the acontia. During maturity the reproductive organs lie in the supporting plate composed of connective tissue. They form follicles of spermatozoa in the male, separate ova in the female, and both together in hermaphrodite individuals; the youngest ova lie in the endodermal epithelium, which therefore represents the germinal layer, but even older eggs—at least this has been observed in several species—are still connected with the surface of the epithelium, either by means of a conical cord of protoplasm, or by means of a bundle of epithelial cells, at whose base a process of the ovum passes transversely through the supporting lamella.

The mesenteric filaments occupy the free margins of the septa, beginning at the upper end—at the œsophagus in the complete septa—and finishing at a little distance from the lower end. They are formed by the supporting lamella (Pl. V. fig. 5) splitting at the free margin into three laminæ, a middle and two lateral; the former is covered by a streak of epithelial cells, principally glandular, the latter bear extremely fine, small ciliated cells. A visible cord of nervous fibres, which is entirely wanting in the ciliated streaks, runs along the base of the glandular streak. The character of the filament changes lower down, as the ciliated streaks with their supporting plate of connective tissue disappear, and the median glandular streak only remains.

The acontia (Pl. I. figs. 4 and 5) are long filaments, kidney-shaped in transverse section, which spring from the septa at a little distance from the lower end of the mesenteric filaments, lie coiled in the stomach during a state of rest, and are ejected through special openings in the wall (cinclides), or through breaches in the wall, or through the oral opening, when the animal is irritated. Their component parts are: (1) an axial band of connective tissue, (2) an epithelium, chiefly composed of nematocysts, (3) nerves, and (4) muscular fibres lying between the basal ends of the epithelial cells (Pl. XII. fig. 10).

Finally, there are special openings in the septa which connect the separate divisions of the gastric space. There are two forms of such septal stomata. In nearly all Actiniæ we find openings which pierce the septa just where the latter touch the margin of the mouth, and which form together a species of peristomial canal; the upper part of these openings is limited by the membrane of the oral disk, the remainder by the septa, so that they are shut off from direct contact with the œsophagus. More rarely there are other septal stomata, which lie close to the wall, about the junction of the first and second thirds of the body (Pl. VII. fig. 12).

I have hitherto described the anatomical conditions of the septa, as they may be observed in the hexamerous Actiniæ, and probably in all hexamerous corals. It would, however, be very erroneous to assume that what has been said applies to all forms hitherto included among the Hexacorallia; we find, in fact, sundry variations, which I shall place under five different categories, though I do not presume to say that these exhaust all the variations presented in nature.

Among the first group I place those Actiniæ in which there are two pairs of directive