

eight lobes of *Heliopora* just described probably occupy a similar position and have a similar appearance in the expanded condition of the polyps.

Tentacles.—From the centre of the disk of lobes a tubular cavity, which may be called the atrium, leads down directly to the mouth (Pl. I. fig. 1). Around the mouth and just above it, orifices of the eight tubular introverted tentacles open into the atrium. The tentacles in the retracted condition are completely introverted and appear as tubes, the inner cavities of which would, in the expanded condition of the polyp, form the outer surface of the tentacle. The cavities of the introverted tentacles communicate directly with the atrium, as may be seen in vertical sections, by orifices which show in the centre a cruciform lumen (Pl. I. fig. 1, T') formed by the folds of the ectodermal lining of the tentacular cavity. The retracted tentacles are directed at first horizontally outward from the atrium, and then turned downwards at nearly right angles to their former course. They rest in the intermesenterial spaces. Transverse sections of four of them are seen in Plate I. fig. 3. The cavities of the introverted tentacles are lined by a direct continuation of the ectoderm, which passes down over the inner surface of the atrium to enter the cavities. In their interior the ectoderm is elevated into a series of short stout tubercles, which no doubt project much more in the expanded condition of the tentacle, rendering it compound as in other Alcyonarians. In the retracted tentacles, as seen in Plate I. fig. 3, three layers, outer endodermal, median connective tissue, and inner ectodermal, can be readily distinguished. The median probably contains muscular structures, but I have been unable to see them. In *Corallium rubrum* the pinnæ or barbules of the tentacles are all severally introverted, as well as the tentacles themselves, in *Heliopora* such appears not to be the case.¹

In the atlas of the Voyage de l'Astrolabe,² the expanded polyps of *Heliopora cœrulea* are figured by MM. Hombron and Jacquinot; in figure 14 sixteen very short simple conical tentacles are shown, in figure 13 only fifteen tentacles. The figures are evidently very erroneous.

In the zoology of the Voyage de l'Uranie³ is a description of the polyps of *Heliopora cœrulea*, but without any figure of them, by MM. Quoy and Gaimard, the substance of which is as follows:—The expanded polyps have radiated tentacles and entirely hide the corallum when in an expanded condition. Experiments proved that the communication between the polyps is somewhat imperfect, since a stimulus applied to any part of the colony only caused the polyps in that immediate neighbourhood to contract themselves.

The authors appear to have mistaken at first the expanded parasitical *Leucodoras* for

¹ H. de Lacaze Duthiers, *loc. cit.*, p. 57.

² Hombron et Jacquinot, Voyage au Pole Sud de l'Astrolabe et Zelle, Paris, 1842-53, Zoophytes, pl. xxix. figs. 12-14.

³ Quoy et Gaimard, Voyage de l'Uranie, Paris, 1824.