

both ends. So also, in the class of *Acalephs*, the digestive cavity in most *Medusæ* is simply hollowed out of the central part of their spherosome, while in *Ctenophoræ* that cavity has its walls, not only distinct from the spherosome, but in its upper part these walls recede from the mass of the body, and leave an open space between the two, into which the products of digestion are poured. There is, besides, in these animals, a double opening in the upper part of the spherosome, through which the *fæcal* matters are discharged. Nothing of the kind exists in any other *Acaleph*. Notwithstanding this, the *Ctenophoræ* are strictly homologous in all their parts to the other *Acalephs*. On the other hand, this peculiarity of the digestive cavity of the *Ctenophoræ* recalls the disposition already noticed in some *Star-fishes*, and establishes a sort of transition between the extreme modifications in the latter; for, while the digestive sac of some *Star-fishes* is a closed sac rising into the main cavity of the body without an open communication with it, in other *Star-fishes* it rises to the upper wall of the body, through which it passes, to open externally, and in *Ctenophoræ* it opens into the cavity of the body, the walls of which are in their turn pierced with two distinct openings, to afford a passage for the *fæces*. These two openings cannot be considered as anal openings, since they do not directly communicate with the digestive cavity; nor is the aboral end of the digestive sac to be compared to an anus, for it discharges its contents directly into the main cavity of the body. We have here, throughout, combinations which are entirely foreign to the plan of structure of the other branches of the animal kingdom, and which fully justify what I have already said above respecting the impropriety of calling the parts of these animals by the same names as those of other types. But while the *Radiates* are thus shown to differ in every respect from the *Mollusks*, *Articulates*, and *Vertebrates*, they at the same time become more and more intimately linked together, in proportion as we are better acquainted with the typical features of their organization.

As to the so-called external skeleton of *Echinoderms*, it in no way constitutes a peculiarity of this class, in contradistinction to the *Acalephs* and *Polyps*; for in *Holothuriæ* the amount of calcareous deposits is comparatively small and does not affect the flexibility of the spherosome, while the rigidity of the *Echini* is not greater than that of the *Corals* compared to *Actiniæ*. In both it is only a consolidation of the spherosome, resulting from the accumulation of limestone in its tissue; but the actinostome, as well as the diverticles of the aquiferous system, the tentacles and ambulacral suckers, remains soft and movable. To judge correctly of these relations, it is indispensable to observe these animals alive, with all their soft parts fully expanded. In that condition *Star-fishes* and *Sea-urchins* have a very different aspect from that which they exhibit when dried up or preserved in alcohol. By comparisons made in this way we are enabled to establish the closest homology