

had from the Department is also advertised, there is nothing to indicate in the advertisement that "sale" and "right of purchase" carry with either only a conditional fee simple:—

"Ontario's great mineral fields; an extent of 100,000 square miles. Prospectors, miners and capitalists are invited to the great mineral fields of Ontario, in Canada. The most promising ground on the continent for exploration and investment. The Province of Ontario has a mineral bearing belt 100 miles in breadth by 1,000 miles in length, lying north of the great lakes from the St. Lawrence and Ottawa rivers to the Lake of the Woods. Nickel, iron, antimony, apatite, mica, copper, gold, galena, actinolite, talc, cobalt, silver, zinc, asbestos, plumbago, etc. Thousands of square miles of virgin ground for the prospector in the mineral bearing formations, more easily reached by lake or railway than any other mineral district of the continent. Important discoveries made every season. Careful and intelligent exploration amply rewarded. The attention of miners and capitalists in America and Europe is invited. Mineral lands are sold by the Government at \$2 to \$3.50 per acre, or leased with right of purchase at from 60 cents to \$1 per acre first year, and 15 to 25 cents for subsequent years. The first year's rental allowed as part of the purchase money."

DISCUSSION.

DR. A. P. COLEMAN remarked that the paper contained the most revolutionary set of ideas he had heard given in a public way for a long time. There were cases in Saxony, Norway and elsewhere, of mines being worked by the state, the object being more to ensure employment for workmen than to make a profit. He was not aware that any of these mines were now earning a dividend. His own inclinations were towards individualism, while the paper certainly looked a good deal like communism. Communism, however, might not be a bad thing in itself, and the tendency of modern legislation was certainly in that direction. There were some of the ideas in the paper, such as the prevention of private enterprise, which struck him as being objectionable, and he should like time for consideration before expressing a full opinion upon it.

MR. A. BLUE said there undoubtedly was an air of communism about the paper, but he was not sure that it was any the worse because of that. He doubted, however, whether any government could get efficient labor out of the large number of men who would doubtless be employed in the future in the mining industry of Ontario. What government could manage 100,000 or 500,000 men so employed, with any hope of securing proper service? The existence of so vast a body of voters dependent on the goodwill of the Government would constitute a serious menace to the liberties of the country. Under such circumstances a government would be able to practically perpetuate itself in office by reason of the influence it could bring to bear upon the men in its employ. All the evils of centralization on a gigantic scale would be the result upon the adoption of the plan Mr. Bawden proposed. In his opinion the chief, if not the only, method by which a government can properly aid an industry, is by giving those engaged in it information.

MR. JAMES CONNELL thought it was sound doctrine that the less people were governed the better they were governed. There were certain evils which the paper just read had only disclosed: waste of energy, misdirection of capital, etc., but he did not agree that Mr. Bawden had proposed the only remedy. There were others. He was not prepared to see so much power placed in the hands of any set of men, no matter what their politics might be. They had had Curran bridges—they might have Curran mines. (Laughter.)

MR. B. T. A. BELL suggested that as the paper covered a good deal of ground, it would be better if the discussion upon it was adjourned until next meeting, when members would be more fully prepared.

MR. T. W. GIBSON expressed his preference for individualism as opposed to communism. If the incentive to enterprise, industry and thrift which enlightened self-interest supplied, were taken away, what were they going to substitute? Men engaged in mining, as in any other occupation, in the hope of profit, and all the immense development which had taken place in the mineral industry of Great Britain, the United States and other countries had been the fruit of striving for gain. He feared that government control and initiative would prove far less effective in securing progress than private effort had been.

It being agreed to adjourn the discussion, Mr. Bawden briefly replied to the objections raised to his paper, after which a vote of thanks was passed to him for the same.

The Utility and Value of Some Common Minerals.

MR. A. BLUE—Five or six years ago a young man came to this city from one of our finished country villages to seek an occupation which might afford larger scope for his energies than the little annex farm at home appeared to promise. He took counsel with one or two friends, and after the merits of a number of projects were discussed, the general conclusion was reached that no business was as sure or safe as one which undertook to supply the common and everyday wants of the people. Food, clothing, and shelter, are necessities of life, and whatever else man in a civilized state may do without, he cannot, or will not, dispense with these. Our young man had been a producer of foods on a small scale, and naturally he inclined to keep on in that line of business. But his heart was set on a specialty, and so he decided to establish a dairy farm and supply the city with milk. He reasoned in this way: "Every family in the city wants milk, and wants it every day. Being a cheap and nutritive food, and, for children especially, an almost complete diet; many people will buy as much as they require, and the poorer classes as much as they can afford. I am therefore sure of customers if I can supply a good, wholesome article, and the cash will come in as the milk goes out." This young man was wise enough to learn his trade in a well managed dairy before starting on his own account; but it was only a matter of a few months, and he began right. To-day he sells in the city the milk of nearly 150 cows, he has one of the cleanest and best equipped dairies in the province, and he is worth \$25,000.

The story illustrates the wisdom of selecting a business that deals with the steady wants of the people, and while intelligence and diligence cannot be dispensed with in any calling, it is worth a good deal to remember that progress is always easiest along the lines of least resistance. Under some circumstances a business runs itself, to use a common phrase; under others it requires a vast expenditure of force and oil, and often then it fails. But many persons are so constituted that they have no pleasure in what are called the meaner pursuits of life. Nothing has a charm for them but to undertake the difficult or the impossible, wherein to succeed is glory and perchance a fortune, and wherein to fail is loss and disappointment without it may be, a compensating grain of gathered wisdom.

