CANADIAN SCHOOL GEOGRAPHY

(GEORGE A. CORNISH)

SUPPLEMENTARY CHAPTER

FOR

BRITISH COLUMBIA

BY

V. L. DENTON

PROVINCIAL NORMAL SCHOOL, VANCOUVER, B.C.

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A CANADIAN SCHOOL GEOGRAPHY

By GEORGE A. CORNISH, B.A.

WITH A SUPPLEMENTARY CHAPTER ON

BRITISH COLUMBIA

By V. L. DENTON

OF THE PROVINCIAL NORMAL SCHOOL, VICTORIA, B.C.

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A CANADIAN SCHOOL GEOGRAPHY

BY

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WITH NUMEROUS SKETCH MAPS, DIAGRAMS AND ILLUSTRATIONS

High School

AUTHORIZED FOR USE IN THE SCHOOLS OF BRITISH COLUMBIA, MANITOBA, NOVA SCOTIA, QUEBEC AND SASKATCHEWAN

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PREFACE

CANADIAN schools have been too long tied down to United States text-books in Geography, either adapted or made over. Every paragraph of a good text-book in geography is permeated with the atmosphere of the country in which it is to be used. To adapt or make over such a book for another country quenches its fire. and it becomes lifeless and uninteresting. To write a text-book from the Canadian standpoint has been the purpose of the present author. The subject matter, the comparisons, the maps, and the illustrations have the Canadian atmosphere.

This text-book differs in several respects from those with which Canadian educationists are most familiar.

1. The map has been made the centre about which the practical work of the pupil is built up. What the apparatus is to the student of chemistry, and crayons and paints to the student of art, maps and pictures are to the student of regional geography. The performance by the pupils of the many projects in this text will give them such skill in interpretation that, given a proper set of maps of an unknown region, they will be able to write its geography. Not only are the maps to be used in working out the projects but also in reading every page of the book.

2. But to use maps to advantage they must be numerous, of the right kind, and in such a convenient form that they can be consulted with ease and comfort while reading the text. No Canadian text-book in geography has ever had as great an assortment of maps as is given in the Atlas which accompanies this volume. But it is particularly in their character that the maps are distinguished from those found in the ordinary Canadian text-book. The political map with its variegated checker-board of colours, which obscures all those features most important to understand the geography of a region, and which every educational expert in geography condemns, has all but disappeared from the Atlas and we are given maps showing physical features, vegetation, rainfall, temperature, productions, and those other features, which colouring is necessary to distinguish. Moreover, the maps are not so crowded with unimportant names as to blur those other features that it is intended to make conspicuous. Only such names as are likely to be referred to in teaching the subject are given in the maps.

3. In order to make the maps convenient for reference they are bound up in a separate volume. As a rule several maps showing different features of the same region are placed on opposite pages, so that a pupil may have five or six maps of the same continent or country before him to consult while he reads his text. Where the maps are scattered throughout the text-book, pupils will not put themselves to the inconvenience of turning to different parts to consult the maps.

4. The binding of the maps in a separate volume allows the text-book to be made of a convenient size for holding in the hand. The large geography text-book has always been awkward to hold, to place in the desk, and to put in the school-bag.

5. The practical work is placed as projects at the beginning of most of the chapters. All educationists recognise the great importance of this method in teaching. Projects, in which the pupil is interested, are to be worked out by the pupil himself from the maps and pictures. He thus has an opportunity to interpret the geography of a region for himself before it is read in the text or taken in class.

6. It is now thoroughly recognised that commercial geography is of the first importance, and that it is of as great value and of much greater interest to have a connected knowledge of the geography of the chief commercial products as of the chief countries. This text-book, recognising this fact, has devoted to commercial geography a section in which the geography of the chief articles of commerce is described in an elementary way.

7. Physical geography gives the general principles; and in studying regional geography these principles are constantly applied. Consequently, regional geography is so dependent on physical that no rational understanding of the former is possible without an elementary knowledge of the latter. A very elementary account, therefore, of physical geography is placed at the beginning of the book, but no attempt is made to explain such difficult topics as the tides, the influence of the earth's rotation on winds, etc.

8. Particular care has been taken in the selection of pictorial illustrations. They have been obtained from every part of the world, not snap-shots, but pictures taken by professional photographers attached to Government departments, railways, and big industrial establishments. Only the most perfect of these have been selected, and each has been made large enough to show clearly the features it was desired to illustrate.

The sketch maps have mostly been specially drawn by the author, and the maps on the distribution of agricultural products have been adapted from those contained in the *Geography of the World's Agriculture* by V. C. Finch and O. E. Baker.

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A CANADIAN SCHOOL GEOGRAPHY

PART I. GENERAL GEOGRAPHY

CHAPTER I

THE EARTH, ITS SHAPE, SIZE, AND MOTION

PROJECTS

Sec. 1. Observation of horizon.—For this observation select a piece of land, as level as possible, or better still a large body of water. On a clear day observe the position of the most distant objects you can see in every direction. The sky seems to come down to these objects. The line surrounding the observer, where the sky and earth seem to meet, is called the *horizon*. What shape is the horizon? Go to as high a point as possible and again observe the shape of the horizon. Can you now see farther than before? On the shore of a large body of water observe the most distant objects you can see over the surface of the water (*a*) when lying down, (*b*) when sitting, (*c*) when standing.

Sec. 2. Observation of the heavenly bodies.—Wait for a cloudless, moonlight night. Fix the position of a bright star toward the south. A good way to do this is to point a ruler at the star and to fasten the ruler in this position. Observe the position of the star one or two hours later. Has it moved toward the east or toward the west? Find out whether other stars appear to move in the same way. Next fix the ruler in line with the moon and observe the moon's position an hour or two later. Does the moon appear to move across the sky like the stars? Repeat the experiment next day with the sun. In what direction do the sun, moon, and stars appear to move?

Sec. 3. To study the course of the sun in summer and winter.—Find the exact directions of north, south, east, and west. Late in June observe the exact directions in which the sun rises and sets and the time of rising and setting. Does it rise north or south of

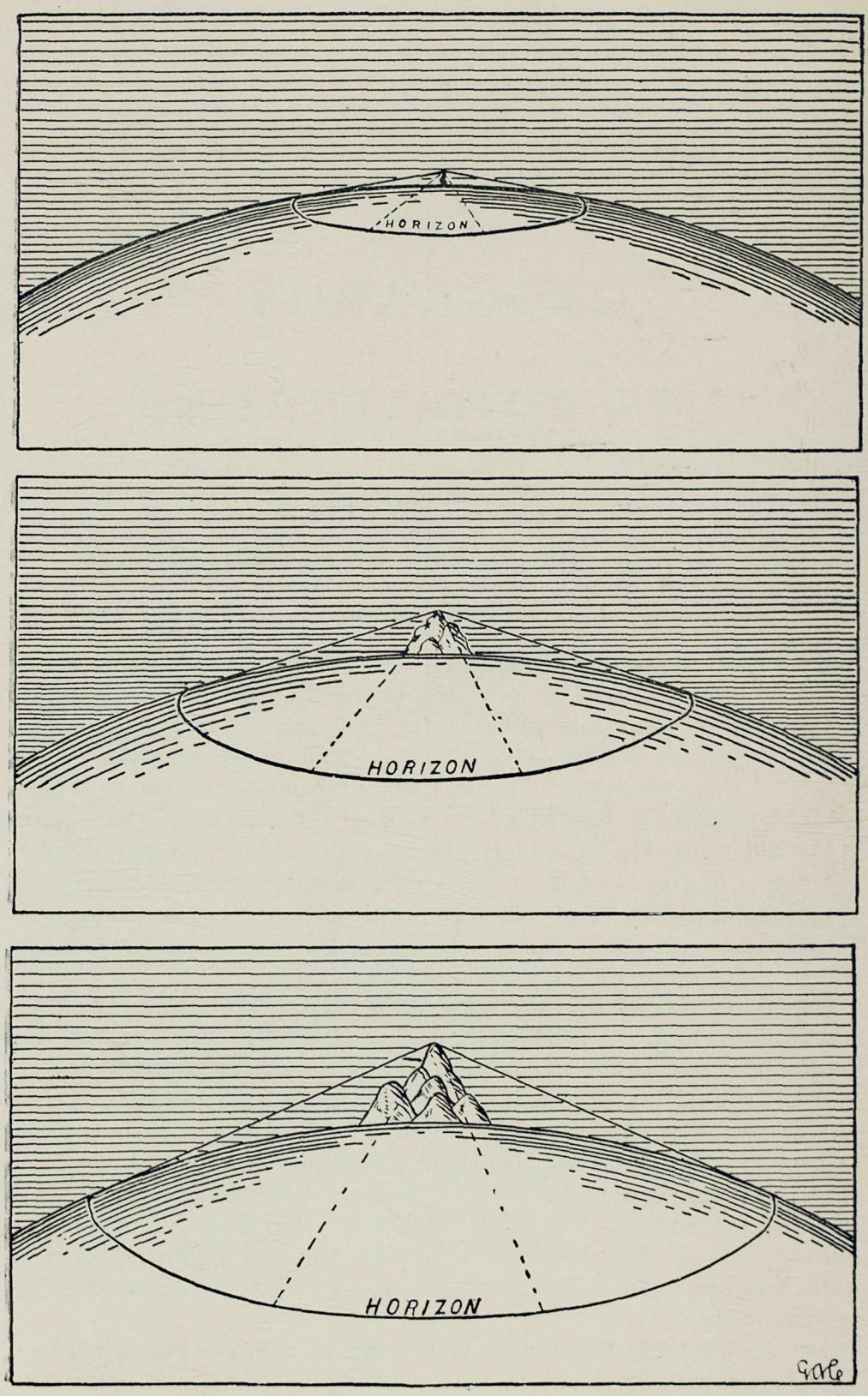


FIG. I. SHOWING THAT THE HORIZON INCREASES IN SIZE AS ONE ASCENDS

BRITISH COLUMBIA

SUPPLEMENTARY CHAPTER

Prepared by V. L. Denton of the Provincial Normal School, Victoria, B.C.

In the body of the book, pages 248 to 259, the province is treated in a general manner; in this Supplement particular districts are described. These are: (1) The Island Fringe; (2) The Coast District, Mainland; (3) The Interior Plateau; (4) The Okanagan Valley; (5) The Kootenay District; (6) The Lands of Central British Columbia, Prince Rupert to Lucerne.

The Island Fringe

Outside the deeply indented coast-line of British Columbia lie many islands. These are the partially submerged tops of a mountain chain, sometimes spoken of as the Island Range. Vancouver Island and the Queen Charlotte group are the principal islands in size and commercial importance. Together with the smaller islands, they form an unbroken screen to the mighty Pacific swell and provide hundreds of miles of land-locked waterways.

Vancouver Island

Position and extent.—Paralleling the southern side of the Straits of Juan de Fuca, the rugged Olympic Range of Washington State bends around to the north-west, terminating at Cape Flattery. From the hollow palm thus formed, Vancouver Island extends northward a distance of 270 miles. Its average width is 50 miles and it exceeds 15,000 square miles in area. It is equal in size to Belgium, and is twice the area of Wales.

Surface features.—Mountain ranges run the length of the island, sloping steeply to the Pacific, but more gently to the inland or eastern side. The coastal plain thus formed varies in width from eight to fifteen miles, and is crossed at intervals by rivers

and small streams which come down from their lake sources in the mountains of the interior of the island.

The west coast from the Strait of Juan de Fuca to Cape Scott is deeply indented. Due to the strong tides and great waves of the Pacific, the coast-line presents a rugged wave and wind-swept aspect. Back from the shore the dome-shaped hills rise in increasing height to the higher mountains of the interior of the island. This seaward slope of the island chain is covered from base to top by a dense forest, giving to the whole that blue-clad appearance so characteristic of the British Columbia mountains.

Many large and beautiful lakes occupy the mountain clefts and valleys, and every important stream on the island has its source in some one of these. Sooke and Goldstream Lakes are so situated that they provide a never-failing water supply for the city of Victoria and its adjacent municipalities. Shawnigan Lake is a summer resort. Cowichan Lake provides sport for rod and gun. Cameron, Sproat and Great Central Lakes are the haunt of summer tourists essaying the Georgian circuit. Nitinat Lake is the centre of the aeroplane spruce district. There, in war-time, were cut those great logs of clear spruce from which the Allies fashioned aeroplane frames. Experts have decreed this region to be the finest spruce forest on the island. Farther north, Strathcona Park has been set aside as a reserve. It is 800 square miles in area and crowns the highest portion of the island. A veritable maze of lakes and streams combine to flow seaward by the Campbell River, the largest on the island. A few miles below the lower Campbell Lake, the river plunges down one hundred feet in a direct fall. The Elk Falls have an estimated 60,000 horse-power which could be turned into electrical energy. In time they will be harnessed and large industries will be established in the neighbourhood.

Industrial Areas.

(*a*) *Victoria City and district* include that part of the island south of a line drawn from Saanich Arm to Jordan River. Victoria is the capital of the province and contains the beautiful Government buildings, and the official residence of the Lieutenant-Governor. The city encircles the small land-locked James Bay, which is used as an inner harbour for coastwise shipping. Its southern slope faces the Strait of Juan de Fuca and the Olympic range in Washington State. A huge breakwater has been recently completed at Ogden Point at a cost of over $3,000,000. It is 2500 feet in length and provides an outer harbour for the largest trans-Pacific vessels. The main railway line runs north from Victoria along the east coast to Courtenay, with a branch from Parksville to Alberni, and another from Duncan to Cowichan Lake. The Canadian National has a line under construction into the Cowichan

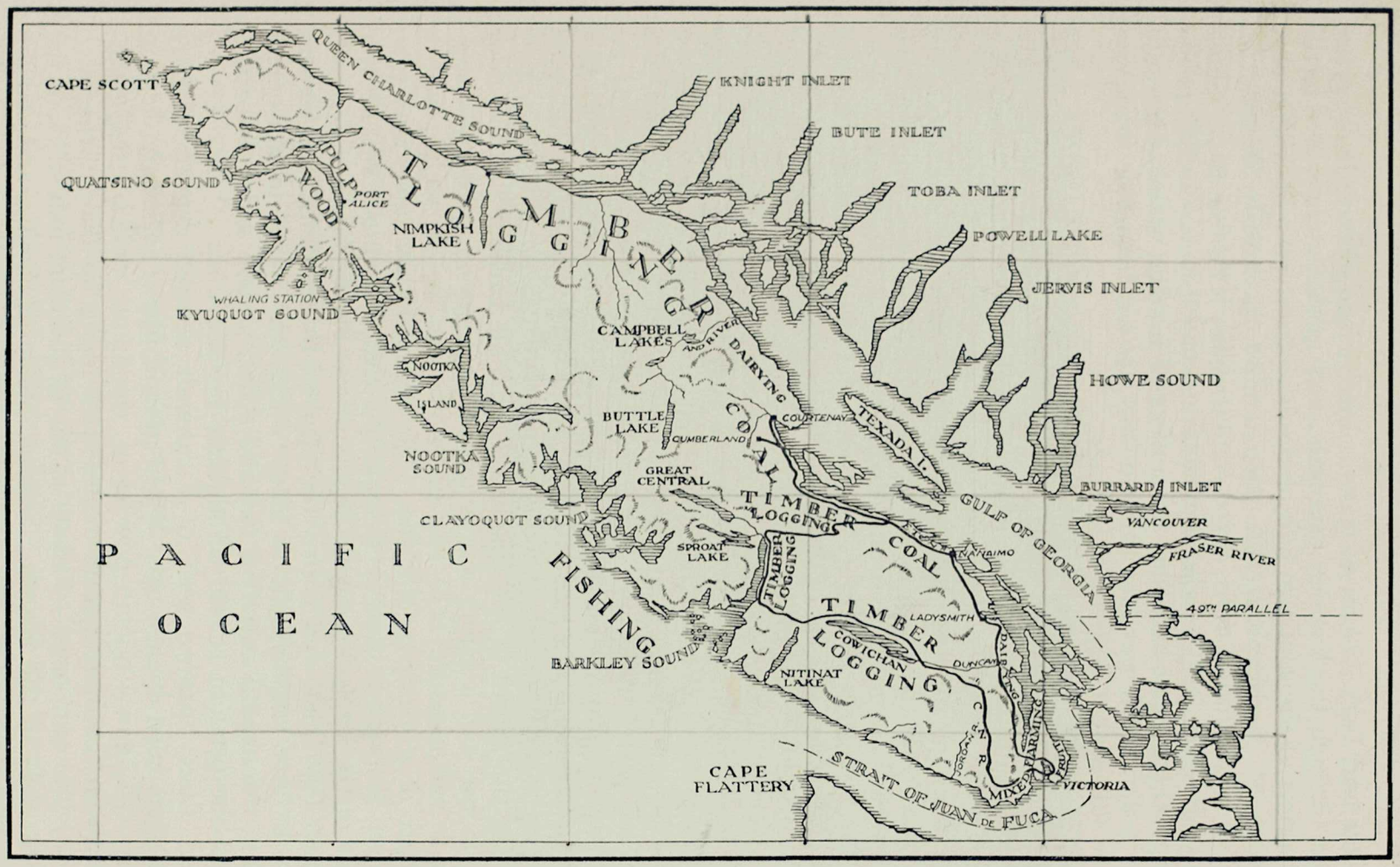


FIG. 237. SKETCH MAP OF VANCOUVER ISLAND

Lake and Port Alberni districts. Inter-urban electric lines spread out through the Saanich peninsula, and in this manner the fertile districts of the southern half of the island are brought within easy reach of the capital, and merchandise is readily distributed. Five large lumber mills, three shingle mills, a roofing-paper plant, a soap works, and a paint factory are situated at favourable points around the inner harbour. A number of wooden vessels were built here during the war, but this industry has not been able to survive the subsequent depression in trade.

