

and then to resume their regular course. It may be noted that these last-mentioned irregularities are generally accompanied by changes in value. Incidental to the flexures of the strata are irregularities in the dimensions of the veins, corrugations of the walls, cross leads, feeders, etc.

It need not, however, be assumed that the movements of the strata were either abrupt or continuous, rather they were slow and intermittent. The filling of the fissures was, generally speaking, continuous, and as each opportunity was offered the process of vein-deposition began. The relative dates of the secondary disturbing forces cannot be given, but the latest known evidence of marked action in the province is the Triassic trap of the Bay of Fundy, which apparently did not affect the auriferous measures lying a few miles away from it.

The fact that the auriferous measures of Nova Scotia are at many points interrupted by masses of granite, has been frequently referred to as having a direct bearing on the metalliferous values of the veins. It is known that in several cases the gold-bearing veins butt against granite, but under such conditions no change in their values for better or for worse has come under the writer's notice. The granite protrudes in the strata with comparatively little disturbance, having, as it were, melted its way through. The evidence is in favor of the granite being later than the foldings, although it has frequently pressed itself along the bedding planes for considerable distances. This view is borne out by the sections at Mosseland, near Tangier, at Country Harbor Narrows, etc., where the proximity of the granite has not affected the values of the veins. The varying proportions of sulphides of iron, copper, lead, zinc, etc., under these conditions, not being marked by a predominance of any particular mineral. Nor is the quartz filling changed from its normal character beyond any slight variation due to metamorphism of the small percentages of lime, etc., commonly occurring in it. In this connection the summaries given by Von Cotta in his "Treatise on Ore Deposits," offer a striking contrast.

The granite itself has not yet yielded any noticeable metallic deposits, although frequently holding irregular veins, filled with quartz, felspar, etc.; nor have any contact segregations been observed near it. An exception, however, to this rule is noticed at Dalhousie, Queen's Co., where copper ores occur in veins in granite. The intrusive dykes, etc., of the neighbouring Devonian, on the contrary, are frequently associated with metallic deposits.

This fact may, perhaps, be safely brought forward to explain the surprise of miners from abroad when they find that the ground close to the granitic masses and dykes does not prove specially metalliferous. In Cornwall, for example, the strata have been elevated by the granites, not inaptly described as now protruding like islands, and mantle round them. The granites penetrate the slates much as they do here, and present them usually with greater degrees of metamorphism, and the metalliferous values of the strata appear to be due to the "Elvans," as already noticed in the case of the Nova Scotia Devonian in some localities. But in this province, the granites, presumed to be later than the strata of Oriskany age which they penetrate and metamorphose at Nictaux, were not accompanied or followed by the enriching dykes such as are found in the Devonian of Salmon River, Lochaber, Polson's Lake, etc., a few miles to the north of the gold measures.

When these veins are considered as unaffected by the proximity of granite, and as surface veins not penetrating to underlying and possibly metalliferous strata, it would