

to trace the first origin of all individual groups of organisms, as well as their totality, to a single common species of Moneron which originated by spontaneous generation (vol. i. p. 343). The multiple, or *polyphyletic*, hypothesis of descent, on the other hand, will assume that several different species of Monera have arisen by spontaneous generation, and that these gave rise to several different main classes (tribes, or phyla) (vol. i. p. 348). The apparently great contrast between these two hypotheses is in reality of very little importance. For both the monophyletic and the polyphyletic hypothesis of descent must necessarily go back to the Monera as the most ancient root of the one or of the many organic tribes. But as the whole body of a Moneron consists only of a simple, formless mass, without component particles, made up of a single albuminous combination of carbon, it follows that the differences of the different Monera can only be of a chemical nature, and can only consist in a different atomic composition of that mucous albuminous combination. But these subtle and complicated differences of mixture of the infinitely manifold combinations of albumen are not appreciable by the rude and imperfect means of human observation, and are, consequently, at present of no further interest to the task we have in hand.

The question of the monophyletic or polyphyletic origin will constantly recur within each individual tribe, where the origin of a smaller or of a larger group is discussed. In the vegetable kingdom, for example, some botanists will be inclined to derive all flowering plants from a single form of fern, while others will prefer the idea that several different groups of Phanerogama have sprung from several different groups of ferns. In like manner, in the animal kingdom,