

the occurrence of copper pyrites in the rock renders the slate unsuitable for such uses.

Veins of quartz from an inch to two feet in thickness, bearing some purple copper ore, and beds of chlorite slate, filled with octahedral crystals of magnetic iron-ore and black oxide of manganese, also occur near the mine.

Copper pyrites is everywhere disseminated in the slate; and at the mine there are two beds, one six-tenths of a foot, and the other two feet ten inches thick, which are so thickly inter-laminated with the copper pyrites and purple copper ore as to form a good working ore of copper. These beds are part of the stratification of the country, and dip regularly with the non-metalliferous strata, having no distinct walls between them and the other slate rocks.

From the nature of the stratification, there can be no doubt that the copper ore was deposited synchronously with the state, for the layers are so arranged that they must have been deposited together; that is, while the argillaceous sediment was depositing the copper ores must also have been formed and deposited, and this operation was confined to a particular period of the formation, since it is limited in extent to the strata above named. Since the deposition of these materials in a horizontal position, the whole stratified mass has been elevated, so that the strata now are nearly vertical, or incline but ten degrees from the perpendicular.

All through Canada, where this cupriferous belt of Taconic rock appears, whether the rocks are limestone or slates, the copper ores appear as if formed in their midst. They never have the appearance of injected veins, and if they came from metalliferous emanations in a vaporous state, the elements of the ores must have come in separately, so as to form the copper ores in the pasty materials which subsequently were consolidated into rocks.

All the lodes we have thus far seen in Canada are truly beds of metalliferous rocks, and not distinct walled veins with the gossan, so commonly looked for by miners whose education has been effected in the mines of Cornwall.