webbed foot, the middle lobe, or the main stem (f^1), being slightly in advance, and the two lateral ones ($f\ f^2$) communicating with it only through their bases (e^1). Each lobe is entirely distinct from the others from its base upwards, and besides, it is capped by a thin, chitinous layer ($b\ b^1$), which, however, is distinct from that of the next lobe, only at the base (b), where it forms a single coating to the outer surface of the adjoining walls ($a^1\ a^2$), but toward the end (b) fuses with its neighbor, and, finally, with the terminal, general envelop (c). It is impossible to say what is the definite thickness of the walls, because of the great degree of contraction and expansion which they exhibit; but they may, in general terms, be said to be twice as thick as the fully-developed walls in the oldest part of the stem. The cellular elements are the same as in the last phase. At a later stage (*Figs.* 6 and 6ª), in which the hydræ ($f\ f^2$) are just upon the point of developing the free terminal portion, the variable thickness in the walls is represented in our figure, especially in the inner wall ($e\ e^3$). It will be noticed that the outer wall (a) separates from the chitinous investment very early; but that it is a permanent separation, it is not possible to say. The whole surface of the bud is so loosely connected with its investment, that it is not a difficult matter to detach it by pressure, and force it out through the basal end, if the stem be cut across a short distance below. By this process, we may get a clear and connected view of the sheath (*Fig.* 18), and of the position of the partition walls ($a\ b\ c$). In the figure, the broader side of the stem is next the eye, and, in the distance, the narrower side; so that the inner sides (a) of the partitions face obliquely toward the observer. As a further step in development, the hydræ push out, from the hitherto consolidated, budding mass, one on each side of the main stem, like the upper limbs of the letter Y (*Fig.* 15, l); each limb bearing its own sheath (l). When the hydra has completed its longitudinal growth, as in the figure, and is about to develop its tentacles, its apex is obliquely truncate ($l\ b$), or asymmetrically roof-like. The walls ($a\ b$), at the upper part, are closely pressed against the sheathing calycle (l), and present a pretty uniform thickness in this region; but below, they are retracted and much thinner; still the outer wall adheres, by prop-like processes (a^1), to the calycle. Finally, the hydra is completed by the scalloping of its distal end, the lobes of the scallop eventually elongating into tentacles (*Figs.* 3 and 12), and the body retracts altogether from the calycle, after having completed the formation of a bivalve-like operculum (*Figs.* 2, 3, 4, and 4ª, op). At or about the same time, the semi-partition (*Fig.* 2, d) is constructed. When the hydra protrudes from its calycle for the first time, it pushes aside the operculum (*Figs.* 4 and 4ª, op), yet the latter may remain adherent for some time, but evidently for no particular purpose.

The reproductive calycles usually originate just beneath the hydra (*Fig.* 10ª),