Victoria is essentially a residential city. The healthful situation, the many small bays which make it almost sea-girt, the moderate rainfall, and the mildness of the climate, all tend to this end. The beauties of the city are known far and wide, and large numbers of tourists visit Victoria each year. People from the prairies like to spend the winter season in Victoria; tourists seek Victoria in summer to escape the heat of the interior plateau.

Adjoining the city on the north lie the fertile lands of the Saanich peninsula, providing a never-failing supply of dairy products, poultry, fresh vegetables and fruit. The well-known Gordon Head district exports car-loads of strawberries to far prairie points. At heavy expense the city secured an abundant supply of pure water from Sooke Lake watershed, so that the whole lower portion of Vancouver Island, comprising a population of over 60,000, has an adequate supply of water for domestic purposes as well as for irrigation projects already in course of development. Engineers have harnessed the Jordan River, and electric power is distributed through the city and surrounding municipalities.

On the shores of the spacious Esquimalt harbour one dry-dock is in use and a larger one is under construction. The new dry-dock will measure 1150 feet in length, 120 feet in width, with a depth of 40 feet over the sills. The largest Pacific liners may then enter for repairs, and it is expected that Esquimalt will become one of the large ship-repair depots of the Pacific Coast.

At Tod Inlet, and across the arm, at Bamberton, huge cement works give employment to many workmen. When in full operation, the annual output is one and a half million sacks of cement, and the product is sold throughout the province.

A short distance west of Esquimalt a large deposit of pure talc has been opened up. When ground fine it forms the base of the well-known talcum powder of commerce, and is used extensively in the manufacture of fire-brick lining for blast furnaces.

(*b*) *The west coast.*—Fishing is one of the chief industries of the west coast of the island. Salmon, pilchard, herring, and cod are the principal fish caught. Salmon canneries are located at Sooke, Kildonan, Tofino, Nootka, and six other places. Power boats

from Ucluelet troll for spring salmon on the fishing banks off Barkley Sound. During the fishing season the daily catch of this variety is well over thirty thousand pounds. These fish are iced and shipped to Victoria, Vancouver, and Seattle markets. Whaling is carried on out of Kyuquot.

Just inside the entrance to Barkley Sound is Bamfield, where the Pacific Cable seeks the sea floor on its way to Fanning Island and Australasia.

[*Courtesy of J. Howard Chapman, Victoria.*

FIG. 238. TOTEM POLES AT ALERT BAY

At the head of the Sound, stretching far inland, is Alberni Canal, almost cutting the island in two. The Alberni district is a lumbering area of growing importance, and Port Alberni is an export centre for the trans-Pacific lumber trade with Australia and the Orient.

The glory of Nootka Sound vanished with the disappearance of the sea otter. An Indian village still encircles Friendly Cove. Marble is found near by.

At Port Alice, on one of the arms of Quatsino Sound, is located a large pulp mill.

(*c*) *The east coast.*—(1) Lumbering. From Cowichan Lake and Valley to Nimpkish and Alert Bay the giant firs and cedar, spruce and hemlock are being felled. This is one of the great logging districts of the province. By river and rail the logs are brought to tide water in a hundred protected bays. At Genoa Bay,

Chemainus, Qualicum, and Nanoose Bay they are sawn into the lumber of commerce; at other places, tugs tow the booms across the gulf to the mills on Burrard Inlet and the Fraser.

(2) Coal-mining. Tremendous reserves of coal are known to exist on Vancouver Island. Nanaimo, Ladysmith, and Cumberland are the centres of this industry. The coal is of good bituminous grade; that mined at Cumberland reaches tide water at Union Bay, where ocean vessels come to renew their fuel supply. Some coke is also produced from this coal. The mines in and around Nanaimo ship to Victoria and to Vancouver. Ladysmith is the port which the Extension coalfield utilizes. These mines lie eleven miles north of the town and somewhat inland among the hills at the foot of the main Beaufort range. New mines open up from time to time; the existing market alone determines the yearly tonnage, which is now well over the million mark.

(3) Agriculture. The broad valley lands of the Cowichan River have their centre at Duncan. Mixed farming prevails.

The Comox Valley is a second fertile area, of which the city of Courtenay is the supply centre. Dairying is carried on in the bottom lands and mixed farming on the bench lands.

The lands near the Campbell River mouth and the fertile area of the Salmon River district are in the process of development. The latter lie 200 miles north of Victoria and 130 miles west from Vancouver. Forty thousand acres of clay-loam and silt land await the pioneer.

Altogether 1,000,000 acres of land (one-tenth of the island's area) are suitable for agriculture. Only a small fraction of the total is at present under the plough.

The Gulf Islands

These vary in size from tiny wooded knolls to islands of considerable area and importance. All are forested, and a few small saw-mills take care of the local requirements. On *Pender* and *Salt Spring Islands*, dairying and mixed farming is the chief industry. *Mayne Island* specializes in early tomatoes. On *James Island* a large powder plant is in operation. *Denman* and *Hornby Islands* are well settled, and dairying is the chief occupation. *Texada Island* is a rocky ridge thirty miles in length, occupying the northern end of the Gulf of Georgia. Gold-copper ores are mined near Vananda at the northern end. On the west side there are good agricultural areas around Gillies Bay. Marble quarries have been opened at the southern end of the island. *Savary Island* is a summer resort.

THE QUEEN CHARLOTTE ISLANDS

The Queen Charlottes lie off the mouth of the Skeena. There are two large islands, Graham and Moresby, and many smaller islets. Dixon Entrance separates the group from the Alaska tongue, while Hecate Strait forms a broad passage-way between the islands and the mainland. Mountain ridges of moderate height extend throughout Moresby and the western part of Graham Island. East of Rennell Sound, the hills flatten out, and there is much lowland and muskeg. The land slopes gradually to the north-east. The climate is mild, the rainfall heavy, and the vegetation dense. The spruce, cedar, hemlock, and yellow cedar or cypress are the principal forest types. The trees grow to a tremendous size with tall, straight, clean trunks.

Graham Island.—Lumbering is an important industry. Camps are located around Masset Sound and Skidegate Inlet.

Whaling is carried on at Naden Harbour. Salmon canneries are located near Masset. Halibut fishing is engaged in to some extent, and the bulk of the catch finds its way to Prince Rupert.

Large coal deposits have been located at Cowgitz and vicinity. While the lowlands of Graham Island are of large area, the nature of the soil is such that clearing is difficult and expensive, and under-draining is necessary. But wherever tracts have been well cleared, fine fodder, hay, and vegetable crops are grown. Dairying will some day be the chief industry of this island. Settlements are located around Masset Sound and

[*Courtesy of Leonard Frank, Vancouver*

FIG. 239. DOUGLAS FIR

along the inlet. Masset is the chief trading centre. The lands of the east coast from Tlell to Skidegate have been well settled, and an experimental farm has been conducted at Lawn Hill. Skidegate is a fishing centre.

Moresby Island is more mountainous and has a comparatively small amount of coastal plain. Sandspit (in the north) is the principal settlement. Lumber camps are busy on Cumshewa and Selwyn Inlets. Spruce for aeroplane manufacture was shipped from these camps during the war. Rose Harbour is a whaling station.

The Coast District—Mainland

The Coast District of British Columbia extends from the 49th parallel and Boundary Bay to Stewart at the head of Portland Canal, and from the sea to the crest of the Coast mountains. It is one of the most deeply indented and most intricate coast-lines in the world, providing many thousand miles of deep, protected waterways and innumerable harbours. Comparison may be made with the coasts of southern Chili, southern New Zealand, Scotland, and Norway, where similar features prevail. Huge glaciers, at some time in the distant past, gouged out these winding, deep-cut, narrow valleys, which are now flooded by the ocean water. The coastal plain is very narrow; in many places the mountains come down abruptly into the sea, and a vessel may safely pass close to the sheer rock walls. With the exception of the Fraser, Skeena, and Nass, the rivers draining this westward slope are short, rapid, dashing mountain torrents, often providing electrical energy for near-by mines or mills.

The rainfall is heavy, between 60 and 100 inches yearly; the climate is mild and not subject to extremes of temperature. This produced a dense forest which covered the entire region.

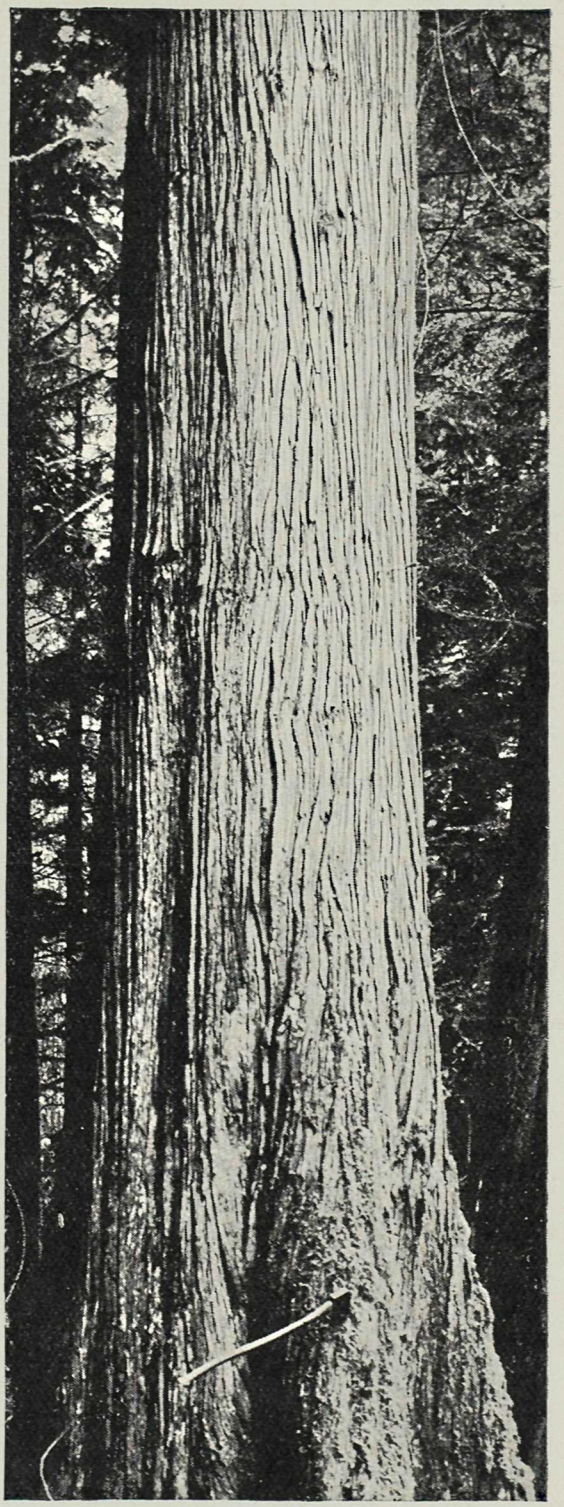
The Lower Fraser Valley.—This is a long V-shaped delta land and flood plain, the only one of its kind on the whole coast of the province. From the apex at Hope, where the mountain walls spread apart, to the Gulf of Georgia is a distance of 70 miles. From the north shore of Burrard Inlet to Boundary Bay is 25 miles. Through this area of 900 square miles runs the Fraser, greatest of British Columbia rivers. At New Westminster the river divides into two channels, which enclose low-lying alluvial islands, the principal ones being Lulu Island and Sea Island. The channels are kept clear of the accumulating silt by dredging, and by the construction of jetties. The river is navigable to Yale.

Industries.—The lands of this valley area may be divided into two classes—the rich, heavy bottom lands adjoining the river, and the lighter bench lands rising to the mountains. On the former, dairying is the chief industry; on the latter, mixed farming is carried on. On the north bank of the Fraser, from Pitt Meadows

to Yale, the bench lands produce much fine fruit and quantities of early vegetables for the city markets near by. Apples, pears, plums, and cherries grow well; berries, particularly raspberries and loganberries, are a feature crop of this part. The higher lands of the Chilliwack district to the south also produce quantities of fruit, while the potatoes from this district are making a name for the growers. Hops of fine quality are grown.

In the Sumas Lake region the provincial government has under way a reclamation project which will soon set free 30,000 acres for the plough. These lands should be the equal of any in the province when once under cultivation. Much dyking has been done on the low-lying islands at the mouth of the Fraser. Heavy hay and fodder crops are grown, while big barns and fine houses dot the landscape. From Chilliwack to the gulf, dairying is the principal industry. Creameries are located at Chilliwack, Clayburn, and Vancouver. Butter and cheese are produced, while condenseries at Sardis and Chilliwack provide a market for the rapidly increasing supply of milk.

One of the more recent developments has been the rapid growth and establish-



[*Courtesy of Leonard Frank, Vancouver.*

FIG. 240. RED CEDAR

400 years old and still growing

ment of large poultry ranches. The mild climate, the many well-drained, protected slopes, the supply of mangels, grain, and milk in abundance, together with a large city market and general warehouse centre—have been factors in the rapid development of the poultry industry.

The Dominion Government maintains at Agassiz an experimental farm which serves these valley lands of the lower Fraser.

Lumbering.—Into the valley of the lower Fraser come the Pitt, Harrison, and Stave rivers from the mountain-filled lakes, which lie cradled in the giant valleys of the Coast mountains. Throughout this watershed, magnificent forests of fir, cedar, and hemlock are found, and the logger is at work. Down the rivers come the logs to the Fraser. Here the big lumber mills are found at and near tide water, and the lines of the Canadian Pacific Railway and the Canadian National Railways. Ideally located in fresh water, and free from the ravages of the teredo, the Fraser mills are yet open to the deep-sea tonnage for ocean export as well as ready for inland prairie commerce via the great trans-continental railways. Large mills are found at the following points—Hammond, Coquitlam, Eburne, and New Westminster. The Frazer mills of the Canadian Western Lumber Company, near New Westminster, are the largest in the province.

