network throughout the rock. On Rahn lake, in Bannockburn township, the asbestos veinlets are in pure serpentine. The serpentine here has been faulted, and the asbestos has developed in cracks parallel commonly to the fault plane. It would appear, therefore, to be distinctly secondary and probably developed by the action of meteoric waters.

The other alterations described, including perhaps the asbestos formation on the north shore of Lloyd lake, can only be concluded to have been contemporaneous with the intrusion of the basic rocks, and produced by their own magmatic solutions given off on cooling. It seems impossible to conceive that these rocks could have been so completely altered by weathering, while the rhyolite into which they have been intruded are very fresh. Should objection be taken to this comparison, on the ground of the dissimilarity in composition, which might make the gabbro or peridotite more readily attacked by meteoric solutions than the rhyolite, a comparison might be made with the quartz diabase of pre-Cobalt age. These dykes are not very much younger than the peridotites, in comparison with the immensely long time interval which has succeeded the formation of both, yet the quartz diabases are comparatively only slightly altered.

The peridotites were examined carefully to determine their relations to the rhyolites. At three places knife-edge contacts were found where the original grain was still easily visible on the weathered surfaces in spite of the alterations undergone by the peridotite; and at each of these contacts a strong chilled edge 6 inches to a foot in width was observed in the peridotite. The peridotite is, therefore, intrusive into the rhyolite.

Two or three of the masses were carefully mapped. They proved to be lenticular in shape, with the longer axis varying from one to four times as long as the shorter. The long axis in general is parallel to the strike of the rhyolites, so that the masses usually are laccolithic in nature; in other places, as in the forked mass on the creek between Lloyd and Rhyolite lakes, the intrusives cut across the bedding of the rhyolites.

The peridotites have never been found in direct contact with the Kiask series, so that their relations to it are not known. The relations observed on Rahn lake suggest that they are older than the Kiask series. The Kiask basal conglomerate here rests on an irregular erosion surface of rhyolite which, if projected a few feet, would cut the intrusive mass of peridotite. However, as the peridotite has been faulted into its present position, the inference is not a good one, although the fault appears to have been small.

Rhyolite.

The basement volcanics of Midlothian and a part of Montrose townships are very fresh, light grey rhyolites, with associated breccias, tuffs, and cherty tuffs. The best exposures are seen on Lloyd lake, especially in the north arm. The rock is predominantly massive and fine-grained, in many places highly amygdaloidal. Over large areas the rock is very slightly altered, in strong contrast to the other member of the old volcanic complex. This at first suggests that the rhyolite must be much younger than the other volcanics, but no other evidence supporting the conclusion was obtainable, though carefully sought. The rhyolite strongly resembles