

## SECTION VIII.

## PECULIARITIES OF THE AURELIDÆ AS A FAMILY.

If form, as determined by structure, constitutes the essential character of a natural family in the animal kingdom, it is incumbent upon us to show that our *Aurelia* has a pattern of its own, to justify us in considering it as the type of a distinct family. This is the more necessary, since Eschscholtz associates it with the genera *Sthenonia*, *Cyanea*, *Pelagia*, and *Chrysaora*, as a member of the family which he calls *Medusidæ*. Even the most recent writer on the classification of *Aculephs*, Professor Gegenbaur, unites it in the same way with other *Discophoræ*, which, in my estimation, belong to different families.

What prominently distinguishes *Aurelia* as a family, is the even curve of the outer surface of its disk, while the lower surface is excavated in its central portion by four large genital pouches, between which hang four stout arms, closing upon one another in the centre, so as to form a rectilinear opening, prolonged in undulating curves or folds between the lower margins of the arms. The whole edge of this opening, to the extremity of the arms, is set with uniform, minute fringes. The whole margin of the disk is evenly provided with comparatively small tentacles, except where the eight eyes occupy comparatively slight indentations, which give the outline the appearance of an eight-lobed disk, the lobes of which are evenly arched outside, with a slight depression in the middle. All these peculiarities in the form of our *Aurelia* depend upon structural features. The absence of undulations on the outer surface of the disk, which are so characteristic of *Cyanidæ*, arises from the even diminution in the thickness of the whole disk, from the centre to the periphery. The four triangular excavations of the lower surface are owing to the peculiar widening of the interambulacral system of radiating tubes, near their base, and the corresponding thickening of the lower floor under these pouches, in consequence of which an open space is circumscribed below them, which communicates with the surrounding medium through large, circular apertures. The stoutness and comparative rigidity of the arms, when contrasted with the long, pendent and flowing folds of the oral appendages of *Cyanea*, are owing to the manner in which the primitive oral tube thickens at its base, while its outer edges, extending horizontally, fold respectively with their margins against each other, and to the circumstance that the margins grow wider than the arched back, in consequence of which they are drawn in folds around the whole oral rim; for the aperture which leads into the main cavity is not limited to the opening immediately below the digestive