

“Challenger” Office from the British Admiralty and from many other British and foreign sources. Since the publication of the “Challenger” Report, deposit-samples collected by H.M. surveying ships and by British cable ships, as well as by many ships belonging to other nations, have been forwarded to the “Challenger” Laboratory for study, so that nearly all the samples of deposits procured from deep water over the ocean’s floor have passed through our hands, and are available for the preparation of maps showing the distribution of the different types of deposits, and for the determination of the various constituents entering into the composition of deep-sea deposits. How extensive this material is may be surmised from the fact that nearly 12,000 deposit-samples have been examined in the “Challenger” Office. Some of these samples were very small, in a few cases insufficient even to indicate the type of deposit; but the great majority sufficed for the determination of the deposit-type, and of the percentage of calcium carbonate, while a very large number were available for detailed study and description. The samples have all been dealt with in a uniform manner, the methods of examination and description fully explained in the “Challenger” Report having been adopted throughout, for, notwithstanding the large amount of sounding-work carried on since that Report was published, the general results, the classification, and the nomenclature given therein have been fully substantiated and found quite adequate in every respect, no new types having been discovered.

Number of  
deposit-  
samples  
examined.

Composition  
of marine  
deposits.

In this place we are dealing only with *deep-sea deposits*, *i.e.* those occurring in depths greater than 100 fathoms, the littoral and shallow-water deposits found in depths less than 100 fathoms being excluded. It may be stated, however, that these shallow-water and shore deposits near land are principally made up of relatively gross materials directly derived from the adjacent coasts, and from rivers pouring their waters and detritus into the ocean. Coral sands prevail near coral reefs, Volcanic sands off volcanic islands, and continental detritus near the embouchures of great rivers. All these materials become finer in texture with increasing distance from land, and in the greater depths of the ocean.

The constituents entering into the composition of deep-sea deposits may conveniently be divided into two classes: (A) those of organic origin, precipitated by organisms from the dissolved constituents of sea-water, and (B) those of inorganic