

perceived, on account of the great uniformity of the tubes themselves. Even in *Pleurobrachia*, in which the chymiferous tubes seem absolutely identical in size, and evenly radiating in eight directions, the same arrangement may be recognized, upon careful examination.

In the second place, these four pairs of chymiferous tubes, so combined, are unequal in their development,—the lateral pairs being short, and terminating each in a small free lobe or auricle, while the anterior as well as the posterior pair, meandering through the thickness of lobe-like prolongation of the spherosome, anastomose with one another, and form a curious lattice-work of chymiferous tubes upon the inner surface of the base.¹

The most striking peculiarity of all the ambulacral chymiferous tubes of the *Mnemiidæ* consists, however, in the great inequality of the diameter of the tubes in different parts of their course. Upon the sides of the spherosome, and as far as the locomotive flappers extend along with them, they are wide and highly contractile; but beyond these limits they are more like capillary vessels of an equal diameter, especially in their prolongation upon the inner surface of the great lobes of the spherosome, where those of the two sides of the anterior and of the posterior pair anastomose with one another, as well as with branches from the lateral pairs and from the oral tube. The centre of the whole chymiferous system is neither so fully developed as in the *Cydippidæ* nor so reduced as in the *Beroidæ*; but the main trunks and the axial funnel are of moderate dimensions. The coeliac and the interambulacral tubes, of which there is but one on each side, run parallel to one another, and present nearly the same development. The tentacular apparatus is connected with the extremity of the interambulacral tube, but not enclosed in a deep sac. The circumscribed area of the abactinal pole is not more distinct than in the *Cydippidæ*, nor are the ovaries and spermaries prominent. The digestive cavity is comparatively small, as in *Cydippidæ*; but there is this remarkable difference between the *Mnemiidæ* and *Cydippidæ* in the relations of the actinostome, that while in *Cydippidæ* the mouth is prominent on the actinal pole, in *Mnemiidæ* the broad lobes formed by an actinal prolongation of the two anterior and the two posterior spheromeres extend far beyond the mouth, and may

¹ Whether this network of chymiferous tubes, thus far only noticed in *Bolina*, *Alcinoe*, *Chiaja*, and *Leucothoe* by Mertens, Will, and myself, exists in all *Mnemiidæ*, or not, I am unable to say. I am, however, inclined to believe that it will be found in all. Its anastomosis with the recurrent tube of the auricles seems a typical indication of its natural connections; and as the recurrent tube has been

observed in *LeSueuria* and *Euramphava*, I infer that the rectangular, anastomotic ramifications of the chymiferous tubes upon the lower surface of the lobe-like prolongation of the spherosome is likely to exist in all the representatives of this sub-order. The appearance of this network of tubes is very similar to the mode of ramification of the branchial vessels of the *Naiades*.