seen, and also multiramified amœboid-looking corpuscles occurring in the endoderm (same figure, R C), and resembling those figured by Allman as occurring in the tentacles of *Coryne pusilla*, and considered by him to be the nuclei of the large endodermal cells.[1]

The body-cavities of the zooids were observed in the living condition to be filled with the yellow pigmented cells, and a few of these cells were seen occasionally to penetrate a short distance into the cavities of the tentacles, which cavities are continuous by widely open mouths with those of the bodies of the zooids. Ciliation of the somatic cavities could not be seen.

The spheroidal heads of the tentacles are composed of masses of closely-set nematocysts of various sizes and stages of development, but all of one peculiar kind (Pl. XIII. fig. 2), the larger ovoid nematocysts never occurring in them. A thin hyaline, apparently structureless ectodermal layer extends between these agglomerated nematocysts, its marginal outline not being circular but depressed in short curves between the somewhat projecting tips of the cells (Pl. XIV. fig. 5).

The gastrozooids, when retracted, viewed directly from above, show the mouth in the centre, and four, five, or six tentacles arranged at equal distances around. The dactylozooids, when retracted, have their tentacles closely drawn together, so as to form a hemispherical mass composed of the closely-set spheroidal tips of the tentacles (Pl. XIV. figs. 2 and 3). It can easily be understood how a vertical section through such a mass of retracted minute tentacles would give the appearance of a large compound tentacle, the small tentacles appearing to constitute the pinnæ. I was misled by such a preparation; and in my paper upon *Heliopora cærulea*, presented to the Royal Society,[2] I stated my belief that the tentacles of *Millepora* would prove to be compound.

The body-cavities of the zooids terminate inferiorly in blind ends at the bottoms of the calicles, but are continued outwards at their bases in all directions into the canals of the hydrophyton, which join them all around, being disposed in an irregularly radiate manner (Pl. XIV. figs. 2 and 6).

Muscular fibres, having a longitudinal disposition, are extremely well developed in the zooids. They arise for the most part in bundles from the radiating vessels of the cœnosarc, which spring from the bases of the zooids, and pass up the walls of the bodies of the zooids, extending in the gastrozooids nearly as far as the mouth. In the contracted zooids, when viewed directly from above or below, they have necessarily a radiate disposition, as shown in Plate XIV. fig. 6. Not all the fibres are gathered into the bundles, but some sparsely spread ones occupy the interval between these bundles, maintaining a like radiate course. The bundles may be traced for a considerable distance along the radiating vessels. In vertical sections from osmic acid preparations the muscular elements can be observed as isolated excessively fine fibres (as far as was seen, without nucleus), which

[1] Allman, Gymnoblastic and Tubularian Hydroids, pl. iv. fig. 3.
[2] Phil. Trans., vol. clxvi., part 1.