

with one another, and as the ambulacral tubes, which are homologous to the radiating chambers of the Polyps, alternate with the ovaries in their radiating arrangement, so do we find here the radiating genital system, with its peripheric radiating tubes, alternating with systems of radiating tubes extending directly to the main cavity of the body. It seems therefore justifiable to call the radiating system of chymiferous tubes, corresponding to the angles of the mouth, the ambulacral system of tubes, and those which alternate with them, the interambulacral or genital system of chymiferous tubes.

It thus appears that the peculiar symmetry of our *Aurelia* arises from the fact that the ambulacral system of chymiferous tubes is comparatively small and simple, alternating with an interambulacral system of chymiferous tubes, expanding into broad pouches, from each of which arises a wide system of peripheric tubes. It appears further, that the main branch of the interambulacral, as well as that of the ambulacral system, terminates at the base of an eye, while the main lateral branches of the interambulacral system, which are also simple, correspond to much less marked indentations of the margin in which there are no eyes, but which Ehrenberg has considered as marking the position of as many marginal, anal apertures. Having injected a great many of these animals in a perfect state of preservation, without ever perceiving an escape of the injected colored fluid at these places, and having watched for days and days the circulation of the nutritive fluid through the whole of these systems of radiating tubes, I venture positively to deny the presence of any aperture in the periphery of these systems of parts. The lumen of these simple tubes being somewhat larger than that of the adjoining branching tubes, their anastomoses with the marginal tubes constitute somewhat wider spaces, in which occasionally an accumulation of undigested minute particles may be observed; but these are always after a while carried along with the circulation, and are brought back to the central cavity in the returning currents, and finally rejected through the oral aperture. Pl. VII. *Fig.* 5, in which parts of the genital pouches and all the oral appendages have been removed, shows distinctly that while the interambulacral radiating tubes arise from the periphery of the genital pouches, the ambulacral tubes extend to the main cavity of the body. Ehrenberg seems to have overlooked this difference, for he represents (Pl. I. *Fig.* 1, and Pl. III. *Fig.* 5, of his paper in the Transactions of the Berlin Academy for 1836), in an injected specimen, all the radiating tubes as arising from one common cavity, which is certainly not the case in the *Aurelia flavidula*.

In proportion as our species grows older, the anastomoses of the radiating tubes become more numerous along the margin, and the circular marginal tube loses gradually its character of a continuous tube, and assumes more that of a net-work of anastomoses, with which communicate the many marginal tentacles.