

marked, sometimes very strongly (*Fig. 2, a b c*) and at others rather faintly (*c d*), by rings, varying from five to ten in number. There are instances where the whole primary branch is at least wavy, if not completely ringed throughout. Each pedicel has an average length of one eighth of an inch, and is terminated by a single head. The horny tube, as it passes on to the head, thins out to a mere film, which disappears entirely at the base of the crown of tentacles. The head bears only a single row of slender, tapering tentacles (*Fig. 3, l l'*), varying from fifteen to twenty in number. They have the appearance of being ringed, on account of the transverse rows of lasso-cells, which project from the surface like short bristles. This arrangement reminds one of the tentacles of the Campanularians. The proboscis (*m*) is very short, forming a mere conical papilla; in fact it cannot be said to have a greater prominence than the mouth region of the genus *Hydra*. Just below the head, during the summer months, the medusæ-buds (*Fig. 2, A B*) may be observed scattered along the pedicel in an irregular manner; each bud arising singly from the hydra walls, and protected by a filmy capsule (*Figs. 5, 6, and 7, i*), prolonged from the horny sheath of the stem. The outer wall (*Fig. 3, a a'*) of the stem and head is moderately thick upon the proboscis (*m*) and over the head (*d*); but at the junction (*c'*) of the pedicel it becomes quite thick, and then again grows thinner as it passes down the stem, until it is about one sixth as thick as the diameter of the two walls and the included chymiferous canal. Upon the tentacles (*a''*) it has about the same relative thickness as in the last place mentioned; and the inner wall (*b''*) occupies the remaining four sixths of the diameter of these organs. In the proboscis and head the inner wall (*b b'*) varies from twice to three times the thickness of the outer one, but, lower down the stem, it decreases in this respect, until it is about as thick, on the average, as the outer wall. The digestive cavity (*d*) is densely lined by a layer of deep, purplish-red pigment-cells, which extend, in diminished quantity, throughout the whole length of the stem and branches.

*Proles medusoidea*.—I have not traced the embryology of the medusa through all its stages to the fully-developed state, but only just far enough to recognize the identity of its mode of evolution, at least in the earlier stages, with that of *Coryne*, and to ascertain the identity of these medusæ-buds with the free medusæ described many years ago by me, under the name of *Hippocrene superciliaris*. Professor Leidy has also observed its development, and forwarded to me an exquisite drawing of a Hydroid stock, bearing a number of well-advanced medusæ-buds. If we compare Pl. XXVII. *Figs. 5, 6, and 7*, respectively, with Pl. XVIII. *Figs. 7, 6, and 10*, it will readily appear, that the development of one of these Hydroids, the *Coryne mirabilis*, may serve to illustrate that of the other, *Bougainvillia superciliaris*; and that the principal value of the figures given on