Transportation.—It is natural that the valley lands of the lower Fraser should have early attracted settlers. In 1859 the gold rush brought the miners to the sand-bars above Yale. In 1863–4 the Yale road was built. Even before the completion of the Canadian Pacific Railway in 1885, many farms were being cleared of the heavy timber which then covered the land. With the laying of the steel rails, however, the destiny of the lower Fraser was assured. A market for all the produce was now provided, while the prairies welcomed the lumber removed. A city began to grow at the rail end on Burrard Inlet, the winding skid roads giving way to broad paved streets. The flashing axe cut deeper into the forests, the plough turned over the black humus of centuries past, and small villages grew up along the railway from Vancouver to Yale. On the river, small stern-wheel steamboats plied up and down and across, using New Westminster as their base. Thus the north shore of the Fraser was well served by land and water.

But the rich lands to the south needed better facilities than a ferry or river boat. So in 1904 the big bridge was completed at New Westminster. The bridge cost a great deal, and tolls were charged at first to help pay for the cost. It is a two-level or two-deck bridge. Above is the wagon road and footway; below is the railway track. Into New Westminster came the Great Northern from Seattle. Then the British Columbia Electric built a long

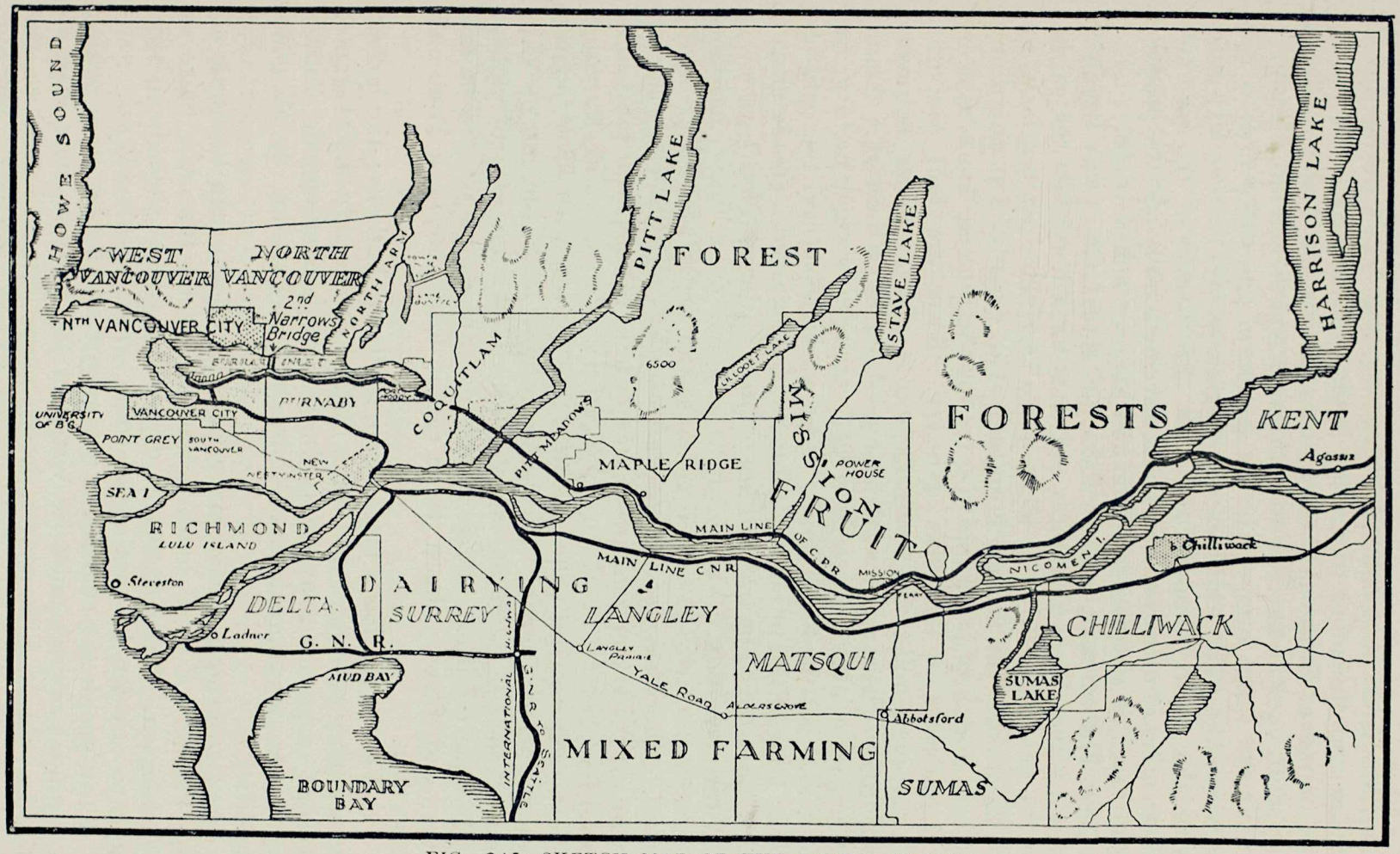


FIG. 241. SKETCH MAP OF THE LOWER FRASER

tram-line from Vancouver to New Westminster, crossing the big bridge and threading the valley lands to Chilliwack. Eventually the Canadian National Railway came down the Fraser, followed the south bank of the river to Port Mann, and thence into Vancouver across the same bridge. Every section of the valley area is thus connected by rapid means of transportation with the two city areas, with the ocean shipping, and with the interior of the province. Many miles of macadamized roads have been built, and the producer may take his supplies to market in his own motor truck.

New Westminster, often called the Royal City, was begun in 1859 by the Royal Engineers, and was for a few years the capital of the province. Here is located the Dominion penitentiary, and at Essondale, the mental hospital. The city has a population of 17,000, and acts as a supply centre for the farming lands near by.

Lumbering is the chief industry. There are four saw-mills, four shingle-mills, a shook-mill and a plant making laminated material. There are several machine shops and a foundry. Among others these may be noted—a large tannery, a cigar factory, two fruit and jam factories, and a large cordage factory, the only one of its kind in the province. The city has enjoyed a steady growth and stands third in size and importance in the province.

Vancouver City.—Vancouver is situated on a broad headland between Burrard Inlet on the north and the Fraser River on the south. The waters of the inlet are landlocked with gently sloping foreshores. The accompanying map shows the adjacent residential municipalities of Point Grey, South Vancouver, and Burnaby. The whole may be called Greater Vancouver, with an estimated population of 200,000. Including Stanley Park, the city of Vancouver and its adjoining municipalities cover an area of eighty-eight square miles. Let us note why so many people live in this area, and thereby learn those causes which create a large city anywhere.

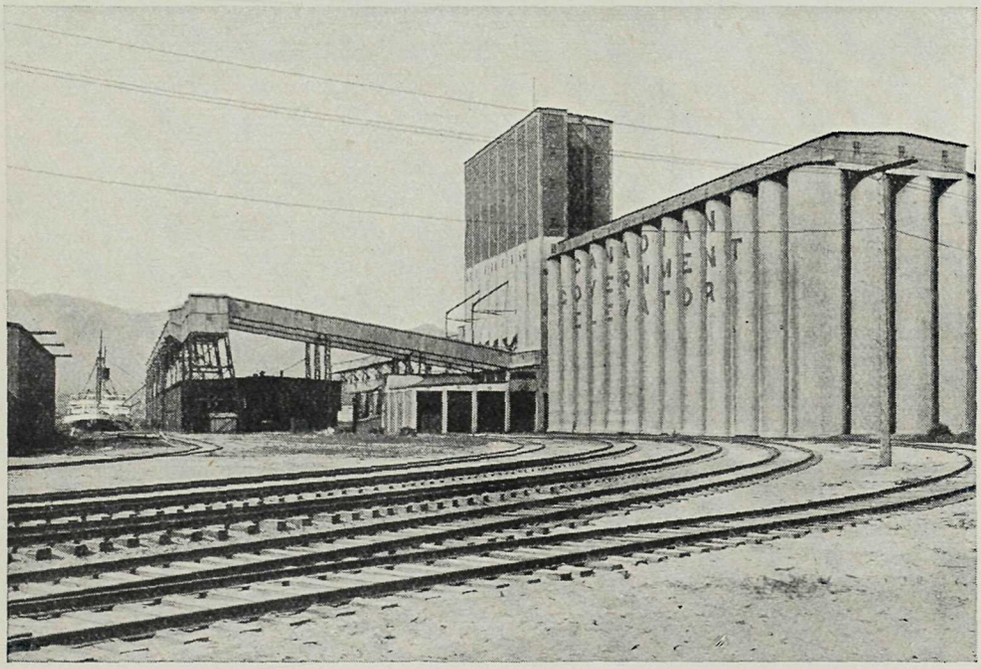
(1) Vancouver has a large, deep, sheltered harbour; the largest vessels may enter and find miles of docks to receive their cargoes. Return cargoes are awaiting the vessel when unloaded. Ample warehouse accommodation facilitates the handling of all commodities.

(2) Two great railways make this city their ocean terminus on the Pacific. A third sends a branch line up from the State of Washington. Large passenger depots and freight sheds have been built to care for the continental traffic which has developed.

Many people are engaged in this export and import trade, which a terminal seaport must by virtue of its position endeavour to handle. Cities, likes stores, have competitors. Seattle to the south is one near by, while Prince Rupert, Portland, and San

Francisco are more distant rivals. Each desires a large trade. That city will win the trade whose citizens by their industry provide the safest, speediest and cheapest means for handling the freight which offers. Vancouver is forging ahead because these conditions are being well met.

(3) Industries. Wherever lines of transportation meet, industries are often established. This is particularly true where sea lanes meet rail ends. Raw products can be assembled by cheap water route; the finished articles may be sent out by either rail or boat as the case may demand. As a result fourteen lumber mills and fifteen shingle mills are in operation along the city's shore-

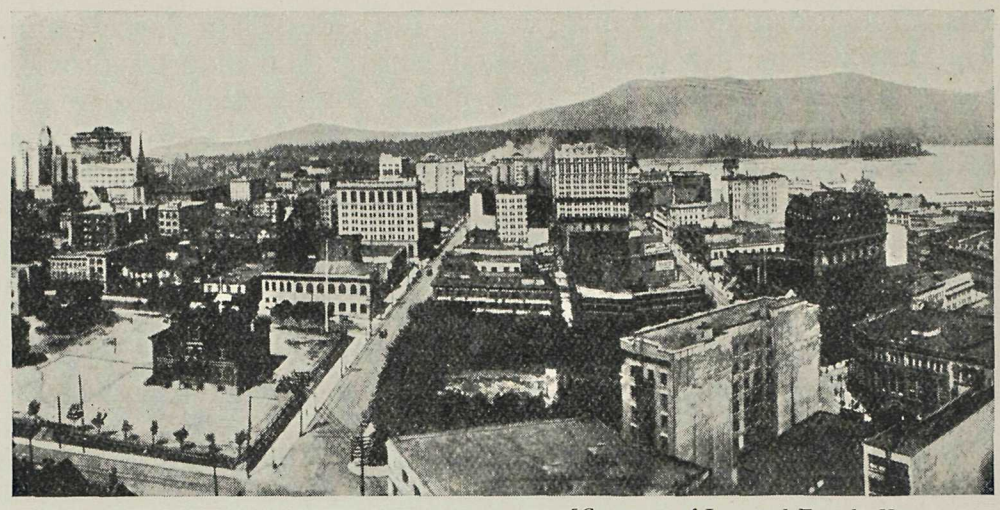


[*Courtesy of Vancouver Publicity Bureau.*

FIG. 242. GRAIN ELEVATOR AT VANCOUVER

line. Other wood-working plants are—sash and door factories (twelve); brooms and broom-handles (three); manufactories of boxes (four); wood pipe (three); cooperage works (two). Altogether over sixty manufacturing plants in Vancouver city, some of them employing 300 men, are busily turning the logs into finished articles, for the markets of the world.

In the early days the raw material was close at hand, now the log booms come many miles. The mills grow up near big railway terminals of the transcontinentals and the long piers of the steamship companies. It is cheaper to bring the logs to the large export centre than to build the mill at the source of supply. From the Vancouver city limits eastward along the south shore of



[*Courtesy of Leonard Frank, Vancouver.*

FIG. 243. VIEW OF VANCOUVER CITY AND HARBOUR

Burrard Inlet to Port Moody and westward along the north shore of the inlet to North Vancouver another sixteen lumber and shingle mills are in operation. The Vancouver district is one of the great lumber manufacturing centres of the Dominion.

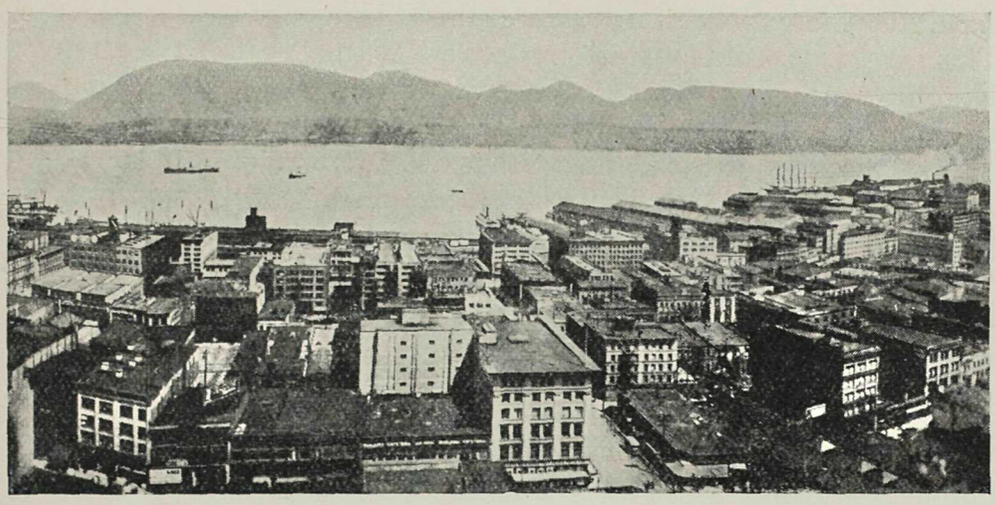
Another good example of a strategically located industry is the sugar refinery. From far-away Cuba, from Peru, from the islands of the Indies, the raw sugar is brought in large freighters. It is made fit for use at the refinery; from here the sugar is sent to all parts of the province and to the prairies as well.

(4) The mills and the mines throughout the province need machinery and supplies of many kinds, such as engines, tools, wire rope, belting and saws. Some place must act as a centre of supply. Vancouver is the centre to which people send.

Many lines of coastwise vessels make Vancouver their home port. These carry many kinds of goods to the people of the island fringe and to those at work in the forests, mines and fisheries of the long coast strip. Vancouver is thus a distributing centre for a large area.

Into Vancouver come many products from Japan, China, and India for the use of the people of the province as well as for the Canadian people at large. Much of the raw silk destined for Montreal enters Vancouver on its way to the Atlantic seaboard. Much of the rice, the spices, the bamboo and wicker work, and the china destined for Canada comes in through Vancouver. This handling of cargoes means work and employment for many people, and the city grows continually in population and importance.

