

as in Sea-nettles, proceeds from the Gastrula. (Compare the Ascula of the calcareous sponge on the Frontispiece, Fig 7, 8.) For after the Gastrula of zoophytes has for a time swum about in the water it sinks to the bottom, and there adheres by that pole of its axis which is opposite to the opening of the mouth. The external cells of the ectoderm draw in their vibrating, ciliary hairs, whereas, on the contrary, the inner cells of the entoderm begin to form them. Thus the Ascula, as we call this changed form of larva, is a simple sack, its cavity (the cavity of the stomach or intestine) opening by a mouth externally, at the upper pole of the longitudinal axis (opposite the basal point of fixture). The entire body is here in a certain sense a mere stomach or intestinal canal, as in the case of the Gastrula. The wall of the sack, which is both body wall and intestinal wall, consists of two layers or coats of cells, a fringed *entoderm*, or gastral layer (corresponding with the inner or vegetative germ-layer of the higher animals), and an unfringed exoderm or dermal layer (corresponding with the external or animal germ-layer of the higher animals). The original *Protascus*, a true likeness of which is still furnished by the Ascula, probably formed egg-cells and sperm-cells out of its gastral layer.

The Protascads—as we will call the most ancient group of vegetable animals, represented by the Protascus-type—divided into two lines or branches, the Spongiæ and the Sea-nettles, or Acalephæ. I have shown in my Monograph of the Calcareous Sponges (vol. i. p. 485) how closely these two main classes of Zoophytes are related, and how they must both be derived, as two diverging forms, from the Protascus-form. The primary form of Spongiæ, which I