

different genera, and vary from four to eight, as do also the openings facing the genital sacs. Secondly, the stem, or central disk, towards which these roots converge above, and in the centre of which there is a cavity in the form of a cross. From this point the walls of that cavity branch again, radiatingly, and form, thirdly, the so-called arms. The arms themselves may be uniform throughout, and exhibit only a swelling near their extremity, as in *Leptobrachia*; or there may be a bunch of ramifications near the base, and the remainder of the arm be a simple thread, as in *Cephea*; or there may be two bunches of ramifications, at a distance from one another, and a simple termination to each arm, as in *Rhizostoma*; or the whole arm may be uniformly branching as in *Polycelonia*.

Another point of importance is the degree of independence or isolation which the central disk, intervening between the pendant arms, acquires from the arches or roots of the arms, from which it is derived morphologically, and the character and complication of that disk. In the *Cassiopeæ* the central disk seems raised, as if detached from the surrounding parts of the lower floor, and completely independent from the side walls of the main cavity. So it is, also, in *Leptobrachia* and in *Cotylorhiza*; but in *Rhizostoma* it is confluent with the basal arches of the arms, which alternate with the genital sacs, so that this part of the actinostome differs least in *Rhizostoma* from the ordinary structure it exhibits in the *Aurelidae* and *Cyaneidae*.

The relations of the arms to the eyes or marginal ocelli are equally important. In *Rhizostoma*, which have four genital sacs and four oral arches, there is one eye in the radius of each ovary, and one in the radius of each oral arch. In the *Cassiopeæ*, which have eight genital sacs and eight arms, apparently independent of the oral arches, there is one eye in the radius of each ovary, and the arms alternate with the eyes. The relations of the cross of the mouth are not easily defined; it seems, however, to correspond to four of the arms, and not to four eyes. In *Polycelonia* the four arms are likewise in the radial prolongation of four eyes, but there are no eyes fronting the radial prolongation of the centre of the four genital sacs, though there is one eye in each segment of the disk which alternates with the oral segments and the centre of the genital segments. Elaborate as the figures of *Cotylorhiza*, published by Delle Chiaje, seem to be, they do not represent the marginal ocelli. In *Leptobrachia*, which has four genital sacs and eight arms, which are also independent of the oral arches, it would seem, from the figures of Chamisso, that there are four arms alternating with four ovaries, and corresponding to the angles of the cross of the mouth, and four facing the ovaries and alternating with the cross of the mouth. But such a combination is so contrary to the symmetry of the *Aclephs*, that I suspect here an error of observation. The position of the eyes cannot be ascertained from the figures thus far