

SECTION III.

ZOÖLOGICAL IMPORTANCE OF EMBRYOLOGY.

318. As a general result of the observations which have been made, up to this time, on the embryology of the various classes of the Animal Kingdom, especially of the vertebrates, it may be said, that the organs of the body are successively formed in the order of their organic importance, the most essential being always the earliest to appear. In accordance with this law, the organs of vegetative life, the intestines and their appurtenances, make their appearance subsequently to those of animal life, such as the nervous system, the skeleton, &c.; and these, in turn, are preceded by the more general phenomena belonging to the animal as such.

319. Thus we have seen that, in the fish, the first changes relate to the segmentation of the yolk and the formation of the germ, which is a process common to all classes of animals. It is not until a subsequent period that we trace the dorsal furrow, which indicates that the forming animal will have a double cavity, and consequently belong to the division of the vertebrates; an indication afterwards fully confirmed by the successive appearance of the brain and the organs of sense. Later still, the intestine is formed, the limbs become evident, and the organs of respiration acquire their definite form, thus enabling us to distinguish with certainty the class to which the animal belongs. Finally, after the egg is hatched, the peculiarities of the teeth, and the shape of the extremities, mark the genus and species.

320. Hence the embryos of different animals resemble each other more strongly when examined in the earlier stages of their growth. We have already stated that, during