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ON THE EXTRACTION OF COPPER FROM ITS ORES IN THE HUMID WAY.

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From the Canadian Naturalist for June 1865.

In the last Report of the Geological Survey of Canada reference was made to the poor pyritous copper ores of the Eastern Townships; and with regard to the best method of utilizing them, it was remarked as follows: "It is much to be desired that some of the various methods which have been proposed for removing the copper in a soluble form, could be applied to these ores."* The importance of this question has by no means diminished, since the publication of the report alluded to. The recent discovery, in the neighborhood of Lennoxville, of several very promising beds of pyritiferous copper ore, the difficulty of concentrating these by any of the usual mechanical processes of ore-dressing, and the obstacles to the establishment of smelting-houses near to the mines for the production of ingot copper, all combine to render this subject one of somewhat more than ordinary interest.

The processes which have been from time to time proposed, and put into practical operation, for the humid treatment of copper ores are so numerous and diverse, that I shall not attempt to describe them minutely. I shall merely refer to some of the more important among them, and especially to those which bear some resemblance in principle to the method pursued in certain experiments which I have performed on a small scale, with various Canadian ores, in order to the extraction of the copper contained in them. The results of these experiments having been very satisfactory, I shall proceed to describe them, and, in conclusion, refer to the manner in which the method of extraction founded on them might be most advantageously carried out on a large scale.

1. One of the oldest modes of producing copper in the wet way is the precipitating it, by means of metallic iron, from the water of mines, or that resulting from lixiviating old waste-heaps in their neighborhood. These waters contain the copper in the form of sulphates, derived doubtless from the oxidation of sulphuretted ores. This process is or was not long ago carried on at Schmöllnitz and Neusohl in Hungary, at Moldava in Croatia, in Anglesea, and at Rammelsberg in the Lower Hartz.

* Geology of Canada, page 736.