ly diagnosed by an extension of the abdominal or caudal region, or by a conversion of some of the parts about the head to uses which serve the vegetative rather than the animal functions. Thus the elongated serpent is inferior to the abbreviated turtle; and, in another class, the elongated lobster ranks below the shortened crab.

In each class forms may be selected as ordinal types. In the class of mammals we have *man*, the *monkey*, the *bat*, the *lion*, the *deer*, the *hippopotamus*, and the *whale*, as the expression of so many different ideas in a graduated series. In another class we have *crabs*, *lobsters*, *trilobites*, *lerneans*, and *wheel-animalcules* as a portion of a graduated series of forms expressed under the articulated type. The orders of each class may be regarded as the embodiments of a series of divine conceptions. They constitute a distinct succession of ideas recognizable in a fixed order as the mind glances over the series of organic beings.

Turn now to those wonderful and mysterious evolutions through which every animal goes in passing from the condition of an egg to that of an adult being. We find here expressed the same successions of ideas as in the gradations of adult animals. I have said that aquatic forms stand below terrestrial—the aquatic fishes below the terrestrial reptiles. Now the fish-like tadpole is the embryonic condition of the frog, the toad, and the salamander. In the development-history of these animals, then, the idea of a swimmer and a water-breather is antecedent to that of a land-dweller and air-breather, just as the fish and the whale come before the air-breathing mammal in the ascending grades of being. But what is most astonishing is the fact that *all* vertebrates, *even man himself*, exhibit at one stage of their existence a structural adaptation for the low and fish-like mode of respiration, and by degrees assume the characteristics of higher and higher orders till their