to the remains of these organisms, which predominate everywhere, and especially in the deposits from the medium depths of the ocean far from land.

The carbonate of lime attributed to the presence of the shells of Foraminifera that live on the bottom of the sea is estimated to average only 2·13 per cent. The carbonate of lime derived from organisms other than Foraminifera, such as Molluscs, Echinoderms, Corals, Sponges, otoliths of fish, calcareous Algæ, Coccoliths, and Rhabdoliths, ranges from 1·16 to 31·77 per cent., the average being 9·24 per cent., and it may be said that these organisms are especially abundant in the shallower depths of the ocean near land.

In the Tables Globigerinidæ are mentioned in all cases (118), *Pulvinulina* (117), Coccoliths (116), Echinoderm fragments (114), Rotalidæ (107), Miliolidæ (105), Rhabdoliths (105), Lagenidæ (77), Textularidæ (71), Ostracodes (64), Pteropods (36), Nummulinidæ (33), otoliths of fish (28), Lamellibranchs (24), Gasteropods (20), Polyzoa (19), teeth of fish (18), Heteropods (11), *Serpula* (10), and Coccospheres, calcareous Algæ, Alcyonarian spicules, Cirripeds, *Dentalium*, Brachiopods, *Cymbalopora*, and Cephalopod beaks (1 to 6 cases).

With a more careful and detailed examination in each case, it is probable that the number of times the above-named organisms occur in the 118 samples would be greatly increased in the majority of instances. However, the above numbers indicate fairly well the relative frequency with which the remains of these calcareous organisms are met with in a Globigerina Ooze during the examination of an average sample. These results, which are confirmed by the examination of a large number of deposits in addition to those of the Challenger, show, as already stated, that by far the larger part of the carbonate of lime in the Globigerina Ooze is derived from the shells of organisms that live in the surface waters of the ocean, principally pelagic Foraminifera, Molluscs, and calcareous Algæ.

The residue is the complement of the carbonate of lime; where the latter is least the former is highest, and *vice versa*. In the above 118 samples the residue ranges from 3·20 to 69·85, and averages 35·53 per cent. The colour of the residues of the Globigerina Oozes is brown in 65, and red in 30, cases, while in other cases it is chocolate, red-brown, rose, fawn, black, grey, and green.

The residue consists of—

(*a*) *Siliceous Organisms.*—These range from 1 per cent. in the majority of cases to 10 per cent. in 4 cases, the average being 1·64 per cent. The Radiolarian remains are the most abundant and the most frequent, then follow the remains of Sponge spicules and the frustules of Diatoms. The arenaceous Foraminifera and the glauconitic and other casts of calcareous organisms are also included under this heading.

The remains of Radiolarians, Diatoms, and siliceous Sponges are almost always present in the Globigerina deposits, but it frequently happens that one or other of these groups cannot be detected until a considerable quantity of the deposit has been examined after removal of the carbonate of lime with dilute acid; in some cases all the siliceous