cambric) in the upper Great lakes region, and it is thought that they are of approximately the same age.

In only one case has it been possible to make a relative age determination between the two sets of dikes. Near the summit of Rand hill a 15 inch dike of the syenite porphyry, bearing n.65°e., is cut by a diabase dike of the same width bearing e. and w. In this case the diabase is indisputably the younger. While this does not demonstrate that all the diabase is younger than all the syenite porphyry, it at least points strongly to such a conclusion.

Syenite porphyries. The rocks from the various dikes differ considerably. Nearly all of them show porphyritic feldspars, though with much variation in size and abundance. These are usually red, but become greenish in one dike, and in another are of a red violet hue. Except in one dike this is the only porphyritic mineral, biotite also appearing in this case. The dikes are often of pronounced red color, but some are much darker, gray to black, with often a greenish tinge when slightly altered. The narrower dikes are dense, hard rocks with conchoidal fracture and aphanitic appearance and general red color. The larger ones are equally hard and firm, but coarser grained and less apt to be red.

These rocks are essentially composed of microperthitic feldspar and biotite, with accessory magnetite (or specular hematite), hornblende, quartz, albite, orthoclase, microcline, apatite and titanite, and with secondary chlorite, calcite, muscovite, epidote and hematite. Microperthite and chlorite, the latter from biotite alteration, are the only minerals present in all the dikes. Quartz is present in most of them, in quantity varying with the composition. The ground-mass has in general a well marked flow (trachytic) structure.[1]

They show a surprising range in composition considering their rather constant mineralogy, varying from the acidity of granites to, in the case of one dike, a basicity approaching that of basalt.

Diabases. The numerous dikes of this rock in the Adirondacks exhibit many variations in composition and texture, and on the northern slopes of the north foothills of the region, where glacial erosion was powerful and all weathered rock was swept

[1]For detailed description, *see* Geol. Soc. Am. Bul. 9:239–56.