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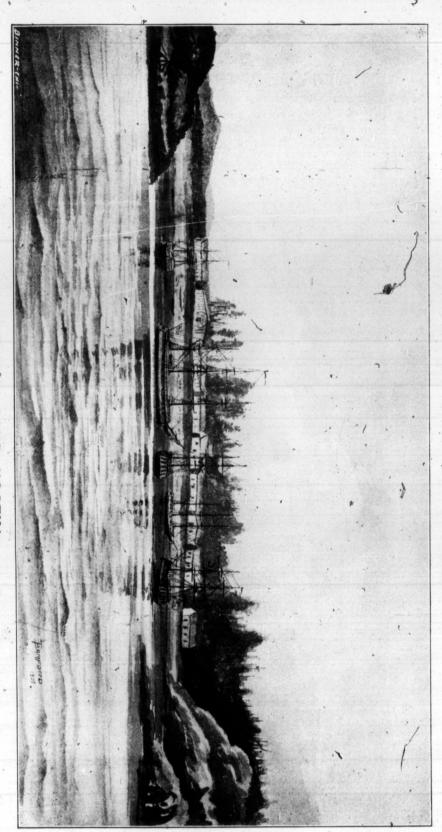
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this book is dedicated to the best interests of her subjects in British Columbia, than whom there are none more loyal or steadfast in their allegiance throughout the wide extent of her Empire. The hope is expressed that for them 1897 may be but the beginning of a truly Victorian Era of progress, such as in a peculiar sense for sixty years has blessed the whole British people.



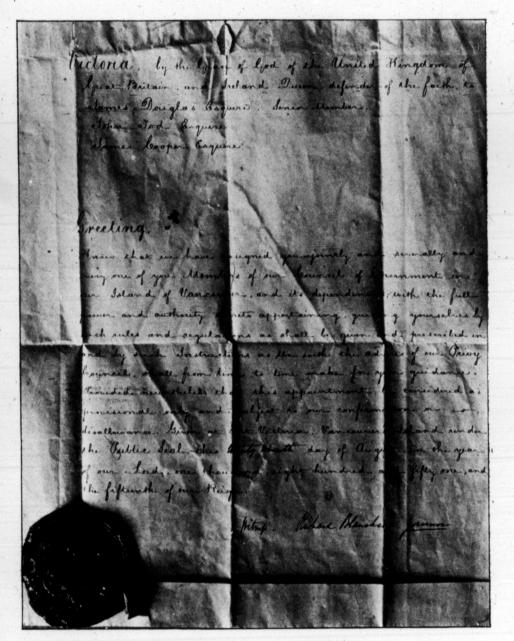
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PREFACE.

HE work of preparing a Year Book of British Columbia has been undertaken as the result of careful consideration, and was suggested largely by the number and character of enquiries respecting the Province, which were received by me or came under my notice during the past half-dozen years. Owing to the increased interest aroused by recent mining developments, the time seems to be ripe for putting into practical shape without further delay a project that has for a long time been lurking in my mind.

Many pamphlets, hand-books and special editions of one kind and another, to the authorship of several of which I must plead guilty, have been published in the last decade, all dealing with some phase of the Province, for the time being prominent or more or less general in character. Many of these have been excellent in their way, but the day has gone by when such publications will at tract or merit serious attention, or satisfy those who desire information.

I conceive that what is required is a comprehensive resumé of the facts capable of being authenticated in every particular—explicit details, definite conditions, actual results. To these ends I have concentrated my efforts in the following pages.

In addition to important facts respecting material resources, I have added such material of an historical, political and sociological character as may be valuable for reference. In short, the object has been to present a volume which would constitute a vade mecum of information concerning the Province, so compiled as to anticipate all references of a reasonable and practical nature.

From letters received and a general expression of opinion since the undertaking was announced, I am satisfied that so far as these objects have been achieved it will be both a seasonable and welcome contribution to the literature of British Columbia.

As the profits are to be devoted to the Library of the Legislative Assembly, an institution designed to be of great practical use for reference, I speak for it the support of my readers. I trust some day to see the Library assume proportions worthy of a great and wealthy Province, and an intellectual centre adequately reflecting the intelligence of the million or more of the people who we may confidently expect to inhabit the Pacific Coast of the Dominion of Canada.

WORD of explanation is necessary in connection with the publication of the A Year Book. When announced about a year ago the intention was to issue it at the beginning of the present year. Owing, however, to the late date fixed for the opening of Parliament and the fact that many of the laws to be dealt with were likely to be amended and new ones of importance affecting material interests passed, it was decided to postpone the publication until after the close of the session, which took place on the 8th of May. In the meantime the press of official duties incidental to the work of Parliament did not permit of much advancement being made in the preparation of the letter press, and since that time many eircumstances have transpired to cause delay. It must be confessed, too, that the labour of compilation was much greater than was anticipated, as many months of unceasing toil must testify.

The scope of the Year Book has widened with the great and unexpected developments of the Province in so short an interim. History for British Columbia was never made so rapidly.

The more pressing demand for information respecting mining, and particularly of late in regard to the great northern country, has been acceded to; and matter of a less important character, considered from a present point of view has been "crowded out." In book-making, as in the associate field of journalism in order to meet the market there must be due recognition of those things concerning which the public are most anxious to know. It is one of the inexorable laws from which no author can escape.

My readers, too, will please bear in mind that the work of compilation, which covers a wide field and a long period of years, was performed almost wholly out of office hours and in spare time, and was carried on coincidentally with other labour, the demands of which were more or less exacting.

I desire to warn my readers not to expect a book of "fine writing"—a finished literary product. The nature and number of the subjects dealt with preclude anything except the plainest statements in the most condensed form. Nor is there any claim to originality presented. I have drawn from every source available, and where I found material already suitably framed, as in Mr. Carlyle's mining reports, I have freely adopted it. In respect to reliability, while every precaution has been taken to attain to absolute accuracy, the multitude of details to verify render it possible that inaccuracies may have crept in; but in all matters of main fact, what appears in these pages may be accepted as substantially correct. In the future the opportunity will, I trust, be presented for revising any statements capable of correction, for elucidating and elaborating others, and for the general enlargement of the scope and design of the Year Book.

What I originally had in mind, among other features, was to present from year to year historical data drawn from original sources, so that in time the early life of the Province and the Great West, in which it forms so conspicuous a place, might with some degree of completeness be exposed in broad and clear outline. In dealing with the ever-important present we must not forget the past, which made all possible that is; and I conceive that now is the time, when many of the active participants in pioneer life are still alive, to begin the substructure of a history, which, if present events do not indicate falsely, is destined to be a great and a glorious one. While it is not claimed that this volume, from a historical point of view has carried out the central idea to more than a very limited extent, still what has been accomplished will form a basis of operations

for the future.

R. E. GOSNELL.

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HISTORICAL REVIEW.

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ARLY in the Sixteenth Century Spain began pushing her search in the Southern Seas. In 1513 Balboa crossed the Isthmus of Panama, and, first of Europeans, looked out upon the waters of the Pacific Ocean. In 1518 Mexico was discovered. Magellan, a Portuguese navigator in the service of Spain was the first to pass through the Straits, to which he gave his name, in 1520, thus opening the way by sea to the Pacific from Europe to the East. Subsequently, however, Van Schouten and Lemaire, in 1616, rounded the Horn, passing outside the course of Magellan and earning a distinction second only to his. Three years after the discovery of Mexico, Cortez overturned its ancient civilization and made it a Spanish Viceroyalty. Pizarro conquered Monte-

zuma, the great Inca of Peru, and, with Cortez, made the name of Spain terrible to all the native races, signalizing the discovery of the Pacific by a series of cruelties and rapacious deeds which for their enormity are unparalleled in the history of conquest—in Old World or New. The harvest of wealth in gold and silver reaped by these Christian buccaneers in their despoliation of peoples fabled for their riches gave a zest to discovery throughout maritime Europe that assisted in promoting, if it did not inspire, all the subsequent voyages to America for many years, and in a large measure led to the exploration and colonization of the northern half of this continent.

In 1537 California was discovered by Cortez and Spanish captains explored its coast. The great English navigator, Sir Francis Drake, visited this region in 1578-9. Inspired by love of booty and hatred of the Spaniards, he plundered and burned their cities, and took and rifled their galleons. He wintered on the Coast, thus employed, and, starting for home laden with spoils, he thought to find his way by a northern route in order to avoid the Spaniards. He sailed north to the

48th parallel, not very far from the entrance to the Strait of Juan de Fuca—some say as far as Alaska—but returned on account of stress of weather and anchored in Drake's Bay, near the present site of San Francisco, for five weeks, where he set up the standard of England, taking possession of the whole coast in the name of Queen Elizabeth, and calling it all New Albion. Prior to his visit, Ferrelo, a Spanish captain, had sailed as far north as the 43rd degree of latitude. Drake's success inspired other English adventurers in a similar direction, notably the famous Cavendish, who followed his course around the Horn in 1587, and, like Drake, ravished the "Spanish Main," striking terror to the hearts of England's enemies and loading his ship with their wealth.

It is important to note in this connection that one of the claims of England to the Oregon Territory, three centuries later, was founded on Drake's voyage of

discovery and his formal taking possession in the name of the Queen—a favourite and almost invariable method of acquiring territory for their respective sovereigns by the early navigators and explorers.

There were many claims by navigators to having accomplished about this time the northern voyage from ocean to ocean, both eastward and westward, known as the North-West Passage; notably, Maldonado, Admiral Fonté and Urdaneta, but these all long ago have become fables of the past. One result of these

stories was the expedition under Sebastian Viscaino, a distinguished Spanish officer, in 1602-5, dispatched by the Viceroy of Mexico. Viscaino examined the coast line from Acapulco to the

43rd parallel N. Lat., and acquired much knowledge concerning it.

In 1592 Juan de Fuca, a native of Cephalonia, whose real name was Apostolos Valerianos, while in the employ of the Spanish Viceroy of Mexico, made a voyage northward and entered the Strait of Juan de Fuca, which is the entrance to the Strait of Georgia between Vancouver Island and the mainland of British Columbia, and sailed a long distance up, his course as described by himself corresponding in the main with the general direction of the waters through which he claimed to have passed. He returned before emerging into the sea again, but

concluded that he had discovered the traditional Strait of Anian which was supposed to join the Pacific with the Atlantic. For a long time this voyage and discovery were considered apocryphal, and the existence of the Strait of Juan de Fuca was scoffed at by all subsequent navigators until rediscovered and entered in the latitude assigned to it by the old pilot. Recent historians and geographers have accepted the authenticity of Juan de Fuca's claims and accord to him honour justly due. The story of Juan de Fuca's voyage was unearthed long after in an old volume familiar to book men, "Purchas: His Pilgrimes," printed in 1625, and is circumstantially told and well corroborated."

