

origin of the whole tribe during the course of enormous periods of time.

Upon the ground of embryological records, therefore, we can with full assurance maintain that all many-celled, as well as single-celled, organisms are originally descended from simple cells; connected with this, of course, is the conclusion that the most ancient root of the animal and vegetable kingdom was common to both. For the different primæval "original cells" out of which the few different main groups or tribes have developed, only acquired their differences after a time, and were descended from a common "primæval cell." But where did those few "original cells," or the one primæval cell, come from? For the answer to this fundamental genealogical question we must return to the theory of plastids and the hypothesis of spontaneous generation which we have already discussed (vol. i. p. 327).

As was then shown, we cannot imagine *cells* to have arisen by spontaneous generation, but only *Monera*, those primæval creatures of the simplest kind conceivable, like the still living *Protamœbæ*, *Protomyxæ*, etc. (vol. i. p. 186, Fig. 1). only such corpuscles of mucus without component parts—whose whole albuminous body is as homogeneous in itself as an inorganic crystal, but which nevertheless fulfils the two organic fundamental functions of nutrition and propagation—could have directly arisen out of inorganic matter by autogeny at the beginning (we may suppose) of the Laurentian period. While some *Monera* remained at the original simple stage of formation, others gradually developed into cells by the inner kernel of the albuminous mass becoming separated from the external cell-substance. In others, by differentiation of the outermost layer of the cell-substance, an external