks. The most complete form of the definition is as follows: "Life consists in a definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external co-existences and sequences." In our examination we desire to keep chiefly in view this last form of the definition. In it Spencer expresses his doctrine most fully; and we shall endeavour to discover the meaning of this phraseology, which seems to be so painfully technical that it resembles a well-built ironclad.

In the first place, we remark that Spencer's doctrine assumes that vital force is in no important respect different from mechanical or chemical force. Before the doctrine of his definition is made good he must establish the doctrine of the correlation of physical and vital forces. He seems to assume this correlation and thus deny what is really the essential nature of vital phenomena as distinct from physical. Many eminent scientific men, who are not in sympathy with the Christian religion, reject altogether the doctrine of correlation and maintain that, although there may be a certain physical basis of life and a distinct working of chemical forces in connection with vital phenomena, yet life is something more than, and something different from, anything merely physical or chemical. The chemical structure of living protoplasm and this protoplasm at the very moment life is separated from it is precisely the same; yet the one is so different from the other that it cannot be properly put in the same category. That which is living has in it something that enables it to resist the natural play of mere chemical