

near the lateral margin of the mouth, the sac of the tentacles. But after food has been swallowed, the mouth is contracted into a more sphincter-like shape, and the digestive sac itself is so much narrowed immediately above its external opening, that the digestive cavity appears like a loose bag suspended in a mass of transparent jelly, widest about half its height, with prominent angles in advance and backward, and also swollen laterally, but tapering above and below. In such a state the coeliac chymiferous tubes have a more curved, and even sinuous course, upon the sides of the digestive cavity, in accordance with the position of the morsels of food within, whilst the upper end of the digestive sac opens freely into the central chymiferous cavity. Along the abactinal end of the digestive sac there are, as in *Pleurobrachia*, marked vertical folds, of a brownish color, much darker than the transparent walls of the other parts of the sac; but I have failed to see distinctly the vibratory cilia of its abactinal opening, which play so conspicuously about this region in *Pleurobrachia*, though there is also in *Bolina* a constant movement of the minute particles of digested food about the aperture leading from the digestive cavity into the chymiferous cavity.

As mentioned above, the central chymiferous cavity and its funnel are not only shorter, but also narrower, in the genus *Bolina*, than in *Pleurobrachia*, and the fibrous appearance of the cell walls of that region is very distinct. The actinal part of this cavity has also a somewhat different form from that of *Pleurobrachia*, though it exhibits the same general disposition,—its sides bulging simply outward, instead of forming two distinct trunks for the branches to the ambulacral tubes, as in *Pleurobrachia*. The four main branches, from which the eight ambulacral tubes are derived, arise in pairs, almost directly from the main cavity, and, bending slightly sideways, run almost parallel with one another in opposite directions, that is, forward and backward. The ambulacral tubes themselves present a remarkable arrangement: those of the lateral spheromeres being much further apart from one another than the anterior or the corresponding posterior ones, and diverging sideways, while those of the anterior and posterior spheromeres follow a more direct course forward and backward, owing, no doubt, to the lateral compression of the body. And from the wide space between the two main branches of one side arise the vertical tubes which descend along the digestive cavity toward the base of the tentacles, as well as the tentacular tubes themselves, the coeliac tubes occupying the proximal, and the tentacular tubes the distal side of the lateral inter-ambulacra.

Again, the four main branches of ambulacral tubes, instead of stretching horizontally toward the ambulacra, as in *Pleurobrachia*, are bent toward the abactinal area, and then divide each into two branches, to provide the eight ambulacra with as many vertical ambulacral tubes. The consequence of this arrangement is, that