

age, consisting of quartzite, slate, greywacke, conglomerate and iron carbonate. The Keewatin and Timiskaming formations are much altered and closely folded, so that the strata are now almost vertical in position. These formations are intruded by quartz porphyry, granite porphyry, and masses of granite. It is thought that during the intrusion of the granite fracturing of the older rocks took place, producing easily replaceable zones or openings that were penetrated by residual solutions carrying quartz, pyrite, galena, sphalerite, minor tellurides and chalcopryrite, together with gold. Faults and shear zones are expressed topographically by linear valleys. The Howey find occurs in one of these valleys. The zone appears to consist of a wax-like sericitized quartz-porphyry mass or series of small porphyry masses. These are cut by numerous quartz veinlets from a fraction of an inch to two or three feet in width. The gold occurs mainly in the quartz veins and associated sulphides, of which pyrite is predominant. There is a certain amount of replacement of the adjoining schist by vein minerals.

Considerable attention has been directed in recent years to gold deposits in the Kenora and Rainy River districts, on many of which considerable work was done thirty years ago. Dr. E. L. Bruce,³ in reporting on these deposits, points out that high grade shoots of ore were found in several veins, but the greater part of the vein material was low grade, and the average of rich pockets and low grade vein matter together would be an ore of only medium grade. Ore shoots in many veins were found to be close to contacts between granite and greenstone and the resulting ore-body was, therefore, chimney-like in shape. Veins are better defined in granite than in greenstone. Granitic wall rocks offer but little opportunity for impregnation by vein solutions, and replacement or impregnation of the schistose greenstone is not great. It seems probable, however, that with proper management and foresight some of the deposits may be developed into paying mines.

The geology of the Clericy and Kinojervis areas, western Quebec, is described by Drs. W. F. James⁴ and J. B. Mawdsley.¹ The formations are the easterly continuation of those that have been proved mineral-bearing in the Rouyn area. Although it is not considered probable that gold deposits of importance will be found at the contact of the great granitic batholith to the south with the older formations, or for several miles to the north of it, the association of mineralization with the small intrusives is particularly obvious in the Clericy map area, where practically every prospect worthy of development is located in the vicinity of such intrusives. In the Kinojervis map area the mineralization seems to be of the deep-vein type and occurs in a nearly straight comparatively narrow zone more than 30 miles long, roughly parallel to the contact of the granitic batholith.

Attempts have been made to revive interest in the possibilities of the gold districts of Nova Scotia. J. C. Murray⁵ points to the occurrence of large bodies of low grade or medium grade ore, to the ease with which these are worked and to other conditions favouring low working costs. Sir Stopford Brunton⁶ presents a new hypothesis of the deposition of gold in the Nova Scotia gold districts, the hypothesis that gold enrichments took place at the intersections of three series of long parallel fault planes.

An interesting occurrence of gold, cobaltite and lodestone is found in the Windpass mine in the North Thompson valley, British Columbia. The deposit, according to Dr. W. L. Uglow,⁷ is a mineralized shear zone in quartz diorite and the minerals are gold, cobaltite, lodestone, bismuthinite, bismuth, chalcopryrite, magnetite, pyrite, pyrrhotite, quartz, native copper and calcite. The chief value of the ore is in the gold and copper content. The core of the shoot is characterized by a concen-