

Geikie at first agreed with Edward Forbes as to the geological age of the basaltic flows in Skye, but further researches led him to form another conclusion, and in 1867 he wrote that all the eruptions of basalt in the Western and the Farøe Isles, as well as those in Iceland, had taken place during the Tertiary epoch, and that the individual outbreaks had been separated by long intervals of time, during which fresh-water deposits, conglomerates, and even thin coal-seams had accumulated. The volcanic flows covered considerable areas and solidified quickly into compact basalt, sometimes to spheroidal or columnar basalt. Forbes had already expressed the opinion that in Scotland it was not a question of submarine but of sub-aerial eruptions, and Sir Archibald Geikie confirmed this view.

While Geikie was still engaged in his field investigations, Professor Judd published a paper on the extinct volcanoes of the Scottish Highlands, in which he tried to prove that the volcanic outbursts had proceeded from five great central volcanoes. Judd supposes three periods of eruption, the first characterised only by acid rocks (felspathic lavas and granite), the second by basalt and basaltic tuff, and the third by the formation of sporadic volcanic cones of various constitution. Geikie contested these views in a series of papers whose contents are comprised in the second volume of his work, *The Ancient Volcanoes of Great Britain*, published in 1897.

No basaltic region in the world has been examined and described with the same accuracy as the Western Isles of Scotland. Sir Archibald Geikie has convincingly proved the order of succession of the different contemporaneous flows, the age of the various intrusive sheets and dykes, the occurrences of fossiliferous strata interbedded between the contemporaneous basaltic flows, and has also demonstrated the presence of ancient necks and in several places even vestiges of original craters on the surface of the older lavas. Through his exposition of one of the most involved and puzzling pieces of research undertaken in any country, Geikie has thrown new light upon the history of extinct volcanic action. In his hands this typical district of ancient volcanicity has revealed to the geologist many fundamental principles of correlation in the subterranean and surface distribution, and in the consolidation of rock-magmas, which are of the highest significance for the study of homogeneous volcanic rock. The diverse and often marvellously beautiful scenic effects produced in the