

these great floods of lava of which the hills of Antrim, Mull, Morven, Skye, Farøe, and part of Iceland are merely surviving fragments and the extravasation of these thousands of dykes are connected manifestations of volcanic energy during the Tertiary period.

But this association of thin nearly level sheets of basalt piled over each other to a depth of sometimes 3000 feet, with lava-filled fissures sometimes 200 miles distant from them, presented difficulties which in the light of modern volcanic action remained insoluble. The wonderfully persistent course and horizontality of the basalts with the absence or paucity of interstratified tuffs, and the want of any satisfactory evidence of the thickening and uprise of the basalts towards what might be supposed to be the vents of eruption, were problems which again and again I attempted vainly to solve. Nor so long as the incubus of "cones and craters" lies upon one's mind does the question admit of an answer. A recent journey in Western America has at last lifted the mist from my geological vision. Having travelled for many leagues over some of the lava-fields of the Pacific slope, I have been enabled to realise the conditions of volcanism described by Richthofen, and, without acquiescing in all his theoretical conclusions, to judge of the reality of the distinction which he rightly drew between "massive eruptions" and ordinary volcanoes with cones and craters. Never shall I forget an afternoon in the autumn of last year upon the great Snake River lava desert of Idaho. It was the last day of a journey of several hundred miles through the volcanic region of the Yellowstone and Madison. We had been riding for two days over fields of basalt, level as lake-bottoms among the valleys, and on the morning of the last day, after an interview with an armed party of Indians