

changed into carbonate and other salts, and only exhibits very slight traces of pure metallic copper. Some of these locks of hair still retain at their extremities small pieces of leather which seem to have been used to suspend them. Mr. Mackenzie has taken great pains to obtain information with respect to these bones which are supposed to be the remains of some great chief, but the oldest among the Indians have been unable to give any information on the subject. It would even appear that no tradition has been preserved respecting this man whose remains evidently denote a renowned warrior.

This incident, together with the changes in metallic substances and in the tools, strengthens the supposition that the mines of native copper to the north east of Lake Superior must be of very ancient date, and that the difficulties of transport in these latitudes have prevented their being worked by settlers or immigrants.

The Bruce Mines.

The Bruce mines are situated on Lake Huron 84 west longitude and 46° 19' north latitude.

Upon arriving at the mines, one is struck by the beautiful *coup d'œil* presented by the little village of Bruce Mines. It is built upon the bare rocks in which are strata of different kinds of copper ore, having opposite to it the Island of St Joseph the future granary of the two Lakes.

The town of Bruce Mines already contains about one hundred houses, all occupied by the families of the workmen employed at the mines, the south eastern extremity is devoted to the buildings in which are placed all the apparatus employed in the preparation of ore, to be thence transported to their different destinations, also the Superintendent's office and the Post Office.

The company has also erected wharves to facilitate the arrival of steamboats and other vessels.

In the middle of the formations which are now being worked, is a blacksmiths' shop, and on a small elevation from which there is a view of all the works, is the dwelling of the captain and that of the Superintendent General of the mines.

At the period of my arrival a new apparatus for washing the ore was in course of construction. It is an American invention; by it the ore is first reduced to powder as fine and as uniform as possible; this powder is then placed upon sieves of different numbers, which have a continual horizontal motion with a slight concussion. By means of this "rocker" the copper ore is separated from the ordinary stone, the action of the machine being based upon the well known principle,—that all matters being reduced to the same volume, if they are of different weights, and are equally exposed to the same action of displacement, range themselves in the order of their respective weights.

As this apparatus is on the point of being put into operation, and may indeed be so at this moment I shall abstain from any remarks as to its utility. I will add however that it would be of the greatest advantage to Lake Superior where the native copper is found, in rocks similar to those in No.

Having visited all the mines which are now being worked I can with confidence state my opinion that the copper formations of Lake Huron are not of a nature to possess vertical veins as has been heretofore supposed, because the calcareous rocks of St. Joseph Island or of Eagle point, would have heaved up the dioritic rocks, and the topographic formation of the locality plainly shews the impossibility of this movement, solely because the nature of this locality has not permitted the metallic veins to be formed under the influence of vertical currents of polarisation, but rather caused them to extend themselves in a horizontal direction by the movement of the electro magnetic current.

Upon attentive examination of the rocks not in the adits of the mine only, but generally, it is evident that as the rocks extend below the surface their formation