

purpose of making metallic paint. To all appearance it was simply a dark muck, yet contained, on analysis, over 45 per cent. of oxide of iron. As the top became dry it caked and broke, the top crust showing as clean, black and brilliant a fracture as the best hard bog ore. This proved that the immense beds of soft ore—known as paint ore—known to exist throughout our swamps, will, when drained from natural or artificial causes, become more perfect, dry up and take the form of hard bog ore beds. Some beds of ore, when the top layer was removed, exposed a heavy bed of soft ore beneath. This being uncovered and exposed to the action of the sun for a time, became so hard that it required heavy work with a pick to remove it. In the particular section alluded to, many of the beds are soft on top and harder beneath, while others are the reverse. This would plainly indicate that in midsummer the water in the small swamps becomes so low that the ore deposited in the run-ways and during high water when the swamps overflow, had time to harden. In some, apparently, the water when again high, overflowed the old hard ore and deposited more ore on top, while in others it found an exit by oozing out beneath and leaving an additional deposit below.

"Bog ore, as a rule, is found twelve to eighteen inches below the surface. This season, however, the Canada Iron Furnace Co. are getting ore at a depth of four feet six inches, and the beds are heavy, thick and good, apparently of old formation. Ore has been raised from a depth of eight feet in the 'Grand Pile,' and although this immense swamp is covered with a soft, floating top, pockets of small sized ore have been found in paying quantities on the surface. These facts, taken in connection with the deposits of so-called paint ore in this swamp, may lead to the discovery of large bodies of ore in the bottom. Excavations to a depth of ten, twelve and fifteen feet, in the immediate vicinity of Radnor, show as strong indications of ore at the bottom as at the top.

"Apart from the bog and lake ore deposits, vast mines of Titanic iron are known to exist in the Laurentian range of mountains, and elsewhere in the Province of Quebec. At the present time these ores cannot be utilized profitably, but science will sooner or later find a means of using these titaniferous ores, not alone with economy, but with great benefit to the metal into which they enter."

A. P. Lowe, of the Geological Survey, gives more interesting information about these iron regions, and thus speaks of the Lac-a-la-Tortue, which is situated in the southern part of Radnor, about two miles from the St. Maurice River: "The lake is about three miles long from north-east to south-west, and has an average breadth of about one mile. It occupies the lowest depression of a great swamp called Grand Pile, that extends north and south from the lake. At its centre the water is under twenty feet deep, and shoals gradually to the shore. By removing an obstruction at the discharge the water has been lowered some six or eight feet, and a wide margin of its bed has been exposed on all sides. The lake is fed by a number of small streams flowing from the surrounding swamp; these are highly charged with salts of iron, giving the water of the lake a very ferruginous taste, and coloring it a rusty yellow. The ore is found in the form of concretions scattered through the soft greenish mud, for several feet below the surface of the bottom. It appears to be formed by the precipitation of the protosalts in solution, which take up oxygen from the surface, and, becoming in-

soluble, sink to the bottom, where they collect about various particles of foreign matter and form flat, porous concretions of various sizes, the largest being often six or eight inches in diameter, by over an inch in thickness, and show distinct rings of growth. The growth of the ore in the lake bottom is quite rapid, it having been found that paying quantities of ore can be obtained from areas completely exhausted some eight or ten years ago.

"Work is carried on by hand in the shallow portions along shore, and in the areas left bare by the lowering of the level of the water. The operation consists in shovelling the mud containing the ore into iron sieves of about thirty inches in diameter, where the ore is washed free from mud and then made into convenient heaps for removal. In the deeper parts of the lake the ore is raised by a dredge with three rows of iron buckets on an endless chain. The dredge is capable of working to a depth of twelve feet, and brings up the ore mixed with soft mud; this is dumped into a long cylindrical sieve, placed on an incline so as to discharge on to scows moored alongside."

We hope one day to give some account of the legends and stories of this interesting region which have been gathered by Mr. W. H. Drummond, the clever author of French Canadian dialect verses, such as the "Wreck of the Julie Plante," and the "Papineau Gun," familiar to many of our readers.

#### THE MINERALS OF NOVA SCOTIA.

The following items are selected from the report of the department of mines in Nova Scotia, from which it will be seen that in the output of some of the most important minerals, there has been a considerable falling off:

	1891	1892
Gold, ounces.....	23,391	19,998
Iron ore tons ..	57,391	75,000
Manganese ore " ..	41	111
Coal raised " ..	2,044,784	1,942,780
Antimony ore " ..	10	
Copper ore " ..	900	26
Lead ore " ..		1

Mr. Murray, in submitting this report, stated that enlarged markets were required for both iron and coal. If duty on iron exported to the United States were removed, he thought a larger export might be looked for.

#### CANADIAN IMPORTS IN METALS.

From the following comparative table may be seen the values in pounds sterling of the exports in iron, etc., from Great Britain to Canada.

	March 1892.	March 1891.	Three months ended March 1892.	Three months ended March 1891.
Hardware and cutlery	£10,334	£8,281	£21,990	£19,135
Iron, &c.—				
Pig iron .....	1,906	1,802	2,938	4,100
Bar, &c .....	4,257	2,420	8,420	4,995
Railroad .....	1,070	1,648	5,350	11,620
Hoops, sheets, &c....	1,992	975	4,812	4,526
Galvanised sheets....	1,973	3,313	5,508	5,059
Tin plates .....	15,259	7,388	46,381	24,449
Cast, wrought, &c., iron	6,092	7,075	15,702	15,445
Old (for reman'facture)	3,540	9,725	10,080	13,609
Steel.....	6,664	11,579	22,517	27,084
Lead.....	680	195	2,541	459
Tin, unwrought.....	2,802	1,033	7,148	1,665
Cement .....	374	457	1,317	1,814

The chief increase has been in railroad iron, the imports of which this year have more than doubled those of the corresponding three months of 1892. This increase, however, was more than counterbalanced by the fall in tin (both unwrought and in plates) and lead, the decrease in which articles was very marked.