There are not more than twenty or twenty-two species of pelagic Foraminifera, yet so numerous are the individuals of the species that they usually make up over 90 per cent. of the carbonate of lime present in the calcareous oozes of the abysmal regions of the ocean. The individuals belonging to even a dozen of these species far outnumber the individuals belonging to all the other known genera and species of Foraminifera. This is true not only with regard to their abundance and great importance in the now-forming deep-sea deposits, but also to their great development in Tertiary and other geological formations.[1]

The bottom-living Foraminifera—those belonging to the Benthos—are more abundant in the shallow-water, than in the deep-sea, deposits, and occasionally a single species may occur in such abundance in shallow depths in some regions as to make up the greater part of a deposit, as, for instance, *Amphistegina* at the Cape Verdes, *Orbitolites* at the Fiji Islands, and *Heterostegina* at Amboina,[2] but the extent of such deposits is very limited when compared with a Globigerina Ooze, or any other deep-sea deposit. Whenever bottom-living species of Foraminifera are, compared with pelagic species, abundant in a deposit, they indicate comparatively shallow water and proximity to land. The species of Foraminifera that live on the bottom in deep water are habitually under very uniform conditions,[3] and consequently their shells do not vary in size and thickness with change of latitude like those of the pelagic species, the animals of which are subject to great changes of temperature and salinity in the surface waters.

Many of the arenaceous Foraminifera form their tests of minute calcareous shells of Globigerinidæ or their fragments, together with other calcareous fragments in the sands, muds, clays, or oozes at the bottom, and many instances are given of the wonderful power of selection possessed by certain species. The tests of *Pilulina* and *Technitella* are constructed of masses of Sponge spicules felted together, and the same is the case with *Marsipella*, in which the spicules are laid together side by side and strongly cemented. *Psammosphæra*, *Storthosphæra*, *Pelosina*, *Pilulina*, and *Technitella* are distinguished from each other primarily by the kind of material they individually select for the construction of the test. In the Lituolidæ there is a certain amount of selective power, the nature of the foreign material depending more or less on the character of the sea-bottom; for instance, in pure Globigerina Ooze the dead shells of the smaller Foraminifera are used, and in the tropics the calcareous debris of coral reefs, while the tests of Radiolaria and the frustules of Diatoms are sometimes employed in considerable numbers. The preference for Sponge spicules, broken or entire, also exists among the Lituolidæ.

[1] See Murray, "The Maltese Islands, with Special Reference to their Geological Structure," *Scot. Geogr. Mag.*, vol. vi. pp. 449–488, 1890.

[2] See pp. 63, 89, and 97, Chapter II.

[3] The following are a few of the cosmopolitan species which extend into deep water:—*Biloculina ringens*, *Miliolina seminulum*, *Rotalia soldanii*, *Truncatulina lobatula*, *Nonionina umbilicatula*, *Nodosaria farcimen*, *Cassidulina crassa*, *Cristellaria rotulata*, *Lagena globosa*, *Lagena lævis*, *Lagena sulcata*, &c.