

around the polyp-lobes have a radiate arrangement. These canal cavities are lined with endodermal cells.

In the centre of the drawing are seen the eight lobes of the contracted polyp with the mouth of the atrium in their centre. In their peripheral region the endodermal lining of the cavities of these lobes is seen showing through their superficial tissue.

Each of the lobes further shows a fine longitudinal striation, probably caused by muscular fibres, and some very small nuclei at its inner aspect.

P. Projecting points of the corallum.

A A. Sinus of the superficial canal-system.

L. Lobes of contracted polyp.

Fig. 6. Portion of a section of *Heliopora cœrulea* cut parallel to the surface and viewed from beneath. From a specimen decalcified in chromic acid. The drawing represents a spot where a growing point of the corallum has been removed by the acid.

E N. Endodermal layer.

C. Homogeneous connective tissue layer.

D. Layer of connective tissue cells.

B. Very finely fibrous mass from which the calcareous tissue has been removed.

A. Cavity in the mass.

## PLATE II.

Fig. 1. Diagram to show the canal-systems in connection with the summits of the cœnenchymal tubes and calicles.

A. Cavity of a calicle.

B. Cavity of a tube.

D. Walls of the tubes and calicles in longitudinal section.

The channels of the deep canal-system (V, V') lead over the summits of the walls from one tube to another, and from the tubes to the calicular cavities. The canal (V') opening into the calicular cavity in the figure corresponds to the opening (O) in fig. 2.

C. A similar canal leading into a tube behind B.

Above in the figure is seen the superficial canal-system, consisting of smaller canals and sinus communicating with the deep canals and roofs of the cœnenchymal tubes and also laterally with one another. These smaller canals having usually a vertical course. Their summits are seen in Plate I. fig. 5.