THE

KOOTENAY VALLEYS

AND THE

KOOTENAY DISTRICT

IN

BRITISH COLUMBIA.

With Maps.

OBTAINABLE AT

MESSRS. ALLSOP & MASON, VICTORIA, B.C.;

AGENTS FOR

KOOTENAY VALLEYS COMPANY (LIMITED),
OF 46, QUEEN VICTORIA STREET,
LONDON, ENGLAND.

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THE KOOTENAY VALLEYS.

GEOGRAPHICAL POSITION.

Geographical Position.—The Kootenay District lies in the South-Eastern corner of British Columbia, and is separated from the North-west Territories of Canada by the Rocky Mountains. In shape the Kootenay District is not unlike a huge triangle, with a base line of some 150 miles resting on the 49° N. lat., which forms the international boundary line separating this portion of British Columbia from the three great western Territories of the United States, *i.e.*, Montana, Idaho, and Washington.

The centre of this triangular district is occupied by a separate chain of mountains, *i.e.* the Selkirks, now attracting attention as the scene of great engineering feats, by which the Canadian Pacific Railway has completed its track from the Atlantic to the Pacific Ocean, bringing the latter within an eleven or twelve days' journey from England.

The Selkirks are a range of mountains in shape not unlike a horseshoe, with the open end towards the south. Inside this horseshoe we observe one of the three great valleys of the Kootenay District, namely, the Lower Kootenay Valley; while the two remaining ones, the Upper Kootenay Valley and the Columbia Valley, run round the outside of the horseshoe, isolating the Selkirks from the Rocky Mountains and from the Gold Range.

Each of these Valleys is formed by important streams, and each of these streams displays most erratic courses, the Columbia making a huge bend northwards, 440 miles long, the Kootenay a similar loop towards the south. The bend of the former is crossed from east to west by the Canadian Pacific Railway (C.P.R.) the loop of the latter by an equally important though less tangible line, *i.e.* the 49th parallel, which forms the International boundary line, so that for a considerable portion of its course the Kootenay flows through the United States.

A glance at the map shows that the source of the Columbia River, the famous Upper Columbia Lake, is only a mile from the Kootenay River, and we find that the river issues from it as a good sized stream, navigable for river steamers, while the Kootenay River, where it approaches the Columbia so close, is already a one hundred mile long stream, equally navigable, at least during the summer months, as is its near neighbour. The mile wide space known as the Canal Flat that separates them, and which acts as a water shed, is not, as might be imagined, a high mountain backbone, but a level gravel flat, raised only a foot or two over high water, and sloping gently from the Kootenay River to the Columbia, the difference between the two water levels being less than 10 feet. There is no possible doubt that a few generations ago this gravel bar was not in existence, the river occupying its place, so that what is now the headwater of the Kootenay was then the Columbia. The Columbia was at that time a hundred miles longer, and forked at this spot, the left or south flowing branch forming what is now the Kootenay River, while the right flowed northwards, across the gravel flat, and continued down its present bed. Taking these facts into consideration it is not surprising to find that the Columbia Valley and the Upper Kootenay Valley, however much they differ in climate, vegetation and general appearance, are practically one and the same trough, lying at the foot of the main chain of the Rockies for a total length of two hundred and fifty miles, an unique instance in the topography of the Rocky Mountains.

There are three circumstances that will secure to the Kootenay Valleys future wealth, namely their mineral riches, of which this pamphlet will subsequently deal more in detail; their rivers, which are ready roads of communication, and their geographical position, about half way between the two greatest railway systems of North America, and with each of which these same rivers offer means of communication; and thus while offering the advantages of two markets to the producer, also prevent either of the railways from extorting the arbitrarily high freight rates which in so many instances, where a locality is at the tender mercy of one railway, lays weighty shackles upon the development of the country's resources. The Kootenay Valleys can be approached, therefore, both from the North, viâ the Canadian Pacific Railway (C.P.R.) and from the South, viâ the Northern Pacific Railroad (N.P.R.R.). We shall consider the former first and in doing so will begin by introducing the reader to:

THE COLUMBIA VALLEY.

At the point where the C.P.R., after having climbed the great Rocky Mountain range and descended its declivities by following

the torrent-like Kicking Horse Stream, first strikes the Columbia Valley, formed on one side, as we have heard by the Rockies, on the other by the more densely wooded Selkirks, Golden Station is situated. This is the starting point of all traffic going up stream towards Kootenay, and it is a typical western railway settlement with its couple of general stores, post office, two hotels, a dozen or two of houses and half-a-dozen saloons. The two steamers that ply up the Columbia start from here.

The surroundings of Golden and of the Columbia River till the traveller reaches the lakes at the source, are those common to a great part of mountainous British Columbia, picturesque peaks clothed with dense forest up to the timber line, and above it rugged rocks with snow fields on the more prominent elevations. The valley itself is narrow, and during the freshet season in early summer is one great lagoon, revealing, when the water subsides, expansive meadows through which the not too rapid Columbia winds, branching in many places into several channels. There is good land along this 100 mile long stretch of river, but the annual overflow will make a considerable part of it useless for all but hay purposes till dyking is resorted to. The timber on the Selkirk side is fairly good, and consists of spruce and fir of moderate size; no doubt it will soon feed large sawmills at Golden, the most favourable point from where a paying export trade to the treeless North West can be established. At present, the wants of the settlers along the river in the way of lumber will be supplied by a steam saw mill, recently erected on the before mentioned Canal Flat by the Kootenay Valleys Company.

From about the middle of May to the middle of September, the Columbia can be navigated to the further end of the lower of the two lakes, a point called the Head of Navigation; before and after that period the water is too low for steamers, and it is not uninteresting to note that one of the chief obstacles to navigation are the salmon-beds, where the river leaves the lower lake, consisting of gravel bars thrown up in ridges by the action of spawning salmon, who after an adventuresome journey of 1400 miles up the Columbia from the Pacific Ocean, used to seek this and other spots yet higher up in great numbers during the months of August and September. The wholesale manner in which millions of this noble fish are caught at the mouth of the Columbia has of late years materially decreased the number of salmon (*salmo quinnat*) who have succeeded in evading the monster grill nets, often 1500 feet long, that span the Columbia at its mouth from side to side. The journey performed by the sadly battered and totally exhausted fish that do reach the head lakes of the Columbia, situated 2600 feet over the Pacific Ocean, is indeed a wonderful one, and by far the longest that is known to the student of piscatory lore. It

almost passes comprehension how fish, be they ever so lissom, impelled by blind instinct, could succeed in passing such obstacles as the "Dalles," where the vast Columbia apparently turned on edge, rushes with lightning rapidity through a troughlike rift in the basalt formation, which is less than a tenth of the ordinary width of the river; how they can leap the famous Kettle Falls, the highest sheer leap performed by salmon in any part of the world (15-18 feet), or stem the current of gigantic whirlpools that knock into splinters the great monumental trunks of giant white pines 300 feet long, or breast the fierce rush of furious rapids many miles in length.

Mining in the Columbia Valley.—There is but little "placer" gold mining in the neighbourhood of Golden, mining being confined here to the more important and more enduring development of quartz leads. Sixty-one new claims were discovered in 1887 in this part of the Columbia Valley, and recorded with the local Gold Commissioner, in addition to numerous other previously discovered lodes. Most of them are situated on the Spillamacheen River, which flows into the Columbia about half way between Canal Flat and Golden. This Spillamacheen region promises to be an extremely rich field. Near the mouth of the Spillamacheen on a prominent hill (Jubilee Mountain), which slopes down to the banks of the Columbia, is a very large and well-defined lead which has been prospected for the last three years: Mr. C. F. Law, of Golden, being one of the principal owners. The ore on this vast lead is mostly of low grade, assaying from 16 to 30 ounces of silver to the ton, but there is such an enormous quantity of it that it would last a smelter for generations. Quite recent discoveries, made while sinking shafts on the lode, show an important improvement in the character of the ore, and it looks as if the whole lode would turn out to be grey copper, running much higher in silver than the croppings did from which the above assays were taken. Being quite close to navigable water leading to the C.P.R., and when through navigation is established also to the N.P.R.R., by which the best markets in the States can most easily be reached, this deposit will probably be the first to be developed by capital. Were it in the United States, this inviting mining property would assuredly have been long ago fully developed. Further up the Spillamacheen there are much richer claims, one especially, belonging to A. MacMurdo, assays as high as 500 ounces in silver, besides gold, and it being free milling ore it is considered a very valuable mine. Arrangements were made with an English company last summer to purchase this property for $100,000, and considerable money, it is said, was paid on account, the deal being, however, not completed at time of writing The only drawback to some of these higher Spillamacheen mines is their elevation close to timber line and the rough character of the country which bars ready access.

