

II. Progress from the simple to the complex or the more specialized; animal life, commencing with Protozoans, the simplest of species, without special organs of any kind — Radiolarians, the minute, silica-secreting, Rhizopod-like kinds, having been reported (1894) from rocks of Archæan time — and becoming displayed in a few comprehensive structural types, the simpler forms of which appeared in early time, and the more complex successively afterward; the new organs required in the highest manifestations of a type being only developments through modification of the older, or better appliances evolved from the structure for carrying forward old processes.

III. The succession under a type parallel to some extent with the embryonic stages in related living species, part of the early life of the globe representing in some points the embryonic or young life of to-day.

IV. Early types, often a combination of two or more types that were afterward differentiated, that is, became separate, independent branches in the system; synthetic types of Agassiz, comprehensive and generalized types of others.

V. The earlier species under a type often multiply in structure, and losing this feature with rise in grade (pages 421, 437, 486).

VI. The culmination of types, followed by degeneration, and often extinction, at various times along the successive eras.

VII. In the degeneration of a type, often a partial return to some of its early characteristics.

VIII. The Animal kingdom, one in system from the beginning, — the grander divisions of modern time being, to a large extent, those of the earliest Paleozoic (page 486), and some Paleozoic genera still having their species. The facts prove unity in system of life as well as in organic and physical law.

IX. A headward concentration or cephalization of the structure attending generally a rise in grade, and the reverse, or decephalization, a decline.

X. The localization of tribes in time, or chronographically, involved in the physical progress of the earth, that is, in its progressing climates, and its conditions as to water and land. As now there are different zones, and various localizations of species on going from the equator to the poles, so there were necessarily successive phases and increasing diversity in the life of the world on passing from the warm conditions and nearly universal seas of early time to the present age of frigid polar regions and greatly differentiated seas and lands.

*Evidence with reference to evolution by variation.* — The propositions above stated read like the heads in an argument for the evolution of the kingdoms of life. They were so recognized many years before Darwin's first publication on this subject. Most of them were used by Agassiz in his lectures on *development*, — by which he meant evolution; and evolution based on paleon-