

lower part of the scyphostoma is quite long (*c'*), having been, no doubt, retarded in its development till late in the season. We have, however, at least one instance in which two rows of tentacles underlie a pile of disks (*Fig. 16 e*).

We have next to present a series of facts to show how perfectly identical, in a homological sense, are the scyphostoma and the ephyra. First, there are those individual ephyrae (Pl. XI. *Figs. 8, 10, 14, 15, 16, 20, 22, and 28*, in various stages of growth) which have developed a tentacular organ (*Fig. 8 e*) on the edge of the interval between the lappets (*j*) of the lobe, and just exterior to the lobule (*h*) or peduncle of the eye, and another tentacular organ (*i*) on the edge of each of the intervals between the lobes; making, in all, sixteen tentacular organs. These new organs are constricted at the base (*Fig. 8 i'*) in the more advanced ephyrae; and since we find them absent from some of the lobes, or intervals of the lobes, of certain individuals (*Figs. 10 i'* and *20 i'*), we should judge that the constriction was preparatory to the dropping of these organs. Sometimes the tentacular organs of the ephyra are branched, like the limbs of a tree (*Fig. 28, 1 e*). In the next place we find those ephyrae which have, beside the tentacular organs, one, two, or three of the lappets of the lobes developed to an extraordinary degree, so as to appear like tentacles (Pl. XI. *Fig. 12, 4*). In Pl. XI. *Fig. 22*, the lobes (*e*) of the second ephyra (2) are developing in the form of tentacles; and in the first ephyra (1) we may see the metamorphosis of the tentacular organs (*e*) into lobes (*j*), simply by the separation of the extreme three fourths of this organ. Then, again, we find (*Fig. 19, 1*) not only the tentacular organs in the intervals (*i*) and between the lappets (*e*), but the lappets themselves (*j*) as fully developed into tentacular organs; thus making, in all, thirty-two tentacular organs in a single row, or just double the normal number of the tentacles of the scyphostoma. Sometimes there are pigment dots (Pl. XI. *Fig. 5 h*), like eye-specks, on the exterior and basal part of the tentacles of the scyphostoma. This is a very significant fact, and points directly to the perfect identity of the hydroid and ephyroid forms, to which we have just alluded.

In regard to those scyphostomas with two or three rows of tentacles (Pl. XI. *Fig. 18*), we think it not at all improbable that each disk may be developed into a distinct ephyra, every alternate tentacle becoming a lobe, and those alternating with these becoming the tentacular organs of the intervals between the lobes.

Not alone does the scyphostoma proper bud laterally, but the ephyrae of the strobila form exhibit the same phenomenon, especially at the lower part of the pile, where the metamorphic process has about completed its work. Pl. XI. *Fig. 12 b c* is an instance of either lateral budding, or a species of longitudinal self-division of the scyphostoma (*c'*) and the superposed ephyrae (1 2). The uppermost ephyrae (1) are not as yet completely separate.