

septa all became smaller as they approached the larger directive septa ; on one side only the first seven, on the other side only the first six, macrosepta reached the œsophagus, then followed five other macrosepta which still decreased in size, so that the smallest, which came next the ventral directive septa, hardly projected at all into the gastric space. The microsepta left off still earlier, for they became smaller in exact proportion to the macrosepta, and as they were in general less they disappeared sooner. On the ventral side the directive septa only were perfect, and were separated by a wide interspace from the septa which were next in development.

Two facts may be deduced from the above observations : (1) The macrosepta and microsepta can be distinguished from the first by the difference in size ; they develop independently and at different periods, whilst in the Hexactiniæ and Paractiniæ the septa of a pair start simultaneously and are of the same size from the first. (2) The septa are not produced regularly in the periphery of the body of the Actinia, but within a limited, ventral productive zone. The dorsal septa are therefore the oldest, the ventral septa the youngest, with the exception of the directive septa, which are developed very early.

The third polyp was intermediate between the two specimens described, both in the size and the number of its septa, which amounted to fifty-two. A more minute description of it is therefore unnecessary, and I shall conclude my remarks on the Zoantheæ with some details as to the structure of the septa.

A cellular cord, or a canal filled with cells, runs in the supporting lamella of the septa in immediate proximity to the wall (Pl. XIV. fig. 2). It is usually divided into several cords by commissures of the supporting lamella and is of such strength that the whole septum becomes visibly and locally thickened. I never could make out any connection between this septal canal and the ectodermal cords of the wall in any of the numerous sections which I prepared, and I am inclined to believe that it is produced from the endoderm. My reason is that I have observed that the same roundish bodies which are to be found in the endoderm, which I regard as parasitic, unicellular organisms, force their way into the septal canal, but never into the canals of the wall. I attach less importance to the origin of the canals, as they seem to be connected with the endoderm here and there where the septa spring from the wall. However, the figures, which led me to consider such a mode of connection as probable, did not furnish sufficient proof of its actual existence.

The structure of the mesenteric filaments is essentially the same as in the Actiniæ ; during the greater part of their course they consist entirely of the median glandular streak, and it is only a little way below the œsophagus that they are widened by the addition of paired ciliated streaks, the surface of which is indented at regular intervals by transverse furrows. This upper section of the mesenteric filaments appears to me identical with the "flattened organs" described by Verrill as "having a curved or crescent form and a transversely striated surface,—attached to the principal radiating lamellæ, near the base of the stomach" (Trans. Connect. Acad., vol. i. p. 494). Verrill, Andres, and others