

distance of undeveloped country between settled areas. The C.P.R. on the other hand had first to bridge the 700 miles of uninhabited, and inhospitable territory of the Canadian Shield. This was an area which seemed barren, and it was only when it was attacked and scarred by the railroad builders that it gave any hint of the tremendous wealth which lies locked inside it. Then the railroad had to cross the prairies, and while in Canada there were then no hostile Indians to plague the construction gangs as they had done in the United States, this phase of construction presented immense problems of what today we call logistics. Finally came the task of running steel through the Kicking Horse Pass and across the other ranges of the Cordilleras, a feat far more difficult than that which had faced railway builders South of the border.

I think that today there is a temptation for us who sit at our desks or travel across the continent in the comfort of a modern railway car to take the existence of the C.P.R. and the C.N.R. too much for granted and to forget the foresight and the unquenchable courage which alone made possible their conception and creation. Some idea of the problems involved in building these railways was given to me by a conversation I had with an engineer concerned in the construction of the railroad from Seven Islands to the iron ore mines at Knob Lake. He described the immense obstacles which this railroad had had to overcome and then pointed out that they were none of them as great as many which were faced in building the transcontinental lines, and that in those days the construction engineers had none of the modern power driven machinery nor even modern explosives to assist them.

The physical difficulties were accompanied by equally important financial difficulties. As Professor Lower has pointed out in "Colony to Nation", if Canada had been a populous and wealthy country, the feat of constructing the C.P.R., while great, would not have been superhuman. The United States had just completed the Union Pacific Railroad to San Francisco, but it was a country of 40 million people and even for it the Union Pacific was a notable piece of construction. Canada, he goes on to say, was a little country of 4 millions with only revenues of less than \$20 million and a credit standing in London that had to depend on Imperial guarantees for reasonable rates of interest.

The order of magnitude of the financial effort required to build the Canadian railroad system may be more vividly perceived when considering the tremendous investment involved in relation with the Canadian National income for that period. In 1870, the Gross National Product of Canada was \$481 million - and in 1900, it was slightly over one billion dollars as compared with \$24 billion in 1953. It is in that perspective also that we have to appraise the Federal Government contribution, which by 1914 had reached a total of approximately \$600 million, without taking into account the land grants of 31.8 million acres.

The completion of these railroads was indeed a miracle of physical and moral courage, of foresight and singleness of purpose on the part of the statesmen,