

These are replied to by Mr. Ritchie seriatim, and he quotes from a report of the general meeting of the New Caledonia nickel company—"Le Nickel," showing that it had been very unprofitable in its operations until by reaching a selling agreement with the Canadian Copper Company it had been able to obtain a slightly better selling price. This French company had also been obliged to mine large quantities of ore, as it was under contract to New Caledonia to employ convict labor. This contract now having been completed, and the company being able to employ free labor to greater advantage, its position has somewhat improved. This shows why the company is now exporting accumulated stock of ore. The statement that Norway is a great competitor is dismissed as absurd, and the chief argument centres round the cost of the New Caledonia and Sudbury ore and the cost of refining. The Caledonia ores contain 7% of nickel. Three tons of ore are reduced to one ton of matte, which consequently contains 21% nickel. A ton of Caledonia matte, containing 420 pounds of nickel, costs, delivered in New York, \$56.20. The Caledonia ores contain no copper.

The Sudbury ore, on the other hand, is richer in copper than nickel. One ton of Sudbury matte, consisting of 420 pounds of nickel and 500 pounds of copper, would cost delivered in New York, \$50.80. The value of the copper alone in this amount of Sudbury matte, at 14 cents per pound, is \$70.00. That is to say, the value of the copper alone in a given quantity of Sudbury matte would purchase the same quantity of Caledonia matte and leave a margin of \$19.20 to the good. If Mr. Ritchie's figures are authentic, it is quite evident that the New Caledonia mines can not successfully compete with those of Ontario. Instead of costing more to refine the matte at Sudbury than in New Jersey, there would be an actual saving. Mr. Ritchie proves this by comparing the cost of bringing the coke to Sudbury with the cost of hauling the ore to New Jersey. The extra cost of coke delivered at Sudbury, as against New Jersey, is more than offset by the cost of carrying a lot of dead weight to the latter place. Mr. Ritchie proves his points very conclusively, viz.: that Canada has a virtual monopoly of nickel, and that it is cheaper to refine the ore or matte at or near the mines than anywhere else. Mr. Ritchie's statistics prove the whole case in favor of Canada's placing an export duty on nickel ore and matte.

MODERN SANITATION IN SCHOOLS.

Just how much we owe of health or unhealth to the modern improvements which are becoming in our minds an essential feature of civilization, is hard to determine. It is claimed, and apparently with some reason, our well ventilated and comfortably warmed houses are much less sanitary than the draughty abodes of our fathers, but facts in support of such claims are not easily obtained. The annual report of the Board of Health of Toronto for 1898 presents some statistics which are worth studying in this connection.

The investigation covers only a period of four years, and the officer making the study, E. B. Shuttleworth, has been able to devote part only of his time to the task, so that his results are merely preliminary to a more thorough study of the subject which, no doubt, the department will at once proceed with. At first glance the facts seem to prove that schools heated by steam and having outside closets are more sanitary than stove-heated buildings, and that both are superior to the combined heating and ventilating system (the Smead-Dowd) which is in use in Toronto. Also, and more extraordinary, it would appear

that the Roman Catholic schools are more sanitary than the public schools and to a great degree. The two facts existing side by side suggest that some obscure reason is at the bottom of the difference in sanitary conditions. One point not gone into at all in the report is the fact that the public school children receive the same books over and over again, and this must convey contagion, which is not the case in the separate schools. Incidentally it is shown that the more recently built and higher sections of the city are more unhealthy than the low-lying sections near the bay. The following figures are from the report:

SUMMARY OF RESULTS AS TO HEATING.

	Average attendance.	Cases of infectious disease.	Percentage infectious disease.
Public Schools.			
Smead-Dowd system.....	16,851	1,143	6.79
Wood or coal stoves.....	1,662	108	6.49
Steam heating	3,811	169	4.43
	22,324	1,420	6.35
Separate Schools.			
Mixed heating, hot air, Smead-Dowd and steam	1,566	53	3.38
Coal or wood stoves	1,299	17	1.30
	2,865	70	2.44

As great importance is properly given to the methods of disposal of excreta we give the summary of the results observed:

SUMMARY OF RESULTS AS TO EXCRETA COLLECTION.

	Attendance.	Cases contagious disease.	Percentage contagious disease.
Public Schools			
Dry closets, S-D. ventilation	5,098	393	7.31
Water closets	9,915	660	6.65
" outside school buildings..	3,396	201	5.91
" separate ventilation	4,860	221	4.54
Separate Schools.			
Mixed systems, mostly S-D. ventilation	940	29	3.08
Water closets, separate vent	1,173	31	2.64
Privy pits outside school buildings....	752	10	1.33
Combined Schools.			
Outside water closets or privy pits ..	4,148	211	4.12
Water closets with separate vent	6,124	252	4.11
Water and dry closets, mostly with S-D. ventilation	15,866	1,082	6.81

The city has, speaking broadly, a gradual slope to the water front, and for purposes of comparison has been divided into districts according to its elevation above the lake, 10 to 60 feet, 60 to 120 feet, 120 to 160 feet. The more elevated portions of the city are generally the newer, better built sections, and the houses are for the most part detached or semi-detached. In the face of such conditions we find this result:

OCCURRENCE OF INFECTIOUS DISEASES IN SCHOOLS AT VARIOUS ELEVATIONS

	Public Schools.		Separate Schools.	
	Attendance.	Percentage Cases.	Attendance.	Percentage Cases.
10 to 60 feet....	9,914	5.49	1,595	3.38
60 to 120 feet ..	8,404	5.47	1,072	2.51
120 to 160 feet..	3,986	3.24	198	2.52

A SMELTER FOR TORONTO.

There appears to be some prospect, however remote, of a company being formed to establish an iron smelter in Toronto, Ont. Just what arguments could be used to induce monied men to risk such an investment it is hard to imagine. Whatever may be said favorable to Toronto is much more true of some other place, and some great facts are unalterably arrayed against such a venture. Toronto has neither coal, charcoal, iron, limestone, water power, electric power, natural gas, nor cheap labor. Even with the deepened canals, Toronto will still be at a great dis-