With the exception of the voyage of the Spanish ship "Santiago" in 1774, commanded by Juan Perez, who discovered the west side of Queen Charlotte Islands and first anchored near Nootka, and the voyages of Heceta and Bodega by Quadra, the former of whom discovered the mouth of the Columbia, known

then as Rio de San Roque, and also as Heceta's Inlet, and the latter of whom reached the 58th paralled of latitude on the coast of Alaska, no authentic record exists of any other visit to what is know as the coast of British Columbia prior to Captain Cook's third voyage in 1778. It is true, Behring, a Danish navigator in the service of Russia, in 1748 voyaged southward as far as Mount St. Elias, of which he had the honour of discovery, and which is now thought to be included in British territory as the result of a recent survey for the purpose of delimiting the boundary line between Alaska and Canadian territory.

There are hazy traditions of Chinese or Japanese having in their junks discovered the Pacific Coast of North America long before white men saw the New World, but they are at best traditional and highly speculative. Doubtless the Indians who inhabit the Coast, now ethnologically classed as Mongoloids, found their way thither by successive migrations from Asia across Behring Straits, and there is some evidence in old junks, coins and other stray fragments, which have been found on this coast, of apparent Oriental origin: but that there ever was any regular communication, even at a very remote period, other than that of slow migration of tribes at long intervals, is highly improbable.

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Isla of I N the year 1778 the well-known circumnavigator, Captain James Cook, arrived on the North-West Coast of America with his two ships, "Resolution" and "Discovery," under instructions from the British Government to examine the coast line from about 45° north to the Arctic Ocean and ascertain if any large rivers, inlets or arms of the sea extended to the eastward. Cook first saw the coast about 44 N., but owing to bad weather and having been blown off shore, the Strait of Juan de Fuca escaped observation. Land was next sighted

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in the vicinity of a large sound, latitude 49-30 N., in which Cook anchored, March 29th, 1778. After a stay of a few weeks, spent in refitting his vessels and refreshing their crews, he continued on his northward voyage, his men obtaining a large number of furs during their stay. Cook honoured the bay with the name of King George's Sound, but understanding afterwards that it was called Nootka by the natives-a mistaken notion-it was named and has ever since been known as, Nootka Sound. It was Cook's intention on leaving Nootka Sound to proceed as speedily as possible to the part of the coast under the 65th parallel of latitude, but the violence of the wind again prevented him from approaching the land for some days, and he thus, to his regret, left unseen the place near the 53rd parallel where geographers had placed the pretended Strait of Fonté. Thus Cook, who was debarred by bad weather from examining the positions which were assigned to two large openings on the American Continent, denied the existence of both, but the examination by other navigators a few years afterward showed that one at least was not a mythical discovery, viz: the Strait now known by the name of the old Greek navigator, Juan de Fuca:

After discovering and naming the two large inlets known as Prince William's Sound and Cook's Inlet, Cook, having stayed a short time at Unalaska, proceeded to the Arctic Ocean, passing through the Strait which he named Behring in honour of the Danish navigator who first discovered the passage. On the death of Cook at the Sandwich Islands the ships returned home, and it was the report of the crews of these ships respecting the great wealth existing in furs on this coast that aroused the European nations into action and excited them, on Cook's narrative being given to the world in 1784, to make a further examination of these shores.

The earliest of these expeditions appears to have been that of James Hanna, an Englishman, who sailed in a small vessel from Macao in April, 1785 and arrived at Nootka the following August. The natives at first refused to have any dealings with him and endeavoured to seize his vessel and murder his crew; but they were foiled in the attempt, and after some combats between the parties a trade was established, the result of which was that Hanna took back to China before the end of the year, furs worth more than \$20,000, in return for the old clothes, iron, and trifles which he had carried out in the spring.

In 1786 Hanna made another voyage to this Coast; but he had then to compete with traders from Bengal and England, in consequence of which his profits were much less than on the preceding voyage.

The traders about this time on the Coast in search of furs were Captains Lowrie and Guise in two small vessels from Bombay, and Captain Meares and Tipping in two others from Calcutta, all under the flag of the East India Com-

pany. Lowrie and Guise went to Nootka and thence northward along the coast to Prince William's Sound, from whence they proceeded to China. Meares and Tipping sailed to the Aleutian Isles and thence to the same Sound, after leaving which nothing was ever heard of Tipping or his vessel, the "Sea Otter." Meares, in a scow named the "Nootka,"

spent the winter of 1786-7 in that Sound, where more than half of his crew died from want or scurvy.

In the foregoing traders' voyages nothing of importance was learned respecting the geography of North-West America.

The first discoveries worthy of note, made on the North-West Coast of America after Cook's voyage were those of Captains Portlock and Dixon, who sailed from London in 1785 in the "King George" and "Queen Charlotte." These ships were fitted out, manned and armed, and made a successful voyage along this Coast from Prince William's Sound to Vancouver Island. The Queen

Charlotte Islands were named by Capt. Dixon who assumed their separation from the Mainland, after his vessel. The furs obtained on this voyage, the majority of them being secured at these islands by the "Queen Charlotte," were sold in Canton, from which place the ships returned to England. Before Portlock and Dixon quitted the North-West Coast in 1787 they met two other vessels, the "Princess Royal" and the "Prince of Wales," the former commanded by Capt. Duncan. In the following year Duncan in this vessel thoroughly ascertained the separation of Queen Charlotte Islands from the main, the high broken shore islands on the latter shore being named Princess Royal Islands. The discovery of these islands and of numerous openings in the coast which appeared to be the entrance of channels extending far to the eastward led to the suspicion that the whole north-western portion of the

American Continent might be a vast collection of islands, and the old mythical story of Admiral Fonté's voyage began to gain credit as probably founded on fact. The name of the old Greek pilot, Juan de Fuca, was at this time, 1787, rescued from oblivion by the discovery or re-discovery of a broad arm of the sea stretching eastward from the Pacific almost exactly in the position of the southern entrance of the inlet, into which De Fuca declared he had sailed from the Pacific in 1592. This re-discovery was effected by Captain Barkley, an Englishman commanding a ship named the "Imperial Eagle," sailing under the flag of the Austrian East India Company, who was trading for furs on this Coast.

About this time was fitted out in China another expedition under Captain Meares, who had under his command two vessels, the "Felice" and "Iphigenia," These two vessels sailed from Macoa on January 1st, 1788, and Meares arrived at Nootka with the "Felice" in May, 1788, the "Iphigenia," Captain Douglas, having proceeded to Prince William's Sound. At Nootka Meares formed an

establishment, erecting a storehouse surrounded by a stockade and defended by guns, having purchased the land from Maquinna, the Chief of the District. Meares also built a small vessel here which was named the "North-West America." Shortly after his arrival two American traders from Boston entered the Sound, named the "Columbia" and "Lady Washington," and these vessels were the first to sail from that part of the world to this Coast.

Meares made a successful voyage, tracing the coast line from Nootka as far south as the entrance to the Columbia, noting as he passed the large opening seen by Captain Barkley, and which Meares named without any hesitation the long-lost Strait of Juan de Fuca. His boat sailed some distance up the passage, but had to return owing to a very severe attack made on her by the natives. About a year after Meares had left Nootka for China, a Spanish expedition from

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nu Fr and not San Blas, under the command of Don Estevan Martinez, arrived at Nootka and took possession of the place in the name of the King of Spain, confiscating the

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British vessels found there and imprisoning the crews as being trespassers on the territory of the Spanish Crown. This high-handed proceeding and indignity inflicted on British subjects for trading in a part of the world where, it was contended by Great Britain, the Spanish Crown had no jurisdiction, resulted in a demand being at once made by the British Parliament for complete and adequate satisfaction. After a long controversy Spain yielded, the ships were released, an indemnity of \$210,000 paid in coin, and in March, 1795, the port of Nootka and the adjacent territory was delivered up to Lieutenant Pierce of the British Army agreeably to the mode of restitution settled between the Courts of Madrid and London, after which the place was entirely evacuated by both parties.

To carry out the restitution of the British property seized by the Spaniards on the North-West Coast, agreeably to the convention signed by the British and Sparish Governments, was one of the objects of the voyage of the celebrated Captain George Vancouver, who arrived at Nootka in the year 1792. The grand object of this expedition was the thorough survey of the intricate coast-line of these

shores between the parallels of 30 and 60 north. This examination was carried out in a masterly manner, and at last set at rest in the negative the vexed question which for years had agitated the savants of Europe that some inlet, strait or passage might communicate with Hudson's Bay or the sea to the northward of this bay. Vancouver finally left these shores in the autumn of 1794 and arrived in England the following year. The delivery of the territories claimed by the British from the Spanish Crown was not carried out by Vancouver as originally intended, owing to the disagreement that arose between him and Quadra as to the lands to be ceded. Fresh instructions were asked for by the Commissioners from their respective Governments, and when fuller and more explicit instructions did arrive Vancouver had sailed for England, his work of survey being ended.

Since the evacuation of Nootka by the Spanish, trading vessels of all was carried on in the fur of the sea otter, which gradually led in later years to almost the total annihilation of that animal, the fur in these days being extremely rare and valuable.

Of the late Spanish voyages, which took place after Cook's time, up to when the Spaniards finally abandoned the coast of British Columbia after the settlement of the Nootka affair, although Spain was particularly active in exploratory work for a time, little need be said, because their influence on the future of the country has been practically nil. No colonies were established, no trade carried on, and no domain acquired. All that has been perpetuated of a brief Spanish ascendancy are a few out of the hundreds of names that dotted their maps of this Coast. These are easily singled out, and are such as Haro, Valdez, Texada, San Juan, Fidalgo, Hernando, Revilla Gigedo, Cordova, Rosario, Gonzalo, Galiano, Cortez, and a few others more or less familiar. As a rule the names given by English navigators, particularly those of Capt. Vancouver, which are very numerous indeed, have survived, and all others, whether bestowed by Spanish, French or Russians, have passed into disuse and are known only to map-makers and students of early coast history. Incidentally, it may be remarked that two noted French navigators examined this Coast—La Perouse in 1786 and Marchand in 1791. Both have bequeathed to literature valued records of their expeditions.

Of the later Spaniards, Martinez and Haro were sent north by Spain in 1788 and took part, and were the principal actors on the Spanish side, in the Nootka affair just described. Following these in order came Quimper, Elisa and Valdez and Galiano, all of whom were active in exploring and surveying the south-west part of what is now British Columbia. As has already been stated, the Spaniards abandoned the country after the Nootka affair was terminated, and never afterwards made any attempt at exploration or discovery in these waters. As a matter

of fact, Great Britain herself ceased to take any interest in it, and practically abandoned it as well. It is true the victory was with the British, but largely on account of the negative attitude of Spain, to which she was forced by her continental position; but the unsatisfactory terms of the settlement could hardly be regarded a victory of diplomacy. They left wide open a ground of dispute, which was the cause of subsequent complications when the Oregon boundary came to be fixed. Notwithstanding that Spain took no direct part or interest in it, the United States Government, claiming to inherit her righs, did not fail to take advantage of the terms of the Convention, which the great Fox at the time properly denounced as a blunder.

