

Platycrinidæ, for it had radial dome plates of the first, second, and even occasionally of the third order.

Apart from this aberrant type, however, the radial regions in the vault of the Platycrinidæ seem to have consisted of a double row of small, more or less alternating plates. Their arrangement does not by any means correspond regularly to that of the radial calyx plates, as would appear from Wachsmuth's generalised description of the vault¹ in the Sphæroidocrinidæ, *i.e.*, Platycrinidæ, Actinocrinidæ, and Rhodocrinidæ. In fact the greater part of this description holds good for the Actinocrinidæ only.

The peripheral portion of the vault of *Platycrinus*, *i.e.*, the zone between the proximal dome plates in the centre and the calyx interradials, is comparatively small; and its interradial spaces are "occupied by three—rarely five—plates, smaller than the central dome plates, and less nodose, but yet comparatively large, and resting upon the interradial of the calyx."² This series of four or six interradials, taken all together, doubtless corresponds generally to the single large interradial of *Cyathocrinus*, as was supposed by Wachsmuth when he considered the latter as an oral. I do not mean that the one plate is homologous to the larger number; but only that they all belong to the same system of interradial plates. The position of the alternating dome plates in *Cyathocrinus* and *Platycrinus* would then be very much the same. They rest in the one case between, and in the other upon the interradials, and terminate against the apical dome plates. Wachsmuth says, for example, "in *Platycrinus* the interradial plates thus take exactly the same position as the exposed parts of the oral plates in *Cyathocrinus*, while the covered parts are unrepresented."³ In this type too the calyx interradials enter into the composition of the summit, just as is the case in *Cyathocrinus*. Thus Wachsmuth says that "the first interradial, which exceptionally in this group is placed almost within the dome regions, is identical with the outer (*i.e.*, primary) interradial plate of *Cococrinus*,"⁴ in which I entirely agree.

He further says, "the vault of the Platycrinidæ differs in several particulars from that of the other Sphæroidocrinidæ, and in these same characters it approaches the Cyathocrinidæ."⁵ I do not myself think that the vault of a Platycrinite was exactly of the same nature as that of an Actinocrinite, *i.e.*, that it covered in the whole of the visceral mass and the ambulacra on its upper surface. For if the alternating dome plates represent the covering plates of recent Crinoids, as Wachsmuth suggests, then all the periphery of the dome, outside the apical dome plates (orocentral and orals), must be the real ventral surface of the body, and not a *tegmen calycis* as in *Actinocrinus*. Wachsmuth himself admits that the alternating plates in the dome of *Platycrinus*, like those of *Cyathocrinus*, are represented by the covering plates of recent Crinoids; and also that no tubular skeleton has been discovered beneath the vault of any Palæocrinoid except an Actinocrinite.

¹ *Amer. Journ. Sci. and Arts*, vol. xiv. p. 187; and Revision, part ii. p. 16.

² *Ibid.*, part ii. p. 30.

³ *Ibid.*, part ii. p. 18.

⁴ Revision, part ii. pp. 17, 30, 69.

⁵ *Ibid.*, part ii. p. 16.