

and upon their contraction transverse wrinkles appear between them. The outer surface of the actinostome exhibits mainly epithelial cells, of a very uniform appearance, between which are scattered a few lasso-cells; but on the inner surface of the whole actinostome a different arrangement prevails, there being innumerable clusters of lasso-cells scattered over the whole of that surface, and especially crowded towards the margin of the lobes (Pl. IV. *Fig. 4*). *Fig. 4, a*, represents such a cluster, magnified 250 times in diameter. The form of these lasso-cells is peculiar; they are more globular than is generally the case among *Acalephs*, and, in that respect, resemble the lasso-cells of *Physalia* very closely, and when the coil is everted, the neck, which connects the thread with the bag in which it was coiled up, is smooth, and entirely destitute of those hook-like projections which are characteristic of the lasso-cells of the Hydroids. The whole margin of the lobes or fringes of the actinostome is entirely occupied by a narrow seam of smaller lasso-cells, as seen in Pl. V. *Fig. 3*, which represents a band along the inner surface of one of these lobes, extending from its margin towards the interior, up to a distance, where the clusters of lasso-cells are less crowded. Following, in the same direction, the arrangement of these cells upon that surface, it is seen, that above the narrow band which is entirely occupied by lasso-cells, the epithelial cells intervening between the clusters of lasso-cells are smallest, and become gradually larger higher up, until, increasing in size, in proportion as the clusters of lasso-cells are fewer, they have become singly, almost as large as a cluster of lasso-cells. *Fig. 3, d*, represents the small lasso-cells of the margin, more highly magnified; *Fig. 3, c*, represents a portion of the surface immediately above, where the epithelial cells are smallest; *Fig. 3, b*, a space higher up, where larger lasso-cells intervene between the smaller ones, and *Fig. 3, a*, a space higher up, where the larger epithelial cells cover the whole surface, with a few scattered small ones between. This arrangement, and the prevalence of clusters of lasso-cells on the inner surface, is probably intended to facilitate the introduction of the food along the complicated system of folds of the actinostome up to the oral aperture, and probably, also, to retain the eggs between these folds, at the time of spawning, and to prevent them from dropping into the water, at a time when the embryos are not yet so far developed as to be capable of swimming freely about, before attaching themselves to the surfaces upon which they undergo their further development.

The tentacles present a still greater diversity, both in the arrangement and in the appearance of their cells. The hollow channel which traverses the tentacles, for their whole length, is uniformly lined with exceedingly minute epithelial cells, as represented in Pl. V. *Figs. 11 and 12*. These cells vary in color, being yellow, orange, purple, or brown, in different tentacles, and they chiefly determine the color of these organs, for the walls of the tube consist of a transparent gelatinous mass,