The two most abundant minerals in this country are clay and lime, and they are likewise among the most useful. They furnish the raw material too for mineral industries of the first importance, in which a large amount of capital and many laborers are employed. Yet in the vulgar opinion, clay and lime are not worthy of being called minerals, and the seekers after gold, silver, copper, nickel and iron would scorn

to recognize the workers in clay and lime as fellow-miners. I think it will not be hard to show, however, that these very common minerals possess a value not in any degree inferior to the metals, and that they are deserving of much greater attention than they have yet received in this country, at the hands of moneyed men, and men of the best technical training in the mineral industries. But let it be premised, that in this paper lime (using the term in its colloquial sense) will be dealt with only as material for the production of cements.

As to the extent and growth of the industries, information is afforded by the census reports of the Dominion Government. But for comparative records we can only go back to 1881; no account was taken of cements in the Censuses preceding the one for that year, and the earlier statistics of the brick industry are of no use in showing its growth.

The statistics of the two industries in Canada and the Province of Ontario respectively, are given in the following table for the years 1880 and 1890:—

	CANADA.		ONTARIO.	
	1880	1890	1880	1890
CEMENT:				
No. establishments . . .	9	19	3	12
Hands employed	115	243	29	128
Wages paid	\$38,151	\$85,960	\$7,000	\$39,245
Value of product	91,658	251,175	29,200	153,400
BRICK AND TILE:				
No. establishments . . .	560	697	400	463
Hands employed	4,129	6,737	2,768	3,791
Wages paid	\$608,690	\$1,428,489	\$405,311	\$797,257
Value of product	1,541,892	3,584,713	971,158	2,154,152

The noticeable feature in these statistics is the large share Ontario claims in the progress of the ten years. Ten new cement establishments were added, and all but one are credited to Ontario. The number of hands employed by the industry increased by 128, and all but 29 are returned for Ontario works. The amount paid for wages was greater in 1890 than in 1880, by \$47,809, and two-thirds of it was earned in Ontario. The increase in the value of product was \$159,517, and three-fourths of it belonged to Ontario. The progress of our Province in the manufacture of brick and tile was less conspicuous in the decade, although in number of works, employees, wages and value of output, she exceeds all the other provinces combined. In the increase of works from 1880 to 1890, her share was 63 out of 137; of workmen employed it was 1,023 out of 2,608; of wages paid for labor it was \$391,946 out of \$1,428,489, and of value of articles produced it was \$1,182,994 out of \$3,584,713.

But assuming the absolute accuracy of the figures, there is one aspect of them which arrests attention, viz. the relativity of the cost of labor to the value of product in Ontario and the other provinces. For the whole Dominion, in 1880, the ratio of labor to product was 1:2.53, and in 1890 it was 1:2.50—a proportion which everyone would be disposed to accept as likely. For Ontario, however, the ratios of labor to product were 1:2.40 and 1:2.70 for the former and latter years respectively, while for the other provinces they were 1:2.95 and 1:2.27. The use of improved machinery would account for this disparity to some extent, although not wholly. So also would fluctuations in the price or the efficiency of labor. The latter cause can be dismissed as improbable, in view of the proximity of the provinces; and while the former might flatter our vanity, it would, in view of all the circumstances, be fatuous, to claim for it more than a very modest share of potency in the radical disturbance of ratios. The real cause will probably be found in the different scales of values adopted in different parts of the country, and it is to be regretted that in the Census enumerations account was not taken of quantity as well as of value.

In the statistics collected by the Bureau of Mines last year, the manufacturers of cement in Ontario, gave the value of their product as \$127,415, while the number of workmen they employed was 224, and the amount of wages paid for labor \$60,208. Their product included 74,353 barrels of natural rock and 31,924 barrels of Portland cement. In 1890 there was no Portland cement made in our province; yet the value of cement manufactured that year according to the census was greater than last year by \$25,985, while the number of workmen employed was less by 96, and the wages paid for labor less by \$20,963. Had we the output for the Census year in quantity, the cause of the discrepancy would more clearly appear. The Bureau's returns of brick and tile for 1893 are also much lower in value than those of the census for 1890, but this is no doubt due to the fact that the financial stringency of last year caused many works to close down early in the season, while others were idle the whole year. The number of men employed was 2,874, the amount paid for wages \$531,686, and the value of product \$1,339,873—the ratio of labor to product being 1:2.52.

It has been shown that on the basis of values the manufacture of cement in Canada increased from \$91,658 in 1880 to \$251,175 in 1890. The whole of this product was consumed in the country, but it was far from supplying our needs. In the fiscal year 1880-1 we imported hydraulic, Roman and Portland cements to the value of \$53,765, and in 1890-1 to the value of \$313,690. But since the fiscal year 1886-7 the Trade Tables give us the quantity as well as the value of cements imported, and they show that the demand has been largely on the increase. The following table gives our imports of Portland and Roman cements for each of the seven fiscal years 1886-93, the great bulk of which was the Portland variety:—

YEAR.	BARRELS.	\$
1886-7	102,750	148,054
1887-8	122,402	177,158
1888-9	122,273	179,406
1889-90	192,322	313,572
1890-1	183,728	304,648
1891-2	187,233	281,553
1892-3	229,492	316,179

The total importation in the seven years was 1,140,200 barrels, valued in the Trade Tables at \$1,720,570; but to this should be added the \$455,445 of Customs dues paid to the Government, the costs of freight and insurance and the profits of im-