(5) A large city is fortunate to be located near an unfailing water supply. Vancouver is well served in this respect. Across the inlet along its northern shore rise the mountains of the Coast



[*Courtesy of Leonard Frank, Vancouver.*

LOOKING NORTH AND NORTH-EAST

Range. From Capilano and Seymour creeks the purest of water is led by pipes under the harbour and through the city mains. At Lake Buntzen near the north arm of the inlet, and at Stave River abundant hydro-electric energy is developed. Power is sold as far south as Blaine and Bellingham.

With this ample supply of cheap electrical energy at hand, the last ten years has seen a steady increase in the number and variety of manufacturing plants located in greater Vancouver. A large boot and shoe factory gives employment to many operatives, and its product is sold throughout the province. Fourteen shops of varying sizes manufacture boilers, either marine or stationary; six firms are engaged in printing, and are able to make books and do book-binding. Still other plants make castings and turn out brass fittings. Several shops are engaged in sheet metal work, while others make furnaces. There are flour-mills, furniture factories, manufacturing jewellers, and one plant where white lead is made. These do not exhaust the list by any means, but may be taken to indicate the large variety of articles which are now being manufactured within the Vancouver industrial area.

(6) The rich valley lands of the lower Fraser supply each year an increasing amount of food stuffs for the industrialized area of greater Vancouver. These farm-lands at the back door provide the city people with fresh produce at moderate prices.

(7) Vancouver bears to Western Canada the same relation that Montreal bears to Eastern Canada. Its future is linked with the growth of the Western Provinces and the Dominion as a whole. As Canadian trade increases, so will that of the port of Vancouver.

Accordingly, the Dominion Government, as well as private interests, have erected large terminal elevators on the inlet to

facilitate the export of Alberta grains during the winter months. This grain is transported by sea via the Panama Canal to European points. When freight rates were lowered, the export trade increased. And now Vancouver ranks first among the grain exporting cities of the Pacific Coast of America.

North Vancouver is an industrial city on the north shore of the inlet. Here shipyards are engaged in the building and repairing of vessels. Ferries connect with Vancouver on the south shore of the inlet, and a traffic bridge is being erected.

From Burrard Inlet to Portland Canal

Howe Sound.—At Britannia Beach is located a large copper mine. For some years the annual production has been around 14,000,000 pounds. The ore has been concentrated at the Beach and then shipped to Tacoma. A new concentrating plant has been erected, and it is expected to double the previous output. An interesting aerial tramway brings the ore to the beach.

Squamish at the head of the sound is the ocean terminus of the Pacific Great Eastern Railway. Ascending the Cheakamus canyon, the railroad passes through the Coast Range along Pemberton Meadows, past Anderson and Seton lakes, and down to Lillooet on the Fraser. A rich timbered area is traversed by this part of the road, and the logs are delivered by the railway at Squamish. From Lillooet the road crosses the Fraser and ascends the inland plateau through Clinton and on northward to Soda Creek, where it strikes the Fraser again. By this means the range lands of the dry belt are brought within a few hours of tide water. Steel is now (1923) at Quesnel, and indications are that the road will soon be completed to Prince George, connecting with the Canadian National Railways. The road is provincially owned, and opens up to settlement large areas of the interior plateau.

Across the sound from Britannia Beach is the large pulp mill at Woodfibre, with a daily capacity of 100 tons of sulphite. The product is thoroughly dried and put up in 320-pound bales for export to the paper-making plants in the United States, Great Britain, New Zealand, and Japan.

Other pulp and paper mills: eighty miles north of Vancouver on the mainland east of Texada Island is the Powell River mill. Both sulphite and mechanical processes are used to reduce the wood to pulp, which is manufactured into paper at the plant. The capacity is about 250 tons per day. An electric power installation develops 24,000 horse-power from the river emptying Powell Lake.

At Ocean Falls on Cousins Inlet, a branch of Dean Channel (380

miles north of Vancouver), there is still another pulp and paper plant making 200 tons of news-print and kraft paper daily.

Swanson Bay pulp-mill (45 tons daily), 100 miles south of Prince Rupert, is located on the east side of Graham Reach, opposite Princess Royal Island. Barges carry the output to Prince Rupert.

It is the practice with the majority of pulp-mills to operate a saw-mill in order to take full advantage of the larger timber. In some cases a shingle-mill and a box factory are found to be necessary adjuncts of the parent pulp-mill. Pulp and paper mills located on the coast of British Columbia are particularly fortunate in the possession of unlimited water-power which furnishes abundant electrical energy at a minumum of cost. We may expect to see a large development of this industry during the ensuing decade.

Prince Rupert lies 500 miles north of the mouth of the Fraser and the industrial area surrounding Burrard Inlet. Into this great coast strip extend inlets and canals innumerable. Salmon canneries have been built at favourable points and in summer add their activities to those of the logger and the lumberman. At Smith and Rivers Inlets ten canneries are in operation; at least ten more dot the protected passageways from Bella Coola to the Skeena River mouth. Twelve canneries pack the salmon which spawn in the Skeena watershed, and four canneries operate at the mouth of the Nass. A million cases a year are exported. Employment is given to over 6,000 people.

In addition to the pulp-milling, lumbering and fishing, the northern coast district is particularly rich in minerals. The copper mine at Britannia Beach in Howe Sound has already been mentioned. Two large copper deposits are being worked in the north. The Belmont-Surf Inlet mines are located six miles from the head of Surf Inlet on Princess Royal Island. The ore is concentrated and shipped to the smelter at Anyox.

The largest copper mine in Canada is located at Anyox on Observatory Inlet. Here a town of 3,000 people has grown up around the big smelter of the Granby Consolidated Copper Company. Behind the town lie the hills from which the ore is taken. Electric light and power for local use is generated by the mining company. Railways connect the mine with the smelters and wharves. Development began in 1912, and the smelter was "blown in" in 1914. Coke ovens have been recently installed, and the company's investment has passed the ten million dollar mark.

The Dolly Varden silver mines are located on the Kitsault River, which flows into the head of Alice Arm.

At the head of Portland Canal lies the town of Stewart, the centre of a highly mineralized gold-silver area. The rich Premier mine is located to the north about fourteen miles up the Salmon

[*Courtesy Canadian National Railways.*

FIG. 244. INDIANS SMOKING SALMON ALONG THE BULKLEY RIVER, B.C.

River valley. A giant aerial tramway, one of the longest on the continent, connects the mine with ore docks at Hyder, a small village on the Alaskan side of the boundary line and a short distance below Stewart. The Premier mine has developed into one of the richest gold-silver mines in the province.

From Ocean Falls to Stewart, and including the Queen Charlotte Islands, the industrial development is largely tributary to the chief trading centre of the north, Prince Rupert. This city has been well named the Grimsby of the Pacific. From the fishing banks off the Queen Charlottes come the halibut boats loaded to capacity. Other flat fish of the sole, brill, and plaice varieties are also landed in large quantities. To take care of this growing trade, the largest cold storage plant on the continent engaged in fish freezing has been erected. Here 14,000,000 pounds of fish may be held while awaiting shipment by rail to interior points. Four vessels may unload at once, and 30,000 pounds of fish per hour have been received at this great plant. Several thousand tons of herring are annually caught, salted, and exported to Japan and China. For some years the total value of fish landed at Prince Rupert has exceeded four million dollars.

In addition, it may be noted that twenty-eight canneries are located in the district adjacent to Prince Rupert, and that the bulk of their pack finds its way to this mart.

The city is built on the northern end of Kaien Island, twelve miles north of the Skeena River mouth. Here a long, natural harbour is formed by the protecting shores of Tsimpsean Peninsula and Digby Island. The port has been developed as the ocean terminus of the northern branch of the Canadian National Railway system. Large wharves and a floating dry-dock have been built and the trade of the region is growing rapidly. Saw-mills provide employment; vast areas of virgin timber stretch back from the deeply-cut coast-line. Vessels connect regularly with the mining towns on Portland Canal and Observatory Inlet, with the Queen Charlottes, and with Vancouver and Victoria.

The Interior Plateau

Extent.—The Interior Plateau of British Columbia in reality comprises that portion lying between the Coast Range on the west and the Rockies on the east. It is widest in the southern part of the province and gradually narrows to the north where the Rockies draw nearer to the Coast Range. For our purposes it will be best to restrict the use of the term, Interior Plateau, to the drainage basin of the Fraser and the Similkameen Rivers; or, to locate this region in another way, that portion of British Columbia

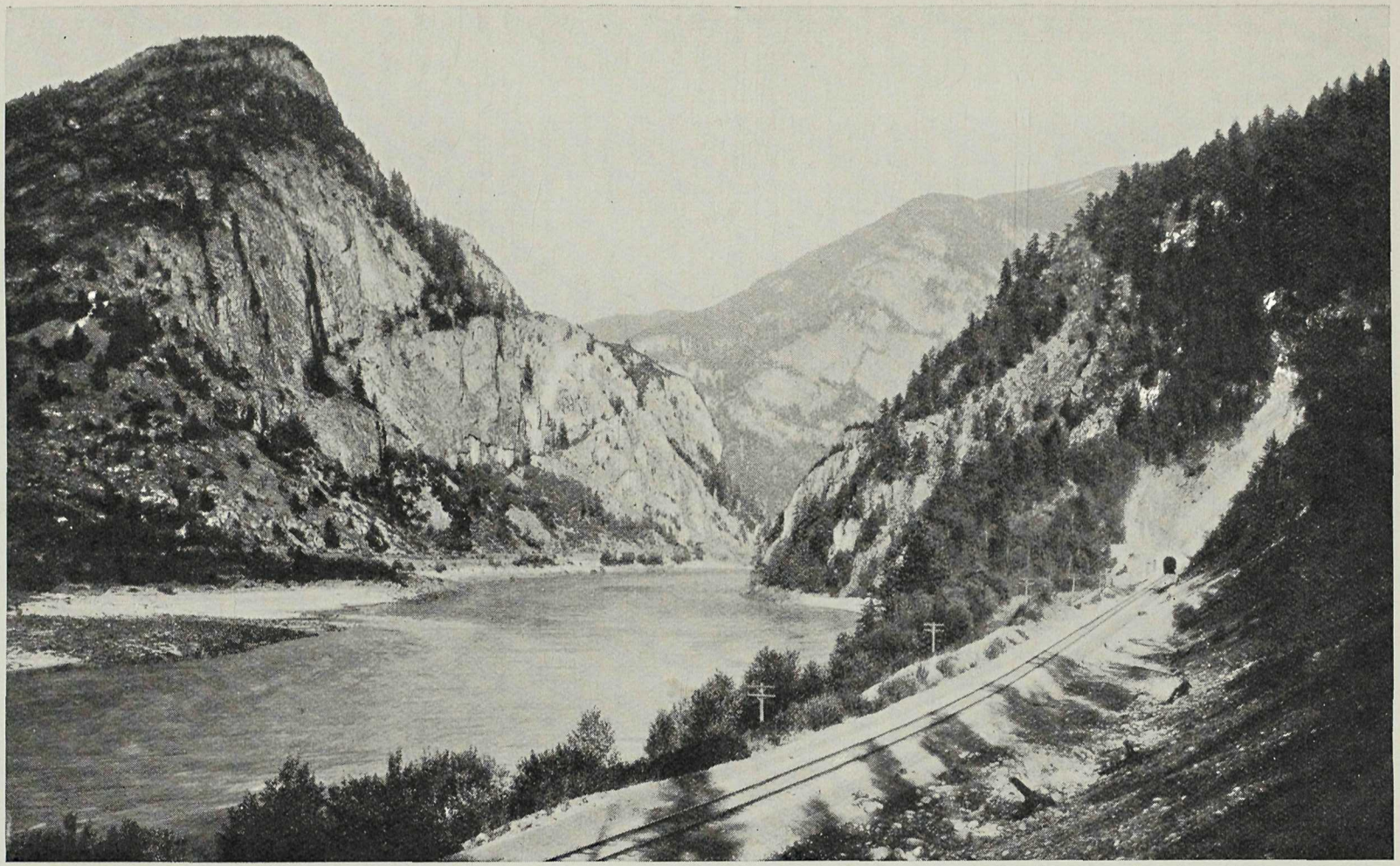
walled in on the west by the range of the Coast mountains and the Columbia Range on the east, and extending from the boundary northward in a great ellipse to the vicinity of Prince George.

Topography.—Throughout this immense district one is impressed by the clear-cut manner in which the forces of upheaval and of denudation have left their marks. Tongues of the ancient Cordilleran glacier here and there pushed their irresistible way to the sea. (By the Skeena Canyon; Bella Coola and Dean Channel; by the Fraser gap.) The old plateau has been scoured and worn until huge, deeply cut valleys now occur where once prehistoric man gazed on an apparently endless, gently sloping expanse. So deep are the valleys that the higher lands remaining, or what we may call the *original* plateau levels, now appear as mountains, often rising 1,500 to 2,000 feet above the floor of the present valley level. A characteristic of many of these mountains is the uniform level of their tops. Many of the larger mountains appear to have been sheared off by some giant knife, so regular is the sky-line of their crests. Once the climber mounts the crest, a grass-strewn, level expanse greets the eye, the remnant of the ancient plateau land. Down to the main valleys of the Similkameen and Fraser Rivers come many lateral tributaries. These creeks or draws are themselves deeply sunk, with sharply sloping sides.

The whole district is a great range land. Thousands of acres of grass land cover the slopes down to the river banks. Pines, in scattered array, dot the hillsides. In summer, the heat radiating from the sun-baked earth makes irrigation on the higher benches a necessity; in winter, prairie cold vies with brilliant sunshine to make this one of the health resorts of Canada.

Drainage.—This district is partly in the drainage area of the Columbia River system. The valleys of the Similkameen and Tulameen drain off across the boundary to join the Okanagan. The drainage divide or height of land which separates this slope from that of the Fraser extends from a little south of Merritt eastwards to the hills bordering Okanagan Lake. The lands thus enclosed are bordered on the west by the formidable Hope Mountains, an offshoot of the Cascade Range from the State of Washington and a part of the Coast Range. No low pass exists through the British Columbia part of these mountains. On the north, the valley of the Similkameen merges almost imperceptibly into a rolling plateau where small lakes and streams drain off to the Thompson river.

The Fraser River system is the largest in British Columbia. The area drained comprises 98,000 square miles and extends from the crest of the Rockies on the east to the Coast Range on the



[*Courtesy Canadian National Railways.*

FIG. 245. THE FRASER RIVER CANYON AT YALE

west. On the north, an irregular water-parting separates the Fraser drainage area from those of the Skeena and Peace Rivers. To the south, the northern sweep of the Columbia constricts the south-eastern part of the Fraser basin, and the watershed of the Okanagan–Similkameen sections further confines its whole southern outlet. The Fraser basin then resembles a huge balloon with an elongated neck bent to the left or west where the Fraser rushes out through the Coast Range to the Gulf of Georgia. Globular-shaped drainage areas often exist where plateau conditions are well defined: comparisons may be made with the general shape of the Congo and Zambesi river systems in Africa. As the waters collect over the whole area into one main stream the drainage basin narrows, suddenly the river turns to right or left and dashes its way by canyon and waterfall through a narrow defile in the obstructing mountains. On the Fraser, this occurs at Lytton (altitude 687 feet), where the river cuts through the Coast mountains forming a canyon 67 miles long, and drops 480 feet. Below Yale the valley widens again, the mountains retreat, and the river flows sluggishly through broad flats which were once periodically flooded, but are now protected by dykes. These are the lowlands or delta lands of the Fraser. The cut scoured by the river through the mountains is made use of by man to secure an easy gradient for his transportation of commodities, and two transcontinental railways have blasted out road beds along the sides of the rocky gorge which forms the river's valley through the Coast mountains.