It is an interesting fact that the settlement of the Nootka affair left matters on this Coast in a very uncertain, indefinable statu quo. For some years a long stretch of the Pacific territory was in reality "No Man's" land, and it is not in any sense due to the prescience or wisdom of British statesmen of those days that it is British territory to-day. To the enterprise of the North-West Company and of its legitimate successor, the Hudson's Bay Company, is due any credit that may attach to an accomplishment we now appraise so highly. The traders of that powerful organization pushed their way through to the coast by way of New Caledonia and the southern passes of the Rocky Mountains, carrying with

them the supremacy of the British flag and extending the British authority of the Canadian laws, and finally occupied prac-Supremacy. tically the whole of the Pacific Coast from Russian America to Mexico. That we do not occupy the whole of the Pacific Slope to-day was no fault of theirs. However, in placing an estimate upon the statesmanship of Great Britain, which permitted by a policy of laissez faire so much territory to slip through her hands, we must consider the circumstances and conditions of the times, the remoteness of the country, the almost total lack of knowledge concerning it, and the general indifference which existed regarding its future. Men oftimes are, but cannot ordinarily be expected to be, wiser than they know. In view of all that has happened to, and in, the North American Continent since that time there is reason to be thankful that there has been left to us so glorious a heritage as we now possess.

Several fearful tragedies in which the Indians were concerned are recorded to have taken place on this Coast when the fur trade was at the height of prosperity. One was the destruction in 1803 of the American ship "Boston" by the natives at Nootka Sound, all the crew being murdered with the exception of the armourer, Jewitt, and the sailmaker, Thompson, who were kept in slavery four years by the Chief Maquinna of Vancouver and Quadra's day. In 1805 the

American ship "Atahualpa," of Rhode Island, was attacked by the savages of Millbank Sound and her captain, mate and six seamen were killed, after which the other seamen succeeded in repelling the assailants and saving the vessel. In the same manner the "Tonquin," of Boston, was, in June, 1811, attacked by the natives whilst at anchor in Clayoquot

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Sound and nearly the whole crew murdered. Five of the survivors managed to reach the cabin, and from that vantage ground drove the savages from the vessel. During the night four of these men left the ship in a boat, and were ultimately murdered by the Indians. The day after the attack on the vessel, all being quiet on board, the savages crowded the decks for the purpose of pillage, when the ship suddenly blew up, causing death and destruction to all on board. About one hundred natives were killed by the explosion, and this tragic ending has always been ascribed to the members of the crew secreted below.

SUBSEQUENT to the voyages described in the foregoing there is nothing of special interest to chronicle from a maritime standpoint, except the arrival of the Hudson's Bay Company's steamer "Beaver" by way of the Horn in 1835, which marked for the Pacific Ocean the beginning of a new era of navigation. The days of discovery and adventure on the sea so far as this Coast was concerned were over. Trading vessels continued to arrive

was concerned were over. Trading vessels continued to arrive and occasional men-of-war, until a period when a coastwise trade was established. The inauguration of a San Francisco service and those subsequent developments of trans-Pacific navigation are referred to chronologically elsewhere.

Reference has already incidentally been made to the attempts to discover the North-West Passage, which was until the present century the summum bonum of all navigators. Nearly every voyage of importance to either side of the continent since the days of Columbus, no matter what was otherwise accomplished, had either directly or indirectly that object in view. The chronological list referred to indicates the various attempts by sea and land to solve the mystery which so long attached to it.

The most notable and consequential overland journeys of modern times, which affect the history of British Columbia, were those of Sir Alexander Mackenzie,

who reached the Coast in 1793; of Lewis and Clark, in 1804-6, who followed the Missouri to its source, and then the Columbia River to its mouth; of the Astor expedition in 1810-11; and of the party of Canadians who came over the prairies in 1862.

Regarding the overland expedition of Sir Alexander Mackenzie, it was notable as accomplishing the first continuous journey from practically ocean to ocean. The promoter was an officer of the North-West Fur Company, who had in pursuit of the great object of his time, namely, to discover a water route to the northward from the Atlantic to the Pacific, followed the Mackenzie River to its debouchment in the Arctic Ocean and there satisfied himself of the futility of finding a passage north of that point. He subsequently, after specially preparing himself by a visit to England to study the best available geographical data, under-

took to explore the country westward to the Pacific. Leaving Fort Chippewayan on the 10th of October, 1792, he reached the southernmost source of the Peacé River on the 12th of June. 1793. Crossing the height of land which divided the water flowing north from the water flowing south, he embarked on the river, subsequently explored to its mouth by Simon Fraser, but which he supposed to be the Great Columbia. Leaving these waters, he took a more direct route westward, and on the 20th of July reached the Pacific Ocean at the mouth of the Bella Coola River. This

journey, in addition to being of great geographical importance, opened an important outlet for the further extension of the fur trading interests, which the North-West Fur Company traders were not slow to follow up, and thus was established on the Pacific Coast, in New Caledonia and the Oregon Territory via the interior route that wonderful system of fur trading which won for Great Britain the rich territory now included in British Columbia.

The journey of Lewis & Clark, which was undertaken as a United States Government expedition, of which Jefferson, among the most energetic and far-seeing of American Presidents, was the moving spirit, had a significance which did not then appear and which is not yet fully understood in relation to the Boundary dispute between Great Britain and the United States involving the title to a por-

tion of Oregon Territory. President Jefferson with a pre-Lewis and science beyond the public men of his day in the United States. Clark. saw in the great country west of the Mississippi, the destiny of which was more or less associated with the indefinite limits of the Louisiana Territory, great possibilities, and he took a step which he hoped would further the chances of the Republic when the ownership of that vast territory, then a terra incognita should come to be settled, the right to which had already begun to be discussed in diplomatic circles. Already the United States claimed the credit of the discovery of the Columbia River by Captain Gray, although, as we have seen, the commander of a Spanish ship, Capt. Heceta, had sighted and named it. Captain Gray was the first to make an entrance into Baker Bay. He was followed by Lieut. Broughton, who sailed up as far as Fort Vancouver. Jefferson took a step, which, though creditable to his enterprise, could not be said to reflect credit

on his methods. In proposing to send an expedition of discovery northward, he chose two men as leaders, who, admirably fitted by their frontier experience, carried it out satisfactorily. As they were going on a long and hazardous journey through an unknown country, President Jefferson thought it well to provide against possible emergencies. He gave out that the expedition was in the interest of science and literature, and got passports from all the foreign nations within whose domains the members of the expedition might happen. The leaders were also supplied with letters of credit to use in foreign ports. At the same time that the President was paving the way for this expedition, so as not only not to arouse the suspicions of those Governments that might lay claims to portions of the country to be explored, but to secure their co-operation in the interests of science and discovery, he sent a confidential message to Congress disclosing the real object of the expedition in

order that the expenses necessary to carry it out might be granted. The expedition, which was under the joint command of Captains Lewis and Clark, was a large one, thoroughly equipped. It left on May 14, 1804, and after an eventful and toilsome journey the mouth of the Columbia was reached, and the return journey completed into St. Louis, September 23, 1806. The account of this expedition, though the original edition fared badly, is among the best known in the list of Americana. It was published over forty times in different editions and with different imprints, and has been very widely read. The practical result of the voyage was that much new and accurate information was obtained of the country through which Lewis and Clark travelled: and it is of particular interest that it formed a basis of claim to the Oregon Territory on the ground of original discovery.

The tracks of Lewis and Clark were closely followed by one portion of the

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CAPT. MEARES.

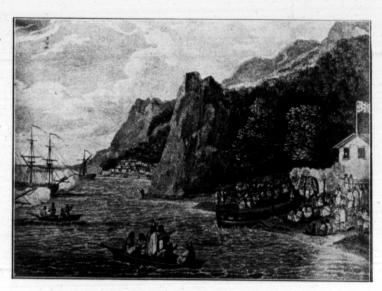


CAPT. GEO. VANCOUVER.



SIR ALEX. MACKENZIE.

EARLY NAVIGATORS AND EXPLORERS.



LAUNCH OF THE "NORTH-WEST," FIRST VESSEL BUILT ON THE PACIFIC.



SIR GEO. SIMPSON.



JOHN TOD.







DUGALD MCTAVISH.



CAPT. COOPER.





A. C. ANDERSON.

DR. TOLMIE.





JAMES A. GRAHAME.



A GROUP OF PIONEERS.

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Astor Fur Trading expedition in 1810-11, the story of which is graphically told in Washington Irving's well-known book "Astoria," a volume that no student of American history should fail to read. The chapter of suffering and hardships endured by the overland party, commanded by W. P. Hunt, is one which will ever be remembered in the annals of American pioneer life. Some account has already been given in the recount of Pacific voyages of the sea portion of the expedition in the ill-fated "Tonquin," which was blown up and her crew murdered, it has been pretty definitely determined, in Clayoquot Bay, on the west coast of Vancouver Island. This expedition was made up largely of Canadian voyageurs and officials of the North-West Fur Company, to whom to some extent on account of their allegiance to British interests is attributed the failure of Astor's ambitious designs of establishing a great fur entrepot on the North-West Coast. Astoria was founded and a trading

Astoria in passed into the possession of the North-West Fur Company, and almost immediately afterwards was formally seized by H. M. S. "Raccoon," this being one of the incidents of the war of 1812. After the war was over the fort and grounds belonging to it were given up to the United States, but the North-West Company and subsequently the Hudson's Bay Company continued to occupy it until the settlement of the boundary dispute in 1846. Here, again, it was obtruded by the United States Government as forming a claim to the Oregon Territory with force and effect.

It would be an injustice to the memory of a noble band of pioneers, than whom the pages of American history present no finer types of bravery, endurance, probity, enterprise, and physical manhood, if before this chapter closed reference were not made to the work done by a long list of North-West and Hudson's Bay Company officials and employees, from the great Sir Alexander Mackenzie himself down to those within the present generation. The list given elsewhere of the fur traders and explorers of the West contains some of the more prominent of these, without reference, of course, to their character or exploits. That wonderful system, about which Mr. J. W. McKay elsewhere has contributed a short chapter, has a history of its own. It is not the province of the Year Book to enter largely into that which only remotely affects the interests to be dealt with at the present

time, but literature will yet accord a generous and compre-A Group of hensive tribute to the actors in the fur-trading arena. Pioneers. lives of these men were full of picturesque and romantic incident, such as historians prize. Considered as individuals or as part of a system, as perfect in its machinery as the commercial world ever evolved, they afford an instructive and exceedingly interesting study. The picture of their times, in which they appear as historic and admirably dramatic figures, is one of striking colour, with strong contrasts of light and shade, and remarkable in every respect. It is a conception still only in outline on the mental canvas. It requires an artist of the Prescott or Parkman type—a historian with the resources of the Hudson's Bay Company's archives at his disposal, and the genius of industry and pen portrayal to give it life and reality. The occasion exists, and some day the man and the occasion will come together, and the great missing chapter of Western history will be supplied.

