In *Bathycrinus*, *Rhizocrinus*, and *Pentacrinus* the central vascular axis of the stem consists of five peripheral vessels surrounding a core of smaller ones (Pl. VIIa. fig. 2; Pl. XXIV. figs. 2, 5; Pl. LVIII. fig. 3—*ch'*); and from these peripheral vessels are derived the central vessels of the cirri borne by the stem. In *Pentacrinus* these cirri are borne by special nodal segments which occur at more or less regular intervals all down the stem. The five large peripheral vessels expand slightly in each nodal joint, and each gives off one cirrus-vessel (Pl. XXIV. figs. 3, 4, *chn*, *cv*; Pl. LXII.). Hence, every nodal joint contains, as it were, a small edition of the chambered organ situated in the calyx (Pl. XXIV. figs. 6, 8, *ch*; Pl. LXII.).

In *Comatula*, however, the centro-dorsal represents physiologically "a coalesced series of the nodal stem-joints in the stalked Crinoids,"[1] and the downward prolongations of the chambers into the stem are ruptured when this organ is discarded. A minute opening in the floor of each chamber close to the central axis remains to indicate their former existence, while a small aperture in the middle of the peripheral wall of the chamber leads into a cirrus-vessel. The vessels of the remaining cirri are derived from those forming the central axis of the chambered organ. They pass outwards horizontally beneath the chambers in five groups which are thus radial in position, as are the earlier cirri and those on the stem of *Pentacrinus* (Pl. XXIV. fig. 4, *cv*; Pl. LXII.).

In *Actinometra parvicirra*, the only species of the genus in which I have made horizontal sections through the calyx, the central axis of the chambered organ contains only two vessels, instead of the larger number present in *Antedon rosacea*; and there are fewer cirrus-verticils beneath the chambers. This is only what might have been expected, from the reduced size of the centro-dorsal in this type and the small number of cirri which it bears. In the Pentacrinoid again, with an undeveloped centro-dorsal bearing only five cirri, the vessels of these organs are derived directly from the cavities of the chambers, just as in the nodal joints of the stem of *Pentacrinus*.

Perrier has described the cirrus-rudiments as originating from the "cordon central" of the larval stem, and as alternating with the rays, *i.e.*, as interradial in position.[2] He has given no figures in support of his statements, which are far from being in accordance with the observations of M. Sars, Dr. Carpenter, and myself, as I have explained elsewhere.[3]

The smaller size of the cavities of the chambered organ in the stalked Crinoids than in the Comatulæ, and the greater simplicity of its central axis, are obviously related to the absence of a cirrus-bearing centro-dorsal.

Both in *Rhizocrinus* and *Bathycrinus*, so far as my experience goes, the axis of the chambered organ is formed throughout of a single vessel (Pl. VIIb. fig. 2, *V*). In *Pentacrinus* there is only a single vessel in the upper part of the stem (Pl. XXIV. figs. 2–5, *V*).

[1] Wyville Thomson, *Phil. Trans.*, 1865, p. 536.

[2] *Comptes rendus*, t. xcviii. pp. 445, 446.

[3] *Quart. Journ. Micr. Sci.*, 1884, vol. xxiv., N. S., pp. 325, 326.