The Canadian Pacific Railway in crossing the province has followed the Fraser to Lytton, then, swinging to the right, it has utilized the valley of the South Thompson to the Shuswap Lakes. Circling their southern arms, the railway ascends the Malakwa valley to Craigellachie, where, by means of Eagle Pass, the road descends to the Columbia. The remaining portion of the main line follows the rivers in that drainage basin. The Canadian National Railways (southern branch) follows the Fraser Canyon and the South Thompson River as far as Kamloops; then, turning to the left, ascends the North Thompson to its head, only to strike the upper Fraser at Albreda, and crosses the Rockies through the Yellowhead Pass. It may be considered a Fraser River rail route across British Columbia. The larger portion of the Pacific Great Eastern Railway traverses the Central Fraser valley from Lillooet to Prince George. In a similar manner the northern branch of the Canadian National line occupies the valley of the upper Fraser in its route across the province.

The sources of nearly all the tributary streams of the Fraser system are in long narrow lakes, which were originally formed by the damming up of the ends of mountain gorges. These lakes

are deep, clear, and well stocked with fish. The bordering mountain sides are forest clad.

The Interior Plateau by sections :—

(1) The valley of the Similkameen occupies the slope to the south. This is a true dry belt area, the sloping valley lands are largely grass-covered, while the higher elevations show fair stands of spruce and jack-pine. Cattle-ranching has for long been the chief industry; thousands of cattle range the hills of the Similkameen and graze the tributary valleys. Mining is growing in importance. At Princeton coal-mining is carried on. Copper Mountain, twelve miles distant, is yielding its ores to a huge concentrator. The product is smelted at Trail. Hedley is situated on the Similkameen at the confluence of Hedley Creek. It is the supply centre for the gold mines near by. Forty miles below Princeton is Keremeos, the centre of a large fruit-farming area located on wide benches sloping to the Similkameen River. Roads connect with the southern Okanagan valley. Transportation had long been a problem in the Similkameen district until the Kettle Valley line was built from Penticton to Hope. The Hope mountains formed a massive barrier, and shut off ready access to the large coast markets. The railway was finally put through the Coquhalla Pass (altitude 3,664 feet). While the gradients are quite heavy, the Kettle Valley line gives rail communication with the coast district on the one hand and with the Okanagan and Kootenay districts on the other.

(2) North of the Similkameen lies the Nicola valley draining to the Thompson. The arable lands have been occupied and mixed farming is carried on upon the lower benches, cattle ranching and sheep raising on the higher lands. Near Merritt coal-mines are in operation. The annual production from the Merritt-Princeton fields approaches 200,000 tons; 300 men are employed and the tonnage is limited to the existing market. A branch railway line connects with the Canadian Pacific at Spence's Bridge.

(3) The Thompson River and watershed. From Lytton to Ashcroft, a distance of fifty miles, the valley of the Thompson is narrow and precipitous. The river dashes down to meet the Fraser through canyon and gorge. High above, like spider threads along a bank, may be seen the main lines of the transcontinental railways on their way to tide water. Ashcroft has long been a centre of trade with the Cariboo district. The great Cariboo waggon road passes through here on its way to Quesnel and Barkerville. The Canadian Pacific Railway rendered the Lytton-Yale portion useless, and now the traveller sees but a section here and there of crumbling crib work hanging precariously to the sheer walls of the Fraser canyon. But for fifty years that portion of the Cariboo road north

of Ashcroft has been the great trade highway into the central Fraser valley. To-day the steel rail threatens the existence of the remaining portion. But the lands around Ashcroft were found to be marvellously fertile; irrigation systems have been installed and the district is now famous for its potatoes. Cattle-ranching is carried on along the terraced benches.

At Walhachin fruit is grown, several hundred acres being under irrigation. From Savona to within nine miles of Kamloops the railroads parallel Kamloops Lake, a long, placid expansion of the Thompson River. The lake is said to be very deep and acts as a filter for the muddy waters brought down by the North Thompson. Here the valley of the Thompson widens out and for eighty miles to the Shuswap Lakes the river is a comparatively placid waterway with large stretches of arable bench lands extending back to the more distant hills. Cattle-ranching is the chief industry of this section.

Kamloops (6,000), the divisional point on two transcontinental railways, and the chief trade centre of the Interior Plateau, is located on the southern bank of the Thompson River near the junction of the North Thompson with the parent stream. Cattle-ranching is the chief industry of the wide-flung range lands tributary to the city. Sheep-raising is growing in importance, and a wool sale is held at Kamloops each June. In the fertile bottom lands of the South Thompson, hay and grain are produced. The acreage devoted to mixed farming is increasing, while fruit is grown where irrigation has been provided. A large cannery takes care of the tomatoes, and each year sees an increase in this type of produce.

Tranquille is situated on a bench overlooking the Thompson River and near Kamloops city. The provincial sanatorium for the cure of tuberculosis is located here. The rainfall is less than ten inches annually and the number of hours of bright sunshine is not equalled elsewhere in Canada. The excellent service performed by this sanatorium is known and appreciated both far and near.

North Thompson Settlement in the valley of the North Thompson has been under way since the completion of the Canadian National line. For the first hundred miles (Kamloops to Vavenby) the valley is wide with gentle slopes; beyond Vavenby it narrows. Mixed farming is the chief industry, stock-raising is second in importance. The hillsides are well timbered and saw-mills are at work. At Chu Chua there are large coal-seams.

Salmon Arm. As the higher lands which encircle the beautiful Shuswap Lakes are approached, the rainfall increases. The mountain slopes and valleys are heavily timbered, and saw-mills

[*Courtesy Canadian National Railways.*

FIG. 246. PLATEAU LANDS OF VANDERHOOF DISTRICT

are in operation at Chase and Notch Hill. On the gently sloping lands around the southern end of Salmon Arm fine farms have been cleared and fruit culture is the main occupation.

Routes.—The central Fraser valley lands may be entered by four routes: (1) the Cariboo waggon road from Ashcroft, via the Bonaparte valley to Soda Creek, Quesnel, and Barkerville; (2) from Lytton by waggon road to Lillooet and the Chilcotin; (3) by the Pacific Great Eastern from Squamish via Lillooet to Quesnel; (4) by the Canadian National Railways to Prince George and then by waggon road or river boat down the Fraser.

Industries.—Throughout these lands of central British Columbia, from Ashcroft to Prince George, from the Coast Range crests to the uplands of the Cariboo mountains, stock-raising is the main industry. The cattle feed on a thousand hills; dusty trails wind down the steep slopes of the deeply sunk watercourses; ranch buildings snuggle against the mountain sides, whence broad flats extend into the hazy distance. Lillooet, the Chilcotin, Clinton, 150 Mile House, Soda Creek, are all centres of this industry. Quesnel is the port of entry to the gold diggings of the Cariboo, where in the 'sixties miners took $20,000,000 worth of gold dust and nuggets from Williams Creek alone. Barkerville was for many years the central rendezvous of the placer miners. To-day an occasional strike in a forgotten river bed recalls the gleam of olden days.

From Soda Creek to Prince George the Fraser is navigable, and stern-wheel steamers carry the freight and passengers. The appearance of the landscape changes as the rainfall increases. The level of the plateau rises, the land flattens out, spruce forests clothe the hillsides, alders and cottonwoods the lowlands of the river bottoms. Around Prince George mixed farming is carried on.

The Okanagan Valley

Sicamous Junction to Oliver.—Bordering the Columbia Range on its western flank lies the fertile valley of the Okanagan Lake and River. To the west, the water-parting with the Similkameen is a high rolling plateau, interspersed with small lakes and deep-cut ravines, through which brawling streams dash down to the lake. To the east are seen the blue-ridged mountains which form the divide with the Kettle River valley, and farther north the Monashee Range interposes its barrier between the Okanagan and Arrow Lakes. Bathed in the brilliant sunshine of the dry belt, the hundred-mile trough of the Okanagan lay for a thousand years a mere gash in the great interior plateau. To-day its orchards

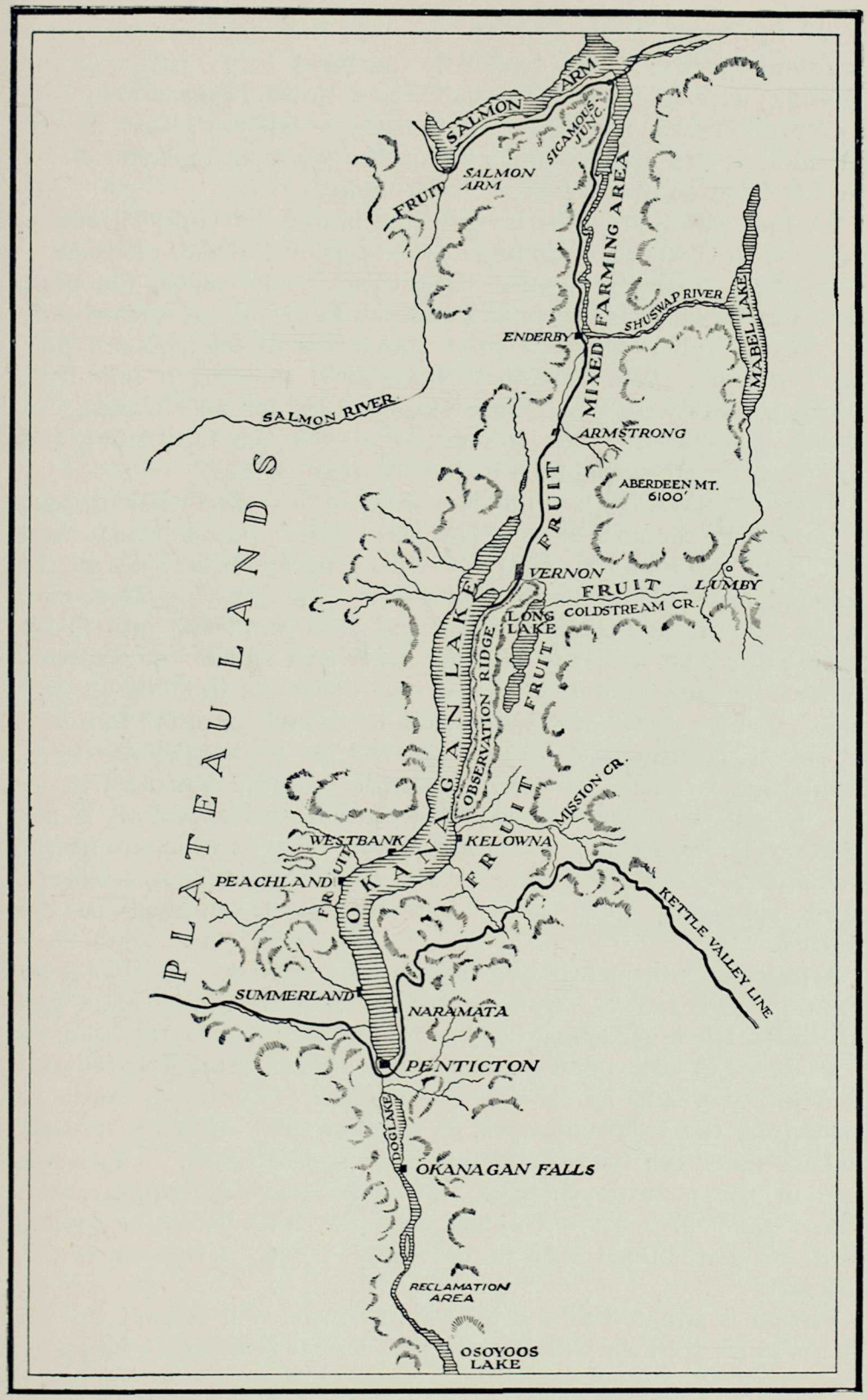


FIG. 247. SKETCH MAP OF OKANAGAN LAKE

crowd the bench lands and the ripe, red fruit finds its way to a thousand markets. This valley is the great fruit district of the province, and compares in productivity with the Niagara Peninsula of Ontario and the Annapolis and Cornwallis valleys of Nova Scotia. The miracle has been wrought within the space of a generation by the construction of a few ditches and flumes.

We may enter the Okanagan by the branch line from Sicamous Junction to Okanagan Landing at the head of the lake, where large stern-wheel steamers connect with various lake ports, the most important of which is Penticton at the southern end; or we may take the Kettle Valley line and enter the valley at its southern part via Penticton. The Canadian National is building a line from Kamloops to Vernon and may extend it as far as Kelowna. A system of excellent roads traverses the valley on both sides, and branches extend up the beds of the tributary creeks.

From Sicamous to the Boundary is 160 miles; this whole district is commonly thought of as "The Okanagan," but, in truth, that part from the Shuswap Lake to Armstrong (33 miles) lies in the drainage basin of the South Thompson. The Shuswap River rises in the mountains behind Lumby, and after emptying into Mable Lake, flows past Enderby into the south-east end of the Shuswap Lakes. The appearance of this stretch is that of the Salmon Arm type. Forests clothe the rich bottom lands and cover the hillsides; fir, spruce, cedar, and lodge-pole pine are the principal forest trees. Lumbering is one of the main industries of the Shuswap basin. The rainfall is moderate, well distributed, and irrigation is not necessary. From Mara to Armstrong the valley is wide and fertile, and mixed farming prevails. A saw-mill is located at Enderby. After supplying local needs the surplus is shipped to the prairies.

Armstrong is the centre of a rich farming district. On the higher ground fruit is grown. In the almost level bottom lands of ancient lake beds, truck gardening has been found most profitable. Celery is produced in large quantities and finds a ready market as far west as Vancouver and as far east as Regina. Four miles south of Armstrong the valley narrows, an imperceptible divide is crossed, and we enter the true Okanagan slope to the south. The whole face of the country changes, dry belt conditions appear, bull pines stand in scattered array, and the hillsides are carpeted with the short bunch grass of the range lands. Irrigation is now necessary.

Vernon is situated at the junction of three well-defined valleys. To the south-west the wide Priest valley leads to Okanagan Landing; southward lies Long Lake with its gently sloping and fertile bench lands; eastward sixteen miles to Lumby at its head stretch the

broad acres of White Valley. Due to its commanding situation, a busy town has developed. Vernon is the administrative centre for the Okanagan valley and controls the trade of a large region. Within a ten-mile radius fourteen thousand acres have been brought under irrigation, and nine thousand more are irrigable. Orchards greet the eye; miles of apple blooms in the spring, and tons of rosy-cheeked fruit in the fall. In Vernon the apple is King.

Kelowna. Forty miles below Okanagan Landing on the east side of the lake, the clay ridge separating Okanagan and Long Lakes ends abruptly and gently sloping lands stretch back from the lake shore to the distant hills eight to ten miles away. Through this semi-circular flat flow the waters of Kelowna and Mission Creeks, providing water for the large irrigation systems which serve the 40,000 acres already under cultivation. Kelowna town is prettily situated on the lake front, and serves a prosperous fruit district. Again orchards fill the landscape. Apples, cherries, plums and pears grow to perfection in the clear air and sunshine. A cannery takes care of the surplus product. Recently many acres have been devoted to tomatoes, while onions are grown in large quantities both here and in the Vernon district. Across the lake lie the smaller settlements of Peachland and Westbank. The latter is the centre of a large irrigable area estimated at 24,000 acres, while an equal amount awaits development toward Okanagan Landing.

Summerland is on the west side of the lake between Peachland and Penticton. Here a clay bank rises abruptly from the lake. There a large open flat stretches back to the encircling hills, gradually narrowing as the Trout Creek valley is encountered. Peaches were for some years the main crop, but of late, large apple orchards have come into bearing.

Naramata lies across the lake, and is developing into another Kelowna.

Penticton is situated at the foot of the lake. Its position is an enviable one, and the town is growing rapidly. Here the lake vessels connect with the Kettle Valley line. The old lake levels are continued in a number of long, narrow bench lands stretching southward along the Okanagan River. Irrigation systems are in use and a large acreage is under orchard. Peaches produce an abundant crop, but apples are the mainstay.

