

knowledge. At the same time we would remind our readers, who are amateur photographers, that they may help us in many ways to give completeness to our plan. Photographs, with brief descriptions, of localities of historic, scenic or economic interest, from any of the hundreds of summer resorts where any of our readers are keeping holiday will be received with thanks and will give pleasure and instruction to thousands.

A few years ago, it may be remembered, the federal authorities, with the sanction of Parliament, ordered an expedition to be organized for the purpose of gaining information regarding the vast stretch of hitherto little known territory denominated the Upper Yukon district. Command of it was entrusted to Dr. G. M. Dawson, who has prepared a careful report—now issued in a separate volume—on the results of his observations. It is satisfactory to know that the forecasts as to its value have not been disappointed. From the knowledge acquired during his careful and laborious investigations of the region, Dr. Dawson is enabled to say that it is rich in furs, well supplied with timber and traversed to a large extent by navigable rivers, that its mineral areas promise to be not slightly productive, yielding gold in considerable quantities, with other metals and comprising deposits of coal. Though at present out of the reach of colonizing enterprise, its mineral wealth is certain some day—ere long, perhaps—to attract a hardy and thrifty population. It is, in fact, as Dr. Dawson suggests, a portion, like the Mackenzie basin, to which the term was first applied, of "Canada's Great Reserve."

Now that so many educated men are applying the advantages of their college training to agricultural and pastoral pursuits, it is not without significance to recall that the time-honoured traditional "bachelor" was originally a "cowboy." "Baccalarius" is only another form of "vaccalarius," from "vacca" (vache), a "cow," "vaccalia" or "baccalia," a "herd of cows." When he goes into ranching, therefore, the young university man is still a "baccalarius"—a dealer in herds, if happily endowed with means, or a simple herdsman or cowboy if he has or chooses to pass through the ruder apprenticeship. Many an Australian lord of countless herds began his career with the stockman's whip in his hand, and doubtless some of the worthy "bachelors" whom we pictured not long since will work their way to wealth. There is certainly nothing in their appearance that savours of the swagger which it has become usual to associate with the cowboy's life further south. Alberta is our great ranching district or province, and a grand future awaits it. We hope ere long to present our readers with some further illustrations of its scenery, capabilities and enterprising pioneer life.

#### MINERAL WEALTH OF BRITISH COLUMBIA.

A most important work has just been issued by the Geological Survey in convenient form and at a nominal price. The subject of it is the Mineral Wealth of British Columbia, and the mass of classified information which it contains has been drawn by the author, Dr. G. M. Dawson, F.G.S., Associate of the Royal School of Mines, from the Reports of the Survey since the year 1871. To what relates to British Columbia in these Reports Dr. Dawson was himself the largest contributor, so that, in compiling the present useful work, he was,

in the main, going over familiar ground, and, to a great extent, condensing what he had already written at considerable length. He has, however, revised his statistics in the light of later exploration and brought the record down to the present. The aim of the work is to supply answers to enquiries that are constantly made, to place within reach of the prospector or miner a synopsis of valuable facts, with a list of localities to which they refer. Dr. Dawson concludes his description of the physical and geological features of British Columbia by predicting an eventual great development of metalliferous mining in that province. It comprises a length of 800 miles of the most important metalliferous belt of the continent. If the northern extension of the same belt beyond the 60th parallel be added, its entire length within the boundaries of Canada is from 1,200 to 1,300 miles.

