

and every new annulus that is afterwards formed, exhibits exactly the same arrangement. As a general rule, the chamberlets in each annulus *alternate* in position with those of the annuli internal and external to them; the radial passages which lead to them from the preceding annulus having their origin, not in its chamberlets, but in the annular passage that connects them. And it is only when an additional chamberlet is interpolated, in accordance with the increased diameter of the added ring, that the passage leading to it comes off directly from a chamberlet of the previous one. And thus it comes to pass that the pores seen along the margin of the disk (Pl. III. fig. 4) open *between* the columnar chamberlets, each of them communicating with the chamberlet on either side of it, as shown at *f, f*, Pl. IV. fig. 4.

The meaning of these arrangements is made clear by reference to Pl. IV. fig. 5, which shows the sarcodic body of *Orbitolites marginalis*, obtained by the solution of its calcareous shell by dilute acid. The primordial segment *a* communicates by a narrow pedicle or stolon-process with the circumambient segment *b*, and this, again, by a similar pedicle with the segment *c*, which answers to the segment *a*, Pl. II. fig. 1. From this are given off the two radial pedicles that enlarge into the two sub-segments *d*; and these are united laterally by a pedicle, that gives off the radial extension which enlarges into the sub-segment *e* of the next band. The same plan is maintained through each successive addition, the sub-segments of each row showing themselves as enlargements of a continuous cord of sarcode, on which they are threaded, as it were, like beads upon a string. Each row of sub-segments represents the entire segment which occupies the undivided chamber of a *Peneroplis*; and so, when the first annulus is completed by the meeting of the two extremities of that cord, it has still the same equivalent, which is, of course, equally to be recognised in all subsequent annuli. In the outer portions of the disk of *Orbitolites marginalis*, the sub-segments acquire a columnar form by vertical growth, which is in striking contrast with their extreme flattening in *Orbitolites tenuissimus*.

Thus, not only in the "orbiculine" stage, but throughout the whole later growth of the disk in this type, we recognise the same essential features as in the preceding;—the subdivision of the "peneropline" chambers into chamberlets, and of the segments of the body into sub-segments, taking place on precisely the same plan in both, and exactly the same system of communications being maintained between the subdivisions;—the only difference being in the *form* of these subdivisions, which is obviously a character of comparatively trivial import. The question now suggests itself, what is the relation between the "spiroloculine" shell of *Orbitolites tenuissima*, and the "nucleus," consisting of "primordial chamber" and "circumambient chamber," of *Orbitolites marginalis*. This will be best answered by comparing the sarcodic bodies of the two types; for whilst the small primordial segment of the one gives off a long, slender, slightly interrupted cord, which coils round it several times before it begins to expand (Pl. II. fig. 1), the large primor-