East of Golden, in the Rocky Mountains, and close to the C.P.R., are the claims owned by the Otter Tail Gold and Silver Mining Company, who were fully prepared to commence work last season; they having erected a quartz mill, saw mill, and intended to erect a smelter, having made roads and tramways to their mines, and had likewise a quantity of ore on hand. Unfortunately, both for the company and the district, their property was destroyed by fire in June last—totally annihilating about $60,000. The timber limits the company had secured were burnt up. This company owns four or five claims, and in some of their leads there is known to exist a large quantity of ore (silver) assaying from 30 to 55 ounces to the ton, close to the railway; and other parties own five or six claims adjacent thereto, one of them assaying 40 ounces to the ton. The leads vary in thickness from one to six feet, fully justifying the erection of a smelter in that locality.

Scenic Attractions of the Columbia Valley.—To the tourist the journey up the Columbia presents many attractions, particularly when he enters the Lower Lake, and leaves behind him the densely forested banks of the river, to behold a beautiful sheet of water 10 miles long that suddenly bursts upon his view as the steamer emerges into the lake. Girt by a wreath of peaks, bolder in shape, higher in elevation, grander in outline than he has yet seen, the shores of the lake form a charming foreground, for they consist of picturesque grasslands, with fine trees scattered over them in park-like fashion, while the whole scene is mirrored in the clear water of the lake. Here the singularly abrupt change from a wet to a dry climate is first observable, a pleasant change that shows itself in the vegetation, as well as in the sparkling clearness of the atmosphere, a difference that becomes more strongly marked as the traveller proceeds southwards into the Kootenay Valley, where the constant brightness of the sky is almost a fault. The climate in the Columbia Valley, about the 51st parallel, *i.e.*, where the C.P.R. crosses the Selkirks, is a rainy one in summer, more liable to early frosts, and a very much more snowy one in winter than that of the Kootenay Valleys. This abrupt change in less than a hundred miles is one of the most remarkable instances of local climate in British Columbia, however famous that province is for the variety of its climes, enabling every little mountain settlement to have and to possess a little climate of its own, of course the best of its kind in the eyes of the residents.

Round the Lake are scattered the ranches of whites and Indians, the central point on the Lower Lake being Windermere, an exceedingly pretty spot, with a wide expanse of almost level grassland sloping gently up to the very feet of the grand tier of giant peaks that hem in the spot. There is a good hotel kept by a Mr. Starke at Windermere, a few steps from the steamer landing, and tourists who do not expect too much from a pioneer hostelry in what a

year or two ago was literally a howling though picturesque wilderness, will find the quarters fairly comfortable and clean, and the host very obliging, while at the store of Messrs. Brady & Bacon, which is also the post office, the tourist or sportsman can fit himself out with provisions for expeditions into the mountains, Indian horses being generally obtainable in the neighbourhood.

The present head of steamer navigation is four miles beyond Windermere, and from there a good waggon road brings the traveller in seven miles to the Upper Columbia Lake, which is connected with the Lower Lake he has just left by a narrow channel, which is at present unnavigable for steamers, but which will be rendered navigable by certain improvements the Dominion Government are about to carry out. It will cheapen transportation of goods into Kootenay quite $10 per ton, and assist in opening through navigation for over two hundred miles.

The steamers, one of which has fair passenger accommodation, take a day and a half to reach the head of navigation from Golden (fare $5), and from there the traveller can use the weekly stage which takes him in less than a day to Canal Flat (20 miles), and in another day and a half to Fort Steele, the new Mounted Police Post, situated half way down the Upper Kootenay Valley.

At the foot of the Upper Lake the waggon road crosses this unnavigable channel, and close to this spot, about half a mile up the slopes of the mountains, are some remarkable hot springs, the waters of which possess medicinal qualities which will make them before long a health resort, particularly if the proposed erection of a substantial hotel for summer guests is carried out. Accommodation in the way of food and shelter for travellers, supplied with their own blankets, can be had at Geary's Ranch close by. From the springs a particularly fine view can be enjoyed, and to many it will prove a very novel experience to sit comfortably immersed up to one's neck in a bath-tub provided by nature, formed at the apex of cone-like mounds of calcareous formation, enjoying with luxurious ease an open air hot bath, while at one's feet is spread out one of the most glorious views imaginable, ranging far over lake, river, forest, and glacier-clothed peaks. On these hoary giants of the main range a pair of field glasses will often enable one to see Bighorn and the rare Rocky Mountain Goat, for here as well as in the Kootenay Valley, may be seen what elsewhere, in the writer's experience, is very rare, *i.e.*, these two animals frequenting the same ground.

THE UPPER KOOTENAY VALLEY.

The Upper Columbia Lake is also about 10 miles long, is even more picturesque than its sister lake. The waggon road runs along the foothills on its western shores, through a beautiful park-like

country. At the southern end of the Upper Lake lies the above-mentioned Canal Flat, that remarkable watershed between the Kootenay and Columbia. At high water a good deal of Kootenay water percolates through the gravel of which the flat consists, and wells up in large springs close to the shores of the lake. The flat contains about 2000 acres, and is level as a billiard table, the gentle slope towards the lake being only perceptible by using a spirit level. Fine groves of trees are sprinkled over the flat, for the underlying gravel has in many places in the course of time been covered by three or four feet of rich alluvial soil, which will yield good returns to the plough. An English company (the Kootenay Valleys Co., of 46, Queen Victoria Street, London) are now constructing a navigable canal over this flat, to connect the Kootenay with the Columbia, a work of some magnitude, in consideration of which the Company receive from the Provincial Government a grant of 30,000 acres of land, selected by the Company in the Upper Kootenay Valley, mostly bottom land available for agricultural purposes, situated on the banks of the Kootenay River. The canal will open over 200 miles of river navigation as soon as the channel between the two lakes already referred to is made navigable by the Dominion Government. The canal and steamer navigation of the Upper Kootenay will contribute more than anything else to develop the very promising mineral, timber, coal, agricultural, and grazing resources of the Upper Kootenay country.

The English Company has erected a steam saw-mill on Canal Flat, which can supply the Kootenay and Columbia valleys with lumber at $25 per 1000 ft., by floating the lumber down the two rivers. A post office, a large store, butcher's shop with ice houses, and a good hotel are now being established, and will form the nucleus of a settlement, the geographical position of which cannot fail to make it an important one and certainly the central one in the district. The spot is overshadowed by the noble proportions of Mount Warre and of Mount De Smet, called so after the eminent general and the equally well-known missionary who first visited this spot in 1845. Behind Mount De Smet rises the sharp and much higher pinnacle of Mount Grohman, from which a very fine view of the four valleys, radiating from the Canal Flat, can be gained. They are the Columbia Valley towards the north, the Upper Kootenay Valley towards the south, towards the east the Headwater Valley of the latter river, with its valuable timber areas (yellow pine, larch, and spruce) and promising mineral and coal deposits, while towards the west radiates the Findlay Creek Valley, where important gold mining developments are now progressing under a charter of the House of Legislature. The intention of the Company to lay out part of the Canal Flat as a town site would appear a wise one, and has received the approval of the Government. All travel, as well as all roads and railways,

into the Upper Kootenay Valley from the direction of the Canadian Pacific Railway must, from the nature of the ground, pass over this spot, which forms, as it were, a natural defile, with precipitously rising mountains on two flanks and a river and a lake on the other two sides of the square.

Concerning the geographical importance of the "Canal Flat," the well-known world-wide traveller De Smet, wrote as far back as 1845: "*The advantages Nature seems to have bestowed on the source of the Columbia will render its geographical position very important, and when emigration shall have penetrated, the source of the Columbia will prove a very important point. The climate is delightful, the extremes of heat and cold are seldom known. The hand of man would transform it into a terrestial Paradise.*"

Physical Features of the Upper Kootenay Valley.—The valley commences at the Canal Flat, where the Upper Kootenay River first emerges from the Rocky Mountains, in the recesses of which, 100 miles away, it has its source. The valley, as we have heard, lies at the very foot of the abruptly rising main chain of the Rocky Mountains, which run parallel with the Kootenay River, while the latter is on British soil. This great range is of very bold and grand appearance; its pinnacles rise sharply and to great altitudes from the sunny, beautifully-wooded valley at its feet, where wide, park-like stretches of meadow-land, small lakes, and grand forests combine in producing an attractive pastoral picture, unlike, I may say, anything I have ever seen elsewhere in North America. The valley is lower than the plains east of the Rockies; its elevation above the sea varying between 2250 and 2700 feet. As it is perhaps hardly necessary to point out, this great wall of mountains, towering 6000 or 7000 feet over the valley, forms not only an incomparable shelter against the freezing east and north winds which make the bleak elevated plains on the other side of the Rocky Mountains their playground, but also acts as a most desirable "catch," arresting the warm Pacific Ocean breezes, also known as the Chinook Wind, which, on striking this formidable wall, are deflected downwards into the valley to play havoc with the snow. The absence of deep snow is explained by this favourable configuration.

