

drop from the parent stem, judging from their violent and rapid contractions and the smallness of their peduncle (*Fig. 12, d*), but they have never been found swimming freely in the sea, like the perfect medusæ.

## SECTION IV.

### HISTOLOGY OF CORYNE MIRABILIS.

*Proles hydroidea. Adul.*—The outer wall appears, at first sight, to be a homogeneous layer, with numerous striæ (*Pl. XIX. Fig. 1, g g'*) running lengthwise, along the stem, on its surface. Below the head these striæ are double (*Fig. 1, g'*), and run together for a greater or lesser distance, and have the appearance of being the outlines of closely approximated bands, which remind one of unstriated muscle. Upon closer examination, however, these striæ turn out to be mere furrows, caused by the longitudinal wrinkling of this wall. In profile (*Fig. 1, b b'*), they may very readily be seen to be superficial, especially on the tentacles (*Fig. 1, b', Fig. 3*). The cells of this wall, as seen with objectives having wide apertures (*Pl. XI. Fig. 14; Pl. XXIII. Fig. 12, b b' c*) are fully as broad as those (*d e*) of the inner wall; but they are far shorter, being equal in length to the thickness of the wall which they constitute. They have a flat inner face, next to the interior wall, and the outer ends are rounded, and each one contains a single, excessively transparent mesoblast (*b'*), imbedded in perfectly homogeneous contents. When the hydra is stretched to its fullest extent, these cells have a hemispherical shape; but upon the contraction of the animal, they become short prisms, by mutual pressure.

In the young hydroid (*Pl. XX. Fig. 6, a*), which affords the best opportunity for the investigation of the structure of this wall, it is seen to be transversely striated, in a profile of its thickness. The striæ are, without doubt, the parallel sides of columnar cells, each one of which occupies the whole thickness of the wall. But with an ordinary microscope a close examination of the thickness of this wall (*Pl. XIX. Figs. 2, b, and 4, b; Pl. XX. Figs. 2, a, and 3, a'*) did not disclose the least trace of cellular structure, in the adult, excepting that there were numerous lasso-cells in the stem (*Pl. XX. Figs. 2 and 3*), a few scattered along the tentacles, and the usual densely packed layer at their tips (*Pl. XIX. Figs. 1, f, 2, f, and 3, f*). It is well worthy of notice that, although the lasso-cells are very numerous in the outer wall of the stem (*Pl. XX. Fig. 2, a*), they are totally prevented from exercising any function, such as obtains with those on the tentacles, by the thick horny sheath which shuts them off from the surrounding medium.