and there is no more direct communication between the fibres forming one of the tendons that ends in a nodal joint and the fibres of the syzygy between that joint and the infra-nodal, than there is between the ligaments uniting the second radials of *Pentacrinus wyville-thomsoni* to the first (Pl. XXIV. figs. 8, 9, *ld*), and the fibrils of the syzygy between the second and third radials. In both cases the two sets of fibres are separated by the organic basis of a joint of the skeleton; in the one of the ray, and in the other of the stem.

The amount of increase in the size of the nodal joint varies considerably in the different species. They are not specially prominent in *Pentacrinus asteria* (Pl. XIII. figs. 4, 8), *Pentacrinus mülleri* (Pl. XV. fig. 4), *Pentacrinus blakei* (Pl. XXXI. fig. 3), or in *Pentacrinus naresianus* (Pl. XXVIII. fig. 2; Pl. XXXa. fig. 6). In *Pentacrinus decorus*, on the other hand (Pl. XXXVI.), the joint expands considerably from its upper edge down to the top of each cirrus-socket, and then narrows again; while in *Pentacrinus wyville-thomsoni* (Pl. XIX. figs. 3, 4) the sockets are very prominent, and the joint is widest near its lower edge. In the genus *Metacrinus*, however, the cirrus-sockets are by no means specially prominent (Pl. XXXIX. fig. 3; Pl. XLI. figs. 1, 5, 15; Pl. XLVII. figs. 1, 2; Pl. XLIX. fig. 3; Pl. LI. figs. 6–8; Pl. LII. fig. 2; Pl. LIII. fig. 6).

In *Pentacrinus asteria* (Pl. XIII. figs. 4, 8) and *Pentacrinus mülleri* (Pl. XV. fig. 4), the sockets are usually more or less transversely oval in shape and well defined below, so as to be almost or entirely limited to the nodal joint. In *Pentacrinus decorus*, however, the articular surface occupies the broad end of a pear-shaped depression, which is continued down on to the infra-nodal joint (Pl. XXXVI.), and thus gives it a distinctly stellate outline even when seen from beneath (Pl. XXXVII. figs. 10, 20); while the ordinary internodal joint has a rounded or pentagonal outline. The lowest internodal or "supra-nodal" joint of this species is in no way different from the other internodal joints above it; while the infra-nodal is hollowed laterally by the downward extensions of the cirrus-sockets(Pl. XXXVI.; Pl. XXXVII. figs. 8, 19). In *Pentacrinus wyville-thomsoni*, however, the lower edge of the socket projects outwards beyond the level of the infra-nodal (Pl, XIX. figs. 3, 4). This joint is but little different from those below it, except just at its upper edge where it meets the enlarged surface of the nodal joint that rests on it (Pl. XXII. figs. 21, 22). The supra-nodal joint, on the other hand (Pl. XXII. fig. 17), is not so round as the remaining stem-joints (fig. 23); for it is slightly hollowed by the upper portions of the cirrus-sockets, and thus more nearly approaches the shape of the upper face of the nodal joint on which it rests (fig. 18).

This condition becomes still more marked in *Metacrinus*, which has relatively low nodal joints with wide and comparatively inconspicuous sockets (Pl. XXXIX. fig. 3; Pl. XLI. figs. 1, 5, 15; Pl. XLVII. figs. 1, 2; Pl. LI. figs. 6–8; Pl. LII. fig. 2; Pl. LIII. fig. 6), just as in *Pentacrinus asteria* and *Pentacrinus mülleri* (Pl. XIII. figs. 4, 8; Pl. XV. fig. 4); but both supra- and infra-nodal joints share in the formation of the cirrus-socket,