answers to the structure of the shell moulded upon it. The flask-shaped primordial segment *a* gives off the circumambient segments *b*, *b'*, the further portion of which often (as in the instance here figured) splits, as it were, into two parts *b'*, *c*; and the first-formed sub-segments *d* pullulate by short stolons (not seen in this figure) from its sarcodic substance.

Turning now to the margin of the disk (Pl. III. fig. 13), we see that it presents a *double* series of pores, very distinctly separated from each other by the elevated ridges of shell by which they are severally surrounded; and that thoseof the upper and lower series usually alternate with one another in position,—an arrangement whose meaning will presently become apparent.

The general plan of structure in *Orbitolites duplex* closely corresponds with that which has been described in *Orbitolites marginalis*; the principal difference being in the mode in which the successive annuli of the sarcodic body communicate with one another, which will be best understood by examining the structure of the decalcified body in the first instance. Its surface-aspect, when viewed under a power of 25 diameters, is shown in Pl. V. fig. 1; the circles of somewhat rounded spots being the expanded summits (shown on a larger scale in fig. 10) of the separate columnar sub-segments (fig. 2), which spring in two series (*a*, *a'*, *b*, *b'*) from the continuous annular stolon *c*, *c'*; the columns of the lower series usually alternating with those of the upper in position, as at *a*, *b*, but being occasionally opposite, as *a'*, *b'*. Between the bases of these columns, the annular cord gives off a double series of short and slender stolon-threads *d*, *d*, *d'*, *d'*; these pass obliquely, the one upwards the other downwards, through passages in the septal plane; and while, in the interior of the disk, these passages lead from the annular canal of each ring of shell, into the upper and lower chamberlets of the one exterior to it, those of the last-formed ring open on its exterior as the marginal pores. Now as the columnar sub-segments of the upper and lower series usually alternate with each other, the upper and lower series of stolon-processes that intervene between the columns of either row will have the like alternation; and this expresses itself (so to speak) in the alternate position of the marginal pores of the upper and lower series.

The upper and lower rows of columnar sub-segments do not arise from the annular stolon in the same vertical plane, or stand on it perpendicularly to the surface of the disk; but both of them slope considerably towards its centre, and therefore towards each other, the chamberlets they occupy having the same arcuate shape as those of *Orbitolites marginalis* (Pl. III. fig. 6); and thus it comes to pass that when they are seen either from above or from beneath, as in Pl. V. figs. 7, 9, instead of in side view, as in figs. 2, 8, they seem to lie *between* the annular stolons, instead of *upon* them. The part of each column which is continuous with the annular stolon is generally much smaller than the part nearer the surface of the disk (fig. 8); so that while the expanded terminals of the