

was a very heavy fall of rain, such as had not been experienced by the inhabitants for many years. For several days after, many pieces of scoriæ, cinders, and the like were noticed floating about on the surface of the sea near the island. Such fragments may be transported to great distances by currents.

On the shores of Bermudas, where the rock is composed of blown calcareous sand, we picked up fragments of traveled volcanic rocks. The same observation was made by General Nelson at the Bahamas. Mr. Darwin observed pieces of pumice on the shore of Patagonia, and Professor L. Agassiz and his companions noticed them on the reefs of Brazil. During a recent eruption in Iceland, the ferry of a river is said to have been blocked for several days by the large quantity of pumice floating down the river and out to sea.

Near volcanic centres, and sometimes at great distances from land, we find much volcanic matter in a very fine state of division at the bottom of the sea. This consists mainly of minute particles of feldspar, hornblende, augite, olivine, magnetite, and other volcanic minerals. These particles may probably have been in many cases carried to the areas where they are found by winds in the form known as volcanic dust or ashes. Mr. Murray examined a packet, sent to me by Sir Rawson Rawson, of volcanic ashes which fell at Barbadoes in 1812, after an eruption on the Island of St. Vincent, a hundred and sixty miles distant; and he found them to be made up of particles similar to those to which I have referred.

The clay which covers, broadly speaking, the bottom of the sea at depths greater than 2000 fathoms, Mr. Murray considers to be produced, as we know most other clays to be, by the decomposition of feldspathic minerals; and I now believe that he is in the main right. I can not, however, doubt that were pumice and other volcanic products entirely absent, there would still be an impalpable rain over the ocean-floor of the mineral matter which we know must be set free, and must enter into