

As to the relative rate of accumulation of the different types of deposits, it may be assumed that the terrigenous deposits accumulate at a much more rapid rate than the pelagic deposits. Of the terrigenous deposits, the Blue muds situated near the mouths of large rivers may be supposed to accumulate at a relatively very rapid rate, for the various constituents of the mud show little trace of alteration, while the rate of deposition in the case of Green muds and sands must be much slower, since the mineral particles are generally profoundly altered, and there is an extensive formation of secondary products, like glauconite and phosphate of lime; Coral muds and sands appear to accumulate rapidly under certain conditions, and the same may be said of Volcanic muds and sands in the neighbourhood of active volcanoes, where the volcanic minerals are fresh and unaltered, but most of the deep-sea volcanic deposits far from land appear to accumulate at a relatively slow rate, for the volcanic particles show abundant traces of alteration accompanied by the deposition of manganese peroxide.

Of the pelagic deposits, the Globigerina and Pteropod oozes of tropical regions probably accumulate the most rapidly, from the greater variety of tropical pelagic species of foraminifera and molluscs, and the larger and more massive shells secreted in tropical as compared with extra-tropical regions. Diatom ooze appears to accumulate at a more rapid rate than Radiolarian ooze, since in addition to the siliceous remains it usually contains a considerable admixture of calcareous remains, but from all points of view it seems reasonable to suppose that the minimum rate of deposition of materials on the ocean-floor is reached in those characteristic Red clay areas farthest removed from continental land and in very deep water. The greater abundance of cosmic spherules, sharks' teeth, and ear-bones of whales, some of them belonging to extinct species, in the Red clays than in any other type of deposit, is ascribed to the fact that few other substances there fall to the bottom to cover them up. The state of profound alteration of the volcanic materials in the Red clay, accompanied by the secondary formation of clay, manganese nodules, and zeolitic crystals, is ascribed to the fact that these materials have lain for a long time exposed to the solvent action of sea-water. The presence of radio-active substances in this deposit, in much larger quantity than in other deposits, apparently also points to a very slow rate of deposition.

It may be stated generally, with reference to the horizontal