To the south the river flows through three small lakes, Dog, Vaseaux, and Osoyoos. The drop from Okanagan Lake (1,130 feet) to Osoyoos Lake (913 feet) is considerable for the short distance of forty miles. This feature has been utilized by the provincial government in furthering a great irrigation scheme in the wide portion of the valley between Vaseaux Lake and Osoyoos. The town of Oliver is the supply centre for these new fruit lands.

The Kettle Valley or Boundary Country

Tucked in between the Okanagan on the one side and the Columbia on the other lies the valley of the Kettle River with its tributaries, the West Kettle and the Granby. Through rolling hills and uplands, a beautiful park-like country, these rivers descend through gradually widening valleys to the parent stream. Along the upper courses the valleys are steep and narrow. Stock-raising is profitable on the higher and undulating lands, while hay, grain, and vegetables are produced where river flats exist.

At Westbridge ranches occupy the extensive bottom lands. The Rock Creek valley is a mixed farming region. Midway occupies a dry flat where the Kettle crosses into the United States. It is a distributing centre for the lower Kettle valley, and should become an important fruit area when irrigation has been secured.

Up the Boundary Creek are Boundary Falls, where power has been developed. A few miles beyond is Greenwood, the centre of an old mining region. While the railway makes a detour to the north-east via Eholt in crossing the divide to enter the Granby valley and the Grand Forks district, let us follow the river after it crosses the boundary at Midway. Rounding a mountain ridge, the Kettle reappears at Grand Forks and is there joined by the Granby from the north. After some twelve miles of indecision the Kettle River definitely crosses the boundary on its course to join the Columbia.

For a number of years Grand Forks was the centre of mining areas located up the Granby and its tributaries, at Eholt and Phœnix A considerable tonnage of copper, silver, and gold-bearing ores was treated at the Grand Forks Smelter. But the mines have been closed down, the smelter dismantled, and the company is now engaged in mining and smelting at Anyox. The fertile lands of the valley have, however, been industriously developed, and now over two thousand acres are under fruit. Mixed farming extends to the vicinity of Christina Lake.

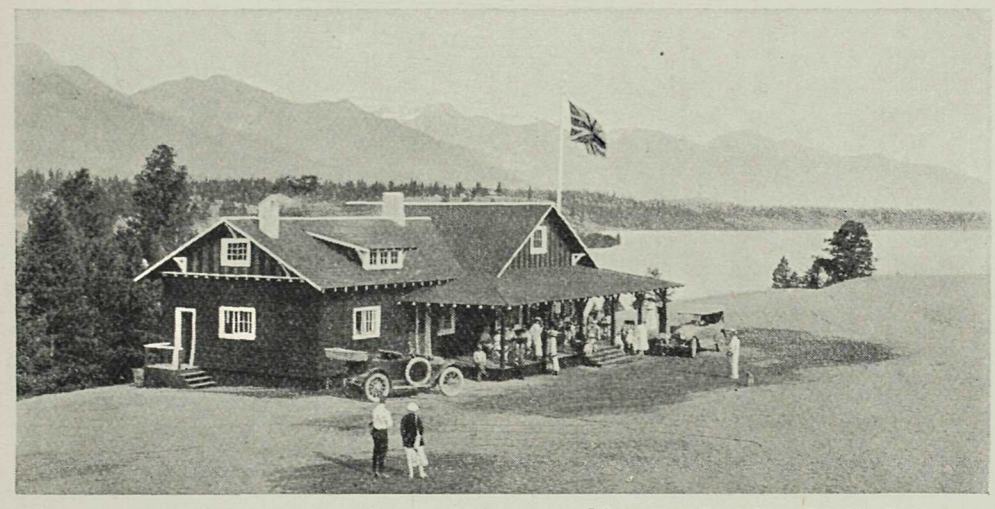
The Kootenay District

Topography.—Bordered on the west by the Columbia mountains [1] and by the wall of the Rockies on the east, the triangular mass of land enclosed by the 49th parallel on the south is known to all as the Kootenay.

Down the centre lies the great Selkirk Range, the giant backbone of the triangle, dividing the land into East and West Kootenay.

[1] Sometimes called the Gold Range.

The particular feature of this area is the Rocky Mountain trench which separates the Rockies from the Selkirk and Purcell systems and forms a deep trough from four to ten miles in width. Here the Columbia takes its rise in Columbia Lake, situated in the floor of the trench. Flowing through Windermere Lake, a fair-sized stream winds its way northward, gradually increasing in size as tributary streams add their quota of melted snows from the towering mountains on either hand. At the Big Bend the Columbia leaves the mountain trench to round the Selkirks. The course of the river is now irregular and many dangerous rapids are encountered. At Arrowhead the river widens to form the Arrow Lakes, then narrowing again near Castlegar, it soon crosses the



[*Courtesy Canadian Pacific Railway.*

FIG. 248. IN THE MOUNTAIN TRENCH
Lake Windermere and Club House

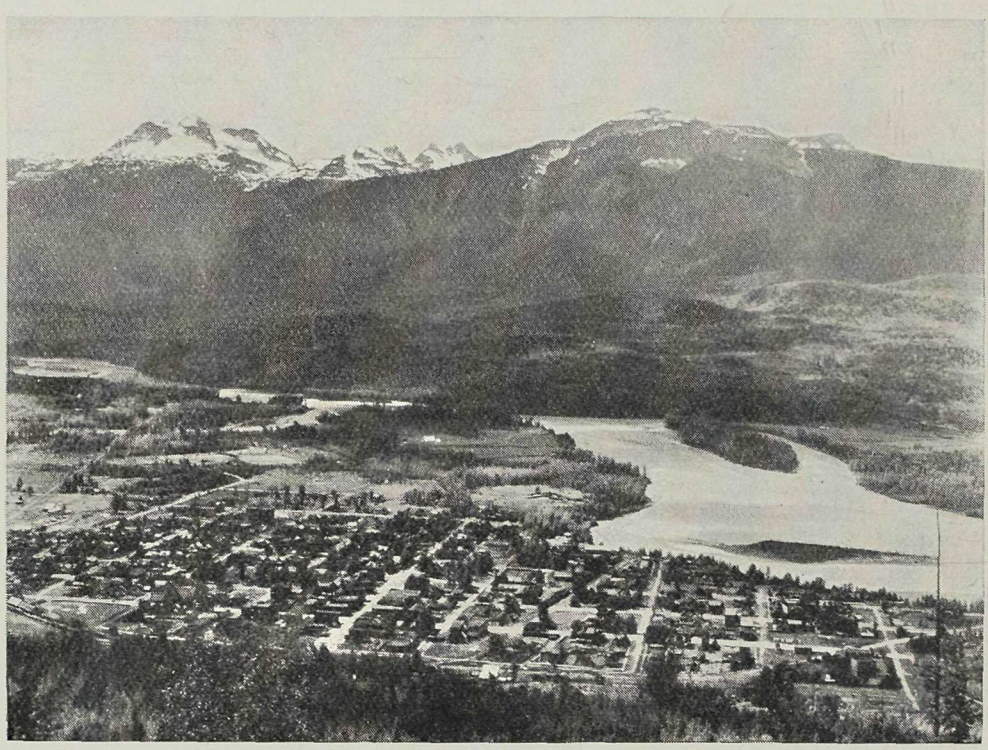
boundary on its way through the State of Washington and thus on to the Pacific.

But let us return to Columbia Lake. Issuing from the high ranges of the Rockies comes a river flowing into the mountain trench. This is the Kootenay, which, passing within four miles of the head of Columbia Lake turns southward and follows the trench across the boundary until the Purcell Range is circled. The Kootenay enters the province at Creston and fills the Purcell trough forming Kootenay Lake. The remainder of this depression is occupied by the Duncan and Beaver Rivers. From near the centre of the western shore of the lake, the west arm of Kootenay Lake provides an outlet for the accumulated waters, and the Kootenay River issues forth to dash down by Bonnington Falls and a series of rapids to join the Columbia at Castlegar. Ridged by towering

mountains, drained by swift-flowing rivers, interspersed with deep, dark lakes, the lands of the Kootenay district present an ever-changing view of snow-capped peak, silvery mountain torrent, or placid lake expanse. Forests cover the mountain slopes, big game abounds, and the fishing is unexcelled.

Let us now examine this section part by part and learn something of the industries which have been established.

Kootenay.—How may we get into the Kootenay district? From Sicamous Junction the main line of the Canadian Pacific Railway

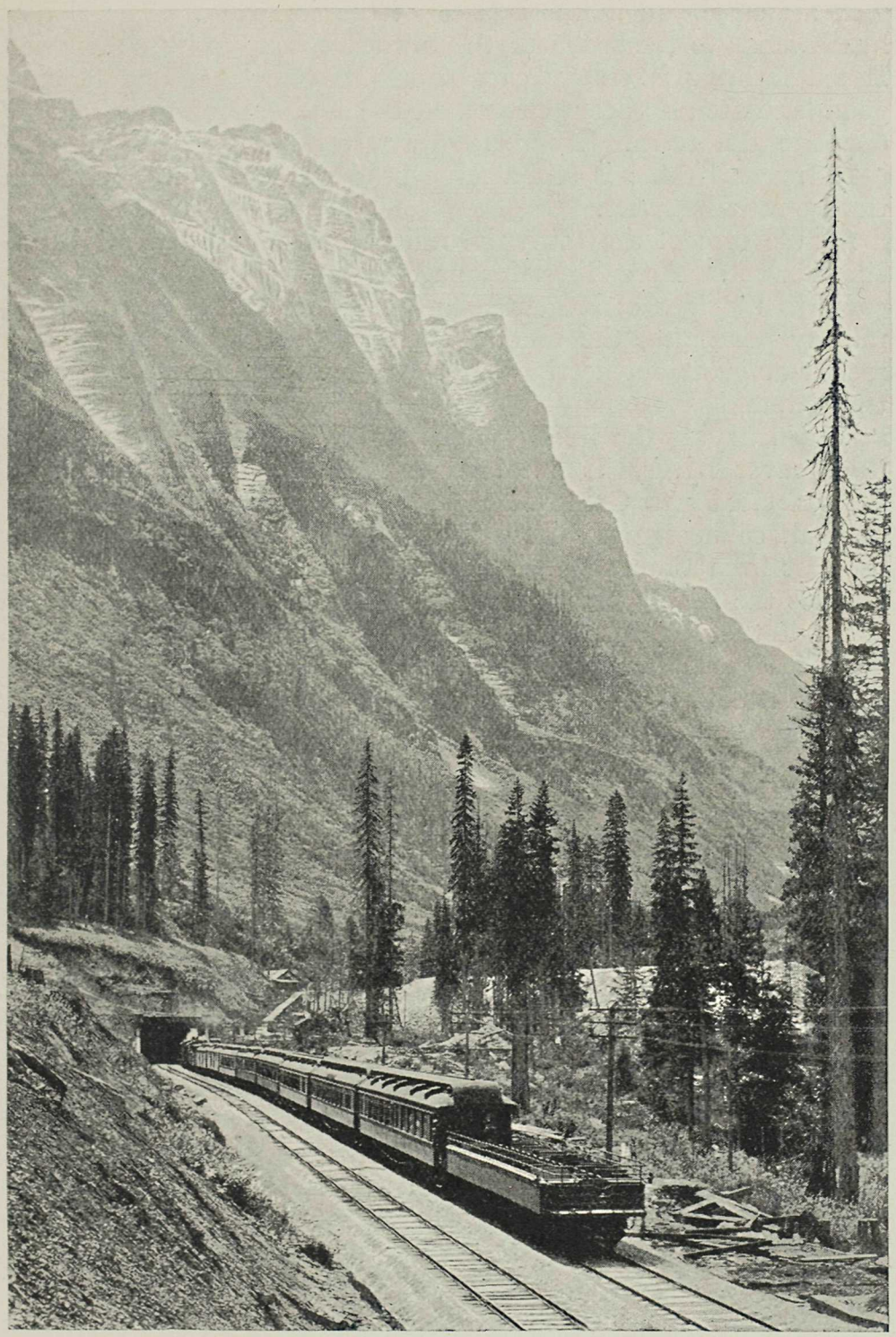


[*Courtesy Canadian Pacific Railway.*

FIG. 249. REVELSTOKE FROM MOUNT REVELSTOKE
Showing Mount Begbie

passes up the Malakwa River eastward over Eagle Pass and down to the Columbia at Revelstoke. Here a branch line runs down the left bank of the Columbia to Arrowhead, where lake steamers connect with West Robson at the foot of the lakes. There an extension of the Kettle Valley line takes us eastward to Nelson, westward to Grand Forks and Penticton, or southward to Trail and Rossland.

Revelstoke is situated at the junction of the Illecillewaet and Columbia Rivers of the Selkirks, and is a divisional point on the great transcontinental system of the Canadian Pacific Railway. Car repair shops are located at this point and a large number of



[*Courtesy Canadian Pacific Railway.*

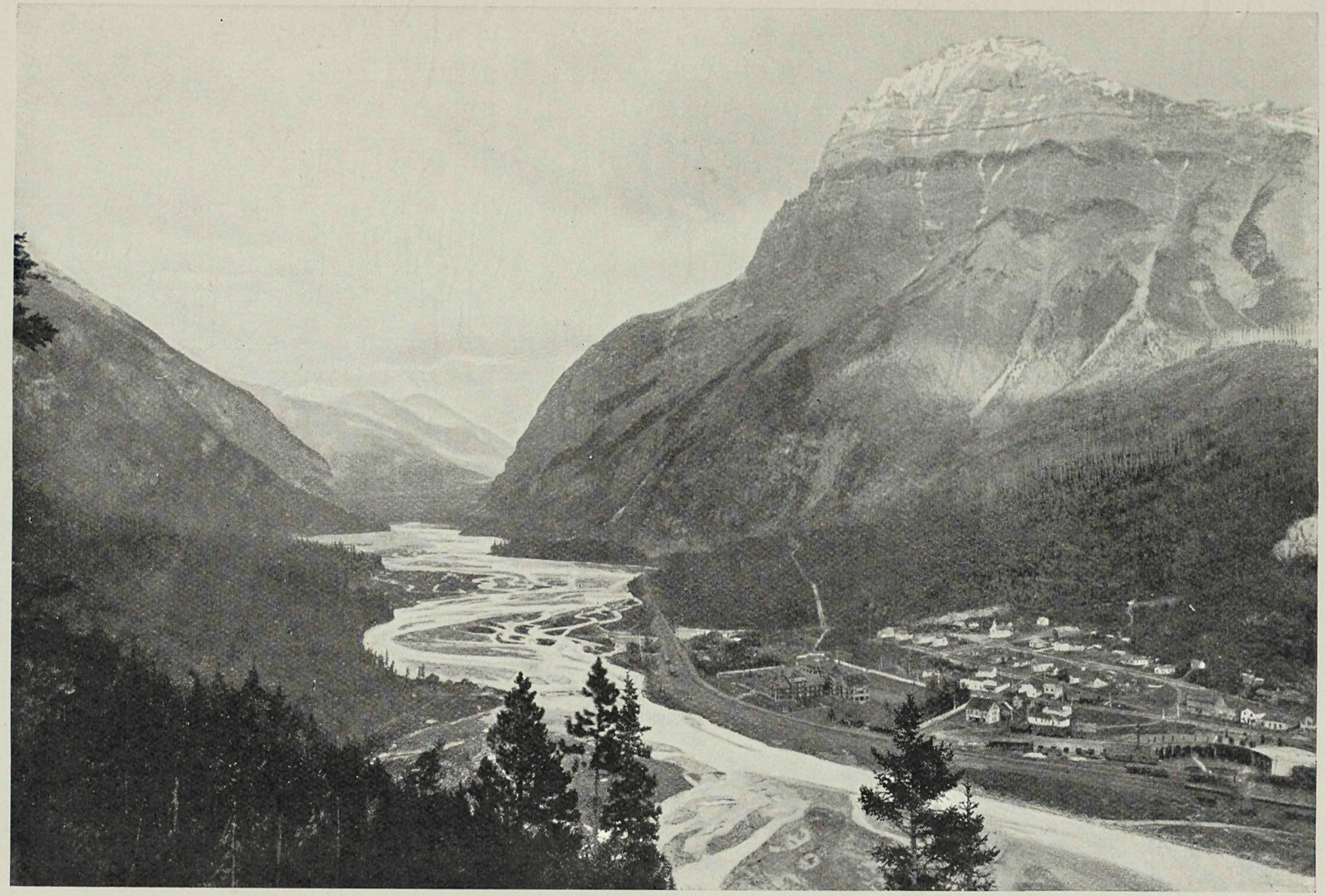
FIG. 250. CONNAUGHT TUNNEL

men are employed in the service of the company. The sloping bench lands to the south of the town are now under cultivation. Mixed farming is chiefly carried on. Several thousand acres of good land are also being cleared on the east side of the Columbia opposite the town. Lumbering was for many years the chief industry, and there is still a large production of poles, posts, and ties from this district.

