

on the summit of the radial pentagon. Although I have examined a large number of individuals with especial reference to this point, I have not succeeded in finding any trace of an orocentral plate. At the centre of the upper edge of each radial is a minute opening which leads inwards beneath the dome; but there is no arm-facet corresponding to this opening, still less a first brachial resting on the radial as is often found in *Haplocrinus*. The dome is rounded and smooth, and not marked by any radiating furrows like that of *Haplocrinus*, so that the ambulacra must have passed in beneath it over the upper edges of the radials. Why then may we not suppose them to have done the same in *Haplocrinus*?

In the larger specimens of *Allagecrinus* the orals are smaller relatively to the radials, the upper edges of which have minute semicircular arm-facets; while the ambulacral openings above these facets are relatively larger. In the next stage of development the orals are still more reduced relatively to the radials, which bear distinct articular facets for the attachment of the brachials by means of muscles and ligaments around a perforated transverse ridge, just as in any recent Crinoid. Even in these individuals, however, which must have had fairly well developed arms, the relatively small oral pyramid is still closed, just as in the early Pentacrinoid and in *Haplocrinus*.

Another form which remained permanently in the same condition, but had even better developed arms, was *Symbathocrinus*. For the so-called "apical dome plates"¹ (which I regard as orals) rest directly upon the upper edges of the articular faces of the radials; and they form a closed pyramid or dome with five radial or ambulacral openings, one between every two orals. While, however, the orals of *Allagecrinus* form the whole dome, its centre is occupied in *Symbathocrinus* by a single orocentral plate, around which the orals are grouped, just as in *Haplocrinus*. For the knowledge of this important fact and permission to make use of it here, I am again indebted to Mr. Wachsmuth, who will shortly describe it more fully. He is, I believe, disposed to agree with me in considering the central plate as an orocentral, and the circle of apical dome plates around it as orals, homologous with those of *Haplocrinus*, *Allagecrinus*, and the Pentacrinoid.

This dome of oral plates in *Symbathocrinus* is only very rarely found preserved; but its discovery by Wachsmuth is of extreme importance in many ways; while it indicates that although no dome has been met with in the two largest specimens of *Allagecrinus*, its absence may be only accidental and not natural.

On the other hand, there is the possibility that the dome of oral plates in *Allagecrinus* became separated from the radials by the growth of intervening perisome, just as the orals are in all recent Crinoids except *Holopus*; though whether they also separated from one another so as to open the mouth to the exterior, must remain undecided for the present. It is of course possible that they may have separated from one another without being removed from close proximity to the radials, just as is the case in *Holopus*; and

¹ Revision, part ii. pp. 17, 67.