The scope of this publication will not permit of carrying out in one edition the idea of a continuous history from the first.

There are many events connected with the development of the Coast, which

must, if not entirely omitted, be only touched upon.

Reference has already been made to the fur-trading or Hudson's Bay Company period of the North-West of Canada and British Columbia, which in itself would form one of the most interesting of chapters. There is also that long-drawn-out diplomatic period, which begins with the first dispute as to the respective limits of the territory of Great Britain, Russia, and the United States, on the north-west Pacific Coast, of which the boundary dispute prior to 1846,

the San Juan difficulty arising out of the same, and the British-Russian Convention of 1825, with its subsequent developments of the Behring Sea and Alaska boundary questions, are all, curiously enough, the outcome. The whole question involved, which covers a period of over 300 years, its ramifications extending to the days of Sir Francis Drake and the founding of the Louisiana Territory by the French, is capable of much more elaborate treatment than is here possible; and it is the intention to deal with it somewhat comprehensively, as merited by the importance of the issues involved, in a future issue.

In the North-West Coast history the three most important factors are: First, the search for the North-West Passage, in which may properly be included every voyage of any consequence up to the days of Captain Vancouver, the subsequent numerous Arctic explorations, and the events which led to the building of the C.P.R., which was really the only practical solution of the main problem; second, the fur-trading period, beginning actually with the first French settlers of America, but, in so far as the Western country is concerned, with the Royal Charter granted to the Hudson's Bay Company in 1670, and covering all the period to the abrogation of the charter in British Columbia in 1859, and the purchase of Rupert's Land by the Imperial Government in 1869; third, the claims to the territory put forward by the three Great Powers already mentioned, and the long series of diplomatic negotiations which have arisen out of them.

There is, in addition, the story of the founding of the Colonies of Vancouver Island and British Columbia, and their subsequent settlement and expansion. The first instalment of this is given in Sir Henry Crease's very interesting contribu-

tion on the "Early Settlements."

In 1859 there were two overland parties from Ontario, then Canada West, to British Columbia. The first of those, consisting of about forty persons, reached St. Paul via Chicago early in the spring, and travelled north to Fort Garry with ox carts and a guide. After refitting and engaging another guide to Tete Jeune Cache they again started out, via Edmonton about the middle of June, arriving at the Cache late in September. In rafting down the

Upper Fraser they lost several men by drowning and starvation, and the survivors, after enduring almost incredible hardships, reached the Lower Country in a most destitute and pitiable con-

dition. So far as is known none of them are now living.

The second party of that year, or at least two of them, traversed the Hudson's Bay Company's canoe route from Fort William to Fort Garry, leaving the mouth of the Kaministiqua as soon as the ice broke up late in May. The trip up that river, over the height of land, down Lacs des Mille and connecting lakes

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much begin and streams, over Rainy Lake River to Lake of the Woods, then down the Winnipeg, across that lake and up Red River, was one of great hardship and suffering. On the 1st of August the two men above referred to started out from Fort Garry with a horse and Red River cart to cross over to British Columbia. The first stage of the journey to Fort Ellice was accomplished in ten days. Here half-a-dozen Americans joined them. They reached the Rockies early in October; crossed them by the Boundary Pass to Tobacco Plains, and four of them got to Fort Colville on the 5th of November. It goes without saying that this journey at that early day, without guides or trails, was a most dangerous and foolhardy undertaking. Only one of the two leaving Ontario in early May reached Victoria at the New Year of '60.

THE FUR TRADING SYSTEM.

O a Montreal trading firm, commonly known as the North-West Company, I belongs the credit of having made the first permanent settlements in British Columbia, and Fort St. James, on Stuart's Lake, would appear to be the first of these settlements. This company coalesced with the Hudson's Bay Company during the years 1821 and 1822. The organization of the North-West Company was better suited to the circumstances and conditions of what might be called the Indian country than that of the Hudson's Bay Company, and the Directors of the United Company promptly adapted thereto what was best in each management, and proceeded to extend their business on a sounder and broader basis under the title of the older and more privileged one, namely, that of the Hudson's Bay Company. The system of conducting Hudson's Bay and the business in this country was, however, almost entirely that of the later, or North-West Company, whose chief factors, from their wider experience, greater energy and higher order of training, exercised and maintained for a long period a paramount influence on the conduct of the United Company's affairs. The late Sir James Douglas, who was, however, only a clerk in the North-West Company's service at the time of the coalition, was the last representative of the North-West Company in British Columbia, and,

as a pioneer, may certainly be called the "Father of British Columbia." In the

same sense Dr. John McLaughlin, who was a chief factor in the North-West

Company at the time of the coalition and retired from the Hudson's Bay Com-

pany's service in 1846, may justly be considered the "Father of Oregon." So

much for the representatives of the Montreal traders of the end of the last and

beginning of the present century.

Under the new organization the Hudson's Bay Company divided the

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Indian country for the purposes of their trade into three great departments, namely, the Northern, Southern and Western, and the minor Department of Montreal, which included trading-posts in Canada on the borders of the settlements and down the Labrador Coast. Each department was divided into districts, and each district had its permanent trading-post and temporary or flying posts. The Montreal Department included trading-posts on the Ottawa and its tributaries, and extended as far west as Sault Ste. Marie, the King's Ports on the Saguenay and its tributaries, and trading-posts on the Labrador Coast, extending as far north as Rigolet. The Southern Department extended from Ungava on the north, westward to Hudson's Bay, southward along the shores of the bay

to Moose River, thence westward to the Albany River, including Government by all the country drained by the numerous streams which discharge Departments. into the sea between Ungava and Albany, comprising also those diained by the Ungava and Albany Rivers, and several posts on Lake Superior. including Michipicoten and Fort William. The Northern Department bordered on the Southern, and included all the country bounded by the Southern Department on the east and the United States territory on the south, the Rocky Mountains on the west, until these reached the Russian territory, where the latter formed the western boundary, and the Arctic Ocean on the north, including the country drained by the rivers running into Hudson's Bay, north and west of the Albany River, and their tributaries, and those drained by the rivers running into the Arctic Ocean, including also the sources of the Yukon, which empties into Behring Sea. The Western Department included all the territory between the watershed of the Rocky Mountains and the Pacific Ocean, bounded on the north by the Russian territory and the Northern Department, and on the south by the Territories of the Mexican Republic.

The departments had each its depots and distributing places. These were presided over by the Chief Factors, of whom there were sixteen on active service. Some of these were also appointed to the charge of the more important districts.

The Chief Traders, of whom there were twenty-four in active service, took charge of districts where there were no Chief Factors, and filled the positions of accountants at the depots. There were numerous clerks at the depots and in charge of important trading-posts, trading parties and transport service, and a lower grade of clerks in charge of outlying small trading-posts and flying-posts. Next in order of rank were interpreters, mechanics, guides, steersmen, bowmen, middlemen and apprentices.

The depot for the Western Department, established in the first place at Vancouver, on the Columbia River, was afterwards removed to Victoria. Here goods were received from abroad and distributed to the various posts in the department, and the returns of furs, etc., were received from the trading-posts and shipped to market.

The trading-posts on the coast of British Columbia were mostly quadrangular forts, surrounded by tall palisades, flanked by bastions, armed with medium six-pounders and twelve-pounder carronades, with cartridges, round shot, grape and cannister, being always ready for action, not for mere empty show, but for use when required, which, fortunately, seldom happened. All round the inside of the palisades was a gallery, the platform of which was about 4½ feet below the top of the palisades, and at intervals were sockets for mounting blunderbusses on swivels. These were also kept in readiness for action.

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- altho most There was a front gate and a back gate in the palisades, each gateway ten feet wide and twelve feet in height. The gates were in pairs, and were about ten

inches in thickness, made of stout plank doubled and strongly bolted together. The tops of the palisades were eighteen feet above the ground and consisted of stout cedar logs fitted closely together. The bastions were usually octagonal, of three stories, with ports and loopholes, and contained stands of muskets, bayonets, and ammunition, ready for use. In each gate was a wicket for ordinary ingress and egress, which was closed to all parties after 9 p.m., when the watch for the night was set. The watchmen had to walk round the buildings within the stockades once every half hour, then mount the gallery and continue to walk thereon round the fort. "All's well!" was called by them every half hour during the night. The different ordinary movements for the day were regulated by ringing the fort bell; at 5:30 a.m. for all hands to turn out; at 6 a.m. work for the day of the different employees was given them by the officer in charge—at 8 a.m. for breakfast, at 9 to "turn

to," at 12 m. for dinner, at 1 p.m. to resume work, at 6 p.m. for Life at the supper. The labours of the day then ceased for the operatives, Posts. but the clerks were kept at work until 9 and frequently until 10 p.m. Strict discipline was enforced. No irregularities were allowed, and all hands, without reference to their special tenets of religion, had to attend service on Sunday morning in the officers' messroom at 10 a.m. The service was read by the officer in charge, who, though often a Presbyterian, and sometimes a Roman Catholic, had to use the Church of England Book of Common Prayer, and in regard to this regulation the force of habit and of good discipline were well exemplified when, through the influx of population, it happened that churches were built and regular congregations organized, the sturdy Presbyterians, who had become accustomed to the use of the Prayer Book, with its simple, though strongly devotional language and purely Scriptural utterances, followed it to the Anglican Churches, and worshipped there in the hearing of the prayers to which from custom they had become attached, and which they would not late in their lives exchange for any other formularies on purely dogmatical pretexts.

Besides carrying on the fur trade, the Hudson's Bay Company raised horses, horned cattle, sheep and other farm stock. They had large farms in different parts of the country, had grist mills, saw mills, tanneries, fisheries, etc., and

exported flour, grain, beef, pork and butter to the Russian settlements in Alaska, lumber and fish to the Sandwich Islands, and hides and wool to England, from what is now the Province of British Columbia. The coal mines at Nanaimo were opened by the Hudson's Bay Company after an unremunerative expenditure of £25,000 in the search for coal at Fort Rupert.

The spirit of enterprise which had leavened the Hudson's Bay Company after the coalition appears to have died out with the North-West Company partners, whose last representative on this coast, Sir James Douglas, had certainly contributed largely to the prosecution of the industries mentioned. The sale of the Hudson's Bay Company's stock and assets to the International Financial

Society in 1863 brought to an end entirely any good results which may have arisen from that coalition. The new proprieors having killed the lion, preserved only his outward form and name, and, although one of the ex-Factors of the old company is now prime mover in the most powerful trans-continental railway in America, and another of its employees

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controlled, and his descendants still control, the coal trade in this Province, and own nearly two millions of acres, of land, the best portion of Vancouver Island, the present Hudson's Bay Company, as far as Victoria is concerned, occupies the position of a respectable wholesale grocery establishment.

