from Hawaii they extend for 200 miles or more. Pieces of pumice, scoriæ, etc., occur in them, mingled with marine organisms, and more particularly with abundant grains, incrustations, and nodules of an earthy peroxide of manganese (Fig. 175). Near coral-reefs the sea-floor is covered with a white calcareous mud derived from the abrasion of coral, and frequently containing 95 per cent of carbonate of lime. Beyond a depth of 1000 fathoms, coral mud gives place to a Globigerina ooze or red clay. The east coast of South America supplies a peculiar red mud which is spread over the Atlantic slope down to depths of more than 2000 fathoms.

Throughout these land-derived sediments are found minute particles of recognizable minerals. Of these, quartz, often in rounded grains, plays the chief part. Next come mica, felspar, augite, hornblende, and other less abundant constituents of terrestrial rocks, the materials becoming coarser toward land. Occasional pieces of wood, portions of fruits, and leaves of trees in the same deposits further indicate the reality of the transport of material from the land. Shells of pteropods, larval gasteropods, and lamellibranchs are tolerably abundant in these muds, with many infra-littoral species of *Foraminifera*, and diatoms. Below 1500 or 1700 fathoms, pteropod shells seldom appear, while at 3000 fathoms hardly a foraminifer or any calcareous organism remains.[302]

In some regions vast quantities of terrestrial vegetation are strewn over the sea-bottom, even at depths of 2000 fathoms, and at distances of several hundred miles from land. This fact has been observed by Prof. Agassiz off

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[302] See papers by Messrs. Murray and Renard, quoted on p. 761, and vol. of "Challenger" Report on "Deep-Sea Deposits," p. 190.