

Such was the general state of knowledge, or rather of ignorance, in regard to the zoological characters of *Orbitolites* and *Marginopora*, at the date (1848) when I undertook a careful microscopic examination of Mr. Jukes's specimens of the latter, the results of which led me to compare their structure with that of the fossil *Orbitolites complanatus*. These results I communicated to the Geological Society in May 1849, and they were published in its Quarterly Journal for Feb. 1850. The place universally assigned to these genera by zoologists and palæontologists being in immediate proximity to *Lunulites* (whose Bryozoic nature could not be reasonably doubted),—and the living *Soritidæ* of Prof. Ehrenberg having been described and figured as Bryozoic, on the basis of personal observation, by the microscopic autocrat of the time, whose dicta it was heresy to question,—I entered upon the investigation without the least suspicion that this organism was to be regarded in any other light; and that I was not at once undeceived, was mainly due to the fact that among the small number of specimens first placed in my hands by Prof. E. Forbes, there was not one by any means perfect,—all being more or less abraded, and not one possessing that central “nucleus” which is the portion most indicative of their Foraminiferal affinities. Nevertheless, the marked dissimilarity in structure which I found to exist between the calcareous disk of *Orbitolites*, and the skeleton of *Lunulites* or any other undoubted BRYOZOA, made me even then express myself doubtfully as to its title to be closely associated with them. I found that between the recent *Marginopora vertebralis* of Quoy and Gaimard, and the fossil *Orbitolites complanata* of Lamarek, the differences are so trivial as to amount at most to a specific distinction; so that the later genus must be abolished, and the Australian disk be ranked as the recent type of the fossil so abundant in the Calcaire Grossier. And I showed that, in the one as in the other, the “cells” (which I now designate as “chamberlets”) are normally closed-in over the whole surface; that the two surfaces are separated from each other by an intervening stratum, traversed by a set of round columnar cavities of its own, with inter-communicating passages; that each superficial cell communicates with this intermediate cavitory system by two small apertures; and that the only real external orifices are the minute pores at the margin of the disk, which do not communicate directly with the cells of the superficial layers, but are the openings of passages leading to the outermost series of columnar cavities in the intermediate stratum. To this complicated arrangement I could find no parallel in the Class BRYOZOA, but I was equally unable to indicate any parallel to it elsewhere.

At what date the Foraminiferal nature of *Orbitolites* first came to be suspected by M. d'Orbigny there is no means of knowing; but in the year 1852 (Cours Élémentaire de Paléontologie) he assigned it a place in that group; creating for it, and for some other genera having a like discoidal form, the Order *Cyclostègues*, which he defined as follows:—“Animal composé de segments nombreux, placés en lignes circulaires. Coquille discoïdale, composée de loges concentriques, simple ou multiples; point de spirale.”