The Hudson's Bay Company treated the Indians with uniform justice, firmness and kindness. They were not allowed free access into the forts, and although always treated with civility and sometimes with hospitality, no undue familiarity was permitted, and watchmen were always kept on the alert, as there were bad Indians in every band. Most of the intercourse with the Indians was carried on through the interpreters, who were under the control of the clerks or other

officers who might have charge of the trade department for the Dealiogs with time being, each officer having his special charge, for the good the Indians. conduct of which he was responsible to the Chief Factor. This exalted functionary was lord paramount; his word was law; he was necessarily surrounded by a halo of dignity, and his person was sacred, so to speak. He was dressed every day in a suit of black or dark blue, white shirt, collars to his ears, frock coat, velvet stock and straps to the bottoms of his trousers. When he went out of doors he wore a black beaver hat worth 40 shillings. When travelling in a canoe or boat he was lifted in and out of the craft by the crew; he still wore his beaver hat, but it was protected by an oiled silk cover, and over his black frock coat he wore a long cloak made of Royal Stuart tartan, lined with scarlet or dark blue bath coating. The cloak had a soft Genoa velvet collar, which was fastened across by mosaic gold clasps and chains. It had also voluminous capes. He carried with him an ornamental bag, technically called a "fire-bag," which contained his tobacco, steel and flint, touchwood, tinder-box and brimstone

matches. In camp his tent was pitched apart from the shelter given his crew. He had a separate fire, and the first work of the boat's crew after landing was to pitch his tent, clear his camp and collect firewood sufficient for the night before they were allowed to attend to their own wants. Salutes were fired on his departure from the fort and on his return. All this ceremony was considered necessary; it had a good effect on the Indians; it added to his dignity in the eyes of his subordinates, but it sometimes spoiled the Chief Factor. Proud, indeed, was the Indian fortunate enough to be presented with the Chief Factor's cast-off hat, however battered it might become. He donned it on all important occasions, and in very fine weather it might constitute his entire costume.

No coin was necessary in dealing with the Indians. The unit of value was equal to that of a prime beaver skin weighing one pound. This unit was technically called a "made beaver." The value of other skins was regulated accordingly, each being either so many "made beaver," or so many aliquot parts of a "made beaver." The value of each article of merchandise given for the furs was regulated on the same principle, each article representing so many "made beavers," or so many fractions of a "made beaver."

Communication was carried on by means of boats, horses, dog sleighs, and on foot. When Vancouver was the depot the interior was furnished by flotillas of boats, called by the French Canadians brigades, each district having its separate brigade. The districts situate north of the Columbia landed their outfits at the mouth of the Okanagan, and packed them on horses thence to their destinating blunderbusses on swivels. These were also kept in readiness for action.

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the Fraser they were carried thence on boats. Goods for the Upper Columbia and Kootenay were landed at Fort Colville (Kettle Falls); those for the Snake River were landed at Walla Walla. The coast ports were supplied by sailing vessels; the returning boats and vessels brought in the furs traded at the several ports. The goods were made into packages weighing eighty-four pounds; each package was called a piece; two pieces made a load for one horse, with which he was expected to travel about twenty miles a day; on portages where there were no horses each man in the brigade was expected to carry from eight to ten pieces one mile a day in quarter-mile stages, two pieces at a time. Some of the voyageurs exhibited great strength. Poulet Paul of the Saskatchewan Brigade carried six pieces (504 pounds) one mile without resting. The returns of furs were baled into neat packages, each weighing eighty-four pounds.

History will accord to the Hudson's Bay Company its due meed of approbation for the excellent results of its just and beneficent policy in dealing with the Indians, thereby preparing them for the exigencies incidental to the settling of the country by white men, which is now being done peacefully, with comparatively little trouble. In this Province, with few exceptions, the Indians hailed with satisfaction the advent of the white race, and, having been trained to work by the Company's people, they represent now a very important factor in the labour market of British Columbia.

J. W. McKAY.

EARLY SETTLEMENT.

THE first settlement of a new country and the formation of a new colony by British subjects, and the history of its early difficulties, growth and progress, are always matters of great interest to all the subsequent settlers. It is so here. In approaching the subject of the early settlement of British Columbia the mind at once travels back to the Imperial authority under which the Colony took its rise. This was the Charter of Incorporation granted to Prince Rupert and his associates by King Charles II. in 1670, and gave them the exclusive right over Hudson Bay and its contiguous territory—generally known as Rupert's Land.

This not only gave them the exclusive right to the land, territories and places contiguous to the seas, water, bays and rivers any where near to or around Hudson Bay, and the exclusive right of trade there; but it included also the whole and entire trade and traffic to all waters and places into which they should find entrance or passage by water or land out of the territories, limits and places specially indicated in the charter; and to and with all natives and people at any time inhabiting therein, and to and with all other natives at any time inhabiting any of the coasts adjacent to any of the territories, limits or places above referred to,

not already possessed as therein mentioned, or whereof the said liberty or privilege of trade was not already granted to any other of the Queen's subjects.

Under this Royal Charter the Hudson's Bay Company made enormous profits, averaging for years, notwithstanding huge losses, sixty to seventy per cent. (by their own admission) on their whole capital, which, becoming known, aroused such a furore and eager thirst for similar gains, that the Company's rights, which had already been infringed by individual traders, were in 1800 invaded by a combination of rival traders of great skill and influence, whose unrestricted use of

spirituous liquors with the natives in bargaining for furs led to Rival such "animosities (to use their own words), feuds, breaches of the Traders. peace, loss of life, robbery and demoralization of Indians and whites, revolting to humanity," that it is not at all surprising that the Company's profits were nearly reduced to nil, and that the means of their opponents were equally crippled and exhausted; so that an arrangement between both the rival companies became inevitable. An agreement was accordingly come to whereby their interests were united and the fur trade of British North America was carried on on joint account of the two rival companies under the exclusive management however of the Hudson's Bay Company, and a new Royal License to confirm this and put an end to the terrible evils arising for so many years from such unhallowed competition was granted on the 5th of December, 1821, giving exclusive power to trade with natives and others over practically all British North America, including, of course, the present British Columbia and the natives thereof.

The Hudson's Bay Company shortly after (having acquired all the rights, interests and authorities of the rival traders), with the Royal sanction, surrendered the grant of 1821 to the Crown, and, on consideration of the surrender and the yearly rent thereby reserved, to encourage trade and to abolish the desperate evils which accompanied competition, obtained a new Crown grant on the 30th of May, 1838, of the exclusive trade with the Indians of all those parts of North America to the northward of the lands and territories belonging to the United States of America, not forming part of any British Provinces or of any lands or territories belonging to the United States or to any European Government or power—a description which, of course, includes all the present British Columbia, but subject to the provisions therein mentioned.

These latter referred to the protection of Indians—the regulation of the liquor traffic and the moral and religious improvement of the Indians—and to forbidding all British subjects, except the Governor and Company, and persons duly authorized by them, from trading within the limits open to trading under the provisions of the grant.

At the negotiations for this renewal of the Hudson's Bay Company's grant, a complete qualification and power of revocation of the grant was made a condition, and so inserted in the grant. It provided that nothing therein contained should extend or be construed to prevent the establishment by the Crown within the territories aforesaid any colonies or provinces, or for annexing any of the aforesaid territories to any existing Crown colony, or for constituting any such form of civil government as to the Crown might seem meet within any such colonies or provinces as aforesaid.

Then came the reservation of the power to the Crown to revoke the whole of the Hudson's Bay Company's grant, or any part of it, insofar as the same might embrace or extend to any of the territories aforesaid which

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on a Hud might hereafter be comprised within any colony or province as aforesaid, conditions of qualification and revocation of grant, which were both exercised afterwards in the case of British Columbia (Mainland) and Vancouver Island.

With the right to trade was conveyed the right to take hold and occupy land for trading-posts, forts, pastoral, agricultural and other purposes, a right the long exercise of which made them capable of receiving a grant of the fee from the Crown. This right was freely exercised; and in order to store their goods and trade securely with the natives and under the powers of their grant, the Company erected and maintained fortified posts at many convenient points in the interior and on the coast, throughout British North America, the boundaries between which and the United States were not then defined.

For years before the conclusion of the Ashburton Treaty, which on June 15th, 1846, fixed on the 49th parallel as the boundary line between the United States and Great Britain, the Hudson's Bay Company, acting upon the authori-

ties above referred to, had conducted all its business—with the six trading-posts it held on the Pacific Coast and the sixteen it possessed in the interior of the country—from Fort Vancouver. This, which in these early days was then the principal establishment and depot for the trade of the coast and the interior, was situated ninety miles from the Pacific on the northern banks of the Columbia River, and was called Vancouver, in honor of that celebrated navigator.

It was situated in the heart of a highly agricultural and stock-raising country, which naturally attracted the cupidity of their neighbours, and was one of the reasons for the United States seeking to make the dividing line so high as the 49th parallel.

During the negotiations between Great Britain and the United States as to the boundary line between the two countries, the Hudson's Bay Company, fearing that Fort Vancouver and all their other establishments below the 49th parallel, as being claimed to be within United States' territory, might possibly be given up—determined to anticipate such a result by seeking out a new and suitable place in British soil as a depot for their coast and interior trade, to which they could remove and make the headquarters for their trade, and so constitute a place to which British settlers could safely emigrate and make their permanent residence.

Accordingly Dr. John McLaughlin, a man of high character and of unusual administrative capacity, then Senior Chief Factor, selected for the execution of this important trust his immediate subordinate, Mr. Chief Factor James Douglas,

whose successful performance of this duty forever afterwards indissolubly connected his name with the foundation, rise and prosperity of British Columbia. It was, in fact, the turning point of his career—the means of his introduction to the Imperial Government; for we find that on the 13th of September, 1848, Sir John Pelly, the Governor of the Hudson's Bay Company, recommended Mr. James Douglas to Her Majesty to the office of Governor of Vancouver Island as "the gentleman who prepared the report on Vancouver Island of 1842."

On June 1st, 1846, Dr. John McLaughlin retired from the Chief Factorship, leaving Mr. James Douglas as Senior Chief Factor in his place, a position which he held till June 1st, 1858.

Douglas was one of those men who seemed marked out by Providence to carry on a great and noble work—one of those commanding characters of whom the Hudson's Bay Company's service, like that of the East India Company for 200

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whole same which years or more, became so prolific; and for similar reasons—the habit of isolated command and responsibility, constant familiarity with danger and the frequent necessity under desperate circumstances of rapid exercise of tact and sound judgment, and in coming to a safe conclusion where life and property were often staked on the result of an immediate decision.

