

throughout the quite extensive range of variation within themselves. The individual hills differ from one another in a comparatively small degree. Also their distinctive characteristics are not yet found in any measure in the other groups of rocks mentioned. Should a detailed study of the granites show that within them are differentiated portions of more basic rocks, as, for example, should nepheline syenite be found in association with them, as it has been found in some cases in the Hastings district by Drs. Adams and Barlow, they would then appear as an acid extreme toward the east of the Monteregian series. But this has not been done, nor is there at present any valid reason for expecting such phenomena to be found. While the Monteregians appear at regular intervals at upwards of ten miles across the plain, no rocks of consanguineous types have been found to the east of Shefford mountain, although a careful examination has been made in that direction throughout the district wherever igneous rocks are known to occur. In the later dikes an indication of rocks of the Monteregian type exists. Though it is conceivable that almost any rock might be differentiated in small amounts from almost any magma, it is the most common relationship to find camptonite and bostonite types differentiated from highly alkaline magmas such as that of the Monteregian rocks. But the wide distribution of these dikes and their relatively small amount make them less important factors in considering the limits of the petrographic provinces. Thus while camptonites and bostonites may occur in many places to the east of the Sutton Mountain anticline, and diabase far to the west of it, as at Drummondville or St. Flavien, they rather illustrate what Prof. Pirsson, (*Am. Jour. Sci.*, July, 1905), has recently called the "progression of rock types," than the extension of the boundary of either of the two distinct groups of rocks mentioned. It would, therefore, seem that the rocks of the Monteregian hills differ from the other rocks described in this article more widely than any of these from one another, that is, that the difference is a generic rather than a specific one. Hence the relation could be best defined as that of two contiguous provinces rather than as parts of one province even in the larger sense.

The study of the consanguinity of rocks tends toward the hypothesis that the interior of the earth may be regarded as containing a single magma of uniform character which, by the process of differentiation within the crust of the earth, or during the process of extrusion, or during the process of cooling after extrusion, gives rise to all classes