The Climate in the Upper Kootenay Valley is bracing and healthy: early springs, warm summers free of frosts, fairly short and fairly cold winters with little snow. Cattle and horses winter out without shelter or hay, but with the introduction of better stock some provision will have to be made, for it appears that every seven or eight years a severe winter occurs. It is generally acknowledged that March is the most trying month for cattle wintering without shelter or fodder. From an English gentleman, Colonel James Baker (brother of Sir Samuel Baker), who settled in the Upper Kootenay Valley three years ago, I obtained the following

carefully kept records of temperatures for the latter part of the winter 1884-85, a season which was a severe one in many parts of the West. Thus in the cattle country of Wyoming in the first week in March, 1885, the thermometer was down to the forties below zero and a fierce wind blowing; while in the Upper Kootenay, where, on account of its sheltered position, no high winds prevailed, as well as owing to its lower elevation and to its comparatively close neighbourhood to the warm currents of the Pacific, the coldest at the same period was only 14 Fahr., a difference of some sixty degrees, and yet Kootenay is quite 300 miles north of Wyoming.

Observations taken.	Noon (in the shade). Deg. Fahr.	Night (half hour after sunset.) Deg. Fahr.	Observations taken.	Noon (in the shade). Deg. Fahr.	Night (half hour after sunset.) Deg. Fahr.
Jan. 7	50	33	Mar. 12	54	28
,, 14	18	14	,, 19	57	28
,, 21	10	10	,, 26	55	28
,, 28	35	18	Apr. 2	65	33
Feb. 4	48	31	,, 9	67	32
,, 12	22	12	,, 16	47	30
,, 19	40	31	,, 24	67	30
,, 26	50	28	,, 30	79	45
Mar. 5	41	22			

Last night frost, May 10. Hottest day up to Aug. 12, 90° in the shade.

The frostless, warm summers and good soil produce very fine crops of wheat, oats, peas, and garden produce, such as tomatoes, cucumbers, and other delicate growths, while hops, as yet only planted as creepers on houses, thrive luxuriantly. With the exception of occasional thunderstorms, there are no high winds in the Kootenay Valleys.

The present spring (1888) has again proved that the Kootenay Valleys are climatically most favoured spots. January was a cold month, but in the last days of it a warm "Chinook" came and cleared off the snow, which had been lying to a depth of 12 to 18 inches, and on the 12th of February ploughing was already in full swing round the Columbia lakes.

Farming and Cattle Ranching.—It may as well at once be mentioned that for the following topographical, climatic, and local reasons, arable land in British Columbia generally, and in the Kootenay valleys in particular, possesses a considerably greater value than is attached to similar land east of the Rocky Mountains in Manitoba or the U. S. territories; firstly, owing to the presence of good *local* markets, in consequence of the flourishing condition of such industries as mining and lumbering, which have no existence in the great wheat-raising country of Manitoba and the North-West, a circumstance clearly illustrated by the fact that British Columbia imports from the United States, notwithstanding the high Custom tariff, a very considerable portion of its food supplies; and, secondly, because British Columbia, which is a mountainous and wooded country, in many respects not unlike

Switzerland, possesses in comparison to its great area only a very limited quantity of arable land. What there is, however, consists usually of very rich alluvial soil, the value of which is further enhanced by the milder climate making it available for the more remunerative crops, such as hops, vegetables, and fruit, which do not thrive east of the Rocky Mountains. For the cattle and horse rancher the Upper Kootenay Valley affords advantages the writer, who has travelled extensively through every territory of the U.S., has nowhere else discovered. The quality of the bunch grass is excellent, the ranges have natural boundaries, such as the main Kootenay River in front, any two of the larger tributaries, which are all deep enough to "hold" cattle, on two sides, and either of the main chains of mountains (Rockies or Selkirks) forming the back boundary, so that straying is next to impossible. While the cold in winter is often very severe, though nothing like that of the North-West, it is not augmented by the cattleman's worst enemy, the blizzard, for high winds are unknown in the valley, on account of its sheltered position. Cattle raised in the valley have for the last year or two been fetching the following prices on the spot:—yearlings, $30, two-year-olds, $40 to $45, beef steers, $60, while the demand for beef at from 11 to 12½ cents. was this year so considerable that two little bands of beeves were driven in from Montana and Idaho. There is a good trail over the Rocky Mountains, by the Crow's Nest Pass, which is lower and easier than either of the passes used by the two railways to the north or to the south of it. It leads to the centre of the famous cattle country round Fort McLeod, while the approaches to the N. P. R. R., over the climatically famous Tobacco Plains and through the Flathead Country, are equally favourable and easy. The horse and cattle raiser in the Upper Kootenay Valley has, therefore, the option of two markets, and what is still more important, the choice of two great trans-continental railways for the transportation of his animals. The bottom land in the valley is not very extensive, and is mostly taken up. Those portions held by the Kootenay Valley's Company are for sale at reasonable rates: from $2.50, at which they contracted to sell 6000 acres, to $5 and $10 p. a., according to location, the Government price for all agricultural land being also $2.50. Immediately contiguous to the bottom lands, are the bunch grass Foot Hills, and here lies the chief value of the former land, for stock raising on a large scale cannot be carried on here as elsewhere without an adequate amount of bottom land to produce feed for winter use. The summer range on the Foot Hills is of vast area, extending in places for ten miles back from the main river. Towards the southern end the valley widens, and the Foot Hills, where the best grazing is obtained, stretch back a long way.

The little farming that has hitherto been done in the valley has always paid well. The reason why it has not been carried on to a

greater extent is that till quite recently the obstacles in the way of communication have been great; ploughs had to be transported from Walla-Walla, for 450 miles, over miserable mountain trails, on the backs of mules or horses. This year, in consequence of the much increased influx of settlers, mounted police, and miners, prices have not only been good, but the demand often exceeded the supply. Potatoes fetched $4½ to $5 per hundred pounds; hay, to be had for the cutting, was selling at $20 per ton; oats were worth 6 and 7 cents per pound in the valley, and as flour costs from $8 to $9 per hundred pounds, wheat raising would pay remarkably well, were there in Kootenay a grist mill of larger capacity than the small pioneer mill at the Catholic Mission. The chief farming in the valley is carried on at Cranbrook, Colonel Baker's finely-situated estate, at the mission, and at Mr. Mather's farm, while Mr. Philips' ranche on Tobacco Plains is well known for its splendid vegetables. For the cultivation of the beet for sugar refineries the bottom-land soil in Kootenay appears most suitable. Beets of the Silesian kind, raised by Colonel Baker without manure of any kind, contained as much as 10.5 per cent. of sugar, while the best European sugar beet, with the highest cultivation, exceeds this result by only 2 per cent.

Timber Lands.—The opinion the visitor will form respecting the quality and quantity of timber in the Upper Kootenay Valley will depend to a certain extent whether he comes from the Pacific Coast, where an unrivalled forest growth thrives, or from the Eastern part of Canada and the States, where the timber is of but ordinary growth. If he hails from the former densely-timbered region he will declare the Kootenay timber resources only of moderate importance in comparison to its grazing and farm lands, but if he is from the Eastern States (which will also be the market of the Kootenay timber), he will declare, and with perfect right, that these forests of Yellow Pine, Fir, and Tamarac are exceedingly fine, and form a sure source of future wealth, the facilities of cheap water transportation of the logs down the Kootenay to the N.P.R.R., and down the Columbia (*viâ* the Canal) to the C.P.R., ensuring a future market. The chief tree is the Yellow Pine (*Pinus ponderosa*), the geographical distribution of which is very limited, and in no part of the West can it be found in such large forests and of such large growth. This handsome tree, with its reddish-brown bark of great thickness (which affords a considerable protection against forest fires), girthing often 20 feet, and furnishing, not infrequently from 5000 to 9000 feet per tree, furnishes capital lumber, and its beautiful grain makes it most valuable for panelling. The Douglas Fir also thrives in Kootenay, but the trees do not grow to the extraordinary size they do in the more humid Pacific Coast regions; this, however, is no drawback as far as lumbering is concerned. The Tamarac, or Western

Larch, which is not to be confounded with the Eastern Tamarac, which is an entirely different tree, is very like the European Larch. It grows to a large size and in large forests, and for bridge-timber, foundations, railway-ties, it cannot be beaten. Besides the steam sawmill on Canal Flat, there are two other water-mills in the Valley, one of which, belonging to Mr. Hanson, on a tributary of the Kootenay, cuts for the market.

