

(vegetative or gastral) mass. Whether there still exist representatives of this group is uncertain. Their former existence is undoubtedly proved by the two exceedingly important ontogenetic animal forms which we have already described as *Planula* and *Gastrula*, and which still occur as a transient stage of development in the ontogeny of the most different tribes of animals. Corresponding to these, we may, according to the biogenetic principle, assume the former existence of two distinct classes of *Blastularia*, namely, the *Planæada* and *Gastræada*. The type of the *Planæada* is the *Planæa*—long since extinct—but whose historical portrait is still presented to us at the present day in the widely distributed *ciliated larva* (*Planula*). (Frontispiece, Fig. 4.) The type of the *Gastræada* is the *Gastræa*, of whose original nature the mouth-and-stomach larva (*Gastrula*), which recurs in the most different animal tribes, still gives a faithful representation. (Frontispiece Fig. 5, 6.) Out of the *Gastræa*, as we have previously mentioned, there were at one time developed two different primary forms, the *Protascus* and *Prothelmis*; the former must be looked upon as the primary form of the *Zoophytes*, the latter as the primary form of *Worms*. (Compare the enunciation of this hypothesis in my *Monograph of the Calcareous Sponges*, vol. i. p. 464.)

The *Animal-plants* (*Zoophyta*, or *Cœlenterata*) which constitute the second tribe of the animal kingdom, rise considerably above the primitive animals in the characters of their whole organisation, while they remain far below most of the higher animals. For in the latter (with the exception only of the lowest forms) the four distinct functions of nutrition—namely, digestion, circulation of the blood, respiration, and excretion—are universally accomplished by