

undergoes a change not only of a chemical nature but also with respect to their molecular crystallization.

Although the Bruce mines do not appear to possess ore to any great depth they are not without considerable importance.

The ore which is obtained in these locations presents all the appearances of richness. The works however must be carried on with the prudence required by the circumstances presented by a country entirely new and almost as wild as it was when originally settled.

It is hardly necessary for me to express my opinion as to the mode of proceeding which ought to be adopted, for Mr. Baron the superintendent, on the spot, appeared to me not only to understand works of this character, but has even invented and put in operation a mode of extracting the metal which seems to me to work most advantageously for the interest of the stockholders and the prosperity of the mines.

I shall refrain from attempting to make any valuation in figures of the products of the mines. 1st. because my time there was too limited; 2ndly. because such calculations would only be an imaginary estimate which might be prejudicial to the shareholders and also to the value of the locality. It is a very easy matter to lay down as a rule, "so much per cent of ore, so much profit" but apart from the intrinsic richness of the localities in which mining operations are carried on, there are other circumstances to be considered, when an opinion is to be given as to the advantages offered by such and such localities, such as the great distance from inhabited districts, and the current prices of all those things which are required besides manual labor. The mines on Lake Huron like those on Lake Superior have a powerful adversary to struggle with; for in the United States the working of mines is carried on with all possible energy and perseverance, protected by laws specially enacted for that purpose, by means of partial operations among workmen independently of the associations of capitalists; all this renders the first efforts at the working of mines in Canada very difficult to sustain, and neither the richness of the mines nor the best administration can prevent partial or momentary delusion, before affairs assume a permanent routine, under the influence of intelligence unaffected by the urgent and ever varying necessities, constantly arising in a yet virgin country.

As far as I have been able to judge after a cursory examination of the western shores of the Lake, the Bruce mines appear to me to be the richest in this vicinity. The copper mines appear to yield the most abundantly, but I do not think they are in the richest formation. Mines must exist in their rear which would be much more important or more regular in their formations and more homogeneous, from the fact that the rocks although they contain ore in very great abundance at the surface, contain none at any depth and that the same rocks as they entered below the surface present a different crystalline composition.

I would decline fixing at present the exact date of the formation, for the few fossils which I found appeared to be at variance with that hitherto assigned to that locality. I would rather first obtain more reliable data; but I am almost positive that the very abundance of the veins dispersed on every side proves that the cupriferous region on Lake Huron is of the very greatest value, 1st. because it is situated near a country abounding with all agricultural resources, and will consequently be approached more nearly every year by an increasing population. 2ndly, the climate is more favorable to the working of mines, and the Navigation less difficult; as the Islands of St. Joseph, Drummond, and Manitoulin afford shelter from the storms which are very disastrous, and those vessels which take the United States side are very often exposed to disasters which unfortunately are very numerous. Ready communication with the Atlantic by Lake Nipissing, and the easy access from the different harbours, which form the termini of the railroads con-