

While a number of mining camps have been developed near the International boundary line (Sullivan, Slocan, Rossland, Boundary, Copper Mt.) and along the Pacific coast (Britannia, Surf Inlet, Anyox, Stewart), and while some of the main streams have been prospected for placer gold, the greater part of the Cordilleran belt in Canada is as yet untouched. Probably not one-fifth can be said to have been prospected at all, not one-twentieth prospected in detail, and not one area however small, completely tested. The chief products of the lode mines of the Cordilleran belt in Canada are copper, gold, silver, lead and zinc. Yukon is noted for its production of placer gold and is now attracting attention with rich silver ores. In addition to these minerals there are, in this portion of the country, enormous resources of coal of excellent quality, varying from lignite to anthracite, and conveniently distributed. Only the coal areas of the southern part of the province and a few small areas on the Telkwa, Skeena and Nass rivers and on the Yukon have as yet been examined.

Great unprospected areas are known to contain, in places, coal formations, and will no doubt when explored add greatly to the present known reserves. The coal production is not large as compared with the supply; but a large increase in production may be expected in the near future, as these are the best steaming and coking coals in the west.

Upon the knowledge already gleaned concerning the economic deposits of the Dominion by geological exploration, by prospecting and by actual mining, it is safe to predict that the mineral industry will become a very great and valuable one. Its development will render essential a close study of the geology of the country. The geological field in Canada is as rich and inviting as the mining. Perhaps half the rock history of the world is written in the pre-Cambrian, and it is of this portion that most remains to be deciphered. Since the greatest spread of these old rocks occurs in Canada, much of this work will fall to Canadian geologists, and the careful solution of the problems presented will be as valuable to science as to the mining industry.

GEOLOGY IN RELATION TO AGRICULTURE IN CANADA.

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The agricultural possibilities of any country are dependent upon the character of the soil and on the physiographic features. Both of these are closely related to the geology and geological history of the country.

Soils.—Soil, strictly speaking, consists of but a thin surface layer of loose material containing humus, derived from the decomposition of organic matter and other compounds suitable for plant growth. The great proportion of both the soil and the subsoil consists of mineral matter. From the mineral constituents are derived potash and phosphoric acid, two of the chief compounds essential to the growth of vegetation. The mineral constituents are derived from