youngest or third group. *Fig.* 15 of Pl. X[a]., although two of the tentacles of the third group are not developed, will illustrate these relations, as the left side is perfect: those tentacles marked *1* belong to the first set, those marked *2* to the second set, and those marked *3* to the third set. In an undeveloped individual, represented by *Fig.* 13, the relative age of the tentacles is doubly set forth: in the first place by the projections, and, secondly, by the difference in the size of the tentacles themselves. In those exceptional cases with twenty tentacles, but which originally have five, there are five corresponding internal projections, instead of four, one being opposite each of the five primary tentacles.

This terminates the description of the scyphostoma period, as far as the zoological characters are concerned. But before we proceed to the strobila stage, we will return to the beginning and trace the histological development of the scyphostoma.

HISTOLOGY OF THE SCYPHOSTOMA. From the earliest period, immediately after the segmentation of the yolk, to the time when the first four tentacles begin to develop (Pl. X. *Figs.* 3–14, and Pl. X[a]. *Figs.* 25–36), the peripheric part of the embryo, whether it be an indistinct layer or has become separated from the interior as a well-defined wall, consists of a mass of irregularly polyhedral cells, which embrace perfectly homogeneous contents, and, except in the four-armed stage, bear vibratile cilia on their outer surfaces. Those cells which enter into the composition of the youngest embryos (Pl. X. *Fig.* 3) differ from those of later planula stages (*Fig.* 10[d]) only in being not quite so transparent, and from those of the incipiently four-armed stage in that a part of the latter (Pl. X[a]. *Fig.* 8) are lasso-cells which are scattered all over the body and crowded upon the tips of the tentacles (*Fig.* 7). On account of the opacity of the cells of the periphery, we were unable to discover by actual inspection what is the nature of the mass of the cells within the body of the youngest embryos (Pl. X. *Fig.* 3); but when, in later stages, we had an opportunity of looking into the mouth (*Figs.* 14[a] and 14[c]) of a four-armed individual, and found that the cells of the interior were identical with those of the exterior, we concluded that, like the peripheric cells, they had not changed from their earliest condition. Not till the last of the aforementioned stages do the cells of the periphery undergo any changes in their relative positions, and then they are rearranged so as to form a single layer (Pl. X. *Fig.* 14 *a*), excepting in the tentacles (*c*), where they are replaced by a single layer of lasso-cells (Pl. X[a]. *Fig.* 7). The greater part of the outer wall of the tentacles is made up of a mass of unchanged, irregularly polyhedral cells, but they are confined to the interior by the coating of lasso-cells.

By the time that the first four tentacles have become highly developed (Pl. X. *Figs.* 19, 20, and 21, etc.) and the second set of four is about budding, the cells of the outer and inner walls have undergone great changes. The outer wall