Mining in the Upper Kootenay Valley.—In 1863 and 1864 there occurred a great rush of miners into the then perfectly unknown wilds of Kootenay, and three streams, Wild Horse, Perry, and Finlay were more or less extensively worked for placer or alluvial gold by means of the rude and primitive methods to which the miners had to resort in the absence of machinery of any kind. Out of the first-mentioned creek over three million dollars are reported, on good authority, to have been taken. Of late years the mines on this creek have fallen into the hands of Chinamen, who, with rude implements, but great diligence, wash the ground discarded by the white miners, and are satisfied by making $2½ or $3 per day, which is considered too little by the white miners. The two other creeks are now in the hands of substantial companies, who work them on more scientific principles than were employed in the old days, and the result so far has been most encouraging, and no doubt their success will lead to other undertakings of the same nature, for which there are numerous equally promising looking localities (Bull River, Gold Creek, Moojea Creek, &c.), the risks attached to placer mining by hydraulics being infinitesimal when once the ground has been properly prospected.

For successful quartz mining, chiefly free-milling gold ores, the Upper Kootenay Valley holds out much promise, and the fact that all the gold found in the streams is coarse, demonstrates better than anything can that the mother lodes from which all the precious metal sprung must be exceedingly rich, and that it requires only systematic "tracing up" to find them. No prospecting for quartz has as yet been undertaken, for the country was barely ripe for it, and capital, without which quartz mining is impossible, has not yet found its way into this inviting field. When it does it will assuredly reap a rich harvest.

Coal Mines in the Upper Kootenay Valley.—An important economic feature of the valley is the presence of a large deposit of excellent steam coal in the Crows' Nest Pass. Fifteen seams—the largest 35 feet, the smallest 5 feet wide—have been discovered quite close to the present trail over the pass. Samples of this coal have been thoroughly examined and tested by Professor Hoffmann, of the Government Geological Survey, an eminent authority, and he reports the coal to be "admirably suited for steam, coking, gas, domestic, metallurgical purposes." In comparing its evaporative power with that of the best South Wales coal, he remarks, 37

samples of the latter gave a power of 9·7 lbs. (*i.e.*, 1 lb. of coal would evaporate 9·7 lbs. of water), while the Kootenay coal returned 14·7 lbs. power. The amount of sulphur in it is, he declares, infinitesimal, the amount of ash 3·7 per cent., and it makes excellent hard coke. The seams lie on the side of a hill, and can be worked without pumping or hoisting.

Authentic Information upon the Upper Kootenay Valley.—As it is desirable, when describing a country, to give opinions derived from official and presumably unprejudiced sources, the writer has with some trouble collected the following matter.

The most important source is the PARLIAMENTARY BLUE BOOK (3 volumes), presented to both Houses of Parliament by command of Her Majesty, containing the Report of the Explorations by Captain Palliser, with the object of selecting the best pass over the Rocky Mountains for a British Transcontinental Railway.

Regarding the good pasturage and snowless winters in the Upper Kootenay Valley, we read: "*There is very fine pasturage in some parts of this valley, and they say that there is hardly any snow on these prairies in the winter, although the cold is severe, so that the horses do not lose their condition even in spring.*" And again: "*The Kootenay Indians possess a wonderful number of horses, and those very superior to the Indian horses on the east of the mountains.*" And again: "*They possess an enormous quantity of very fine horses.*" And again: "*In the Wide Valley (Upper Kootenay Valley) large bands of horses are kept without the slightest danger from the snow throughout the whole winter.*" And again: "*Here the Kootenays raise the enormous bands of horses for which they are famous amongst all other Indians, the dry soil and nutritious bunch grass producing a breed of superior hardihood and swiftness.*" And again: "*These Kootenays are very fine Indians, being remarkably free from all the usual bad qualities of the race. They possess more horses than any Indians have seen or heard of, a camp of only six tents having about* 150," while of another camp of 20 tents encountered by the expedition the report says: "*They had a band of about* 500 *horses, many of them being beautiful animals.*"

With regard to the timber resources, the report makes frequent mention of the fine forests in the Upper Kootenay Valley, of "*forests of noble trees, principally of the pine I have mentioned* (Pinus pondorosa), *and of a gigantic larch* (Larix occidentalis). *I measured one of the former of average size, and found it to be* 120 *feet in height, and* 11 *feet in girth at the height of four feet. The larch is a taller and more slender tree, but some I saw were five feet in diameter,*" while the cedars to which reference is made in another place grow "*to a diameter of eight feet,*" dimensions I have seen very much exceeded. And again: "*The day's travel, which was through magnificent open forests, with patches of prairie, sometimes of considerable extent . . . The forests were the finest it had been my good fortune*

to see. A splendid species of pine, and the larch previously spoken of, with their bright red bark, rose from the ground at ample distances. No brushwood encumbered their feet or offered impediment to the progress of waggons, which might move in every direction." Again, when speaking of the upper portions of the valley, the remark occurs: "*The bunch grass is more sparse than turf, but in other respects it was like riding through the open glades of a deer park, and if we had only been supplied with a sufficiency of good food at the time, there are few spots in the country that would have left a pleasanter impression.*"

As a rule the slopes on both sides of the valley shelve off in terrace-like steps, dotted with good sized trees. Of these terraced uplands the report goes on to say: "*On their level surface a rider can gallop in almost any direction, so free is the forest from underwood. Sometimes the trees are entirely wanting, leaving great tracts of open plain, embosomed in the mountains.*" Here flourishes a remarkably fine growth of the bunch, or buffalo grass, a vegetation upon which the considerable and enduring profits of the Cattle Ranching industry is exclusively based.

Of remarks respecting the character of the soil I quote:—"*The soil of the valleys was usually a deep dark mould, supporting a luxuriant vegetation.*"

Another Blue Book, this time an American one, in the shape of "Reports and Explorations and Survey, made under the direction of the Secretary of War, and presented to the Senate of the United States in 1853-4," gives (vol. 1, page 522) some corroborating details. In Captain Mullan's report, when speaking of his arrival in the month of April at the Kootenay River, not far from the international boundary line, that afterwards celebrated traveller says: "*The grass here is exceedingly rich and luxuriant. The country on its left bank forms an immense low prairie bottom, in which the grass grows luxuriantly; this extends to the base of the mountains on the east. The soil along the Kootenay River is very fertile, and at the point where we struck it (April 26th,* 1854) *it was carpeted by a beautiful green sward, upon which was growing an exceedingly great number of beautifully-coloured and varied plants. This place is a great resort for the Kootenay Indians, when not hunting in the mountains, as here is found at every season an abundance of excellent, nutritious grass. The winters are represented as being mild, and the waters of the Kootenay River afford them at all seasons a bountiful supply of salmon trout.*"

THE MARQUIS OF LORNE, in his widely-read "Our Railway to the Pacific," writes as follows of the Upper Kootenay Valley, quoting from a letter to him by an English officer (Lieut.-Colonel James Baker) already referred to:—

"*We thus have a long valley of two hundred and fifty miles, with the Columbia and Kootenay rivers flowing in opposite directions*

from its centre. Both these rivers are navigable for the above distance, and it is contemplated to put steamers upon them next year, which will bring the whole valley into water communication with the Canadian Pacific Railway. The width of the valley varies from fifteen to twenty miles, and it is composed of foot-hills, benches, or river terraces, and bottom-lands, all (except the latter) *covered with bunch grass (an excellent, nutritious grass, making the best beef in the world), and a considerable quantity of magnificent pine and larch timber.*

"*There are parts which must originally have been lakes, where the soil is deep and exceedingly rich, forming a dark vegetable loam, and I am fortunately located on such a spot. This year I had over ten tons of potatoes from one acre, and without manure or irrigation.*

