

those partially resorbed (*Fig. 4, b c c*) might readily be mistaken for young, budding medusoids, did not the nearly obsolete chymiferous system, and the ragged looseness of the cellular tissue, indicate their true condition. Those which have just begun to wither may be recognized by their much diminished size (*Fig. 4, d*), shrunken proboscis (Pl. XXIV. *Fig. 25, d*), and the great thickness of their walls (*Figs. 25 and 25<sup>a</sup>, a<sup>1</sup>*) when compared to those of the medusoids in full vigor (Pl. XXVI. *Fig. 3*).

*Embryology. Proles hydroidea.*—Tubularia shares with Parypha and Thamnocnidia the remarkable property of reproducing the hydroid form without the intervention of the egg phase. The genus Tubularia has recently received our special attention in regard to this point, and we can safely say that it is not possible to find any resemblance to an egg in the contents of the cavity of the medusoid buds. If the egg is present it must be under the disguise of an unusual form. Can it be possible that the Purkinjean vesicle does not appear until the yolk masses have separated from the germ-basis, at a time when they are so opaque as to hinder all ordinary chances of a view of their interior? We have investigated these masses at this stage, but have not been able to see any indication of that characteristic vesicle; so that, if present, it must have been quite small. The germ-basis (Pl. XXIV. *Fig. 8, f*) occupies the cavity of the disk from a very early stage, and originates in the same way as in Parypha and Thamnocnidia. When the medusoid has reached about two thirds of its size, the germ-basis (*Fig. 14, f*), which heretofore has been colorless, assumes a dingy yellow color, which, with increasing age, grows darker, until the germ-masses begin to separate from it (*Fig. 15, f f<sup>1</sup>*). The manner in which these masses separate from the germ-basis is altogether different from the regular process of self-division, as may be seen from a sectional view (*Figs. 15 and 17*). At first, the furrows are few (*Fig. 15*), and, probably, always begin at the distal end of the basis; nor do they appear to trend in any particular direction, in preference to another, but take their course as often obliquely, as transversely or longitudinally with the proboscis. In time, the whole basis becomes cleft, to at least half its depth (*Fig. 17*), by numerous anastomosing furrows, and then it has all the appearance of a normally self-dividing, single germ (*Fig. 16*). The number of the resultant segment-masses amounts to at least fifteen or twenty, and, after the separation of these, a few more are produced by the residual basis; so that, in all probability, as many as thirty germs are successively developed in one parent medusa. The earliest separated germ-masses are the first to develop, but as they could not all grow, with like rapidity, to their full size, within the restricted cavity of the disk, it becomes a necessity which amounts to a law, that some one or two of them shall precede the others (*Fig. 18, f<sup>1</sup> f<sup>2</sup>*), and as these come to maturity (Pl. XXVI. *Fig. 3*), and leave the