

face on the dorsal side of the pit (Pl. III. figs. 14, 15). But on the lower arm-joints and on the radials there is practically nothing of this kind, and the pit lies immediately next to the dorsal edge of the articular face. But the dorsal surface of the joint is strongly convex and produced far below this edge, as is well shown in Pl. III. figs. 5-13. This is also the case with the distal portions of the first radials, as may be learnt from a comparison of figs 1 and 2 on Pl. V. The latter represents a horizontal section of the radials which passes 2 mm. below their edge on the concave (bivial) side, and 7.5 mm. below it on the convex (trivial) side.

Around the opening of the central funnel, which is narrower than at the top of the calyx, is an irregularly shaped pentagonal figure. This is formed by the lines of the transverse articular ridges, which in *Holopus*, as in all other Crinoids, are formed of a much closer and denser limestone reticulation than the remainder of the skeleton. Immediately within these lines are the indications of the small openings of the central canals of the radials; and just outside them are the ends of the pits lodging the dorsal ligaments. The texture of the limestone network forming the inner faces of the radials and the fossæ for the attachment of the muscles and the interarticular ligaments is remarkably different from that of the outer portion of the cup. The two are separated by the lines of the transverse articular ridge, as is shown in fig. 2 on Pl. V. and more distinctly in fig. 7, where the dark line indicates the position of the articular ridge. The substance of the radials inside this line is formed of an irregularly open network, the meshes of which reach 0.08 or 0.09 mm. in diameter, though many of them are much less, sometimes not a quarter that width.

The peripheral portion of the cup, however, is formed of a much more regular network. This consists of concentric and radiating rods which enclose circular or elliptical meshes from 0.015 to 0.035 mm. in diameter, and disposed in regular rows with their long axes tangential. Here and there, as shown in Pl. V. fig. 7, the lines of the meshwork are a little irregular, but its general character is very uniform. The difference between the two types of network is most marked, as much in the regularity as in the size of the meshes, as is well shown in the inner and outer portions of fig. 7, and also in the enlarged portions of limited areas which are represented in figs. 5 and 6. Fig. 8, on the same plate, is an ideal diagram, constructed by Mr. Black, showing the regular disposition of this peripheral reticulation. The difference of the two textures is obvious enough to the naked eye; but it becomes more apparent with the help of a lens which brings out the regularly striated aspect of the outer part of the cup. This is well shown in Pl. V. fig. 2, and less clearly in fig. 4, which represents a section taken about 5 mm. above the basal expansion, and corresponding to the upper face of the vertical section shown in fig. 3.

The central funnel is here much narrowed, and the lines of the articular ridges are seen at a distance of about 1 mm. from its opening. Outside the pentagonal figure