can be plainly discerned, which correspond in size and appearance with the nuclei described by Hertwig in the fresh-water monothalamous *Microgromia*,[1] and subsequently in *Spiroloculina*, *Globigerina*, *Rotalia*, and other marine polythalamous forms.[2] The very irregular distribution of these nucleus-like bodies shows that they cannot have any particular *local* function. In the specimen here figured (Pl. II. fig. 1) two of the outer half-whorls of the Spiroloculine centre (shown on a larger scale at *b*, *b*, *b'*, *b'*, fig. 4) are crowded with them, while in a single chamberlet (*c*) of one of the interior zones there are as many as five. Elsewhere they present themselves with less frequency, only one or two occurring in any single chamberlet (*d*, *d*, *d*), and a large proportion of the chamberlets being entirely devoid of them. Their diameter is about $\frac{1}{1750}$th of an inch.

The substance of the sarcodic bodies of *Orbitolites duplex* and *Orbitolites complanata*, on the other hand, consists in great part of an aggregation of spherical corpuscles about $\frac{1}{2500}$th inch in diameter, as shown under a power of 120 diameters in Pl. V. fig. 3, and magnified 180 times in fig. 16. These corpuscles might be easily taken for cells; but not only does a careful examination of them fail to bring into view either nucleus or limitary membrane, but they are found, when subjected to pressure, to break-up into a multitude of separate rounded granules, of extremely pellucid aspect, from $\frac{1}{8000}$th to $\frac{1}{12000}$th inch in diameter. Sometimes the spherical corpuscles are very closely packed together, especially in the primordial segment; in other instances there are considerable spaces between them, as shown in Pl. V. fig. 16.

The whole sarcodic body of *Orbitolites duplex* has a reddish tinge, which is most decided in the primordial and circumambient segments, and in the inner annuli of subsegments. And in these I can generally observe, more or less distinctly, a limiting membrane (Pl. V. fig. 5), sometimes rather deeply tinged with red, which is probably of a chitinous nature. On the other hand, scattered irregularly in different parts of the disk, certain bodies present themselves (Pl. V. figs. 4, *a*, *b*, *c*, 15, 17), which have a much more distinct cellular nature, having a very thick (apparently cellulose) cell-wall, and a deep red endochrome. These I am strongly inclined to regard as vegetable. Their diameter (usually about $\frac{1}{400}$th inch) is much too great to allow them to have passed through the marginal pores in their present condition; but as there are now several well-established cases of parasitic vegetation, I cannot think it impossible that the germs of these cells found their way in from without, and have undergone their subsequent development in the places they now occupy. The living specimens of the "duplex" type were for the most part obtained in the 18 fathoms' dredging on the bank of the Fiji reef; and it does not seem improbable that their sarcodic bodies derive their red hue from zoospores or other particles of the Rhodosperm *Algæ* inhabiting that zone, which they may take-in as food. For the sarcodic bodies of *Orbitolites complanata*, whose living specimens

[1] *Archiv. für Mikroskop. Anat.*, Bd. x. Supplement-heft.

[2] *Jenaische Zeitschrift*, Bd. ix.–xi.