

Echinoderms to ascertain their homologies, we must, as a matter of necessity, bring them all into the same respective position, and contrast the arrangement of their parts in their mutual correspondence. There is, however, no difficulty about their identification, inasmuch as the mouth is made in every case the central point of comparison. It has been already ascertained, that Polypi, though truly radiated animals, have, in most of their types, if not in all, a rudimentary indication of a longitudinal axis in the oblong form of their mouth, which is the first indication of a bilateral symmetry in the animal kingdom, occurring even among the lowest Radiata; while in Echinoderms it rises higher and higher, and becomes so prominent in the Spatangoids as to influence not only the general form, but even the number and arrangement of the internal parts, and the length and special development of the external appendages and of the ambulacral rows.

The class of Acalephæ, which is intermediate between those of Polypi and Echinoderms, holds in these respects also an intermediate position. In Ctenophoræ, we have a slightly compressed body and an oblong mouth. But the mouth may open in a direction transverse to the elongation of the body. The question therefore is, Does the mouth, with the plane which passes through it and the opposite area, in this case indicate the length of the axis of the body, and divide it into a right and a left half; and are therefore the tentacles lateral appendages, one on the right side and the other on the left side, as we should consider them if we were to place the axis of the mouth in the same direction as the axis of the mouth in Polypi? or have we to consider the tentacles as arranged along the longitudinal axis, one on the anterior, and the other on the posterior, extremity? And in that case, are the folds of the mouth rather the first indications of an upper and a lower lip,—as we should consider them were we to compare the transverse position of the mouth with the position this opening assumes in the oblong symmetrical Echinoderms, in which the bilateral symmetry has been made prominent,—or have we to view also the indication of bilateral symmetry among Polypi as a tendency to such an arrangement of the two lips? I think I can be positive in the case of Polypi; for in Actinia, as well as in Astrangia and many other Actinoid Polyps, the oblong fold of the mouth has unequal angles; and it would be to suppose the right and left angles of the mouth to be assymetrical, and the upper and the lower lip to be identical, if we should not consider this split as running in the longitudinal axis. And that it indicates really a longitudinal axis is shown by the circumstance, that fecal matters are discharged along the rounded angle of the oblong mouth, opposite to which there is, in many Polypi, a tentacle of a peculiar form, and sometimes differing in color from the others.

This being the case, are there reasons to view Pleurobrachia in a different light? Are the Ctenophoræ more nearly related to Echinoderms in their arrange-