

In view to a further discussion of the homologies of these animals, I would call special attention to the fact, that we have here eyes in the peripheric prolongation of the interambulacra, as well as of the ambulacra, and that the angles of the mouth and their arm-like appendages extend in the direction of the ambulacral rays.

The only points in the structure of Aurelia, the correct appreciation of which presents some difficulty, are the relations of the central digestive cavity to the genital pouches and to the oral aperture, and perhaps also those of the ocular apparatus to the system of radiating tubes and to the tentacles. A comparison of the magnified views of young specimens of our *Aurelia flavidula*, as represented Pl. XI<sup>b</sup>. *Fig.* 17 and Pl. XI<sup>c</sup>. *Fig.* 5, with adult specimens, Pls. VI. and VII. *Fig.* 1, plainly shows, that the central cavity acquires much larger proportions, in comparison to the size of the body as it grows older; for in the adult that cavity occupies about one third of the total diameter, while in the young, it is hardly one sixth. With this change in the relative dimensions, great changes also take place in the outlines and form of the arms which surround the mouth, of the pillars by which they are connected to the lower floor of the body, and of the lower surface of the gelatinous disk forming its upper floor. It has already been stated, that the adit of the main cavity is at first a simple hollow pyramid, with the angles of its opening slightly turned out. These projecting angles soon become pendant appendages with a lobed margin, and these so-called arms very soon increase so far as to equal in length the semidiameter of the disk, so that, when stretched horizontally, their extreme ends reach to the margin, and when hanging down, they project to a considerable extent below the umbrella. This pendant position is constantly observed in younger specimens, and seems to be a natural consequence of their comparative thinness and slenderness; but in proportion as the animal grows larger, they increase considerably in thickness, especially toward the base and along the outer or upper keel of each arm, while at the same time, the free margins spread and widen, becoming folded and lobed to such an extent, that each margin appears like a ruffled curtain, with innumerable fringes along the whole outline. While this is going on, the open cylinder leading to the main cavity, in the young, becomes gradually more and more distinctly quadrangular (Pl. XI<sup>b</sup>. *Fig.* 17); the furrow along the middle of the prolongation of the angles of the mouth, which is at first very broad and shallow, grows comparatively deeper and also narrower, the two sides of each oral appendage closing more and more upon themselves; and by the time the *Aurelia* has reached dimensions of about two inches, the oral aperture itself is almost constantly closed, by the approximation of two of its opposite sides. This tendency to closing reaches its maximum in the adults, in which the combined edges of two adjoining arms are brought into linear contact with the combined edges of the opposite arms, so that instead of a square opening, leading into the