"*As to climate, I have found it perfectly delightful. . . . Horses do admirably on the wild grazings without any other food in the winter, and come out in the spring in admirable condition. . . . . There is an almost certain prospect of a very large mining population growing up in the valley, as gold is found in all the creeks, and one, 'Wildhorse Creek,' has given out over three million dollars within the last twenty years. The country is yet in its infancy as far as mineral prospecting is concerned, but valuable discoveries are constantly being made. A clever mining engineer who has lately visited us considers this to be one of the richest mining districts on the American continent. There is no doubt that the lumber trade will also develop, as the timber lies conveniently for supplying the north-west provinces. Cattle ranching, with ordinary care, must prove very profitable, and there is yet a field open for settlement in that direction. There is no doubt that when communication is easy the valley will become one of the great tourist routes, as the lake, river, and mountain scenery could not be surpassed. The district is admirably suited for English gentlemen immigrants, provided they have capital.*"

Sir Charles Wilson, K.C.M.G., C.B., one of the officers attached to the Royal British Boundary Commission, who, 25 years ago, spent two seasons in the Kootenay country, says in his report on the Indian tribes: "*The horses of the Upper Kootenays are wintered on the Tobacco Plains; those of the Lower Kootenays near the Kootenay Lake, at neither of which places is there any depth of snow during the winter, and they are much esteemed for their hardiness and powers of endurance.*"

General Sir Henry Warre, K.C.B., traversed in 1845, the North American Continent on a Government Mission of well-known importance, and passed on his way west through both the Kootenay Valleys. From the journals comprising the daily notes of this journey, placed at the writer's disposal by the distinguished General, the following passages relating to the Canal Flat and the Upper Kootenay Valley have been taken as illustrating the impression left on the early visitor's mind:—"*We ascended over a fine*

open country . . . . to the lake from whence the Columbia takes its rise. We pitched our camp at the head of the lake (Canal Flat), from whence we had a lovely view; a natural park in front gave excellent pasture for our nearly exhausted animals; water, wood and mountains formed the picture, which is as perfect as Nature in her happiest mood could make it." "There were innumerable tracks of moose, bear and other animals. Indeed, I think I am justified in saying that we have seen more signs of animal life in the two days since we crossed the height of land (Rocky Mountains) to the warmer western aspect of the mountains than we saw for weeks together on the eastern or colder side. The trees are (in some localities) enormous 'white' or rather yellow pine, sometimes called the sugar pine, ... and many of the red or Norway pines were 20 and 30 feet in circumference. The aspect of the country is open and parklike."

THE BISHOP OF OREGON writes thus of the Upper Kootenay Valley:—"*The country about the source of the Columbia River is of great prospective importance. It is divided into forest and prairie in proportions favourable for settlement; mining resources undoubted; climate delightful; snow goes generally as it falls, in fact, a most desirable country. Stockowners now drive cattle to winter in the neighbourhood of the Columbia River lakes.*

The well-known author, Mr. MOLYNEUX ST. JOHN, in his "BRITISH COLUMBIA," writes as follows of the Kootenay Valleys: "*This south-east corner of the province is remarkable for its pasturage lands. It is a hilly country with rich grass lands and good soil. An excellent tract of farming country is a belt along the Kootenay River, varying from two to ten miles in width. The country produces some of the best timber in the province, and is a good district for large game.*" And further, speaking of the same valleys: "*This district is very attractive for various reasons. It is well timbered, yet a splendid grazing country; it has a sufficient rainfall, yet is out of the constant rainfall peculiar to the mountains further north; it is good game country, produces cereals and roots in abundance, and is within easy reach of the rail. Gold and silver have been found and mined, and new discoveries may at any moment be made.*"

The *Illustrated London News*, in three of its numbers (March 5th, 12th and 19th), recently published some interesting illustrations of the Kootenay Valleys with descriptive articles, from which we copy the following telling description, the three accompanying full-page illustrations being too large for this pamphlet.

"HOME HUNTING IN THE KOOTENAY VALLEYS OF BRITISH "COLUMBIA.

"Others besides the Eton boy who, as recent reformers tell us, can only spare from his classical labours one hour in the week for

geography *and* history, entertain somewhat indistinct ideas concerning the whereabouts and general topographical features of Britain's only possession on the Northern Pacific Ocean, British Columbia—which is one of the most beautiful and not least valuable of all our Colonial possessions—a lack of knowledge all the more to be regretted when we see how hundreds of thousands of Englishmen annually expatriate themselves by migrating to the United States; and the question of emigration stalks like a ghost—worse in the prospective than in the reality—through our over-populated realm, knocking no longer only at the doors of cottages or farmhouses, but also at the porches of the suburban villa, or parsonage, and even at the massive portals of the country mansion.

"Situated in the south-eastern corner of America's Attic, as was called until recent days Canada's Pacific province, there are probably to English eyes as well as to English muscle few more attractive looking, sunny, mountain-sheltered spots than the Kootenay Valleys, now brought within a twelve-days' journey from England by the recently completed 'Queen's highroad,' a title not unmerited by the strategic and commercial importance of the Canadian Pacific Railway.

"Less than fourteen days' journey, four days of it by the well appointed train service of this great national line, leads one into these valleys, to their beautiful lakes, park-like open forests of magnificent trees, such as only the Pacific coast can produce, great stretches of pastoral land, skirting the majestic Kootenay River, bunch-grass covered foothills, overtopped by towering snowclad peaks, such as only Switzerland can rival—in fact, to a land where Nature has provided for the wants of man in a way no spot on the vast North American Continent visited by the writer, who, in nine years of American rambles, has traversed some 150,000 miles, can show the like. The much lower altitude of the valleys than the windswept plains of the North-west, and the famous 'Chinook,' a warm Pacific breeze, make its winters comparatively mild. Besides these natural advantages, the country's resources in precious minerals, timber, and coal, are of an exceedingly promising nature. Gold to the amount of £600,000 was washed from one of its river beds, while unusually large deposits of galena (silver and lead) on the banks of the Kootenay Lake—without doubt the most picturesque sheet of water on the Continent, and a fit New World rival of the Königsee and Como Lake—have induced some enterprising Californian and Canadian capitalists to set about constructing three railway lines, so that very shortly this naturally sequestered nook will be connected with the two largest railway systems in North America—*i.e.*, the Canadian Pacific and the Northern Pacific.

"Now-a-days, when the scions of good houses 'go West,' by the dozen, when eldest as well as youngest sons, no less than sons who have to be their own fathers, turn cowboys or cattle ranchers, or engage in other industrial occupations on the frontier, where, as is often the case in new countries, large profits reward enterprise—the country that fills the requirements of the better class of these home-hunters is becoming more circumscribed at a rapid rate and the more or less extensive 'globe-trotting' that ordinarily precedes a final settling down makes them by no means less hard to please when selecting a home. At least, such has been the experience of many the writer has met.

"Placing ourselves for a moment in the shoes of such a hypercritical home-hunter, let us see what he requires. His new home has to be, he demands, in a country where, without constant heart-burning, he can forego at least as long as youth lasts the comforts of a more civilised existence; where the memories of English lanes, Scotch moors, or Irish lakes will not for ever be brought out in haunting relief by the ugliness of his new surroundings; where he can buckle to and make money to provide for the old days of the rolling stone—for now and again moss of the right kind does accumulate, just as water can be made to flow uphill if the force behind it is of the right kind; where he can live under the old flag, which to defend he has, perhaps, on more than one occasion staked his life; where there is a good climate, warm, balmy summers, crisp, glorious autumns, fairly short winters, with the dry healthful cold that sets his blood tingling; where there is good sport with rifle and rod; where the back door of his modest log-house opens on a natural park, with pleasing stretches of level terrace-like 'benches' covered with luxuriant bunch-grass, and dotted with groups of the gigantic tawny-barked yellow pine (Pinus pondorosa), America's most picturesque forest tree, giving the landscape that classic touch of sunny Italy the cultured eye loves to dwell on, while in the back-ground again a bit of the Wengern Alp with its towering peaks, vast slopes of grand forests, is for ever reminding him of days devoted to Alpine prowess; where, when sitting at his front door smoking his evening pipe, he can overlook a fine smooth-flowing river, skirted by groves of grand old elms, big trout rising lazily, as becomes well-conditioned fish, and the butterfly-like humming-bird goes skimming over the placid surface—a scene of such home-like softness and peace, that were it not for the great mountains rising in close proximity, he might fancy himself in one of his favourite reaches on the Upper Thames. And, to come to more practical issues, where there are fields of rich alluvial 'bottom' soil that will yield forty to fifty bushels of wheat; where hops and fruits of all kind will ripen and thrive under the benign influence of a Pacific coast climate

