

is a double-walled, branching tube (Pl. XVII. *Figs. 9, a b*, and 15, *a b*, Pl. XIX. *Fig. 4, a b*, and Pl. XX. *Fig. 2, a b*). The walls of the head differ very much from each other in their comparative thickness, the outer one (Pl. XVII. *Figs. 9, b*, and 11, *b*, Pl. XIX. *Fig. 2, b*) being much thinner than the inner one (Pl. XVII. *Figs. 9, a*, and 11, *a*, Pl. XIX. *Fig. 2, a*). In young heads, however, just budding out from the pedicel (Pl. XX. *Figs. 4 and 5*), the walls (Pl. XX. *Fig. 6, a b*) are more alike in thickness; in fact, they hardly differ in this respect. The disproportion between the thickness of the respective walls diminishes as we follow the stem downward toward its base. Just below the head (Pl. XIX. *Fig. 4, a b*) the difference remains about the same as in the head itself, and is then a little irregular for a short distance further down, but in the main part of the stem the walls are equal in thickness (Pl. XX. *Fig. 2, a b*). It is from this position that the young heads, with walls of equal thickness, take their rise.

The outer wall of the head suddenly thins out, and diminishes in thickness by one half, where it forms the exterior wall (Pl. XIX. *Figs. 2, b'*, and 3, *c*) of the tentacles, except at the globular tip, where it becomes much thicker than below (Pl. XIX. *Fig. 2, f*), and really forms nearly the whole bulk of the spherical expansion at this point. The inner wall (Pl. XVII. *Fig. 11, l*, Pl. XIX. *Figs. 2, a²-a⁴*, and 3, *a b*), or solid axis of the tentacles, is a lateral growth from the inner wall of the head. It far exceeds, in diameter, the thickness of the outer wall, which forms a sheath around it. The outermost, or apical, portion of this axis ends in a narrowed, blunt point, which projects a short distance into the globular expansion of the tentacle.

Within these double walls, the chymiferous fluid of the body circulates, and may be traced by means of floating granules passing in currents from the head, where the so-called digestive cavity (Pl. XVII. *Fig. 11, d*) is situated, down the stem, where the common circulatory channel of the whole community begins (Pl. XVII. *Figs. 9, d*, 11, *d'*, and 15, *d*, Pl. XIX. *Fig. 4, d*), and thence, throughout the whole branching stem (Pl. XX. *Figs. 2, d*, 3, *d*, 4, *d*, and 5, *d*), to its very base, and then back again. It has never been possible to trace the circulation to vibratile cilia as the propelling organs. Within the digestive cavity there is, at times, an exclusive circulation, limited to the space above what might be called the neck (Pl. XVII. *Fig. 11, en*), where, on such occasions, the stem contracts, so as to shut off, almost entirely, the communication with the lower chymiferous channel. This mode of circulation takes place, most frequently, when the head assumes a very distended condition (Pl. XVII. *Fig. 6*), as if to allow the greatest possible extent of absorbing surface for the nutritive fluid. The whole extent of the digestive cavity and chymiferous tube is lined with brownish-red granules (Pl. XI. *Fig. 14, dd*, Pl. XXIII. *Fig. 12, dd*), more or less closely attached to the sur-