

aperture, from the corners of which project four long arms, furrowed along the middle, and leading into the main cavity. This structure, however, varies greatly with age in *Aurelia*. In the young the central aperture is only a broad funnel with four sides, more or less flattened, the angles of which become prominent, lobed, and fringed, until regular arms, with a deep furrow in the centre, have been formed, communicating with the wide central opening; and the edges of the arms themselves are so folded as to present numerous minor furrows, leading from the sides towards the main central channel. In fact, the arms, with their middle and lateral channels, are only the prolonged margins of the mouth, the whole surface of which leads to the mouth.

As *Aurelia* grows older, the arms become thicker along their centre, and the thin margins are folded against one another, their edge alone remaining pliable upon the sides of the stiffer axis; but as these edges are themselves wider, longer, and more spreading than the axis, they fold, bend, and twist in every direction, from both sides, until, at last, these winding folds become also harder and stiffer, and can neither be fully opened nor stretched, so that, though the margin of the arms is free and open, from tip to base, and can be laid out like a flat leaf, with comparatively little effort, each arm of an adult *Aurelia* forms, in reality, a system of flat channels, gaping along the margin, and uniting into fewer and fewer ramifications toward the middle line of the arm, along which runs the larger channel which terminates in the mouth. The central aperture, or the mouth itself, undergoes identical changes. Its walls become thicker and stiffer, and less movable, and are finally thrown into such folds as fit one against the other so closely, that, in the end, the oral aperture is transformed into a system of capillary surfaces, between the folds of the actinostome, leading into the main cavity.

Now such is exactly the structure of a *Rhizostome*, with this exception only, that the margins of these capillary surfaces interlocked with one another, are soldered up, and present, only at intervals and in particular places along the edge, which vary in different genera, apertures which through life remain open and keep up a communication between the surrounding medium and the main cavity, and through which the food necessary for their sustenance is absorbed. I know, from direct observation of the young of *Polyclonia frondosa*, one of the earliest *Rhizostomidæ* known to naturalists, that in this species at least, the young has a simple funnel-shaped mouth, as widely open, as freely gaping, and as directly communicating with the central cavity of the body, as in the young *Aurelia* and the young *Pelagia* (Pls. X. and XII.). I know, further, that in more advanced young the angles of the mouth begin to project, in the shape of arms with open and free margins, as in *Aurelia*, *Cyanea*, and *Pelagia*. And though I have not actually seen the margins of the mouth of any specimen of this species grow together, in such