

in Pl. XXVI. fig. 1; it had a length of 4 mm. in the expanded, 2 mm. in the contracted state, and was very similar to the youngest larvæ figured by Huxley (9, pl. x. fig. 1). This young larva is a simple medusome, composed of an ovate pneumatophore (the transformed umbrella) and a spindle-shaped siphon with a distal mouth (the manubrium of the original Medusa); from the vesicular pedicle of the siphon, which connects it with the base of the pneumatophore, arises a single long tentacle; this is a simple cylindrical filament, beset on the dorsal side with a series of reniform cnidonodes, of the same structure as in the adult Physalidæ. The ovate pneumatosaccus (fig. 1, *pf*) exhibits an apical stigma (*po*), or a simple pore on the proximal pole of the longitudinal axis; this is the permanent opening of the original invagination. The cavity between the outer and inner walls of the pneumatophore (closed above around the stigma) is below in open communication with that of the pedicle, and by this with the cavities of the siphon as well as the tentacle. The inside of the siphon is covered with numerous black hepatic villi (*sv*); the margin of the mouth (expanded in fig. 1 as a square suctorial disc) armed with a series of cnidocysts (*ss*).

A second stage of *Cystonula*, 6 mm. in length, which I found recently in a preparation in the Challenger collection, and could not figure in Pl. XXVI. (already printed), is intermediate between figs. 1 and 2 of that Plate. It differed from the youngest stage (fig. 1) in the production of a pair of buds from the ventral side of the dilated siphon-pedicle (*a*), opposed to the dorsal tentacle (*t*). The posterior bud of this pair develops into the first secondary siphon, the anterior into the first palpon (or basal sac) with its tentacle. The dilated cavity between float (*pf*) and stomach (*sv*), from which the buds arise, becomes now much larger and corresponds to the common stem or trunk (*a*).

The third stage of *Cystonula* observed is figured in Pl. XXVI. fig. 2; its length in the expanded state was 8 mm. It is similar to the second form figured by Huxley, 10 mm. in length (9, pl. x. fig. 2). The slender pyriform trunk, with strongly inclined axis, encloses in its proximal (anterior) half the pneumatosac, filled with air (*pf*), and bears on its distal (posterior) end the protosiphon (the primary siphon or the manubrium of the original medusome, with its tentacle). This is separated by a wide interval from the central group, composed of three subequal cormidia which are attached to the middle third of the ventral median line of the vesicular trunk; each cormidium is composed of two sterile persons arising from a common stem, a siphon (with hepatic villi, *sv*, and a terminal mouth), and a mouthless palpon (or basal ampulla, with a long tentacle). Regarded from the standpoint of our Medusome Theory, this *Cystonula* is a primary medusome, which has produced by budding from its ventral side three pairs of secondary medusomes; these arise from the middle third of the trunk, or from that portion which is the enlarged pedicle of the protosiphon (fig. 1, *a*). The growing pneumatophore, which originally occupied the apical part of the primary larva, extends now more and more over its dorsal side, descending in a basal direction. The longi-