

outer wall, being simple, irregularly polyhedral bodies without any obvious arrangement among themselves. Normally the tentacles are developed by twos or a multiple of two; usually two begin first, and two more immediately follow, so that in the outset the body has a quadrangular shape. In abnormal specimens the embryo continues to grow for some time with only two papilliform tentacles (Pl. X. *Fig. 15 c*), although the base (c^1) develops regularly, and the proboscis (c) becomes quite prominent; or, in others, the two tentacles increase considerably in length (*Figs. 16 and 16^a*), and the proboscis (c) grows very large. At other times, the first two tentacles being far advanced, only a single additional one (*Figs. 17 c and 18*) develops on one side, and grows long before another appears on the opposite side of the body.

After four tentacles have developed, a considerable period elapses before any others appear, and in the mean while all the different parts of the body progress very far in growth; the tentacles become very long and slender (*Figs. 19, 20, 21, and 22*), and may be so extended as to more than equal the whole length of the body. When stretched out they are remarkably transparent, and allow a very clear view of their interior structure (Pl. X^a. *Fig. 2*). The cells of the outer wall are so merged into each other that their parietes are with difficulty made out, and hence the transparent, film-like appearance of this wall. The inner wall of the tentacles develops to such a degree that the component cells (*Fig. 2 b¹*) are as fully characteristic in their appearance and conformation as in any of the later stages of growth. The outer wall of the body (Pl. X. *Fig. 19 a*), now composed of a single layer of cells (Pl. X^a. *Fig. 6 a a¹*), is very thin and transparent. The inner wall (*Fig. 6 b b¹*) is also composed of a single layer of very large cells, but in this case they are totally different from those of the outer wall, having an irregular, prismatic form, with the longer diameter transverse to the thickness of the wall. This wall is five times thicker than the outer wall. The most striking change observable since the last phase is in the mouth, which has assumed a quadrilateral shape (Pl. X. *Fig. 22 c*), as if it were four-lipped, each lip corresponding to a tentacle. The extensibility of the lips may be seen as represented in a figure (*Fig. 21 c*) showing the manner in which the young hydroid catches its prey. This is the earliest period at which we have observed the embryo taking food. The lasso-cells are in full activity, and their extruded threads give the tentacles a bristling appearance (Pl. X^a. *Fig. 2*). In a state of complete expansion the whole body is quite transparent, and has a uniform grayish color tinged with orange, by the reflection from the pigment cells which are scattered over the surface of the digestive cavity. In a contracted state the crowding of the pigment cells renders the interior of the body quite opaque (Pl. X. *Fig. 19*). The general contour of the body, when in full activity, is slender top-shaped (*Figs. 20 and 21*),