

interambulacral radiating tubes arise from the periphery of the sexual pouches, while the ambulacral ones extend further inward between these pouches. The whole system of these cavities, the radiating tubes, the sexual pouches, and the main digestive cavity, are hollowed out, as it were, between the upper floor of the body, which consists of the main gelatinous disk and is by far the thickest, and a lower floor equally gelatinous, which is everywhere much thinner, as Pl. VIII. *Fig. 2* shows, (magnified in part *Fig. 3*), though it is thickest below the genital pouches (Pl. IX. *Figs. 7, 8, and 9 c*) and at the base of the oral appendages (*b*), which are themselves a prolongation of that lower floor. A thorough comparison of the histological peculiarities of our adult *Aurelia*, with those of the earlier periods of its growth, remains a desideratum in its anatomical history.

Professor H. J. Clark has furnished me with the following memorandum of an investigation of part of this subject, upon which he has been engaged during the last summer. "Excepting upon the dorsal, or, as recently denominated by Professor Agassiz, the abactinal region of the disk, the outer and inner walls of the body are underlaid by a thin, fibrous, muscular stratum. In that region of the actinal side, which extends from the base of the tentacles to the outer margin of the reproductive organs, the muscular fibres are fibrillate, and the fibrillæ are arranged in concentric circles, and are as distinctly striated as in the highest form of muscle; yet they are not arranged in fascicles, but lie side by side in a uniform succession, from the inner to the exterior edge of the concentric series. In every other part of the body where the fibres are found, excepting in the marginal canal, they trend radiatingly, and are nearly or altogether destitute of fibrillæ and striæ; these features being detected with the greatest difficulty, and, after all, with some degree of uncertainty. In the tentacles, and ocular peduncles, they run parallel to the axis, and give them a longitudinally banded appearance; in the marginal lobes, they converge at their blunt apices; and from the bases of the three above-mentioned organs, they spread laterally, and gradually pass into the concentric series. From the inner edge of the latter, they again assume the radiating trend, and pass in direct lines, without changing their course as they traverse the depths of the reproductive pouches, to the base of the actinostome, and thence to the extreme border of its four lobes.

"Within the body the fibres trend radiatingly, traversing the cavity of the actinostome in lines parallel to those without, and then expanding in the digestive cavity, they pass directly to its border, following all the convolutions of the reproductive organs, and then entering the radiating canals, they course longitudinally to the point of junction with the marginal canal, where they diverge laterally, and follow a circular direction along the channel and parallel to the margin of the disk. At the bases of the tentacles, the interior and exterior muscular layers unite