

*vegetative or intestinal layer* (hypoblast), is originally the entoderm of the Gastræa; out of it develops the inner membrane (epithelium) of the intestinal canal and its glands. (Compare my Monograph of the Calcareous Sponges, vol. i. p. 466, etc.)

By ontogeny we have already gained five primordial stages of development of the animal kingdom: (1) the Moneron; (2) the Amœba; (3) the Synamœba; (4) the Planæa; and (5) the Gastræa. The former existence of these five oldest primary forms, which succeeded one another, and which must have lived in the Laurentian period, follows as a consequence of the biogenetic principle; that is to say, from the parallelism and the mechanico-causal connection of ontogenesis and phylogenesis. (Compare vol. i. p. 309.) In our genealogical system of the animal kingdom we may class all these animal forms, long since extinct, and, which on account of the soft nature of their bodies could leave no fossil remains, among the tribe of Primæval animals (Protozoa), which also comprises the still living Infusoria and Gregarinæ.

The phyletic development of the six higher animal tribes, which are all derived from the Gastræa, deviated at this point in two directions. In other words, the *Gastræads* (as we may call the group of forms characterized by the Gastræa-type of structure), divided into two divergent lines or branches; the one branch of Gastræads gave up free locomotion, adhered to the bottom of the sea, and thus, by adopting an adhesive mode of life, gave rise to the *Protascus*, the common primary form of the *Animal-plants* (Zoophyta). The other branch of the Gastræads retained free locomotion, did not become adherent and later on