

*tion of the Foraminifera*, completely overthrew the older classifications and formed the basis of our present intimate knowledge of these exquisite little shells.

Carpenter divided the Reticularia into two sub-classes: Imperforata and Perforata, and sub-divided each of these sub-classes into several families distinguished according to the chemical composition and microscopic structure of the tests. The views held by Carpenter and his collaborators, Parker and Jones, regarding the confines of the genera and species, differed very considerably from those of D'Orbigny, as the English zoologists often comprised under the same generic title forms very different in their external appearance, on the plea that they were connected by intermediate types.

Reuss has published from 1839 onwards a large number of papers, mostly in the Transactions of the Vienna Academy, describing individual species of fossil Foraminifera from all geological formations. The works of Parker and Jones, extending from the year 1857, follow the same direction of special research. The classifications of Schwager and Brady introduced several modifications of Carpenter's scheme. Brady pointed out that the sub-classes Imperforata and Perforata could not be so sharply defined as had been done by Carpenter, for example the group Lituolidea, which Carpenter had ranked under the sub-class Imperforata, included also certain species which were finely perforate. This matter, along with other systematic difficulties, has been more recently discussed by Ray Lankester, in his descriptive and classificatory account of the Protozoa, published in the *Encyclopædia Britannica*. Brady's Report on the Foraminifera of the *Challenger* Expedition, and his monograph of the Foraminifera in the Carboniferous Limestones of Great Britain, are two of the finest productions in this domain of research.

In the French literature of the Foraminifera, the excellent monograph of the Nummulites by D'Archiac and Haime takes the highest place. Terquem and Berthelin even at the present time are wholly disciples of D'Orbigny. Meunier-Chalmas and Schlumberger have, on the other hand, placed great significance on microscopic researches of the shell-architecture, and have made many interesting observations on dimorphic forms of the initial chamber. In Italy, Michelotti, Seguenza, Silvestri, and more particularly Fornasini, have described the Foraminifera present in the younger Tertiary deposits.