

mineral constituents of granitoid rocks had indeed been formed as already stated—quartz, feldspar, mica hornblende, augite and they probably overspread these upheavals—but I believe these minerals must have existed under different aspects, and I think the minerals which compose the granitoid rocks have resulted from metamorphism of plain sediments, as I shall explain. We can not, therefore, look upon our oldest “granite domes” as examples of the earliest crust, nor of the earliest precipitated beds. They are later. Let us see.

There were long, low ridges of barren rock now emergent. I can not state where they lay; but it seems probable they occupied nearly the places of later ridges which were to rise as the germs of the continents. Old ocean now seemed envious of his loss, for he immediately began pounding and devouring the slender land, and taking it back into his possession. The work of *erosion* was inaugurated, from which old ocean has never desisted to this day. Nothing escaped from his domain without a conflict; and many a patch of land and many a continent has thus been reclaimed for his possession, as we shall see.

I wish to emphasize here a doctrine which has been very generally overlooked. Ocean sedimentation has been carried on only around the continental slopes. The products of erosion have been laid down in waters comparatively shallow, and not in the distant abysses of the ocean. The deep remote sea-bottom remains to our times, with only a shallow covering over the primitive crust. In our walk under the sea, we found no continental sediments in the deep sea. We found there a state of changelessness and stagnation. We found no evidence of fragmental rocks. We found, on the contrary, in the abyssal islands, rocks of igneous origin—samples of the old fire-formed crust, as I suspect.

The accumulation of sediments over any portion of the ocean's bed would constitute a thickening of the crust. But the thickness of the crust was already adjusted to the intensity of the heat within. It was of such thickness that the heat within could not escape with rapidity sufficient to melt the