with its frostless summers; where there is a good bunch-grass range for his cattle, confined by natural boundaries, rendering unnecessary fences or a houseful of hungry cowboys; where railways to the north and to the south are not too close, but yet within handy equi-distance for cattle drives, leaving him the choice of two routes for the shipment of his produce:—a country in one word, where a man with a little capital can live, make money, and be passably happy! Is it much to ask? Those who know the far West, be it north or south of the forty-ninth degree of latitude, that invisible frontier between a great Republic and a great Empire—the former having, alas! vastly outstripped the latter—will know that such an *Ultima Thule* is not to be found very easily, if, indeed, at all; so that the doubting shrug and 'I know better' smile which will meet the assertion that the above picture represents reality, and is by no means an imaginary picture, is but a natural outcome of the disappointed anticipation of men who, like Martin Chuzzlewit, found the West made up of very questionable Edens. Fortunately, in this instance a good deal of what has been stated about the country can be corroborated by the testimony from official and other entirely authoritative sources; for one of the most interesting Blue-books ever laid on the table of our Houses of Parliament—*i.e.*, Palliser's voluminous report on his exploration of the Rocky Mountains instituted with a view of ascertaining the possibility of building a railway from the Atlantic to the Pacific entirely on British territory, an exploration that occupied four years—contains very numerous passages describing the exceptionally attractive natural features of the then isolated Kootenay Valleys."

Approaches to the Upper Kootenay Valley from the South, via the Northern Pacific Railroad.—The nearer particulars of the several, as yet only partially developed routes, can best be gleaned from some of the following remarks upon the Lower Kootenay Valley. Before reverting to it a further route, interesting to the sportsman and lover of fine scenery, should be mentioned. Leaving the N.P.R.R. at Arlee, which is the first station west of the town of Missoula (fit out at latter place), a 150-mile ride will take the traveller through the famous Flathead Reservation, one of the most picturesque countries imaginable, and land him at the Tobacco Plains at the southern end of the Upper Kootenay Valley, over good roads and through splendid bunch-grass country, which will soon be opened by the new Manitoba and Pacific Railway, which has already reached the eastern slopes of the Rocky Mountains.

Railways to Upper Kootenay.—A Charter has been granted for the construction of a railway from Golden, up the Columbia Valley, across the Canal Flat and down the Upper Kootenay Valley. The grades being very easy, and the country generally very favourable,

there cannot be much doubt that this railway will be commenced before very long.

Another Charter has just been granted to a company desirous of constructing a railway from the coal beds already alluded to, situated in the Crow's Nest Pass, to the Kootenay Lake country, where coal will be much needed for smelting purposes. This line will follow for over 150 miles the route which the builders of the C.P.R. should have taken had they exercised more circumspection in the choice of passes, and had been guided by the result of Palliser's very thorough examination of all these northern passes.* After crossing the Upper Kootenay Valley, the road will be carried over the perfectly easy Moojea Pass into the Lower Kootenay Valley.

The route of this line, it may be mentioned, was the one originally proposed for the great "*All British Territory*" line across the Continent, upon which Palliser reported. The passes are all easy, and of the Moojea Pass the Blue Book has the following to say:—

"*Indeed, in the event of the requirements of commerce, as far as my experience of the mountains is concerned, I could not point out so extensive a tract of country where a railway may be brought with comparatively so small expense. There is no place on the whole of the trail, between the Flatbow or Kootenay Lake, and the borders of the Kootenay (Upper) River, where a sudden ascent of* 150 *feet is requisite.*"

"*The mountains here may be penetrated in many directions . . . their gently sloping sides, with wide valleys between seem to offer facilities for roads in many ways.*"

From the terminus of the Crow's Nest and Kootenay Lake Railway, on the Lower Kootenay River, a Steamboat Line, of which more detailed mention will presently be made, will connect with the Northern Pacific Railroad, and nothing would assist more in developing the immense coal and mineral resources of Kootenay. The N.P.R.R. have no coal of any kind along a great part of their line, and the vast smelting works at Helena and Butte City have to import their coal and coke from Pennsylvania, while here, within a tenth of the distance, Nature has provided vast stores of it, not to speak of the galena and copper ores of Kootenay, most of which could be profitably shipped to these smelters.

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* The Engineers of the C.P.R. Company never examined the Crow's Nest Pass, although Palliser's very thorough exploration of all the passes, including the Kicking Horse, shows that the Crow's Nest (4530 feet) was by far the easiest over the Rockies, while over the Selkirks the Moojea Pass was also infinitely superior to, and at least 2,000 feet lower than Roger's Pass, the present route across the Selkirks. This Crow's Nest and Moojea Pass line would have been quite 200 miles shorter than the present C.P.R.; it would have traversed rich agricultural districts, and the snow difficulties in winter would have been infinitely less, for we have already pointed out that the Kootenay Valleys have much less snow than the Columbia. If the snow blockades on the present C.P.R. route continue, it is by no means improbable that the route will be changed to this far shorter and easier line.

And now to come to an important point in connection with the development of the Kootenay Valleys by railways and navigation. Everybody has heard of the law passed by the Dominion Government to protect the monopoly of the C.P.R. prohibiting any Canadian Railways to approach the international boundary line nearer than 15 miles. No where between the Red River of Manitoba and the Kootenay River, a distance of 1100 or 1200 miles, does a navigable river cross the boundary line. But the Kootenay River does so twice, *i.e.*, the Upper River flows into the U.S. and the Lower flows out of the U.S. back into Canada, and both, but especially the lower one, are navigable for far more than 15 miles from the boundary line, and as the navigation of rivers is free, the Kootenay River affords to capitalists desirous of opening this rich country the only chance of connecting Canadian railways with those of America so long as the C.P.R. Monopoly Clause is enforced by the Dominion, which they have bound themselves to do for the next 15 or 20 years. Crow's Nest Pass is not within the 15-mile "dead line," neither is that part of the Moojea Pass which could not well be avoided by a railway crossing from the Upper to the Lower Valley.

THE LOWER KOOTENAY VALLEY.

To understand its position, we must first of all follow the erratic course of the Kootenay River, when, after leaving the Upper Kootenay Valley, and crossing the international boundary line, and entering first Montana and then Idaho Territory, it temporarily expatriates its waters. Some time before the river regains British Territory it enters the Lower Kootenay Valley, a broad sunny valley terminating in the wonderfully picturesque Kootenay Lake, a fine sheet of water 90 miles long.

From the time it enters this valley the river can be navigated by the largest steamers. It is a stately slow-flowing stream, of a very considerable depth, averaging 45 feet, and about 600 to 700 feet in width, winding in immense loops through the broad, almost perfectly level valley. The river banks are throughout lined with a fringe of stately elm or cottonwood trees, leaving the rest of the valley perfectly treeless, huge expanses of meadowland, with grass that attains in September a height of four to eight feet. These meadows merge on both sides of the valley into pine-clad hills and mountains that rise from the level pastures in picturesque slopes to a height of from 1500 to 5800 feet.

From Bonner's Ferry, which is a settlement at the beginning of the valley, to the Kootenay Lake, the soil is apparently of uniform composition, an amazing fertile silicated clay sandy loam, mixed with the annual self-manuring deposits of its perennial vegetation. During low water the annual layers can be easily observed on the exposed and very steep river banks. Its composition ensures great and literally inexhaustible productiveness, and the hastiest examination of the vegetation to be found, of course at present, with few exceptions, in a perfectly wild state, on this land, shows an almost tropical luxuriance. The depth to which this composition extends must be very great, for careful soundings of the river prove that the bottom consists of precisely the same material.

There is ample evidence that the soil and climate is eminently suited, not only for cereals, maize, and roots, but also for the more delicate species of fruits and for hops. Under similar climatic conditions, and on similar alluvial land, on the Lower Fraser River (British Columbia), and on some other in the adjoining Washington Territory, astonishing crops are raised, of which we have authentic information: sugar beet, 240 bushels to the acre; hops, 2500 lbs. per acre; potatoes, 10 tons per acre; wheat, from 50 to 80 bushels; turnips, 50 tons per acre, single bulbs frequently weighing up to 36 lbs., and occasionally as much as 52 lbs. each.

Good judges declare that for hops this alluvial bottom-land in the sheltered and warm Lower Kootenay Valley is eminently suited,

even more so than is the celebrated hop-land in the adjoining Washington Territory, of which, so I am told, at present none can be bought under $60 to $75 per acre.

