

figs. 1-5, b). Thus then the interradial symmetry of the centro-dorsal is an altogether secondary condition, and is due not to the possible presence of radially situated under-basals, as supposed by Wachsmuth and Springer, but to the fact that the radials themselves rest upon the plate, the primary radial symmetry of which becomes altogether obscured when it begins to increase in diameter and to develop cirri, coincidentally with the retromorphosis of the basals.

The external form of the centro-dorsal varies very greatly among different species of Comatulæ. It is very distinctly conical in *Atelecrinus* (Pl. VI. figs. 5, 7). In the three chief of the remaining endocyclic genera (*Antedon*, *Eudiocrinus*, and *Promachocrinus*) it is occasionally somewhat hemispherical or subconical, with the cirrus-sockets arranged rather irregularly (Pl. I. figs. 1a, 6a, 8a; Pl. II. figs. 1-3, a; Pl. III. figs. 4b, 5a, 7a; Pl. XXX. figs. 1, 2, 4); but in some cases, as in *Antedon quinquecostata*, it is more distinctly pentagonal and columnar, with the sockets grouped in alternating rows (Pl. III. fig. 6d), while in *Antedon balanoides* it is distinctly conical (Pl. XXXIII. fig. 6). In other forms again the dorsal pole is flattened (Pl. II. fig. 4a), and this is especially the case in *Antedon carinata* and *Antedon macronema* (Pl. III. figs. 1a, 3b; Pl. IV. fig. 3a), which in this character, as in some others, exhibit a variation in the direction of *Actinometra*. On the other hand, *Antedon quinduplicava* and *Antedon disciformis*, which are still more like *Actinometra* in the small number of functional cirrus-sockets and in the discoidal shape of the centro-dorsal, belong unmistakably to the genus *Antedon* in the relative height of the radials (Pl. IV. figs. 1a, 2a).

In most species of *Actinometra* the centro-dorsal is a thin flattened disc, often with only one row of functional cirrus-sockets (Pl. IV. fig. 4a; Pl. V. figs. 1b, 1d, 2b, 2d, 2e, 4b); though in *Actinometra stelligera* it is thicker and bears a comparatively large number of sockets (Pl. V. figs. 5b, 5c).

As a general rule the shape of the centro-dorsal is tolerably constant in any individual species of *Antedon*, being hemispherical in *Antedon eschrichti* (Pl. I. fig. 8a; Pl. XXIV. figs. 10, 11), columnar in *Antedon quinquecostata* (Pl. III. fig. 6d), and more discoidal in *Antedon carinata* (Pl. III. figs. 1a, 3b). But in *Antedon phalangium* it exhibits a very considerable amount of variation, being hemispherical in some forms, but greatly elongated and conical in others (Pl. XXVIII. fig. 2).

In some species of *Actinometra* the obliteration of the cirrus-sockets on the centro-dorsal is carried to a very much greater extent than in *Antedon*; and the number of functional sockets, which is at no time large, is often extremely small. In some types the changes in the centro-dorsal do not stop here, but it is reduced to the condition of a flat pentagonal plate within the ring of radials as in *Actinometra paucicirra* (Pl. LIV. figs. 1-7); while in species like *Actinometra typica* (Pl. LVII. fig. 1), the sides of this plate undergo resorption, so that clefts appear between it and the radials. This gives the base of the calyx an appearance so different from that of the ordinary Comatulæ