extremities they are well adapted to retain their hold. The stem itself passes slowly from a rigid vertical attitude to a curved or even drooping position."

The shape of the nodal joints is markedly different from that of the internodal joints which separate them. They are not only somewhat higher (Pl. XIX. figs. 3, 4; Pl. XXVI. fig. 12; Pl. XXVII. fig. 1; Pls. XXXV., XXXVI.; Pl. XXXIX. fig. 3; Pl. XLI. figs. 1, 5, 15; Pl. XLII.; Pl. XLV. fig. 6; Pl. XLVII. figs. 1, 2), but the outline of the upper non-syzygial face is different from that of an internodal joint. (Compare Pl. XXXIX. figs. 4, 8; Pl. XLI. figs. 2, 3, 6, 7, 16, 17; Pl. XLV. figs. 2, 4; Pl. XLVII. figs. 4, 5, 8, 9; Pl. LI. figs. 9, 10; Pl. LIII. figs. 3, 4.) In the recent *Pentacrinus* and *Metacrinus* every nodal joint is united by syzygy to the top joint of the next internode below. I propose to give the name "infra-nodal" to this joint, which is really the hypozygal of the syzygial pair (Pl. XXII. figs. 19–22; Pl. XXVI. figs. 12–16; Pl. XXX. figs. 26–29; Pl. XXXVII. figs. 5–8, 19–22; Pl. XXXIX. figs. 3–7; Pl. XLV. figs. 3–5; Pl. XLVII. figs. 3, 7; Pl. L. figs. 19–22; Pl. LIII. figs. 3, 5). The apposed faces of these two joints are much more distinctly stellate than are those of the remaining stem-joints, the re-entering angles of the star being the points of attachment of the cirri, and the syzygial surfaces of the mature joints are almost smooth and devoid of any markings whatever.

The syzygial union of two stem-joints is effected, just as it is in the rays and arms, by short fibrils of connective tissue, very numerous and closely set. They form a kind of "cement substance," as it was formerly called, which is connected at its ends with the organic basis interpenetrating the calcareous network of the stem-joints, just as the "cement-substance" of the arm-syzygies is connected with the organic basis of the brachials. But these fibrils are absolutely distinct from those of the five long ligamentous bundles which occupy the internodes. The latter are often spoken of as tendons, and have been wrongly described as extending throughout the whole length of the stem. Were this really the case, it is difficult to see how the stem could break across at the syzygies so easily as it does; for there would be no reason why the five tendons should be weaker at these points than at anywhere else in the internodes, while the loose ends of the tendons should appear at the surfaces of fracture, just as they do where an internode is forcibly broken across. But this is not the case; when the stem is decalcified the joints separate very readily along the lines of syzygy, and it is then apparent that the five tendons run from the lower portion of each infra-nodal joint down into the upper portion of the next nodal joint below it. They end within these two joints, just as do the ligaments which connect two brachials, terminating either in looped extremities or else passing into the connective tissue plexus which forms the substance of all the joints whether of arm or stem.

The various internodal joints are, as it were, strung upon these tendons, which are thus not continuous, but divided up into lengths, each corresponding to an internode;