The highly-protective custom tariff of Canada would further add to the value of this hop-land in the British Columbian portion of the valley, for there is, as we know, but little land suited for this crop in Canada, and a duty of six cents per pound on imported hops protects home-grown supplies to an advantageous extent. In the year ending 30th June, 1885, 328,818 lbs. of hops were imported into Canada, mostly from England and the United States. The Lower Kootenay Valley could, when reclaimed, easily make Canada a hop-exporting rather than a hop-importing country.

Overflow in the Lower Kootenay Valley.—It is needless to point out that, notwithstanding the remoteness, up to recent days, of the attractive Lower Kootenay Valley, it would long ago have been settled, and the wonderfully fertile soil brought under cultivation, were it not for the heavy overflow which almost annually occurs there (June and July), and which makes agriculture on these lands at present impossible. It is caused by the rising of the Kootenay Lake and River, which again is brought about by a curious feature—namely, the narrowness of the single outlet the Kootenay Lake possesses, and through which it sheds its water through a narrow, gorge-like, unnavigable river some 25 miles long (with a fall of 800 feet in that distance) into the Columbia River. In the months of May and June the water in the lake cannot flow off fast enough through this outlet, for it must be remembered that during the spring the inflow into the lake is vastly increased. The mountains round the lake shed their snow-water first, then comes the water from the mountains of the valley, and by the time the snow in the main chain of the Rockies begins to melt, the lake has risen some six or eight feet; so that, by the time the late snow-water comes pouring down the river, the lake is full, and the incoming volume is backed up and floods the level river side valley land. While it would be quite possible to dyke the valuable bottom-land in this valley, and thus prevent the overflow, in a manner similar to the system by which the almost equally fertile and valuable bottom-land on the Fraser River in the western part of British Columbia has been reclaimed and rendered highly productive, a more radical, and under the circumstances more economical, remedy against the overflow has suggested itself to the Government and to the Directors of the Kootenay Valleys Company, who propose to carry out the project first discovered by Mr. W. A. Baillie-Grohman, who is also the initiator of the canal in the Upper Kootenay Valley. It consists in widening the Kootenay Lake outlet at two points ("Rapids and Narrows"), where the channel of the outlet is unnaturally contracted by the action of two side streams coming in at right angles. These

turbulent mountain torrents have, at their mouths, in the course of ages, accumulated fan-shaped bars of boulders and gravel, washed from the impending heights, and these accumulations have partially choked up this important vent. The work, therefore, consists practically in restoring the original condition of things by removing a portion of these bars, an undertaking which, while costly, even when once the necessary appliances can be got to the spot, without unreasonable expense will, it is presumed, reclaim one of the most inviting tracts of land in the Province and in the North West of America.

Minerals on Kootenay Lake and in the Lower Kootenay Valley. —The mineral outlook in the Lower Kootenay country is a very promising one, though not in the same direction as in Upper Kootenay. There are fewer gold mines, but on Kootenay Lake there are immense deposits of silver bearing lead (galena), the ore containing from 65 to 80 per cent. of lead, and on an average from 20 to 40 ounces of silver to the ton, though some quite recently discovered very extensive lodes, on the west side of the lake, run up, it is reported, to 90 ounces of silver per ton. The ore is in many places so plentiful, and so easy of access, right on the banks of the lake, that it is more like quarrying than mining.

These argentiferous lead deposits on Kootenay Lake, experts have pronounced to be of very unusual size and extent, though the contents of silver in the ore is, in comparison to some other mining regions in the States, not particularly great, making cheap transportation and rough smelting of the ore, for which all the essentials except coal are present on the spot, advisable. On Kootenay Lake Outlet, or West Arm, as it is often called, exceedingly promising discoveries of peacock copper ore, running very high in silver, have quite lately been discovered, local assays running as high as $1,600, in silver, per ton. An assay by Professor Hoffmann, of the Geological Department at Ottowa, of an average specimen, returns 119. $\frac{218}{1000}$ ounces of silver, and specifies the ore as cornite, a valuable copper ore.

The locality where these late discoveries have been made enjoys the not very euphonious name of "Toad Mountain Mines." They are situated at an estimated altitude of 4,500 feet over the level of the Kootenay Lake Outlet, and at a distance of about 8 miles from its banks, the intervening country being rough. On the other hand the best of water communication from Bonner's Ferry to within 8 miles of the mines will undoubtedly facilitate development very much. Like all other mines in the Kootenay Lake region, all the supplies and all the output must inevitably come from and go to the United States, viâ Bonner's Ferry and the N.P.R.R., till the plan of making a railway down the unnavigable part of the Kootenay Lake Outlet to the Columbia River for

which a charter and large land grant has been granted, has been carried out.

Present Modes of Communication and Future Railways.—Bonner's Ferry is about 26 miles from the N.P.R.R., and a waggon road (32 miles long) connects it with Kootenay and Sandpoint, which are N.P.R.R. stations on the banks of Lake Pend d'Oreille, where waggons and saddle horses can usually be hired, the drive or ride occupying the best part of a day.

From Bonner's Ferry down to the Kootenay Lake (80 miles) the river affords magnificent navigation and there is not a single place in it where two "Great Easterns" could not get out of each other's way, no spot where H.M.S. "Hercules," were she twice her real draft, could not float as safely as the Indian's pine bark canoe drawing two inches of water.

At present two small steamboats, which take passengers, navigate the Lower Kootenay River and Lake, but the tourist or sportsman can always obtain at Bonner's Ferry boats or canoes. The latter, although somewhat frail craft, will, in the eyes of the more adventurous, be preferable to the steamer or heavy rowboat. Manned by two stout native paddlers the traveller can reach Kootenay Lake in two days and enjoy one of the most picturesque journeys imaginable, lying comfortably stretched out on his buffalo robe or blankets in the centre of the canoe. The Lower Kootenay Indians are capital canoe men, and will take their frail bark canoes down rapids in the Kootenay Lake Outlet over which no white man would dare to take a boat. Kootenay Lake is unquestionably the most beautiful mountain lake on the continent; nothing that the C.P.R. or the N.P.R.R. can offer to the sightseer in the way of scenery approaches the sublime beauty of this mountain-girt sheet, and it will not be long before this hitherto isolated spot will be invaded by tourists, artists, and sportsmen. To the latter it holds out great inducements, not only on account of the good big-game shooting (Rocky Mountain Goat, Cariboo, and Grizzly Bear), which the snow-tipped peaks surrounding the lake afford, but because in its profound depths are found what only one other lake in North America is known to contain, *i.e.*, the true land-locked salmon.*

It was generally supposed that numerous falls and a series of rapids rendered unnavigable that portion of the river lying between the Upper Kootenay Valley and Bonner's Ferry. Recent exploration disproves this, and establishes the fact that with a fall of only about three feet to the mile, the entire river from Canal Flat down, including the Middle River, with the exception of two cascade-like obstacles which occur at the southernmost point

* Salmon ascend the Columbia in millions, but none can get over the falls in the Kootenay Lake outlet, the only connection between the Columbia and the Kootenay Lake, so that the presence of landlocked salmon in the latter would be an ichthyological puzzle were it not demonstratable that the Colombia and Kootenay Rivers were once in direct communication nearer their sources, as already shown when speaking of the Canal Flat.

of the big bend, is perfectly navigable for four or five months of the year. At present, a short portage is necessary at the cascades, but it is expected that the U.S. Government who have spent many millions in improving the American portion of the Columbia, will do likewise at this important point, for improvements here will make the Upper Kootenay Valley almost entirely tributary to their own railways.

The Lower Kootenay Valley is partly in American Territory, and the Canadian portion of it is, as a glance at the map and some subsequent remarks will show, also entirely tributary to the U.S., and will remain so until Kootenay Lake is connected by rail with the C.P.R.

From late news it appears very probable that the Directors of the N.P.R.R. will soon carry out the intention entertained since 1883, when a preliminary survey for the future railroad was made, of building a branch line to the Kootenay River, following mainly the present waggon road route to Bonner's Ferry. The nature of the ground is very favourable, the greater part being an almost level forest with an imperceptible watershed, and with an easy grade to the Kootenay River. The following altitudes were obtained by the preliminary survey, Lake Pend d'Oreille, 2050 feet; the highest point on the new road 2090 feet; Kootenay River, where the road strikes it, 1760 feet. Only one stream, Pack River, has to be crossed, from which the Pass receives its name.

