

the remains of the generative mass may still throw off portions giving rise to embryos which become developed in a similar way into free actiniform larvæ. To such larvæ the name of *Actinula* may be given in order to distinguish them from the planula of other Hydroids.

*Development of the Egg in Myriothela.*—In the development of the egg in *Myriothela* we meet with some remarkable departures from the phenomena usually presented in the embryonic development of the Hydroida.<sup>1</sup>

The eggs of *Myriothela* have their origin in the cells of the endodermal layer which forms the walls of the spadix. Certain cells of this layer in the very young gonophore become transformed into egg-cells which increase in number and in size until the cavity of the gonophore is entirely filled with them. Each egg-cell has now its well-defined germinal vesicle and germinal spot, and its vitelline protoplasm, but without any apparent vitelline membrane.

The egg-cells continue to increase in size with the growth of the gonophore, they remain for some time closely pressed one against the other so as to acquire a polyhedral form, but they gradually become looser, assume an oviform shape, and may now be easily isolated by the needle or by the mere action of the compressorium. Their germinal vesicle is now very large and distinct, and within the large germinal spot a well-defined nucleolus may be detected.

The egg-cells have no sooner thus attained their complete separation from one another, and have acquired their full size in the gonophore, than they begin to present a very remarkable phenomenon. They lose their independent existence, and begin to undergo a fusion into one another; and when the contents of the gonophore are now liberated by rupture of its walls under the microscope, many of these nucleated protoplasm masses may be seen to be united to one another by irregular pseudopodia-like extensions of their substance. By the gradual shortening and thickening of these processes the little masses which they connect are drawn closer to one another, and end by becoming completely fused together into a common protoplasmic mass. In this mass the cell boundaries are completely lost, but numerous nucleolated nuclei may be seen scattered through its substance. These are almost certainly the nuclei with their included nucleoli of the originally independent egg-cells.

Several such masses, eight or more, will thus be formed within the gonophore, from the coalesced ova. They are of an ovoid form, and do not entirely fill the cavity of the gonophore, while the narrow intervals between them, as well as the small space which separates them from the walls of the gonophore, are occupied by a substance which appears to consist chiefly of free nuclei and of dwindled and degraded ova, all apparently undergoing a process of liquefaction, and doubtless an unused residuum of the bodies, by the coalescence of which the compound masses had been formed.

<sup>1</sup> See Memoir on the Structure and Development of *Myriothela*, *Phil. Trans.*, vol. clxv. pt. 2, 1875.