

recent deep-sea explorations, but very little attention had been paid to deposits of the same order, and largely of the same origin, which differ from the sands and gravels of the shores and shallow waters only by a lesser size of the grains, and by the fact that they are laid down in deeper water and at a greater distance from the land. These are termed terrigenous deposits, and their chief characteristics may be pointed out.

*Blue Mud* is the most extensive deposit now forming around the great continents and continental islands, and in all enclosed or partially enclosed seas. It is characterised by a slaty colour which passes in most cases into a thin layer of a reddish colour at the upper surface. These deposits are coloured blue by organic matter in a state of decomposition, or by iron pyrites finely divided, and frequently give off an odour of sulphuretted hydrogen. When dried, a blue mud is greyish in colour, and rarely or never has the plasticity and compactness of a true clay. It is finely granular, and occasionally contains fragments of rocks 2 centimetres in diameter; generally, however, the minerals, which are derived from the continents and are found mixed up with the muddy matter in these deposits, have a diameter of 0.5 mm. and less. Quartz particles, often rounded, play the principal part, next come mica, felspar, augite, hornblende, and all the mineral species derived from the disintegration of the neighbouring lands, or the lands traversed by rivers which enter the sea near the place where the specimens have been collected. These minerals make up the principal and characteristic portion of blue muds, sometimes forming 80 per cent. of the whole deposit. Glauconite, though generally present, is never abundant in blue mud. The remains of calcareous organisms are at times quite absent, but occasionally they form over 50 per cent.; the latter is the case when the specimen is taken at a considerable distance from the coast and at a moderate depth, less than 1500 fathoms. These calcareous fragments consist of bottom-living and pelagic Foraminifera, Molluscs, Polyzoa, *Serpulæ*, Echinoderms, Alcyonarian spicules, Corals, &c. The remains of Diatoms and Radiolarians are usually present. Generally speaking, as the land is approached the pelagic organisms disappear, and on the contrary, proceeding seawards the size of the mineral grains diminishes, and the remains of shore and coast organisms give place to pelagic ones, till finally a blue mud passes into a true deep-sea deposit. In those regions of the ocean affected by floating ice the colour of these deposits becomes grey rather than blue at great distances from land, and is further modified by the presence of a greater or less abundance of glaciated blocks and fragments of quartz.

*Green Muds and Sands.*—As regards their origin, composition, and distribution near the shores of continental land, these muds and sands resemble the blue muds, and are largely composed of argillaceous matter and mineral particles of the same size and nature. Their chief characteristic is the presence of a considerable quantity of glauconitic grains, either isolated or united into concretions, which last are very frequently phosphatic. In the latter case the grains are cemented together by a brown argillaceous matter, and