

represent a mixture of digested basic rock and granite. The general lack of large amounts of such textures in the Matachewan granites indicates that they have not been of a composition to digest the older rocks readily. This may have been due to a lack of water in the magma, as evidenced by the fact that the common ferromagnesian mineral is hornblende instead of mica. A comparatively dry magma would presumably have been more viscous and, therefore, less active both physically and chemically in breaking up the rocks intruded.

External.

Relations to Older Formations. The granites intrude all the rocks of the old volcanic series. Proofs of intrusion are easy to obtain, as the volcanics may be found broken off by the granite at the contact and forming contact breccias which often form bands one-quarter to one mile in width. Dykes of the granite break through the volcanics, particularly in Hincks and Powell townships, and show chilled edges against the older rocks.

The relation of the granite to the Kiask series is not to be directly seen, as the two rocks are nowhere in contact, but it may be inferred. The Kiask series has been strongly folded, whereas the granites nowhere show any signs of having been subjected to folding. The granites are prevailingly pink and red, but pink and red granite debris is found in the Kiask conglomerate in one place only. These granites could not, therefore, have been exposed when the Kiask was being laid down. A single veinlet of pegmatite was found cutting the Kiask series on Elizabeth lake, and as such must have had its origin in some larger body of granitic magma in the vicinity or not far below. For these three reasons the granites are concluded to be younger than the Kiask series.

A possible exception is the granite dyke found in the southwest corner of Montrose. This dyke crosses the south end of the portage between Junction lake and Hutt lake, with a strike nearly east and west. As previously mentioned, it is highly schistose, and rather badly altered. It is rather an acid white granite, like the pebbles in the Kiask conglomerate, and on account of its appearance and metamorphism it is considered to be possibly of pre-Kiask age.

Relations to Younger Formations. The granites are intruded by a series of basic dykes, of the composition of a diabase, many of which are characterized by large porphyritic crystals of labradorite feldspar. Sufficient evidence of intrusion is furnished by the strongly chilled edges of the dykes.

Both dykes and granite are overlain unconformably by the Cobalt series. The basal conglomerate of the Cobalt series may be seen in places lying directly on the eroded surface of the granites or the dykes, and is largely made up of the debris of the reddish syenitic granites of the district.

AGE.

The granites of the region, with the exception of the schistose dyke described above, are thus younger than the Kiask series, but older than the