Gold was first discovered in the province in 1851, at Gold Harbour, on the west coast of the Queen Charlotte Islands. The deposit was worked to a value of at least \$20,000, and some make the figure much higher. Workable placers were found at Nicoamen on the Thompson in 1857. An extraordinary migration ensued, and Victoria was metamorphosed from a petty village to a tented city of 20,000 to 30,000 miners. The difficulties of travel were great, however, and a few only were energetic and hardy enough to stand the strain of it. In five months \$543,000's worth was shipped from Victoria. Needless here to follow in detail the subsequent progress of gold mining in British Columbia. Suffice it to say that the total known and estimated yield in the thirty years ending with 1888 was, according to Dr. Dawson, \$54,108,804. The average number of miners employed yearly was 2,775, and the average yearly earnings per man, \$622. Of the silver ores of the province, Dr. Dawson says that, to judge by the developments of the past two years, they seem likely to achieve importance even before those that are distinctly auriferous. Characteristically silver-bearing ores have been discovered in numerous widely scattered localities—the greater number of them being in the belt that contains the gold placer deposits—especially in the southern section of it, which, for the most part, is not far from the Canadian Pacific Railway. It may be assumed that these deposits were first brought to light owing to their accessibility, and there is reason to expect that the more distant parts of the belt may be equally rich. At any rate, the discoveries so far have been very encouraging. Coal had been come upon fully twenty years before the discovery of gold, Dr. W. Fraser Tolmie making known its existence on the coast as early as 1835. The total production from 1836 to the close of last year is set down at 4,358,211 tons of 2,000 lbs. The Tertiary rocks of British Columbia, though usually yielding only brown coal or lignite, occasionally contain true coal. Little attention has as yet been given to the British Columbia iron ores, but Dr. Dawson thinks that the time may be approaching when those that lie near navigable water, and thus have means of communication with the coal fields, may be extensively utilized in the manufacture of iron. So far, the ores found in any quantity are magnetites. The clay ironstones of the Vancouver and Queen Charlotte Islands coal series may, in some cases, be profitably worked in conjunction with the coal seams. The only iron ore deposits worked hitherto are those of Texada Island, the largest exposures occurring three miles northwest of Gillies Bay,

where the ore-mass is from twenty to twenty-five feet thick. The ore here is favourably situated for mining and shipment, and if smelting operations were undertaken, there is on the island plenty of wood for charcoal. Copper ores occur in many places over the entire area of the province, and, although no copper mining has yet been initiated, the output from copper is likely, ere long, to be considerable in connection with the mining of the precious metals. It is, moreover, only a question of time till copper ores shall be worked as such. The province is also sure to be known in due time as a lead-producer, a large proportion of the silver ores being argentiferous galenas. Zinc, too, is found as an accessory mineral in the precious metal veins. Sulphide of antimony is known to occur in the south of the province, and platinum has been found in association with placer gold. The platinumiferous region of the upper Similkameen and Tulameen is the most important as yet discovered in North America. Cinnabar, native arsenic and molybdenite are also mentioned as elements in Columbia's mineral wealth. Structural materials in large variety, precious stones, such as agates, obsidian, opal, the once highly prized nephrite or jade, used by the Indians for their celts or adzes, mineral resin (and even amber), garnets (though not flawless), jasper and other species, and ornamental stones, such as porphyries, diorites, etc., as well as ochres, tripolites, asbestos, petroleum and mineral and thermal springs, complete the list of products that constitute the vast and varied mineral wealth of our Pacific province. It is impossible to read this interesting and instructive volume without a sense of gratitude for the bounties with which nature has endowed that land of promise and for the energy, patience and scientific knowledge that have been brought to the task of disclosing them. From the day when the chief of the survey received instructions from the late Hon. Joseph Howe to betake himself to the western limits of the Dominion (at that time no pleasure tour) to the present, no pains have been spared in unfolding to the world the grand natural features and manifold riches, in rock and soil, of that mighty region, one day to be the home of millions of people. Of that important work, so well begun by Dr. Selwyn, the chief burden fell to Dr. Dawson, who has now placed the sum of its results within reach of the interested public.

#### UNAPPRECIATED RESOURCES.

If there are any persons in Canada who look upon our vast extent of territory as an *embarras de richesse* rather than a grand reserve on which, sooner or later, we or our posterity will be glad to draw, the Oklahoma boom to which attention has recently been directed may tend to correct such an impression. Fifty years ago lands in Upper Canada were given away for the asking. So satisfied were our statesmen and people until a comparatively recent date that our territory in the older provinces was practically inexhaustible that the resistance of the Hudson's Bay Company to the opening up of the Northwest was viewed with equanimity. Now, even that mighty domain and the "sea of mountains" beyond it—a sea whose hollows are rich enough to provide homes for millions of Europe's surplus population—are not enough for us. The great Mackenzie Basin must be looked to as a stand-by in the coming years when land grows scarcer. In fact, in Canada, what has happened to our neighbours is being repeated. Men