

Silurian grits and slates with which they are truly interbedded; while enormous bosses protrude here and there through the sedimentary strata (as, for example, at Penmaenmawr), which may be regarded as portions of the old throats of the ancient volcanoes, from which these great lava streams—probably submarine—were poured forth.¹

The porphyrites, accompanied by melaphyres, are, for the most part, found imbedded amongst rocks of Devonian, Carboniferous, and Permian age, having been erupted and poured out in a liquid state over the bed of the sea in which these strata were in course of deposition, accompanied by volcanic ashes, scoriæ, and agglomerate; and thus presenting, as regards their mode of occurrence, the phenomena of more recent volcanic regions. In this manner, these basic plutonic rocks underlie the coal-measures of Scotland, and rise from beneath the coal-basin of the Clyde in terraced escarpments, forming the hills of Kilpatrick, Campsie, and Kinross on the north; and of Largs, Gleniffer, and Neilston on the south; but finding their noblest exemplification in the mural cliffs of Arthur's Seat and Salisbury Crags, near Edinburgh.² These rocks are exceedingly varied

¹ Ramsay, Geol. Survey Memoir on North Wales; Sedgwick, Quart. Journ. Geol. Soc. iii. 133, and iv. 216.

² Murchison and Geikie, Geol. Map. of Scotland, text, p. 13; Geikie, 'Geology of Edinburgh,' Mem. Geol. Survey, p. 33.