

or necessary reference to either embryonic development or succession in time, as the Chambered Cephalopoda. Such types I call *progressive types*.<sup>1</sup>

Again, a distinction ought to be made between prophetic types proper and what I would call *synthetic types*, though both are more or less blended in nature. Prophetic types proper, are those which in their structural complications lean towards other combinations fully realized in a later period, while synthetic types, are those which combine, in a well balanced measure, features of several types occurring as distinct, only at a later time. Sauroid Fishes and Ichthyosauri are more distinctly synthetic than prophetic types, while Pterodactyles have more the character of prophetic types; so are also Echinocrinus with reference to Echini, Pentremites with reference to Asterioids, and Pentacrinus with reference to Comatula. Full illustrations of these different cases will yet be needed to render obvious the importance of such comparisons, and I shall not fail, in the course of this work, to present ample details upon this subject. Enough, however, has already been said to show, that the character of these relations among animals of past ages, compared with those of later periods or of the present day, exhibits more strikingly than any other feature of the animal kingdom, the thoughtful connection which unites all living beings, through all ages, into one great system, intimately linked together from beginning to end.

## SECTION XXVII.

### PARALLELISM BETWEEN THE STRUCTURAL GRADATION OF ANIMALS AND THEIR EMBRYONIC GROWTH.

So striking is the resemblance of the young of higher animals to the full-grown individuals of lower types, that it has been assumed by many writers that all the higher animals pass, during the earlier stages of their growth, through phases corresponding to the permanent constitution of the lower classes. These suppositions, the results of incomplete investigations, have even become the foundation of a system of philosophy of Nature, which represents all animals as the different degrees of development of a few primitive types.<sup>2</sup> These views have been too generally circulated of late, in an anonymous work, entitled "*Vestiges of Creation*," to require

<sup>1</sup> ACABEZ, (L.) On the Difference between Progressive, Embryonic, and Prophetic Types, etc., Proc. Am. Ass. Adv. Sc., Cambridge, 1849, p. 432.

<sup>2</sup> LAMARCK, q. a., p. 26. — DuMAILLET, (Pseu-

don. TELLAMÉD,) Entretiens d'un Philosophe indien avec un missionnaire français, Amsterdam, 1748, 2 vols. 8vo. — OKEN, (LOR.) Lehrbuch der Natur-Philosophie, q. a., p. 18. — The Vestiges of Creation, etc.