

To determine the minute structure with any degree of completeness, and especially the nature of the communication that subsists between the chamberlets, would require a number of sections made on different planes, and for these the necessary specimens are not at present forthcoming; nevertheless, with the help of allied organisms, the anatomy of which is well known, the available material is sufficient for the elucidation of all the more important and characteristic features.

A preliminary examination brings one fact into prominence, namely, the close analogy that exists between the arrangement of the chamberlets in the sectional view and that found in the genus *Orbitolites*; indeed there is scarcely any portion of the section to which a counterpart may not be found amongst the figures which accompany Dr. Carpenter's memoir on the latter type.¹ It must, of course, be borne in mind that the section of a spherical test does not, like the horizontal section of an Orbitolite, present a series of chamberlets grouped on a uniform level, the whole of which, together with their means of intercommunication, can be seen at one time, but represents rather the aspect of a plane projected through a mass of cells so arranged that they are necessarily intersected at different angles.

It may be noticed that although the section (fig. *c.*) passes through nearly the centre of the shell, it does not show any distinct primordial chamber. It is probable, therefore, that the initial chamber is of small size and perhaps scarcely distinguishable from the chamberlets, as is often the case in *Orbitolites* of the simple type. The early layers are comparatively thin and the constituent chamberlets small; and either for this reason or because the centre of the section happens to be thicker than the rest, the arrangement appears somewhat confused, and not without a certain resemblance to the labyrinthic structure of some of the complex *Alveolinae*.

Referring to fig. *d.*, which represents part of the section near the periphery much more highly magnified, it will be seen that the communication between the successive layers is maintained by tubular orifices, 1, 1, 1, 1, one at the margin of each chamberlet, and that these orifices are set obliquely close to the line of union with the contiguous chamberlets. In the external layer they serve collectively as the general aperture of the test, and correspond to the marginal pores of the Orbitolite; but they are not so conspicuous on the exterior, owing to their peculiar position and oblique setting. The chamberlets of the successive layers are neither regularly alternating, as in the simple Orbitolite, nor directly superimposed; and although there is a certain degree of uniformity in their relative positions, they are too variable in size and shape to conform to any rule in this particular.

The communication between the chamberlets of the same layer is maintained by short lateral stoloniferous tubes, which are less easy to identify than those uniting the successive layers already described. They are shown, in section, in fig. *d.*, 2, 2, 2, 2. Under

¹ *Phil. Trans.*, 1856.