From the future terminus at Bonner's Ferry an unrivalled stretch of navigable waters extends down the river to the lake, where the largest steamers, as already mentioned, can ply; while, up the river, smaller steamers of light draught can navigate to the Cascade, and by a short portage connect with steamers on the upper river, thus securing the entire trade of the Upper Kootenay Valley. This is an opening for inland water navigation unrivalled on the Pacific Coast. The enterprising San Francisco capitalists, Messrs. Ainsworth, the pioneer steamboat-men of the Columbia, have applied for, and are about to have granted to them, a charter for the establishment of a line of steamers to navigate the Kootenay River to the outlet of the Kootenay Lake, where it becomes unnavigable, and remains so for a distance of 25 or 30 miles, till its junction with the Columbia River, from where again there is good navigation down the Columbia to Colville, in the United States, and up the Columbia to Revelstoke, on the C.P.R. To connect these long stretches of fine inland navigation on the Kootenay and Columbia, they propose to construct a railway (their Charter obliges them to complete it in two years) along this unnavigable outlet, and to run a short branch line up to the newly-discovered and most promising Toad Mountain Mines.

Some Canadian capitalists are the owners of a charter and land grant for the construction of a railway from the C.P.R. at Revel-

stoke or Farwell down the Lardo River to the north end of Kootenay Lake, a very feasible project indeed of connecting this important section of country with their National line. There is one low watershed to cross, where an easy pass only 16 miles long affords good access, while the valley of the Lardo, famous for its gold-bearing tributaries, and quartz ledges of free gold, holds out every inducement. The grade is easy.

Climate.—The Lower Kootenay Valley, being 500 or 600 feet lower than the Upper Valley (its elevation is only 1750 feet over the sea), has, as it is equally well sheltered, a warmer summer climate. Indian corn, tobacco, melons, and other delicate plants ripen fully.

Heavy dews are a feature of the valley, and one of vital importance when the temporary overflow of the land is stopped. Mosquitoes are for about six weeks (end of June to middle of August) very bad on the river lands in the Lower Kootenay Valley, but there are none on the lake, and none to speak of in the Upper Kootenay Valley. The drainage of the land would, as experience in other places has shown, do away with these pests. The winters are short, and not much snow falls. Kootenay Lake has never been known to freeze, but the sluggish-flowing river is usually partly closed by ice for three or four months, with frequent intervals of thaw.

Authentic information respecting the Lower Kootenay Valley.—Sir George Simpson, the veteran traveller, gives space to warm admiration of the Lower Kootenay Valley, "*a little paradise,*" as he calls it, in his "Narrative of a Journey round the World." Looking down from a promontory overlooking a part of the valley, he writes: "*At our feet lay a valley . . . . bounded on the western side by lofty mountains, and on the eastern by a lower range of the same kind, while the verdant bottom, unbroken by a single mound or hillock, was threaded by a meandering stream and studded on either side with lakes, diminishing in the distance to mere specks or stars. In the immediate neighbourhood was a standing camp of the Kootenays, beautifully situated within a furlong of the river. An amphitheatre of mountains, with a small lake in the centre, was skirted by a rich sward, of about half-a-mile in depth, on which were clumps of as noble elms as any part of the world could produce. Beneath the shade of these magnificent trees the white tents were pitched, while large bands of horses were quietly grazing on the open glade. The spot was so soft and lovely, that a traveller, fresh from the rugged sublimities of the mountains, might almost be tempted here to spend the remainder of his days amid the surrounding beauties of nature.*"

Palliser's Blue Book report contains, amongst other favourable references to the Lower Kootenay Valley, the following:—"*We were off before sunrise, and followed up the stream through a most beautiful valley* (Lower Kootenay), *offering no obstacles whatever*

to our progress, water and fine grass everywhere, and we passed the best camping places that I have seen to the west of the Rocky Mountains."

The "*Field*" of 26th December, 1885, contains a letter upon Kootenay, from an Englishman who has settled in the country. The writer says :—

"SIR,—In reference to a letter about British Columbia in your paper of Nov. 21, I should like to make a few remarks, as I am very well acquainted with a part of the country to which it refers, having travelled and hunted all over it, both summer and winter. The districts to which I refer more particularly are the Upper and Lower Kootenay Valleys.

"I passed the whole of last winter in the Kootenay Valley, and can fully testify to the correctness of Mr. W. A. Baillie-Grohman's observations about the climate, as I had a thermometer hanging just outside my door, and looked at it every morning just as day was breaking, that being the coldest time in the twenty-four hours. I do not think we had ten days of dull or snowy weather the whole winter. The snow nearly all fell between Christmas Day and the new year, and after that time no snow fell to amount to anything. on two or three occasions enough fell during the night to make the old snow look fresh and clean, but not once falling two inches in depth at any one time. In the valley the snow was nearly all melted three days after it fell by the Chinook winds ; and most of the bottom lands on the Kootenay River were bare during the winter .

"From the opinion 'Countryman' gives of the winters in *British Columbia*, I think he must have heard about them from some old Carriboo or Cassear miner, in which places the winters are undoubtedly pretty severe ; but he should have borne in mind that there is a great deal of British Columbia, south of those two above-mentioned places.

"As to the advantages of British Columbia, I consider it as rich as most of the districts in North America, although not in the same way, for it has not those enormous tracts of rich arable land, like Manitoba and the North-West, but it has gold to compensate for it ; also at the present time there are numbers of small creeks being worked, and good pay taken out of them.

"From what I have seen of the Upper Kootenay Valley, I think, for many reasons, it is the best part of British Columbia. Firstly, it is now very easy to get at, as the Canadian Pacific Railway is completed. A traveller leaving the track at Kicking Horse (Golden City) can travel by boat to the Columbia lakes, a distance of about one hundred miles, after which there is only a narrow strip of land (one mile wide) to be crossed, and you are on the Kootenay River, and at the head of the valley. Secondly, a very considerable portion of the land there is undoubtedly very fine for agricultural purposes. I saw some capital crops there this fall—oats, peas, and potatoes were especially fine. I never heard of summer frost to hurt anything in that part of British Columbia. What adds so much to the value of the bottom lands along the Kootenay River is the splendid grazing lands betweens the bottoms and the mountains. The bunch grass on the foot of the hills is as fine as any I ever saw in Montana or any other territory. These bottom lands are most of them entirely free from bush. . . . .

"The Indians of the country are, I think, the best I have ever met with, and I have seen a great deal of the plain tribes. The Kootenay Indians are willing to work for a white man, and they work well. I have known some of them work steadily for three months, never going near their camp, and never missing a day the whole time. . . . .

"The sport to be had in this country is exceptionally good, big game being very plentiful, but requiring plenty of hard work to get it."

The Directors

Of the KOOTENAY VALLEYS COMPANY, LIMITED, are—

HENRY SETON-KARR, Esq., M.P., Director of the Capitol Freehold Land Investment Company (Lim.), 21, Onslow Square, S.W., and Kippilaw, St. Boswell's, N.B., *Chairman.*

General Sir HENRY J. WARRE, K.C.B., 35, Cadogan Place, S.W.

Sir JOHN COLOMB, K.C.M.G., M.P.

THOMAS BATE, Esq, J.P., High Sheriff for Flintshire, Kelsterton Hall, Flint, North Wales.

JOHN RAE, Esq., LL.D., F.R.S., 4, Addison Gardens, Kensington, W., Director of the Manitoba Mortgage and Investment Company (Limited), late of the Hudson's Bay Company.

R. H. VENABLES KYRKE, Esq., J.P., Nantyffrith, Wrexham, Denbighshire.

WM. A. BAILLIE-GROHMAN, Esq., Belgrave Mansions, S.W., *Managing Director.*

Bankers.

UNION BANK OF SCOTLAND (Limited), 62, Cornhill, London, E.C., Glasgow, Edinburgh, and Branches.

Solicitor and Secretary.

ARTHUR FELL, Esq., 46, Queen Victoria Street, E.C.

Brokers.

GEORGE STRACHAN, Esq., 2, Copthall Buildings, E.C.

J. A. SINCLAIR MACLAGAN, Esq., 135, Buchanan Street, Glasgow.

Offices.

46, Queen Victoria Street, E.C.

LOCAL OFFICE: Grohman P.O., *viâ* Golden, B.C.

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MAP OF BRITISH COLUMBIA AND THE KOOTENAY DISTRICT.

Reduced from the Government Maps, showing details in connection with the Government Concessions in the Kootenay valleys.