

have many sections through the calyx, both of *Antedon rosacea* and of other species of Comatulæ in which there is no trace of them. Three such undamaged sections are figured in my *Actinometra*-memoir,¹ and I certainly never expected to find an accidental fracture in the skeletal tissue *outside* the central capsule described as a part of the chambered organ, the cavities of which are entirely *within* this capsule, as explained above.

If there really be such a diverticulum of the body-cavity within the calcareous substance of the centro-dorsal piece as is described by Vogt and Yung, *i.e.*, between its inner floor on which the central capsule rests and its external surface, its presence could easily be demonstrated by rubbing away the outer surface of the centro-dorsal until this cavity was reached; and I would commend this method of proving the accuracy of their anatomical descriptions to the attention of Messrs. Vogt and Yung. They have made a precisely similar error in their description of the anatomy of the arms, figuring a large rent in the skeletal tissue of an arm-joint as the "cavité de la syzygie." They will not find this cavity if they will take the trouble to rub away the syzygial surface of an arm-joint, which contains but one cavity, that of the axial canal.

Another extraordinary blunder which is committed by these authors in the explanation of fig. 276 is their description of the fibres (*b*) which unite the first radials to the centro-dorsal as the "muscles entre le premier et le second radial." Their monograph contains many other errors of a similar kind, not only in their interpretation of well-known anatomical facts, as in this last case, which they might have avoided by consulting the works of their predecessors, but also misrepresentations of passages in these writings. These, however, are more fitly dealt with elsewhere.²

C. THE ROSETTE.

While the presence of a cirrus-bearing top stem-joint or centro-dorsal piece is common to all Comatulæ, even including the aberrant *Thaumatocrinus*, this genus, together with *Atelecrinus* (Pl. VI. figs. 5, 7) and many fossil species, differs from the adult condition of all other recent Comatulæ in the presence of the basals on the exterior of the calyx.

It was for a long time supposed that the basals of other Crinoids were unrepresented in recent Comatulæ; but their existence in the Pentacrinoid larva was eventually recognised by Allman, Sir Wyville Thomson, and Dr. Carpenter; and the last-mentioned observer discovered the remarkable changes which they undergo during the later part of Pentacrinoid life. These changes result in their transformation into the "rosette" which lies close to the dorsal surface of the central funnel within the radials, and covers in the upper opening of the centro-dorsal cavity that lodges the chambered organ (*sensu stricto*). It is well seen in the figures of *Antedon eschrichti*, *Antedon acæla*, *Antedon*

¹ *Trans. Linn. Soc. Lond. (Zool.)*, 1879, ser. 2, vol. ii. pl. viii. figs. 3, 4, 7.

² The Morphology of *Antedon rosacea*, *Ann. and Mag. Nat. Hist.*, 1887, ser. 5, vol. xix. pp. 19-41.