

gree responsible for the renewal of the Act for a further term of five years and the increase of the annual grant to £5,000.

The years 1860 and 1861 were uneventful in the history of the Survey, but in 1862, under its auspices, another large collection of minerals was exhibited at the London International Exhibition of that year, Sir William Logan being appointed Commissioner. Upon his return to Montreal in 1863, his great volume on the Geology of Canada was completed and published. Meanwhile, as has already been shown, the existence of the Survey had been extremely precarious, on account of its dependence upon an altogether insufficient annual grant. Accordingly Sir William now addressed a letter to the Minister of Finance under the McDonald-Dorion administration, urging in the strongest terms the necessity of more liberal action on the part of the Government.

The fund provided for the maintenance of the survey in 1863 was, he pointed out, exhausted and a certain sum was falling due for the cost of illustrating the report, while the grant of the previous session was insufficient to pay expenses, and allowed nothing for publications. He had, in fact, not only disbursed \$4,000 out of his own pocket in the purchase of works for the library, surveying instruments, etc., but in order that the work should be carried on during the year, Parliament having dissolved without granting supplies, he actually advanced the necessary funds, amounting to upwards of \$10,000, for the purpose. Shortly after this letter was written a change of Ministry occurred and the Act making provision for the Survey was again renewed for another period of five years. Nothing of notable importance appears to have occurred until 1866, when another mineral exhibit, which was instrumental in attracting much attention to Canada, was sent to Paris in charge of Dr. Hunt and Mr. Richardson.

Early in 1869 Sir William Logan resigned the Directorship, and was succeeded by Mr. (afterwards Dr.) A. R. C. Selwyn, an English geologist, who for many years had directed the Geological Survey of Victoria, Australia. Mr. Selwyn, however, does not appear, judging from his earlier reports, to have devoted as much attention to the subject of economic geology as his illustrious predecessor, although in the Report of 1871-72 some valuable information is afforded by Mr. Richardson on the coal fields of Vancouver Island, and by Mr. Vennor in connection with the occurrences of iron and apatite in the Counties of Leeds, Frontenac and Lanark, and of gold in the Township of Marmora. In this year also a first attempt was made to compile mining statistics, figures being given for the three years, 1869, 1870 and 1871. In view of the great developments that have since taken place it may be of interest to quote from these returns. Thus the average annual production at this period is stated as follows:

Name of Province.	Value of Product at Mine.
Ontario. . . . .	\$996,982
Quebec . . . . .	330,209
Nova Scotia, (coal). . . . .	1,192,365
Nova Scotia, (gold) . . . . .	351,266
Nova Scotia, (other minerals) . . . . .	220,000
New Brunswick. . . . .	262,288
Newfoundland. . . . .	233,702
British Columbia (gold) . . . . .	1,336,066
British Columbia (coal). . . . .	151,952
Total annual average . . . . .	\$5,044,830

On the grounds, however, that mine owners neglected to make the returns asked for, no further attempt was made to continue this useful work until many years later. The volumes of 1874-5-6-7 are largely scientific in character, much space being occupied also with somewhat trivial details recounting incidents of camp life and travel. Mr. Selwyn, however, appears to have shared the views of Sir William Logan in respect to the importance of exploration in the iron and coal fields of Nova Scotia and Cape Breton, for in the Report for 1874-75, he explains that unusual attention has been devoted to geological work in Nova Scotia, as "the development of coal and iron mines exerts a far greater and more beneficial influence upon the material progress and prosperity of the country than can be ascribed to that of any other product of mining industry." At the same time he complains of the inadequacy of his staff and the urgency of better provision in this respect, pointing out that two-thirds of the time and attention of explorers was then being occupied in making topographical measurements for the construction of the essential preliminary maps.

In 1877 "An Act to make better provision respecting the Geological and Natural History Survey of Canada, and for the maintenance of the Museum in connection therewith," was passed by the Dominion Parliament, but while the scope and objects of the Department were enlarged, so as to include various branches of natural history, there was at first no corresponding increase in the appropriation granted. This was subsequently remedied, and the Survey commenced to take up natural history work of various kinds, but still showed little disposition to assist the miner in a practical manner. At length, after the issuance of what happened to be a very meagre report for the years 1880-81-82, complaint became so general that a select committee was appointed by the House of Commons to obtain information as to the methods adopted by the Geological Surveys in Canada and other countries in the prosecution of their work, with a view of ascertaining if additional technical and statistical records of mining and metallurgical development in the Dominion should not be procured and given to the public. After hearing the evidence, the committee published a lengthy report, from which the following extracts are taken:—

"The committee. . . . . notices the serious lack of attention to the mining industries of the country in actual operation. Under the administration of Sir William Logan, but little progress had been made in actual mining developments, particularly in the limited sphere of his labours—the present Provinces of Ontario and Quebec. Since his day, not only has the field of practical mining been greatly enlarged by the addition of the Maritime Provinces with their extensive coal and gold mines in actual operation, but in the previous fields we have to note the discovery and development of the iron and gold deposits in Ontario, the phosphates of Kingston and the Ottawa Valley, the gold of the Chaudière district and the copper, iron and asbestos deposits of the Eastern Townships, yet we look in vain in the present report for any information, either of a statistical nature of their production, or of a descriptive or geological character, as to their progress or peculiarities. Thirteen pages of the last report suffice to narrate the work of the Survey for the last two years, in connection with the mines in actual operation in the whole Dominion. . . . In the opinion of the committee, the primary object of the Survey should be to obtain and disseminate, as speedily and extensively as possible, practical infor-