

sarcodic body has been preserved in alcohol, the cavities of several outer zones are quite empty, whilst those of the "nucleus" and inner zones are quite filled. For the shrinkage of the sarcodic substance, produced by the corrugating action of the spirit, has drawn the substance of the peripheral annuli towards the central portion of the disk; and this could not happen, but for the entire absence,—*first*, of any attachment of the body to the walls of the cavities that enclose it, and, *second*, of any resistance to the complete change of form it must undergo, to allow the passage of the substance that occupies the chamberlets of the outer zones, through the narrow connecting passages which lead to the inner cavities of the disk, in which it so completely fuses with their own body-substance, as not to present the least appearance of heterogeneousness.

This absence of differentiation is further made apparent by the extraordinary reparative power possessed by every form of *Orbitolites*; not only losses of substance to any amount and in any part of the disk being made good, but even a small detached peripheral fragment having the power to develop a new disk, as shown in Pl. I. figs. 6, 7, and in Pl. VIII. figs. 2–10. It is clear that connection with the central "nucleus" is not in the least degree requisite for the continued growth of the peripheral part; and it is also clear that after the cyclical stage of growth has been once attained, the reparative process is entirely directed to the reproduction of the complete discoidal form. This is obviously to be explained by an extension of the homogeneous sarcodic body-substance around the whole margin of the fragment, so as to form an annulus which buds-off a new and complete circlet of chamberlets.

Thus, we have every reason to believe, each sub-segment of the sarcodic body precisely repeats the rest, and would be equally capable of maintaining its own existence if detached from the disk of which it forms part. It is clear that the inner portion of the disk can only be nourished through the intermediation of the outer, as it has no communication with the medium around, except through the marginal pores; and from the analogy of other Rhizopods there is strong reason to believe that during life there is a continual flow of semi-fluid protoplasm from one part to another, so that any nutrient material obtained by the peripheral annulus from without is speedily diffused through the entire mass.

Owing to the smallness of the number of spirit-specimens of the deep-sea type, *Orbitolites tenuissima*, that have come into my possession, I have not thought it well to decalcify any one of them for the examination of its very attenuated body. But the superficial lamellæ which close-in the chamberlets are so transparent, that the general condition of the protoplasmic substance which occupies them can be pretty clearly made out. This seems to have the dark olive-green hue, which is commonly met with in the sarcodic body of the "arenaceous" deep-sea Foraminifera; and it does not present the corpuscular aspect which I shall presently describe in the sarcodic bodies of *Orbitolites duplex* and *Orbitolites complanata*. But in one of these specimens several nuclear-looking bodies