A mile east of the town the railway enters the canyon of the Illecillewaet. Ascending this narrow gorge in the Selkirks, we come to the foot of Rogers Pass (altitude 4,351 feet). Here the railway penetrates the mountain divide by Connaught tunnel, a record of giant engineering skill. It is five miles long, double-tracked, and saves many miles of steep gradient which were necessary in carrying the line over the top of the pass. Descending the Beaver River, the line again strikes the Columbia, which it follows closely to Golden. Here a branch line, the Kootenay Central, connects with Crow's Nest line at Colvalli Junction not far east from Cranbrook. Leaving Golden, the Canadian Pacific ascends the Kicking Horse River to Field, the chief station in the heart of the Rockies. The divide is crossed at Stephen (altitude 5,321 feet) and the railway descends the Bow River to Calgary.

The Lands of the Mountain Trench.—Settlement is at present confined largely to that portion lying between Golden and the boundary. In this section the trench maintains an average width of about eight miles from the sloping foot of the Rockies on the east across a wide sweep to the gently rolling lands which mount to the towering rampart of the Purcells on the west. Looking south, the scene is one of serrated peaks on either hand, which merge gradually in the hazy distance as the horizon line cuts off the view. The climate is that of the dry belt, a light rainfall and the usual continental extremes of temperature. In its natural state much of the mountain trench is suitable for grazing, and cattle-ranching is extensively carried on. Mixed farming and fruit culture are proving profitable where irrigation systems have been built. Golden, Birchlands, McMurdo, Castledale, Galena, Brisco, and Edgewater are supply centres in the ninety-mile stretch from Golden to Columbia Lake. A considerable area is under cultivation around Windermere Lake, where Athalmere, Windermere, Wilmer, and Invermere are farming communities. Southward, in the valley of the Kootenay, Wasa and Fort Steele are ranching centres.

The confluence of the Elk and St. Mary's Rivers with the Kootenay provides a number of lateral valleys extending back from the trench to the heart of the mountains on either hand. Due to an increase in the amount of precipitation, this district is covered with a heavy forest growth. The species resemble those of the coast



[Courtesy Canadian Pacific Railway.

FIG. 251. MOUNT STEPHEN AND THE KICKING HORSE RIVER

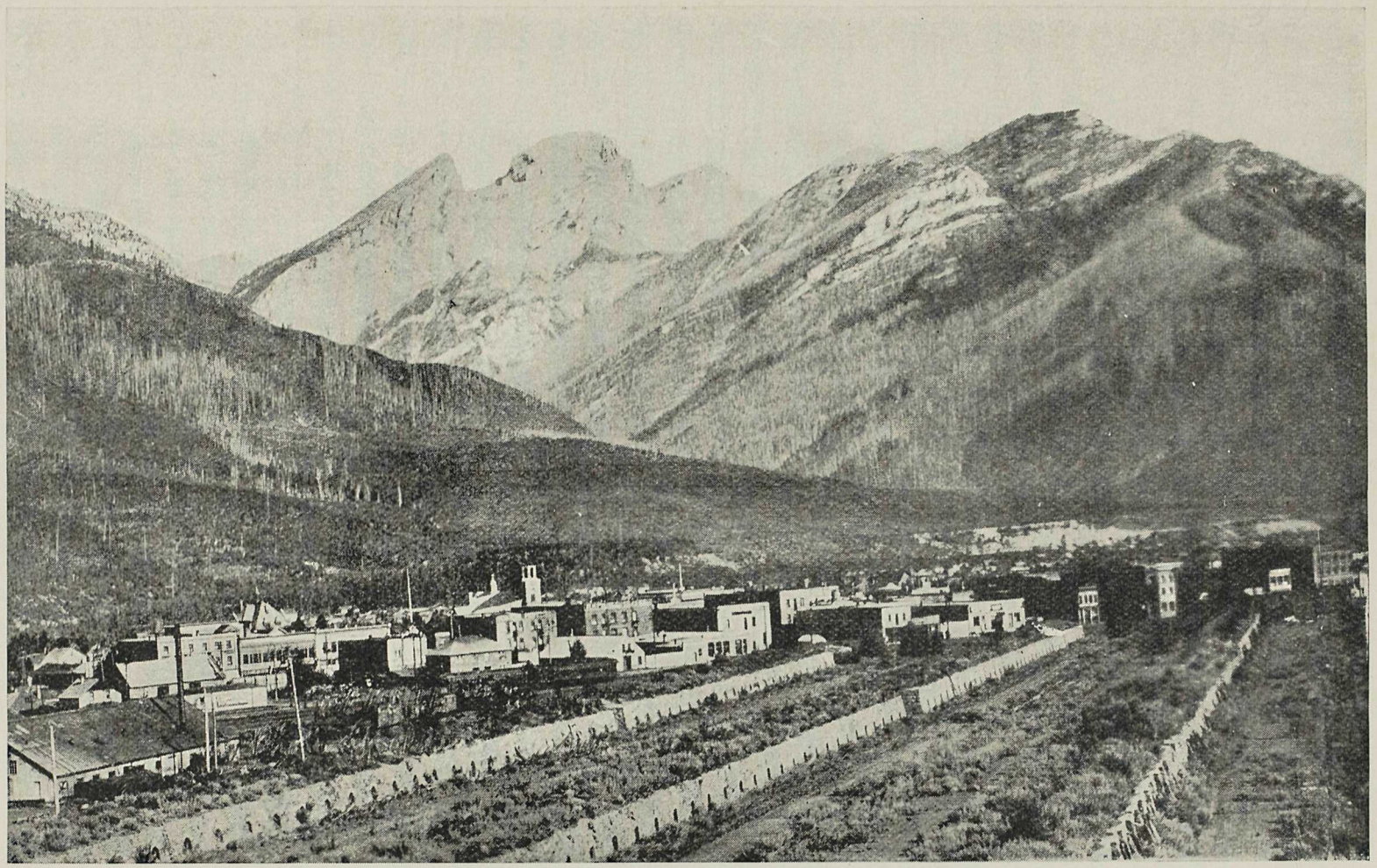
forest region; Douglas fir, cedar, and hemlock are found as well as thick stands of lodge-pole or jack-pine. Lumbering is the widespread industry of this region, and mills are located at Wardner, Jaffray, Waldo, Lumberton and Yahk.

Cranbrook town is well situated on a level prairie seven miles west of the Kootenay. It is the supply centre for the southern portion of the mountain trench and a divisional point on the Crow's Nest branch of the Canadian Pacific Railway. In addition to the usual types of sawn timber and lumber for general building purposes, the South Kootenay forest lands provide millions of railway ties from the thick stands of pine. Telegraph poles, fence posts, and mine props are shipped to the adjacent prairie markets.

In the valley of the St. Mary's River is located the town of Kimberly. The great Sullivan mine near by contains one of the largest deposits of lead-zinc ore on the continent of North America. From this one mine are obtained annually nearly 50,000,000 pounds of lead and a similar quantity of zinc, the bulk of the lead and zinc produced in Canada. A huge concentrator, capable of treating 2,500 tons of ore daily, has been installed. The concentrates are shipped to Trail smelter, where the refined lead and zinc are extracted.

Up the Elk River the Crow's Nest line brings us to Fernie, the central point of the coal-mining industry of South-East Kootenay. Great beds of coal underlie the hills and outcrop along the mountain sides. Mines are found at Coal Creek, Michel, and Corbin. Coke is manufactured in long batteries of beehive ovens at Michel. The coal measures extend over the divide, and on the eastern slope of the Rockies the vast Alberta coal-fields are located. The annual production from the Fernie district amounts to some 800,000 tons. Part of this is exported to the United States; the rest is used locally and as far west as Grand Forks and Revelstoke. The coal is a high-grade bituminous and the production is limited by the existing markets. Lumbering is an industry of importance. Fernie is the distributing centre for this district.

Kootenay Lake and the lands of the Purcell Trench.—Let us follow the Crow's Nest line from Cranbrook westward through the mountains to join the Kootenay again at Creston. The 49th parallel is not far away as the train comes rumbling down the gorge which the Goat River has cut through the west slope of the Purcells. Sloping bench lands appear, and the Kootenay River, returning to the Canadian side, is seen to expand gradually through the Kootenay flats into a wide estuary and finally enters Kootenay Lake. From Erickson and Creston to Sirdar the benches along the east, or right, bank of the Kootenay are being developed. This is already a well-known fruit area. Apples, plums, pears, cherries, as well as strawberries, are grown in increasing quantities.



[*Courtesy Canadian Pacific Railway.*

FIG. 252. FERNIE COKE OVENS

At Kootenay Landing lake steamers take passengers around to Nelson, while car barges transfer whole trains of box cars to Proctor. It has not yet been found advisable to build the railway along the west side of Kootenay Lake.

Kootenay Lake, a beautiful sheet of water, 170 square miles in area, fills the lower portion of the Purcell Trench. On the bank of the west arm stands the city of Nelson, chief town of West Kootenay. Lake steamers ply regularly to the various lake ports. Nelson has also direct rail connection with Vancouver via the Kettle Valley line, and with Spokane via the Great Northern Railway. Nelson controls the trade of a large district. To the south, in a huge semicircle, stretches a great forest. Loggers are at work, and lumbering is one of the chief activities along the line of the Great Northern. East of the city considerable areas are devoted to fruit culture. The Kootenay apples are noted for their high colour and delicate flavour.

Below Nelson the lake narrows and the outflowing waters run swiftly between river banks. Rapids appear and then the river pours over the Bonnington Falls in two leaps; the upper one is sixty-three feet, the lower fall thirty-four feet in height: 41,000 horse-power is generated at present, and it is widely distributed. Power lines extend to Nelson and westward as far as Penticton and the valley of the Similkameen. The abundance of electrical energy is a strong factor in the development of West Kootenay.

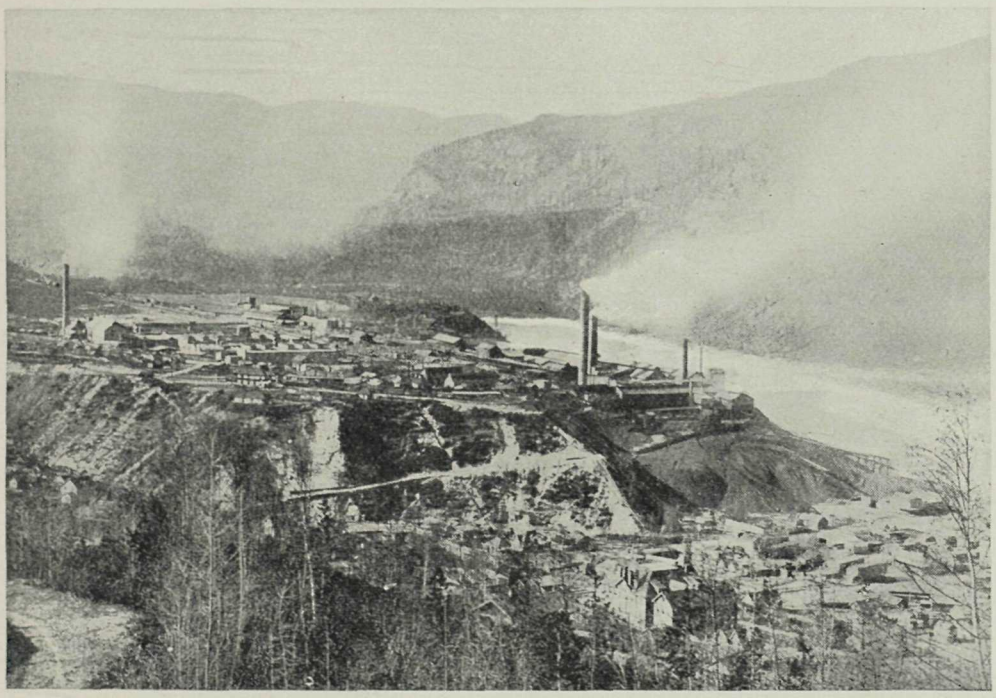
Kaslo is a centre of trade for the northern end of Kootenay Lake, Bowser Lake, and Gerrard. The town is prettily situated on a sloping bench overlooking the lake and with a background of towering mountains. There is direct train service to Nakusp on the Arrow Lakes and with the Slocan mining properties.

The Slocan is the great silver-lead district of British Columbia. Sandon, New Denver, Silverton, and Slocan City are important centres in this district. The Standard Mine at Silverton has been a great producer of the grey silver-lead ore. The ore is brought by rail and water to Slocan City, thence by rail to Trail smelter.

Trail is the home of the great smelter. Situated on the right bank of the Columbia, twenty miles below Castlegar, are the tall chimneys and widely spreading buildings of this huge enterprise. Here come the ore cars from Kimberly, coke cars from Michel, silver-lead from the Slocan and gold from Rossland: 400,000 tons of ore a year are smelted and 1,400 men are employed. Back in the mountains to the west, six miles away, and 1,700 feet above Trail, is Rossland, the great gold camp of the Kootenays. The principal mines are the Centre Star, War Eagle, and Le Roi, now grouped under one management. The camp has been a steady producer since 1895, and $85,000,000

worth of ore has been dug from the mountain sides. The veins have been followed to such an extent that now there are eighty miles of underground workings, a large part of which has been electrified.

The Arrow Lakes.—As their name implies, they are long, narrow, lake-like expansions of the main Columbia River. Here and there huge shoulders of the mountain masses thrust down abruptly into the lake. Between these are the fertile bench lands where fruit culture and mixed farming are carried on. Robson, Burton



[*Courtesy Canadian Pacific Railway.*

FIG. 253. TRAIL SMELTER, B.C.

City, Edgewood, West Demars, Arrow Park, and Needles are the chief farming areas.

From Nakusp, the busy trading centre of the Arrow Lakes, a short rail route leads into the Slocan.

From Prince Rupert to Lucerne

The Skeena.—The central portion of British Columbia is entered on the east by the Yellow Head Pass (3,716 feet), and on the west by the valley of the Skeena and its tributary, the Bulkley. The Skeena River (325 miles) rises in the rolling plateau which borders the western slopes of the Cassiar mountains. Within a short distance are also found the headwaters of the Nass and the

Stikine. Across the Cassiars to the eastward the tributaries of the Finlay take their rise.

To its junction with the Babine the upper valley of the Skeena is wide and in places terraced. It is enclosed by long even ridges which merge into isolated groups of high rugged peaks. Similar formations are found in the upper valleys of the Nass and Stikine. These valleys are practically unoccupied, and the whole region is a vast untouched forest, of ten billion feet of standing timber.

