

their succession, in possession of which we may return to attack the mystery of their origin.

First, it must strike every observer that there is a great sameness of plan throughout the whole history of marine invertebrate life. If we turn over the pages of an illustrated textbook of geology, or examine the cases or drawers of a collection of fossils, we shall find extending through every succeeding formation, representative forms of Crustaceans, Mollusks, Corals, etc., in such a manner as to indicate that in each successive period there has been a reproduction of the same type with modifications; and if the series is not continuous, this appears to be due rather to abrupt physical changes; since sometimes, where two formations pass into each other, we find a gradual change in the fossils by the dropping out and introduction of species one by one. Thus, in the whole of the great Palæozoic Period, both in its Fauna and Flora, we have a continuity and similarity of a most marked character.

It is evident that there is presented to us in this similarity of the forms of successive faunas and floras, a phenomenon which deserves very careful sifting as to the question of identity or diversity of species. The data for its comprehension must be obtained by careful study of the series of closely allied forms occurring in successive formations, and the great and undisturbed areas of the older rocks in America seem to give special facilities for this, which should be worked, not in the direction of constituting new species for every slightly divergent form, but in striving to group these forms into large specific types.¹

There is nothing to preclude the supposition that some of the groups mentioned in the note are really specific types, with

¹ The Rynchonellæ of the type of *R. plena*, the Orthids, of the type of *O. testudinaria*, the Strophomenæ of the types of *S. alternata* and *S. Rhomboidalis*, the Atrypæ of the type of *A. reticularis*, furnish cases in point among the Brachiopods.