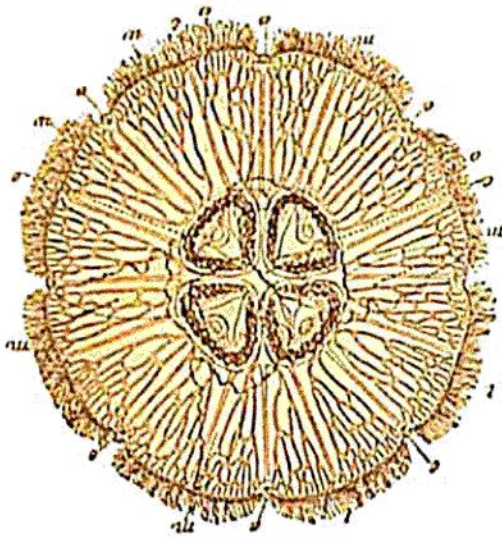


to the projecting edges of the radiating partitions, and in Echinoderms they rest upon the interambulacral zones, either as a compact mass or in two rows, one on each side of adjoining ambulacra. In the naked-eyed Medusæ the same arrangement obtains throughout, whether the sexual organs are situated along the chymiferous tubes or upon the proboscis; for in both cases these organs are upon the sides of the medial channel of the ambulacral system, which is tantamount to occupying an interambulacral position.

Now is it probable that the covered-eyed Medusæ should alone form an exception to the plan of structure which obtains in all the Radiates? Such exceptions exist

Fig. 2.



AURELIA FLAVIDULA, Per. of LeS.

c oral aperture. — o o genital organs. — m m m oral appendages, in outflues. — e e e eyes. — t tentacles.

nowhere in the animal kingdom; and if there is any difficulty here, it can only be in the interpretation of the facts, and in the construction thus far put upon them. Let us therefore examine what the facts of the case are. It has already been shown, page 52, that the radiating chymiferous tubes of Aurelia (Fig. 2) have not all the same origin, and that while four systems of them communicate directly with the main cavity of the body, four other systems, alternating with the former, arise from the sexual pouches of which they are a direct continuation, as the others are a direct continuation of the digestive cavity.

The chief difference, then, between Aurelia and the Hydroid-Medusæ, consists in the greater isolation of the sexual organs from the main chymiferous tubes; but this separation is precisely in accordance with the general progress of the organization of the Radiates, from the lowest Polyps to the highest Echinoderms. In Polyps the ambulacra are wide chambers, and the interambulacra narrow partitions, upon the edges of which the sexual organs are inserted; in the naked-eyed Medusæ the interambulacral system has become wide, and the ambulacral system is reduced to narrow tubes, but the sexual organs are still in the immediate proximity of the chymiferous tubes; in the Echinoderms, in which these organs have become entirely independent of the ambulacral system, they are placed in the middle of the interambulacral zones. In the Discophoræ proper, they present an intermediate combination; separated from the four systems of chymiferous tubes which arise from the main cavity of the body, they are connected with special systems of chymiferous tubes, no longer directly opening into the main cavity, but arising from the wide pouches in which the sexual organs are suspended. The circumstance that there is an eye at the peripheric termination of each median tube of