[*Courtesy Canadian National Railways.*

FIG. 254. PYRAMID FALLS

Babine Lake, 105 miles in length, is drained by a deep-sunk rushing torrent which becomes the largest tributary of the Upper Skeena. At Hazelton the Bulkley joins the Skeena from the southward and the main stream enters upon its course through the Coast mountains to the sea, 170 miles distant. Through the cut worn by the river the northern branch of the C.N.R. reaches the sea at Prince Rupert.

Unlike the Fraser, no wide delta lands are found at the Skeena mouth. The mountains throw their bold shoulders down to

the sea, and the river for some miles resembles an inlet or canal. Rocky islets divide the channel into several parts. The great industry is salmon-fishing. Canneries are located at Smith Island, Port Edwards, Inverness, Dominion, Sunnyside, North Pacific, Cassiar, Haysport and Essington. The latter town was for many years the port where river steamers connected with coast vessels.

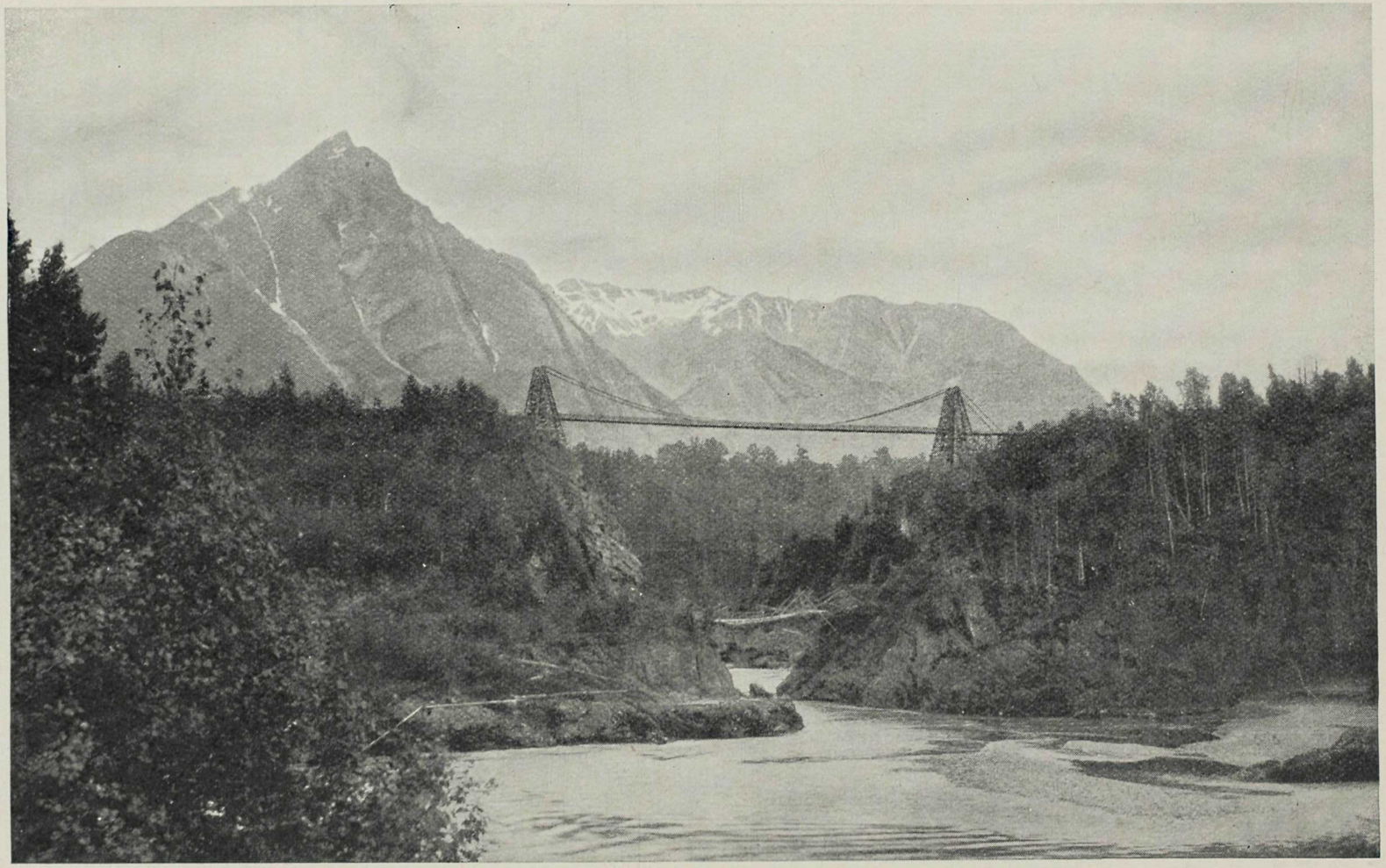
The railroad from Prince Rupert follows the north bank of the river. "The trough-shaped valley of the Skeena is seldom less than a mile wide, and the river, split into a number of channels, swings from bank to bank, washing alternately the slopes on either side, alluvial flats being found in the alternating spaces." The mountains rise steeply on either hand, "boldly sculptured," with distant peaks showing the clear green of glaciers down their sides.

Terrace and its vicinity.—Ninety-six miles from Prince Rupert we enter a new and rapidly developing area. A wide trough extends from Kitimat Arm to Aiyansh on the Nass. The front wall of the Coast Range has been passed. To the east lie parallel spurs of the main range extending to Hazelton and beyond. Terrace is the largest town in the Skeena valley and the centre from which roads lead to the farming lands of the Kitsumgallum and Lakelse trench valleys. The wide flats are forested and sawmills are in operation. Agriculture is making rapid strides. The climate is mild and the rainfall moderate. Strawberries are grown in increasing quantities, while other berries and tree fruits do well. Root crops yield abundantly, and grain is grown. "Potatoes rival the best produced anywhere." Thirteen miles east of Terrace we come to Usk, where four lumber mills give employment to several hundred men. A cable ferry crosses the Skeena to Kleanza Creek, where gold–silver–copper ores are being worked. Near Copper City up the Zymoetz River are huge deposits of iron ore, and on Coal Creek are coal areas.

Pacific is a divisional point, twelve miles beyond Usk. Cedarvale and Kitwanga are Indian settlements. The walls of the Skeena now contract and the river runs swiftly through a long canyon. At Skeena Crossing the railway passes to the south bank over a bridge 140 feet above the water level.

Hazelton.—The old town, with a population of about 400, is prettily situated on a flat between the Bulkley and Skeena Rivers. There is a large Indian village near by. Here the Indians have congregated from time immemorial. Here their council meetings were held, and their war parties assembled. Along the banks of the rushing waters they speared the salmon and laid by goodly store for winter food. In 1868 the first fur-traders appeared, and Hazelton is still an important fur-post of the north country.

Roads lead from Hazelton up the Kispiox valley, where some



[Courtesy Canadian National Railways.

FIG. 255. SUSPENSION BRIDGE AND OLD INDIAN BRIDGE, HAZELTON

The Old Indian Bridge is now down

good farms are already under cultivation. A trail crosses the Babine Range to the old placer diggings of the Ominea district. Still another road leads up the Bulkley to the canyon where a suspension bridge 420 feet long and 240 feet above the rapids leads to New Hazelton. Near by is the old Indian village of Hagwilget, noted for many years as the site of a unique Indian suspension bridge made of wood and lashed together with wire.

New Hazelton is situated on the railway south of the Bulkley, where Rocher Deboule Mountain fills the southern sky-line with its rugged mass. Mines have been opened and shipments have been fairly steady since the completion of the railway in 1914. Over two million dollars worth of copper, silver, gold, lead, and zinc have been secured from the mines of this section.

The Bulkley Valley

The railway leaves the Skeena at South Hazelton and follows the Bulkley valley southward to its head, a distance of 120 miles. The first twenty-five miles to Moricetown the valley is narrow, with the river dashing down through a deep-walled canyon. The central portion of the valley (Moricetown to Houston) maintains an average width of about five miles.

Smithers (population 600) is the largest town in the valley. Mixed farming prevails. Kathlyn Lake at the foot of Hudson Bay Mountain is a summer resort.

To the east lies **Telkwa,** a busy agricultural centre and shipping point for the coal which is being mined from a seam four miles up the Telkwa River. Good farming lands extend to Houston. Beyond this point the valley narrows and the railway crosses the divide (2,359 feet) and enters the Endako valley. Altogether about 200,000 acres of arable land lie within the Bulkley valley.

Burns Lake is the chief trading centre of the Endako valley. Roads lead north to Babine Lake and south to Francois Lake. Fort Fraser of to-day is located on the railway, one and a half miles south-east of the old Hudson Bay trading post, which stood at the east end of Fraser Lake near the Nautley Indian village.

Below Fraser Lake the Nechako valley widens into a broad, gently undulating expanse, which provides the largest area of practically level agricultural land in Central British Columbia. For a distance of forty miles the Nechako lands maintain a width of twenty miles. The soil is a deep silt, lightly timbered; fodder crops are grown extensively and dairying is a leading occupation.

Vanderhoof (population 450) is the chief commercial centre for this region. It is built on a wide flat between the railway and the river and is growing rapidly. A creamery has been built

to meet the needs of the farmers. Roads lead to Fort St. James at the south end of Stuart Lake, to Fort Fraser and the east end of Francois Lake, to Prince George and south to the Cariboo Road.

Twenty miles below Vanderhoof the Stewart River empties into the Nechako from the north. Many thousand acres of rich bottom land have been pre-empted in this valley.

Prince George (population 3,000). Situated on a flat between the Nechako and Fraser Rivers, it is the bustling business centre of Central British Columbia. A thousand miles of navigable riverways join at this spot. The city is located midway between Edmonton and Prince Rupert. The Pacific Great Eastern is projected to run through Prince George from the south and may be continued northward to the Peace River country. The city is a business and administrative centre and controls the trade of the Stewart, Salmon and Central Fraser River valleys. Many valuable peltries find their way to this mart. Settlement has been rapid of late years and large tracts have been cleared and put under the plough. Mixed farming prevails; root and fodder crops are grown, large quantities of hay are cut; cattle, swine and sheep are increasing rapidly.

The railway crosses the Fraser at Prince George and follows the east bank to Willow River, where a short cut to the intermontane trench is provided via Eaglet and Hansard Lakes. Forests of cedar, spruce and Engelmann fir cover the entire region of the Willow River and Upper Fraser. Eighteen lumber mills are in operation between Prince George and McBride, at Willow River, Giscome, Aleza Lake, Dewey, Longworth, Hulton, Penny, Dome Creek, Loos and Dunster. There is an estimated twenty billion feet of timber in this region.

For 190 miles southward to the head of the Canoe River the mountain trench averages five miles in width with the Fraser winding from side to side. Alluvial flats screened with willow and alder stretch back to the terraced bench lands. These in turn give place to rampart walls six thousand feet in height.

McBride is the largest town in the valley and a divisional point on the railway which parallels the river. At Tête Jaune Cache the railway crosses McLennan River and unites with the North Thompson branch of the system. Ascending the Fraser the line passes close to Mount Robson, 13,068 feet, the highest peak in the Canadian Rockies. Here a large area has been set aside as Jasper National Park, and each year sees an added interest in this beautiful national playground. A few miles beyond Lucerne the railway crosses Yellowhead Pass (altitude 3,723), the lowest pass in use in the whole Rocky Mountain system.

The Peace River District.—The northern part of the Rocky

[Courtesy Canadian National Railways.

FIG. 256. MOUNT ROBSON

COMPARATIVE PRODUCT CHART

British Columbia leads in the Production of Fish.

British Columbia	$21,257,567.
Nova Scotia	$8,777,251.
New Brunswick	$5,383,809.
Ontario	$3,557,587.
The other Provinces	$5,558,020.

Total of all fisheries in Canada . $44,534,235

Note : The chief values are derived from the salmon.

Mineral Production in British Columbia.

The scale represents the values in dollars.

Coal .	2,511,843 tons valued at $12,559,215.
Lead .	170,384,481 lb. valued at $12,415,917.
Copper .	64,845,393 lb. valued at $8,442,870.
Gold .	268,753 oz. valued at $5,541,285.
Silver .	8,341,768 oz. valued at $5,292,184.
Zinc . .	79,130,970 lb. valued at $4,266,741.

Total production of all minerals . $48,704,604.

Note : British Columbia produces nearly all the lead and zinc mined in Canada and by far the larger part of the copper.

Leading Mineral Production in the other Provinces for Comparison.

Coal .	Nova Scotia, 6,400,000 tons; Alberta, 6,300,000 tons, ann.
Gold .	Ontario, 1,000,000 oz. valued at $20,668,692.
Nickel .	Ontario, 61,335,706 lb. valued at $24,534,280.
Silver .	Ontario, 9,907,626 oz. valued at $9,996,795.
Asbestos	Quebec, 199,573 lb. valued at $14,792,200.

COMPARATIVE PRODUCT CHART

British Columbia Leads in the Production of Lumber.

British Columbia	Log scale = 2,549,700,000 board feet.
Quebec	1,391,600,000 board feet.
Ontario	992,900,000 board feet.
New Brunswick	515,800,000 board feet.
Nova Scotia	274,000,000 board feet.

Note : In 1924 the forest products of British Columbia were valued at $80,702,000.

Agriculture in British Columbia.

	Quantity.	Value.
Live Stock.	441,091 head	$16,790,007
Meat Products.	26,953,785 lb.	1,310,676
Poultry and Eggs.	8,174,033 lb. 7,351,672 doz.	4,232,562
Dairy Products.	—	9,769,549
Fruits.	138,636,000 lb.	5,419,238
Vegetables.	219,933 tons	6,874,983
Hay and Fodder Crops.	582,935 tons	10,671,692
Grains.	4,501,590 bu.	4,253,512
Honey.	679,289 lb.	149,444
Wool.	309,446 lb.	80,456
Hops.	813,228 lb.	317,159
Miscellaneous.	—	154,946
Total.		$60,029,224

Summary of Industries in British Columbia.

No. of Firms operating.	6,194
No. of Employees.	72,000
Wages Paid.	$116,437,316
Gross Value Produced.	over $300,000,000

Mountain trench is drained by the Parsnip and Finlay Rivers. Their united waters form the Peace River, which breaks through the Rockies and flows eastward, a distance of eight hundred miles, to join the Mackenzie system near the outflow of Lake Athabasca. The Peace flows through a gently rolling expanse similar in appearance to the lands of the Saskatchewan. The main river bed, together with its tributary streams, is deeply sunk (six to eight hundred feet) below the general level. Wide flats give place to steep, grass-covered slopes, and these in turn to flat-topped prairies. The soil is a deep, black loam, very fertile, and with abundant rainfall during the growing season. The days are long in summer and the vegetation matures rapidly. All the main root crops are successfully grown, and grain is produced. A few ranches are devoted to stock-raising.

Settlement has been confined largely to the south-eastern portion of the Peace River block. This is a rectangular area of about three and a half million acres extending westward from the Alberta boundary for a distance of seventy miles. It was given to the Dominion as a land grant in connection with the building of the Canadian Pacific Railway. The need to-day of the lands of the whole Peace River district is direct rail communication with either Edmonton on the one hand or with Prince George on the other. At present the branch line which runs north from Edmonton stops at Spirit Crossing. It is then fifty-five miles by dirt road to Pouce Coupe, the first large settlement in the Peace River block. About 1,500 people reside in this section, where good farms, stores, churches and schools are to be found. Rolla is thirteen miles to the northward and is a farming section about half the size of Pouce Coupe. It has been estimated that one-third of the area of the block is suitable for agriculture. Its further development awaits the completion of railway transportation.

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