

abactinal area in Starfishes, at once explains the position of their eyes at the end of the so-called arms, which correspond to the summit of the ambulacra in the Echini. If, on the other hand, we start from the simple ambulacra of the Synaptoids, and compare them with the genuine Holothuriæ, the presence or absence of ambulacral suckers appears only as a further complication of one and the same apparatus; and, however diversified this system may be, it remains homologous to the simplest radiating chymiferous tubes of the *Aculephs*, and is, therefore, also homologous to the radiating chambers of the *Polyps*. The presence of a simple tube extending over the eye, in our common Starfishes, in the prolongation of the main ambulacral tubes, shows further that the position of the eyes in Echinoderms is identical with that of the *Aculephs*, in which the eyes are also in the prolongation of the radiating chymiferous tubes, at the base of the primary tentacles. The complication of the ambulacral system of the Echinoderms is very remarkable in some of their types, assuming at times the form and function of gills on its actinal side, and forming ornamental rosettes, of the most diversified patterns, toward its abactinal side. But everywhere the ambulacra preserve their primary relations to the whole plan of structure. Even the most complicated feelers of *Cuvieria* and *Psolus* are only actinal modifications of the ambulacra, performing the functions of tentacles. As to the lantern of the Echini, we need only compare it with the chewing apparatus of *Solaster endeca*, or *Echinaster solaris*, or *Paulia horrida*, to remain satisfied that it consists of a combination of the interambulacral plates nearest to the mouth, movably articulated upon the next immovable plates of the corresponding interambulacral zones.

A glance at the mode of development of the Radiates may assist in making these comparisons more precise. Every naturalist now knows how very similar young *Polyps* and young *Hydroids* are, and, if in connection with this we take into consideration the fact that the young *Aurelia* is only a transverse section of the body of a *Scyphostoma*, the internal identity of these animals must be granted. We have here, therefore, the most direct evidence that young *Discophoræ* are *Polyp*-like. If we further consider the *Aculephian* character of the *Pluteus*-like larvæ of Echinoderms, we connect also this class with the other two classes upon embryological evidence. But that evidence amounts to a demonstration of their structural identity, when we compare the twin individuals of a *Diphyes*-chain with the *Pluteus*-like larvæ of an Echinoderm, in which the Echinoderm has begun its development. In the twin *Diphyes*, one individual has the structure of a sterile *Hydroid*, while the other is a genuine sexual *Medusa*, just as a *Pluteus*, with its young Echinoderm emerging, is a twin, one individual of which is a sterile *Aculephoid*, and the other a sexual Echinoderm. The embryological development of the three classes of Radiates shows that they belong to one and the same type.