

not one individual; but, even in the most questionable cases, we have finally seen the lower animal throw open its mouth and the upper one creep away.

In the next stage the embryo normally has sixteen tentacles, but they do not develop so nearly synchronically as in the eight-armed period: the irregularity, however, appears greater than it really is, on account of the increased number of tentacles, and the difficulty of distinguishing between the members of the different sets. The mode of development is the same as heretofore: the new tentacles (Pl. X<sup>a</sup>. *Fig. 13 c*) arise in the intervals of the former sets. Neither in *Aurelia* nor in *Cyanea* have we actually traced the development of the tentacles beyond the number fourteen (Pl. X<sup>a</sup>. *Fig. 15*); and all the figures in Plates XI. and XI<sup>a</sup>., whether with more or less than fourteen tentacles, were drawn from specimens collected among the wharves in Boston harbor. We have not been able to trace the development of *Cyanea* beyond the fourteen-armed stage, and therefore what follows relates to *Aurelia* exclusively. The scyphostoma and strobila forms of these two plates are so irregular in their development, both in regard to the shape of the body and the development of the tentacles, that we suspect they have already cast off one brood of *Ephyrae*, and that the circle of tentacles now present is not the original primary one, but was developed below the pile of *Ephyrae*, as in Pl. XI. *Figs. 1, 4, 5, 6, 11, 13, 14, 16, 17, 25, and 29*. On this account we are not surprised to find more than sixteen tentacles, but less than thirty-two, on the oldest scyphostoma. The sixteen-armed specimens (Pl. XI<sup>a</sup>. *Fig. 3 A B, Fig. 4*, with one tentacle forked, *Figs. 8 and 10*), we might suppose, were originally four-armed; and the twenty-armed ones (Pl. XI. *Fig. 7*; Pl. XI<sup>a</sup>. *Figs. 7 and 11*) began with five tentacles. This assumption seems the more probable from the fact, that we have never seen a single scyphostoma or strobila which had more than twenty tentacles. We may, therefore, consider the normal number of tentacles of the scyphostoma of *Aurelia flavidula* to be sixteen; and, occasionally, twenty.

The four buttress-like projections, which we pointed out in the eight-armed stage, do not increase in number with the tentacles, but develop in breadth (Pl. X<sup>a</sup>. *Fig. 13 b<sup>2</sup>*) and thickness. By the constancy of their number, and the fact that they originate opposite the first four tentacles, we are enabled to determine the relative age of every tentacle of a full-grown scyphostoma, no matter whether there are sixteen, or, in exceptional cases, twenty of them. Thus, those which are opposite the projections, as in Pl. X<sup>a</sup>. *Fig. 5 b<sup>2</sup>*, belong to the first group and are only four in number; and in an eight-armed individual those which alternate with these last appertain to the second set. In a sixteen-armed embryo there will be three tentacles in each interval between those of the first group, and the middle one of the three belongs to the second group of four; whilst the remaining two, out of the three, altogether eight in number, belong to the