the basals and enter two adjacent radials (Pl. XXIV. figs. 7–9; Pl. LVIII. figs. 2, 3, *ar*) There are thus two apertures on the upper surface of each basal, and two on the under surface of each radial (Pl. XII. figs. 11, 14, 22, 25; Pl. XVIII. figs. 5, 7; Pl. XX. figs. 2, 3, 6, 9; Pl. XXI. figs. 6*a*, 6*b*, 6*c*, 7*a*, 7*b*; Pl. XXX. fig. 5, 7, 8; Pl. L. fig. 5). As the two cords which enter each radial converge towards its distal surface, each of them is joined laterally by a commissure to its fellow in the next radial which springs from the same primary trunk as itself. These lateral branches form the interradial, and by far the larger portions of a circular commissure which unites the five pairs of cords within the radials (Pl. XXIV. fig. 9, *c.co*; Pl. LXII.); while the two converging cords within the substance of each radial are also united by a very short intraradial commissure (Pl. XXIV. fig. 9, *i.co*).

This circular commissure occupies a canal which traverses the radials from side to side, lying in the Comatulæ very close to their distal face, but more centrally in the Pentacrinidæ. Its openings on the lateral faces of the radials are shown in Pl. XII. figs. 11, 22; Pl. XX. fig. 6; Pl. XXI. figs. 6*a*, 6*b*, 6*c*; Pl. XXX. figs. 5, 8.

The two secondary cords within the basals and the proximal parts of the radials of *Pentacrinus* are more widely separated than the corresponding structures in the Comatulæ (Pl. XXIV. figs. 7, 9; Pl. LVIII. figs. 1, 2—*ar*), so that the intraradial commissure is better defined (Pl. XXIV. fig. 9, *i.co*). Beyond the circular commissure the two axial cords of each ray lie very close together, though still distinct, just as in the Comatulæ. Each of them forks in the axillary, and there is the same horizontal commissure as was described by Ludwig in *Antedon rosacea*.

So far as the fossil Neocrinoids are concerned, *Encrinus* and *Apiocrinus* seem to have had an arrangement of the axial cords essentially similar to that prevailing in the Pentacrinidæ and Comatulæ. In the former genus, as already pointed out by Ludwig, no canals have been described either for the intraradial commissure or for the horizontal commissure in the axillary; while the secondary radial cords remain distinct as far as the axillaries, even to the extent of being lodged within separate canals in the second as well as in the first radials. The double canals are continued through the whole length of the arms; and in some species these consist, after the base, of a double row of joints, each of which is pierced at its inner end by the two canals. The absence of any canals which could lodge an intraradial commissure is very singular; and it is also remarkable that the interradial portions of the circular canal should lie so completely in the distal parts of the radials. They only join the axial canals where these open on the distal faces of the radials; so that if an intraradial commissure were present at all, it must have lain just at the edge of the first radials, almost among the ligamentous bundles uniting them to the following joints.

The axial cords of *Encrinus* were lodged in canals throughout their whole length, those within the basals occupying grooves within the substance of the plates which were