Douglas took the schooner "Cadborough" and six men from Fort Nisqually to select and report on a suitable site on the southern end of Vancouver Island, within the Strait of Juan de Fuca, for the new depot.

This mission was most satisfactorily fulfilled. After a careful survey, starting from Point Gonzalo, the south-east corner of Vancouver Island, and visiting all the harbours and inlets westward to Snow-Sung, a site for

the proposed new establishment was selected at Camosun. In a letter from Douglas to Mclaughlin, which (written at the time—July 12th, 1842—with almost prophetic insight and judgment, will amply repay perusal), he described it as "decidedly the most advantageous position for the purpose" of a general depot and nucleus of a permanent British community "within the Strait of Fuca."

Mr. Douglas took possession there of ten square miles, being 6,400 acres of land, on behalf of the company, and paid for the property purchased by him in Vancouver Island for the company £6,913.

A fort was erected there (the best built of the Company's forts), enclosing 100 yards square, surrounded by cedar pickets twenty feet high, having two octagonal bastions, containing each six six-pounder iron guns at the north-east and south-east angles. Eight buildings of squared timber, forming three sides of an oblong, were contained within it.

Thenceforward Camosun ceased to exist, and, passing through the intermediate name of Fort Albert, was advanced to and merged forever in the renowned name of our gracious Queen, and as "Victoria" stands forth now as the

capital city of British Columbia. It was pointed out in after Her Majesty's years by Gov. Douglas that written public notice of this taking Name. possession was affixed by him at the time to a group of small trees, two of which, now of larger growth, are still preserved (1897) on the south side of the blacksmith's shop, within the enclosure, at the Hudson's Bay Company's wharf, facing on Wharf Street, a little to the north of the present Custom House. One chief object of the selection of that site, for political as well as Hudson's Bay Company purposes, was to constitute it a place to which British subjects who were beginning to swarm out of the parent hive, and were already turning their eyes toward the West, could safely emigrate and settle, bringing with them all the British laws, rights and reciprocal responsibilities, which all British subjects carry with them as their and their children's inalienable heritage, to their new homes and habitations across the seas-an eternal link in sentiment, if not in fact, with the Mother Country.

It will be seen in the sequel that Victoria and Vancouver Island were a marked and remarkable instance in the history of British colonization, where

this principle was carried out in practice in every particular from the outset. This fact was well brought out by the communications hereinafter referred to, which passed between Mr. Douglas and the Imperial Colonial Office, as to the best mode of electing a representative body to make laws and govern under the circumstances in which the new Vancouver Island Colonists found themselves.

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Under the provision of the Hudson's Bay Company's grant, charter and license to trade, Vancouver Island and its dependencies were separated from the Indian Territories (the name which was generally given to the portions of British North America south-west and north-west of Rupert's Land), and a charter of grant of Vancouver Island was made to the Hudson's Bay Company on January 13th, 1849, with the express intent and object that the Governor and Company

should, within five years from that date, establish on the said Conditions of Island settlements of resident colonists, British subjects, and dis-Grant. pose of the land to them at a reasonable price, to be applied as therein mentioned, towards the colonization and improvement of the Islandunder penalty of forfeiture. The fent was nominal, 7 shillings payable into the Exchequer forever on the 1st of January in every year, the Crown at the same time reserving to itself the right, on failure of the Company in five years to establish the settlement agreed on, to revoke the grant without prejudice to settlements actually bona fide made. This grant was made subject to the special condition reserving to the Crown full power on expiration of the Company's license of exclusive trade with the Indians to repurchase and take of the Company the whole of Vancouver Island, subject to the payment of the value of their establishments, property and effects then being on the Island, and of the money theretofore laid out and expended by them in and upon the said Island and premises.

It would be remembered also that the Company, by a grant from the Crown dated May 30th, 1838, had the exclusive right of trading with the natives, Indians, west of the Rocky Mountains, for twenty-one years; that is, to the 30th of May, 1859. And in this extended charter or license of exclusive trade, a condition was inserted enabling the Imperial Government to reserve to itself the right of erecting some part of the territory comprised in the Company's charter into one or more colonies, independent of and distinct from either Upper or Lower Canada, and that if any such province or colony should be so established, the charter should thenceforth cease to be in force with respect to the territory which might be embraced within the limits of any such new colony.

A wise precaution of Lord Glenelg, who frankly expressed his distrust as to the statements confidently advanced by officers of the Company of the sterility of a great part of that extensive portion of the globe, and its unfitness to sustain any considerable population; and he thought thus, because the country was very imperfectly known, especially that part of it which borders on the chain of lakes. He might have politely suppressed in delicate negotiations the not impossible belief that colonization and the propagation and increase of the fur-bearing animals were antagonistic principles in the development of a country.

At all events, the insertion of that clause as a condition of that grant was of vital importance—first, to the establishment of Vancouver Island and its dependencies as a separate colony; secondly, later on, namely on the 19th of November, 1858, to the establishment of New Caledonia, afterwards the Mainland of British Columbia, as a separate colony; and, thirdly, to the reunion of those two separate colonies into the present united colony of British Columbia. But we are anticipating, and must return to

As has been seen, the charter of grant of Vancouver Island to the Hudson's Bay Company was made on the 13th of January, 1849, and became the groundwork of a new political departure in the far west of a new British possession. In 1849 Vancouver Island was proclaimed as a British colony open for colonization;

and British subjects were invited to settle and reside there, and inducements held out to emigrants from Europe and elsewhere to take up land and make it their permanent home.

In 1849 also Mr. Richard Blanshard was appointed the first Governor of the new colony of Vancouver Island, and his commission was publicly read in Victoria by Capt. Johnston of H.M.S. "Driver" early in 1850. Mr. Blanshard as

a barrister of considerable ability, might have been a great benefit to Vancouver Island had he bent himself to the task, but, unfortunately, he was not in the state of health to allow of his devoting his energies and talent to the development of the country, and, though a great sportsman and fisherman to feed his energy and establish his strength, either could or would not rally to the work—but took so gloomy a view of the future that, having no machinery ready to work a Government, he determined to decline the task. Perhaps he was right, seeing with whom he had to deal.

For, at that early stage in the history of the infant colony, with such a man as Mr. James Douglas at the head of a Company which had for so many years governed the whole country almost autocratically, who could not brook half-measures or vacillation—a man with whom it was a silent danger to be in collision—Gov. Blanshard without funds, without any machinery to work with, without resources, was powerless to effect anything to advance the interests of the country he was sent to govern, so he did the next best thing for the country in his power—he retired from the Governorship and started back to England, leaving well-known Colonists, the Hon. James Douglas, Hon. John Tod, Hon. Roderick Finlayson, and Hon. James Cooper as a Provisional Council to assist the Governor for the time being in his duties—Governor and Council at that time, with unknown or at least undefined authority. He left in November, 1851. During the interregnum the country was governed by the Council.

Then came the appointment of Mr. James Douglas as Governor in 1851, he remaining at the same time Senior Chief Factor of the Hudson's Bay Company, a dual appointment which must in time conflict. It was originally intended as a temporary provision only, as the interests of a civil Governor and those of the Hudson's Bay Company were even then not considered to be identical. It was, however, not an altogether unsatisfactory arrangement with the country in such an embryotic and unsettled state and without funds. When, as Governor,

he lacked money (in the total absence of taxation) to carry on some necessary public purpose, as Chief Factor of the Company, with a good financial backing at hand, he was able to supply it. He never was extravagant or careless. At the same time he knew the power which money gave him. In fact, no one knew better than he the value of money, and (as the building of the great trunk roads in Vancouver Island and Caledonia, the then name of British Columbia, where no contractor made a fortune, shewed) none could effect more good work with it, or make it go farther than he did. This advantage must have been considered at the time of his dual appointment—for he was a man who, wherever he might be, would always make himself felt.

Governor Douglas' first care, at the instance of the Home Government, after his appointment, was, to call together a representative assembly; and in the official correspondence between him and the Rt. Hon. H. Labouchere, the Secretary of State, on the subject, a vital principle in the formation of British colonies was evolved. So much was this the case that Kenneth McKenzie, of Craig-flower, a man of sterling character and great political influence, in canvassing with

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Dr. Helmcken for the new House, always cited "the Labouchere letter" as the key to their full political rights as British subjects.

Governor Blanshard when the colony of Vancouver Island was first founded, was directed to summon General Assemblies of freeholders qualified by the ownership of twenty acres of land or £300 worth of property, and with their advice and that of his Council, to make laws and ordinances for the good government of the Island. Governor Douglas' commission also contained a clause enabling him, with the advice of his Council, to make laws and ordinances alone.

Local circumstances compelled him to adopt the latter course and the laws so made were sanctioned and afterwards confirmed, but he was distinctly told that "it had been doubted by authorities conversant in the principles of colonial law whether the Crown can legally convey authority to make laws in a settlement founded by Englishmen, even for a temporary and special purpose, to any Legislature not elected wholly or in part by the settlers themselves." The reason no doubt was, that no Government can be carried on without money, which means taxation, and there should be no taxation without representation among free men; and wherever British settlers go they carry with them as much of British laws and rights as the circumstances of a new British settlement will permit.

The ninth clause of his Royal instructions gave Governor Douglas power to fix the number of representatives, divide the colony into districts, and if the colony were sufficiently advanced, to establish separate polling places. Accordingly on the 16th of June, 1856, Governor Douglas issued a proclamation for the election by £20 freeholders or £300 property holders of a House of Assembly. And so began the history of representative institutions in Vancouver Island.

The Island was divided into four districts or constituencies. Victoria had three members, J. D. Pemberton, James Yates and E. E. Langford, who afterwards gave place to another and valuable representative, Mr. Joseph Wm. Mc-Kay, whose early connection with legislation and long and valuable services in

the Indian and other Departments, have gained him a permanent reputation as one of the active pioneers of the colony. The other representatives were: Sooke, John Muir; Nanaimo, John F. Kennedy; Esquimalt, Thomas Skinner and (a name which will never die while benevolence, high courage, ability and patriotism are of any value here) John Sebastian Helmcken, M.D.

The Doctor (as in those early days he was invariably called) was chosen Speaker, and when on one occasion he asked leave to retire from the Speakership, probably from motives of delicacy as the Governor's son-in-law, it was unanimously refused because "his services were invaluable." He is the same man still (1897).

They met in a room almost entirely unfurnished, in a square-walled building in the Fort, just where the Bank of British Columbia now stands, and the more closely to copy English customs, received no pay. They next met in an office on the spot where the Law Courts now stand, and afterwards in a building

of their own, the House of Assembly at James Bay, where the Legislature has continued up to the present time. Their next meeting will probably be in the new range of Government buildings, which for design cannot be surpassed, indeed, probably not equalled, in the whole Pacific Coast of North America. The early proceedings of the first House were of the simplest character. Their first supply bill amounted to only £130. Their legislation was also confined to matters immediately necessary, such as

roads, schools, licenses—the monies from land sales, timber duties and royalties being remitted to England through the Hudson's Bay Company and placed to the account of the reserve fund in England exclusively applicable to colonial purposes. The money sent included the sum of £6,913 paid by the Hudson's Bay Company for the land purchased by them.

