

rather thin coin. Departures from the typical flatness, however, are not unfrequent; one of the most common being a sort of plaiting into radial folds, which, beginning near the centre, increases towards the margin—as is slightly indicated in the above-cited figure, but is more strongly shown in the specimen represented in Pl. XVI. fig. 7 of Mr. Brady's Report on the *Foraminifera*. Each surface of the disk is marked-out into regular concentric annuli; but the division between these is not so conspicuous as in *Orbitolites marginalis*; and specimens not unfrequently present themselves, whose surface in certain aspects looks rather "engine-turned" (like that of the section shown in Pl. IV. fig. 6) than concentrically annular. This appearance, however, does not mark any difference of internal structure, and seems to depend upon the manner in which the light is reflected from the thin films of shell-substance that cover-in the individual chamberlets, which are often slightly convex. When a portion of the surface of a specimen containing the sarcodic body of the animal is viewed under a sufficient power by reflected light (Pl. III. fig. 10) the cavity of every chamberlet is marked by a circular or oval spot, surrounded by a thick wall of shell-substance, which is divided by a definite line from the walls of contiguous chambers. It is further noticeable that the double wall which thus separates two contiguous chamberlets of the same annulus, is quite as thick as that which separates the chamberlets of consecutive annuli. The chamberlets of successive annuli generally alternate with one another in position, so as to lie in oblique rows, which, when the interior of the disk is viewed under a low magnifying power (Pl. IV. fig. 6), seem like parts of excentric circles.

The inner (first-formed) portion of the disk in *Orbitolites duplex* shows only a very slight approach to that "orbicoline" spire which is typical alike of *Orbitolites tenuissima* and of *Orbitolites marginalis*, approximating much more closely to the true cyclical plan of *Orbitolites complanata*. The nucleus consists, as in *Orbitolites marginalis*, of a small primordial chamber, which is surrounded by a circumambient chamber; and round this nucleus is seen (Pl. III. fig. 14) a row of chamberlets, which often at once forms a nearly entire annulus, the ring being soon completed in succeeding circlets, and all subsequent additions being made on the cyclical plan. When this nucleus is examined in thin section (Pl. IV. fig. 10) it is seen that this early assumption of the cyclical plan arises from the fact that the circumambient chamber *b, b'* gives off *several* passages on its outer margin, which lead into as many chamberlets; so that it is as completely surrounded by chamberlets, after three or four successive additions, as it is in *Orbitolites marginalis* (fig. 4) after twelve or more. In this particular, then, *Orbitolites duplex* presents us with a very interesting transition from *Orbitolites marginalis*, in which only a single chamber is put forth from the extremity of the circumambient chamber, to *Orbitolites complanata*, in which it sends forth passages round its entire margin, so that the very first series of chamberlets forms a complete annulus (Pl. VI. figs. 1, 2, 3). The arrangement of parts in the sarcodic body of the animal (Pl. V. fig. 6) entirely