

hundred returned men claimed to hold claims before enlistment, and the Government had been asked to forgive all assessment work arrears, but this might run into a sum as large as four million dollars, and caution was necessary. The Government purposed to allow the non-payment of the statutory fee of three dollars per acre for unsurveyed claims and \$2.50 for surveyed claims, which would cost the Government from \$300,000 to \$500,000.

Iron Ore Bounties.

The Government had not committed itself to a policy of granting iron-ore bounties, and did not feel disposed to do this. In British Columbia, three dollars per ton had been offered as a bounty for pig-iron made from local ores. This offer has not been taken up as it should be and I believe that in the case of our own ores, the time will come when they will be of the utmost importance, if it is really necessary they should be developed. The electro-thermic process of reduction of iron-ores is stated by competent authorities to be a feasible one, but our drawback is lack of electric power. We have not, however developed more than one-sixth of our own water-powers in Canada, and it is most important that we should do this if we are to develop our iron-ores.

In regard to our place in Ontario as a producer of minerals, in regard to gold output we lead any province or state in America, except California. In silver production we have fallen down, owing to the decreasing yield of the Cobalt mines, a fact that is not either surprising or alarming, as all mines commence to die at birth. We have promising prospects elsewhere, and from the confidential information at our disposal, I believe we have other and undiscovered Porcupines, Cobalts, Sudburys and Kirkland Lakes.

Address of Mayor Church.

The Mayor of Toronto stressed the necessity to develop our water-powers, and referred to the enormous importance of the Chippewa scheme. The deepening of the St. Lawrence waterway, and the utilisation of the powers that can be obtained from its long and falling course to the Atlantic was worthy of all help.

Mr. Church asked the mining executives to assist in every possible way the education of university students, and particularly mentioned employment in the long vacation.

PRESIDENTIAL ADDRESS.

The retiring President, Mr. D. H. Mc. Dougall read the address, which follows:

It is the custom for a retiring President either to review the year's events, as they affect the business of the Institute, or to speak with particular reference to some phase of Canadian mining.

I propose at the dinner to say a word on Institute affairs, but today would ask your consideration of some circumstances connected with the economic utilization of our national resources.

First of all, I would propound two statements, as the text of my remarks, which, made from this Chair, may strike you as unusual, and possibly heretical. The statements that I would make are that the natural resources of Canada are:

- a. Very specialized.
- b. Not inexhaustible.

I am aware that it has been the custom for many years to refer to our national resources by such terms as "illimitable," "immense" and "boundless," and, while these phrases may have been warranted when our people numbered a few millions, is it not perhaps time to take stock of our national assets in the light of future population, which may within the lifetime of those present here be doubled, or maybe trebled?

Canadian views have possibly been colored by reflection of those of our friends in the United States, whose prodigal natural resources have been a revealed phenomena of modern times. The World has not been before, and cannot see again, such a treasure house as the territory now known as the United States of America was when the white man first commenced to mine those resources, without much thought of the future.

In coal, iron, gold, silver, copper, zinc and lead; in the great forests of oak, pine, cypress and walnut that formerly existed, in agricultural possibilities and variety of climate, there never was so fortunate a land seen by white men, nor ever can be seen again in its unspoiled and intact pristine wealth.

But, in Canada, have we so great an accumulation of potential wealth? It is much to be doubted. Our wealth is truly vast, but relatively, we have certain distinct limitations, which, if we will admit them now, and proceed in that wise and prudent manner which has become a proverb, to "cut our coat according to our cloth," we may to a large extent offset.

Three basic requirements of our national life are, in their natural order of importance, coal, iron and wood, and, if we enquire carefully into the extent of our national resources of these three essential materials, their limitations, so far of course as our prospecting and the progress of scientific research today have led us, will be disclosed.

To deal in order, and very briefly, with these three basic materials:

Coal

Our coal deposits do not include anthracite, barring some anthracitic coals of small tonnage quantity in the West.

Our bituminous coals are concentrated in widely scattered localities—not, as yet, the most populous parts of Canada—and the gap between is wide and important.

With the exception of the great coalfield of Alberta and eastern British Columbia, which is of course essentially one deposit, we have remaining only the coal deposits of Vancouver Island, New Brunswick and Nova Scotia.

The great reserve of the two coalfields of Vancouver and Cape Breton Islands is under the sea, and, in regard to both these widely separated localities, the extent of the coal reserve depends on the progress that science will make in providing the means to transport light, air and motive-power over long tracts of underground passages.

The limits to the mining of coal imposed by great depth of cover, and by distance from shore, are not known, because they have not been tested, but it may be confidently presumed that these limits will be widened as human knowledge is increased by experience, and I merely wish to emphasize that the limitation exists.

In the same manner the removal of the present obstacles to the utilization of the low-grade lignites of the West rests with the advances of applied science, as does also the means of making Canada independent—as far as may be—of importations of anthracite from the United States.

Iron.

Canada's position in regard to iron ore is deducible from the definition of commercial iron ore which is contained in the Encyclopedia Britannica article on "Iron and Steel" by Dr. Henry Marion Howe, of Columbia University, who writes:

"Whether a ferruginous rock is or is not ore is purely a question of current demand and supply. That is ore from which there is a hope that metal can be extracted with profit, if not today, then within a reasonable time."

Our iron-ores, so far as we know them consist of large occurrences of ore of relatively low iron content. Their utilization will depend on the progress made in concentrating these lean ores to compete economically with richer ores. This again is a matter for practical scientists, and some progress has already been made in this direction.

Wood.

The inroads that are being made upon our forests are a matter of notoriety, nor are these inroads accompanied by anything approaching adequate reforestation. Indeed, it is doubtful whether in some instances reforestation is practical.

Enquiry will prove that timber lands are daily increasing in scarcity, and therefore in cost, and our limitations in Canada in this regard are not only distinct, but actually alarming.

What I have said regarding these three basic materials is quite probably true of other essential things, but these do not so properly concern us as a Mining Institute.

One general conclusion we may draw, namely, that efficient and full use of our resources is dependent upon the progress of science, which, applied to their limitations, and supplementing their deficiencies, will have the effect of increasing their quantity and duration.

Dealing now with my second statement, and with those natural resources that I have called "specialized," I would direct your attention to the fact that Canada contains almost the world's reserve of nickel, asbestos and cobalt.