Their efforts to secure a reciprocity treaty with the United States failed.

A new and enlarged Franchise Act was passed and one for an increase in the electoral representation, registration of marriages, and other necessary matters.

It was during the sitting of this House that the San Juan difficulty, as it was euphemistically termed, occurred. On the 3rd of August, 1859, the Governor, in a very able and dignified but temperate message, communicated to the House

intelligence of the landing of a detachment of United States troops on the Island of San Juan (an island immediately adjacent to and therefore held as part of Vancouver Island, and peopled by British subjects), with the avowed intention of taking military possession, without any notice or intimation to him as Governor, from him, or, indeed, any quarter.

The progress and fate of the negotiations and proceedings, and the joint military occupation which followed this high-handed act of an officer from the Southern States, now currently believed to have been done in the hope of embroiling Great Britain in a quarrel with the American Republic, are now such matters of history that it is not necessary to dwell on them here.

The first Parliament lasted till 1859, the second Parliament of the Legislative Assembly, composed of members elected under the enlarged franchise, met in their then new, now old, Supreme Court House—where, when the Court sat, the House had to adjourn, their own Assembly room not having been completed then—on Thursday, March 1st, 1860.

Governor Douglas opened the first session of the second Parliament of the Legislative Assembly, Vancouver Island, while Chief Justice Cameron swore in the members.

The first session was from March 1st, 1860, to February 1st, 1861. The names of the members who sat in this Parliament are duly recorded elsewhere, to which for the sake of avoiding repetition our readers are requested to turn.

In the meantime Victoria and Esquimalt as one harbour had been used as a free port, and on the 18th of January, 1860, was publicly proclaimed as such.

The Imperial Act XII. and XIII., Vict. C. 48, 1849, had been passed providing for the administration of justice in Vancouver Island and the appointment of a Chief Justice. Under it an order of the Queen-in-Council was subsequently passed, constituting the Supreme Court of Civil Justice of Vancouver Island, with cogrizance of all pleas, and David Cameron, a relative of Governor Douglas, was appointed the Chief Justice thereof.

The House of Assembly of Vancouver Island was opened by His Excellency Gov. Douglas on August 12th, 1856, and it is noticeable that prayers were read by the Colonial Chaplain, a gentleman highly revered by all Vancouver

Island colonists of early days and to the present time, the Rev. Edward, now the Rt. Rev. Bishop Cridge. In his opening speech the Governor congratulated the Legislative Council and the House of Assembly of Vancouver Island as an event fraught with consequences of the utmost importance to the present and future inhabitants.

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Victor destin earlies the Co traders to sup And he called special attention to the fact that "It was remarkable as the first instance of representative institutions being granted in the infancy of a colony."

Further on he adds what was and for many long years has remained strictly true, "Self-supporting and defraying all the expenses of its own Government, it presents a striking contrast to every other colony in the British Empire, and, like the native pine of its own storm-beaten promontories, it has acquired a slow but hardy growth."

In this connection it may be observed that its free port and the total absence of any money subsidy or pecuniary assistance from the Imperial Government remained intact up to the year 1871 (Confederation), the only colony in the whole history of British settlements of which the same can be said.

It is not so remarkable, though, that the moment the free port was proclaimed Victoria began to grow by rapid strides. The ground covered with tents was giving place to balloon buildings, and these in turn to brick and stone. The village had become a town, and immediately after a city. Indeed, sanguine hopes were entertained that it might in time become the Singapore of the Pacific, a hope which no doubt would have been verified had the free port been retained after Confederation.

The House, directly it was appointed, established for itself the rules and orders of the English House of Commons for the regulation of its own proceedings; and assumed and exercised every right including the right of arrest and punishment for contempt of the House which was in force in Great Britain. This

power was notably exercised when the Hon. Mr. Amor de Cosmos, an able, earnest and liberal, but somewhat intemperate politician, defied the orders of the House, upon which he was arrested, brought to the Bar of the House, and had there to "kowtow" and purge himself of his contempt, so that, like Minerva, armed cap-a-pie from the brain of Jupiter, this House of Assembly sprang into existence all at once, an autonomy complete in all respects.

During the first session of this House, and subsequently, there was from the outset a continuous effort of the members to shape themselves free from the overpowering influence of the Hudson's Bay Company, although it was fully conceded that Great Britain was greatly indebted to the Company and to the exertions, administrative talent, aye, and high courage and character of the officers of the Hudson's Bay Company for the preservation of the Canadian portion of North America as an integral and undisputed part of the British Dominions. But now the colonists were in charge of the Vancouver Island portion of it, they were anxious to obtain possession of the Crown Lands, and the monies arising from the sale thereof, and the royalties arising from the coal, which was soon discovered and promised to become a vast industry—in short, all monies received for the use of the colony from all sources whatsoever. They knew already the power of the purse.

During the sittings of the first House of Assembly of Vancouver Island—Victoria being the only port of entry into Fraser River, and all goods for that destination necessarily passing through Victoria—a dead set was made at the earliest practicable moment both in the House and out of it, against continuing the Company's exclusive right to monopolize the trade thither, and to prevent all traders other than their own, or under their permits, from going up Fraser River to supply the gold miners and others on its banks with food and mining supplies.

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ch he se This monopoly, though originally sanctioned for a very good purpose by Act of Parliament, having now done its work, had to be broken through, from a necessity which knew no law, or some 20,000 or 30,000 miners and prospectors whom

the Company were not prepared to feed might have been reduced to starvation. The gold rush had come upon them unexpectedly, and the Company, although they had the example of California before them, were not prepared for it. Judging from their actions, one cannot pretend to the gift of prophecy—they had no instructions—they could not suddenly buy steamers to suit the numbers going up or make any large general contract to meet such an emergency, without instructions from the Hudson's Bay House in London, a loss of months of time in which often probably the opportunity itself was lost. In any unexpected emergency, want of instructions was often the fatal handicap of the Hudson's Bay Company in the race for business. In those days they were not built for racing. Perhaps it is different now.

N EXT to the great financial principle for government which he professed. roads in Vancouver Island and British Columbia were the one great object which Governor Douglas, during his long reign, always kept in view. He was a King of Roads. As a Hudson's Bay Company's officer he had travelled from end to end of this great country from the earlier days of the Hudson's Bay Company down to the time he had charge of its affairs, and knew the difficulty and delay caused in getting in supplies to the out-stations, and was thoroughly 'convinced that no mining could be carried on for any length of time profitably without giving the greatest possible facilities for getting supplies to their works, and in Vancouver Island in enabling farmers to take their produce without difficulty to market. So everywhere around Victoria for miles splendid roads, much better than they are now (1897), well macadamized, abounded. Many and good roads were made into the interior and along the Coast, where the configuration of ground made them practicable. Thence they were extended into the districts outside of Victoria-e.g., Cowichan, Chemainus, Saanich and Lake, were duplicated, nay, even at times, as for instance at Comox, triplicated—and a still greater and bolder enterprise was contemplated by Sir James Douglas, and indeed commenced by him on the Mainland, no less than a prospective toll waggon road from Hope, the then head of navigation of the Fraser through Hope, Similkameen and Okanagan, down and across the Columbia to Kootenay, and more ambitious still, through the Rocky Mountain passes and across the Indian territories via Edmonton House to meet a similar road from Canada westward fowards British Columbia which he confidently expected Eastern Canada would build to meet him at Edmonton, and form together

a great British-Canadian colonization road, England being too far off to expect any general colonization from thence. General immigration from Canada East was always his idea, fostered, no doubt, by his familiarity with the Hudson's Bay Company posts in that direction and away north. Convinced always that population ultimately would come from Canada, there is reason to believe that so satisfied was he of the benefit it would be both to British Columbia and Canada, that he was inclined to press such a scheme as a toll colonization road if it could be favoured by the Home

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from rould ch a lome Government, and he hoped to obtain from them what then would have been an impossible permission. At first his aims were confined to opening the country by roads along the Fraser up to the bars and placers where already gold was found in paying quantities and more expected further up. Miners and prospectors fitting out at Victoria took at first the "Otter" and "Beaver," the only two Hudson's Bay Company's steamers which had come out to this country round Cape Horn to Queensborough, and by stern-wheel steamer to Douglas. Then from Douglas they proceeded along the Pemberton portage and the lakes, which were crossed by steamers to Lillooet, where they joined the Fraser and its gold-bearing bars again.

From Lillooet a waggon road was projected to climb up Pavilion Mountain by the well-known rattlesnake grade and go on to Clinton and from thence on through the green timber and the fifty-mile alkali belt along Lake La Hache to the 150-Mile House, thence to Soda Creek, Alexandria and Quesnelle Mouth; thence direct east by Cottonwood and Van Winkle to Richfield and Williams' Creek, some of the richest gold fields of the rich Cariboo country.

The Similkameen road from Hope was commenced as a trail, with the progress and prospects of which Governor Douglas was so pleased that he directed it to be converted into a waggon road. This he intended as a toll road to Koote-

nay and across the Rockies, but required a petition from the people of Hope, who would have been enriched by the business of the road, requesting him to impose a small toll on goods and passengers to authorize him to raise and expend the necessary money. At the instance, however, of a petty local opposition the petition was not signed. The Similkameen route as a through road fell through—although, as will be shown, a good and valuable trail was afterwards made in that direction.

Failing at Hope, a public meeting was held at Yale, the merchants of which were delighted at the chance, and warmly espoused a waggon road along the rocky cañons and forbidding defiles and banks of the Fraser, passing Lytton and up the Thompson by way of Ashcroft and the Bonaparte to join the other part of the waggon road at Clinton, thus making the connection with Cariboo complete—and giving the whole of the Lillooet-Yale road to Cariboo the general name of the Cariboo Road—a monument to the determined will, outlay and skill of the chief who ordered and the men who executed this (even at this day) wonderful effort of engineering skill, and which opened up such a long and wide tract of auriferous as well as agricultural country.

The men who constructed this great work were the Royal Engineers, who were paid by the Colony, and local men, as under. A list is here given of the roads constructed under Sir James Douglas' regime, and the men who made them:

ESQUIMALT.

The road from Everett's "Horse and Jockey" to Esquimalt, built in 1860 by (now Sir) J. W. Trutch.

Douglas Portage.

From Douglas to Six Mile Post by Royal Engineers in 1861; from Six Mile Post to Twelve Mile Post by Royal Engineers in 1861; from Twelve Mile Post to Eighteen Mile Post by Hon. J. W. Trutch, 1861; from Highteen Mile Post to Twenty-eight Mile Post, Little Lake, by Royal Engineers, 1861.

PEMBERTON PORTAGE.

