Government of Victoria, Australia, and later of the Dominion, took a prominent and active part in the collection and preparation of the mineral exhibits at six International Exhibitions: Melbourne-Dublin, 1854-55; Melbourne-London, 1861 2; Melbourne-Paris, 1878; London, 1886 From all these exhibitions he was awarded gold, silver and bronze medals and diplomas. At the Paris Exhibition in 1878 he was elected Chairman of the Jury on Cartography, and was awarded the Cross of the Legion of Honor, and in London in 1886 that of the Order of St. Michael and St. George.

Since 1869 he edited and contributed to sixteen volumes of reports with numerous maps and illustrations relating to the structural geology and to the mineral, vegetable and animal resources of the Dominion, He is also the author of the Canadian part of Stamford's "Compendium of Geology and Travel—North America," London, 1883. In 1881-2 he superintended the removal of the Geological Museum from Montreal, and its re-organization on a broader basis in Ottawa, where it now embraces natural history, as well as mineralogy and geology, and has become the most complete existing collection illustrating the natural resources of Canada.

Nor is it only on the other side of the Atlantic that Dr. Selwyn's abilities have met their just appreciation. Both in the United States and Canada his work is held in high esteem. A leading scientist in New York has said of the maps published by him that they are "truly magnificent; my highest expectations are more than realized in them; they are, indeed, models of method and precision, and the most noble monuments to their originator." Another gentleman in a high position in the Lower Provinces said : "It is my unbounded appreciation of what has hitherto been done by the corps of the Geological Survey, under the directorship of an able and eminent chief of whom Canada may well feel proud, which prompts me to suggest and impels me to advocate the expenditure of a few tenths of a cent more apiece, to enable the Survey to continue recording and establishing in the most satisfactory manner, work that is being well done, and which ensures the industrial development of the country, while it will be at the same time a source of honest national pride when we compare our record with that of other countries." Many other encomiums might be cited did space permit, but sufficient has been said to show that Dr. Selwyn's worth was widely known and honored in the scientific world.

Last year the mining men of the country, through the Canadian Mining Institute, presented to the Geological Survey an excellent memorial portrait of Dr. Selwyn, as an appreciation of his work and the great services he has rendered towards the development of the mineral wealth of the Dominion.

CANADIAN MINING INSTITUTE.

The following communications have been received by the Secretary re discussion of papers read before the Institute :---

Mine Timboring by the Square Set System at Rossland, B.C.

Mr. ERNEST WOAKES, Nelson-I have read with much interest Mr. Bernard MacDonald's paper on the square set system of timbering used at the Le Roi mine and I should like to hear from that gentleman how he would have adapted his system to the peculiar conditions which existed at the Darien Gold Mines in the Republic of Colombia, South America, a mine of which the writer had charge some years ago.

In Vol. XXIX of the Transactions of the American Institute of Mining Engineers the above mine is fully described. The ore body may be roughly described as having the form of an irregular quadrilateral measuring 90 feet wide from north to south, and 120 feet long from east to west, and standing nearly perpendicular. The country rock was a decomposed andesite having many cleavage planes so that it was very liable to break up and cave if left unsupported. The ore body was composed of boulders and rock fragments from the adjoining country rock varying in size from pieces as small as a walnut to masses of many tons weight. These fragments are generally completely angular partaking of a breccia-like formation but at times they were rounded and resembled a conglomerate. The rock fragments are completely surrounded and cemented together by concentric shells of crystalline sulphurets and calcite with a little quartz. The gold was mostly free and was found almost entirely in the cementing materials. The ore was very high grade.

Timber was fairly plentiful but as in most tropical countries the majority of it was of very poor quality. It commences to decompose almost as soon as cut and for all underground purposes cannot be relied upon for much over twelve months. The square set system was introduced and practical men from Nevada were engaged to teach the natives how to prepare and set up the sets. Round timbers were used for the posts and nothing under 18 inches diameter was put in. The caps were flattened by adzing on two sides and the ties were of sawn lumber 8 x 10 inches. Great care was taken in setting the sills in each level, they were set north and south, east and west, with the idea of making sure that the uppermost tiers in one stope would eventually correspond as nearly as possible with the sill sets of the stope above. It was also found useful at times in the mine to know the exact bearing by means of the timbers. Very soon after starting stoping it was found to be necessary to keep the sets close up to the stoping faces or falls would occur. The conditions were much aggravated in the upper levels by the presence of old workings. Finally, after the whole width of the ore body had been stoped and the sets carried up from four to six sets high, it was found that the one body was commencing to settle and the whole weight was on the timbers. Falls and caves became more frequent and finally a cave started, above the upper floor and kept breaking away upwards to such an extent that it could not be caught up and eventually the whole stope crushed in, the timbers being forced out of plumb as the weight on them increased. Fine sets and diagonal braces were put in to resist the pressure but this was of only temporary assistance. After the cave a tunnel was driven in the country rock round three sides of the ore deposit and croascuts driven in from it and the ore extracted as it ran down, temporary sets being put in where necessary, in this way the ore was taken out until surface rock and tree stumps began to shew in the stopes. In the deeper levels it was decided to try a different system. The square sets were put in as before but were only carried three or four sets wide all round the ore deposit leaving a large square pillar in the centre which was taken out as far as was possible after the greater part of the ore body had been removed. Crosscuts were driven into the country rock from the various floors and the waste rock from these dumped into the stopes where the timber shewed the worst signs of squeezing. It was not deemed prudent to leave any ore in the stope as filling it being of such high grade that the loss would be very great. Besides, as is unfortunately so often the case, the mill was generally calling on the mine for ore. It was a very wet mine and the rainfall was excessive, viz.: 110 inches a year. For this reason it was not desirable to have large open workings at the surface liable to sudden flooding, as would have been the case if filling from the surface had been resorted to as is in the case with the Ymir mine in this country. I, of course, believe that in most cases where wide deposits have to be worked the square set system of timbering is the most satisfactory, if