

of these submarine volcanoes were contemporaneous with the period in which these animals lived and died, the finer volcanic ejections having, it is presumed, led to the formation of the volcanic sandstone."¹

In Scotland, after the war between the Plutonists and the Neptunists had ceased, a period of calm, almost of stagnation ensued, so far at least as regarded the investigation of igneous rocks. While it was now generally conceded that these rocks had really resulted from the action of subterranean causes, the old Huttonian idea still prevailed that they had all been injected among the strata at some depth beneath the surface. Even so late as 1834 when Hay Cunningham, a pupil of Jameson, began to prepare the materials for his essay on "The Geology of the Lothians,"² he failed to distinguish between the intrusive and contemporaneously intercalated sheets of igneous rock, although each series is admirably developed in the region which he had to investigate and describe. In the year 1839 there was published by far the most important treatise that had yet been devoted to the description of any portion of the ancient volcanic rocks of Britain—the *Sketch of the Geology of Fife and the Lothians* by Charles Maclaren. In this classic work the structure of two groups of hills—Arthur's Seat and the Pentlands—was worked out in ample detail, and the volcanic history of each of them was admirably traced. In the one case,

¹ *Proc. Geol. Soc.* ii. (1834) p. 92. Fuller discussion of the subject, with ample local details, was given in his *Silurian System*, which was published at the end of 1838. See especially pp. 225, 258, 268, 287, 317, 324 and 401.

² *Mem. Wernerian Soc.* vol. vii.