

highly altered rocks. Many of them are altered diabases.¹ In other cases the alteration is so far advanced that it is impossible to determine the character of the original rock. Many of them have been completely altered to masses of serpentine. Nepheline-syenites, essexites, and similar rocks have not as yet been found anywhere in this chain of hills. A series of dyke rocks from Lake Memphremagog, examined by Marsters,² were found to be chiefly granites and lamprophyres, with one typical camp-tonite. It would seem therefore, that while our knowledge of these hills is as yet very imperfect, the evidence at our command, so far as it goes, points to them as belonging to a group quite distinct from Mount Royal and its associates. The petrographical province of the Monteregian hills may therefore, in the present state of our knowledge, be said to comprise only the eight mountains enumerated on p. 240, together with the consanguineous dykes which at many points are found cutting the rocks of the surrounding plains.

The first description of these hills was that given by Logan and Hunt in the early years of the Canadian Survey. To Hunt especially we owe a somewhat extended description of the petrography of the group and a number of chemical analyses, more especially of the constituent minerals of certain of the rocks. These descriptions are, however, very general and often very imperfect, as must necessarily have been the case before the introduction of modern petrographical methods. Nor were certain important petrographical relationships observed which have in later times come to be recognized. This early work, however, is of great interest, and in case of three of the mountains almost all the information which we have even at the present time, is derived from those early studies. The results of this work were brought together in the *Geology of Canada*, published by the Geological Survey of Canada in 1863, and are to be found on pp. 655-70. During the thirty years following the appearance of this volume, only three papers containing additional information concerning these rocks appeared. These were by

¹ F. D. ADAMS, *Ann. Rept. Geol. Surv. of Canada*, 1880-81-82, pp. 12-13 A.

² *American Geologist*, July, 1895.