From Pemberton at head of Lillooet Lake to 6-Mile Post by Colquhoun, in autumn, 1861, failing to complete contract to Anderson Lake.

From 6-Mile Post across Anderson Portage to 27-Mile Post at head of Anderson Lake, in autumn and winter of 1861, by Joseph W. Trutch, to complete Colquhoun's contract.

From foot of Seaton Lake about three miles to Lillooet in 1860 or 1861.

YALE-CARIBOO WAGGON ROAD.

Mule Trail.—From Yale to Spuzzum Ferry, 11 miles, by Powers and M. C. Roberts in summer of 1861.

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From Spuzzum to Boston Bar, 14 miles, in the autumn of 1861, by the same.

Waggon Road.—From Yale to 6-mile Post by Royal Engineers in 1862.

From 6-Mile Post to 13-Mile Post at Suspension Bridge, by Thomas Spence in autumn of 1862.

Alexandria Suspension Bridge, erected in summer of 1863 by Joseph W. Trutch.

From Suspension Bridge to Boston Bar, 12 miles, by J. W. Trutch in 1862-63.

From Boston Bar to Lytton, 32 miles, by Spence and Landvoight, 1862.

From Lytton to Cook's Ferry (Spence's Bridge), 23 miles, by Moberly and Oppenheimer, in 1862 and spring of 1863.

Spence's Bridge, built by Thomas Spence in 1863-64.

From Spence's Bridge to 80-Mile Post, 0 miles, by Royal Engineers in 1863.

Spence's Bridge, built by Thomas Spence in 1863-64.

From Spence's Bridge to 89-Mile Post, 9 miles, by Royal Engineers in 1863.

From 89-Mile Post to 93-Mile Post, by Thomas Spence in 1864.

From 93-Mile Post to Clinton at 136-Mile Post, Moberly and Hood in 1863. (Note.—Clinton, 136 miles from Yale.)

WAGGON ROAD, LILLOOET TO ALEXANDRIA.

From Lillooet to Clinton, 47 miles, by Gustavus Ben Wright in 1861. From Clinton to Soda Creek, 177 miles from Lillooet, by G. B. Wright in 1862-63. From Soda Creek to Alexandria, 20 miles, by G. B. Wright in 1863. From Alexandria to Quesnelle Mouth, 40 miles, by Spence and Landvoight, 1863. From Quesnelle to Cottonwood, 21 miles, 1864.
From Cottonwood to Barkerville, 42 miles, 1865.

Now to return to the waggon road from Hope to and across the Rockies.

Having been obliged to abandon his original plan, which was a waggon road, commenced by our present Lieutenant-Governor, Dewdney, in addition to the numerous works of surveying and engineering he had already completed in the Colony-he had done twelve miles of it when it was stopped, for lack of the support I have described, of the people of Hope, but the road was carried on twentyfive miles to Skagit Flat. From thence the Royal Engineers carried on a trail to Princeton, which was afterwards much improved by Alison's cut-off. This trail was improved from Skagit to the Summit. It was then carried through the open, down the Similkameen country. It 1865 Mr. Dewdney com-

menced a trail down the Similkameen, by Keremeos to The Dewdney Osoyoos; thence he followed the boundary along down Kettle River Valley to the mouth of Christine Creek; thence across the mountains to Fort Shepherd east of the Columbia, crossing the Kootenay River at the mouth of Kootenay Lake. This was in 1865, when Sir Joseph W. Trutch was Chief Commissioner of Lands and Works. From Kootenay Lake Mr. Dewdney carried the trail by the Mooyie to Wild Swan Creek, now called Fort Steele. This was done from Osoyoos in 1865, but it has been much improved since. It has always been called Dewdney Trail, and it has been by means of Dewdney Trail that access has been given to the rich Kootenay country, and great facilities afforded for the discovery and exploration of valuable deposits of gold in that district. In fact, the Dewdney trail was the key to the Kootenays.

Had the waggon road been carried out as Governor Douglas had wished it to be executed, it is quite within the bounds of probability that the C.P.R. would have been carried that way, for as a good object lesson, as a toll road, it would have unmistakably shown, that much snow and all the present costly slides with their long delays of traffic would have been avoided. That a far easier grade than that now in use at Eagle Pass or Rogers' Pass would have been obtained merely by cutting a two-mile tunnel through Hope Mountain to lower the grade -and the road would have gone nearly all the way through a fertile agricultural

and paying country. Perhaps it would pay them to A Royalty on adopt the route of the Dewdney Trail now. connection it is not amiss to observe that the trail was made out of the tax laid on the export of gold, just as they are talking at Ottawa of doing in Yukon and Klondyke, but it was found that on the border line not half the gold paid duty—only the honest ones paid it. It is an object lesson for the Yukon. In the case above alluded to the Act had to be abandoned. Like Captain Gosset's mule tax, it died a natural death. When old Sir James was reminded of its existence and urged to enforce it his reply was in his remarkable deliberate voice, "My dear sir, it is one of those wonderful productions which Nelson could have looked at with his blind eye." It was no use pressing him after that. It was an infallible sign when his deep black eye withdrew its keenness—withdrew, as it were, into itself—that all discussion was over for that time. Like Sir Geo. Grey, when he crossed his leg, all conference was over for that time.

In 1865 the main road from Golden was made, a very good starting point in many directions, by the river and lake. In 1866 a trail was made from Seymour to Big Bend, when the gold excitement was on there. It went into Big Bend at the most northern route, McCullough's.

In 1867 several trails were cut.

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In 1871 a good trail was cut by Mr. Dewdney from Stuart's Lake to Omineca, using Telegraph Trail to Stuart's Lake and carrying the trail from Stuart's Lake to the mines at Omineca.

In 1871, too, a short portage was made by Mr. John Trutch, Giscome Portage, from Fraser River.

In 1871 also a trail was made from Hazelton on the Skeena to Babine Lake, by that old and successful explorer, Captain Wm. Moore, in those days commonly known as "Captain Billy," or "Steamboat Moore." The trail was an improvement of an old Indian trail. There were many other short roads and trails made in those days in all directions throughout the country of which no record was preserved, although they effectually aided in opening up the country.

I T would be impossible to complete a Year Book of British Columbia without a notice of one of its chiefest characters, Sir Matthew Baillie Begbie, the first Chief Justice of British Columbia. Accompanied by his faithful henchman, Benjamin Evans, who drove the Court over twenty times from Yale or Ashcroft (after the C.P.R. reached it) to Cariboo and back without an accident, and his trusty friend, Charles Edward Pooley, as Registrar, he traversed the Province wherever it was necessary in the interests of law or justice to go. His unflinching administration of the law from the outset of the colony in 1858 to his death in 1894, at a time when—mixed with a great many good men, it is true—the miners and the class of persons who came with them comprised many of the wildest characters under the sun, whose sole arbitraments in their quarrels in other countries had been knife

and revolver, struck such terror into wrong-doers and defiers of the law from his first assize at Langley in 1859, to the time of his death, that the peace of this country was thoroughly secured—and the wilder spirits were tamed to such an extent that even in difficult cases the Court relied confidently on their assistance under a short special enactment, as jurors, and was never disappointed of their aid when so invoked. The result was that the whole of the country could be traversed from end to end by all men without weapons, except sufficient to protect themselves from wild animals or for subsistence—a course in which he was effectually supported from first to

last by all the judges who sat with or have succeeded him, to the great benefit, as the Statute hath it, of person and property and the peace, order and good government of the colony. He was a man over six feet in height, strong, and active in proportion, a good sportsman and an excellent shot. His abilities and accomplishments were of the highest order, and his hospitality and social qualities gained him fast friends in every direction. So take him for all in all, we shall not often look upon his like again.

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Nor would a Year Book be complete unless it afforded place for honourable record of those old settlers, magistrates, and public general officers, who, in days gone by before the colonies were formed, as well as during the critical periods of their formation, were quietly, unostentatiously, but, like time, without hurry, but without delay, silently but surely welding together the most incongruous elements into one homogeneous, law-abiding, self-respecting and respected population.

Beginning with the Hudson's Bay Company's men, their name is legion, who in these distant parts in lonely responsibility, their lives in their hands, away from civilization, still through the standard books to be found in every fort, held converse with the greatest of their kind, and kept their minds open and their hearts enlarged, till exile ended, they could return to end an honourable life in comfort and respect.

Who of the "old timers" of more recent days can recall without a glow of pride and satisfaction, the names of Chartres Brew, whose virtues and good qualities are depicted by friendly hard in letters of iron in the distant graveyard of Cariboo, where he died, on duty of Gaggin and his works at Douglas, Kootenay, and other distant stations and those who had exchanged arms for harder but more useful work in another field; Capt. Ball, a soldier bred but a lawyer born; Capt. Sanders, Capt. Spaulding, Capt. Fitzstubbs, who has traversed British Columbia by land and water and gone through endless privations and hard work in the course of duty; Mr. A. W. Vowell, who spent so much of his life on solitary, arduous duty, unrelieved but uncomplaining, amid the snows and long ice-bound winters with the Indians and miners of Cassiar; and the Hon. Mr.

O'Reilly, who has travelled on duty through the wildest Exciting parts of this vast country amid privations and dangers with-Experiences. out end, at one time deep in the mountain snows of the far nor'-west, at others in travel on horseback on the very edge of precipices which made one dizzy to look down, among Indian tribes alone, entorcing order by the respect he inspired composing inter-tribal feuds and ignorant misunderstandings causing strife and death feuds-at one time at the lakes and mountains bordering on Alaska, at another on the upper banks of the Fraser, at another among the wild Blackfeet and Indian tribes of the Kootenays, swimming rapid rivers, holding to the tails of horses, going through toil and privation unnoticed and unrecorded-yet returning to civilization and Indian duties, there moving about without a mark or word indicative of toils gone through, stern where duty calls, with proud reserve, yet courteous and kind withal, with all good grace to grace the gentleman.

When the gold fever broke out in 1857 on the Thompson River, just at the bend of Nicomen (although presumably its existence must have been known to some up-country Hudson's Bay Company men in their trade with the natives long before, but concealed for trade reasons), and gold declared itself in large and

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paying quantities in the Fraser, although they had the experience of California before them, the Company was not in the least prepared for the immense and immediate change which the great influx of miners and gold-seekers generally would cause, or that it would occasion such a demand on its resources, or lift Victoria at once from a small, remote Hudson's Bay Co. post into the prominent position of the large and growing city it has now become. There was no time for making such a preparation. The class of men who were flowing in were not very likely to brook starvation in their search for gold in order to observe the antiquated regulations of a monopoly whose days were numbered. The moment the Company accepted civilization and progress as the principle on which their grant from the Crown was to be conducted in lieu of the cultivation of fur-bearing animals their days and autocratic power were nearing their end.

Many of the newcomers, especially from California, were people who had incurred the hostility of the vigilance committees there by their wild, ungovernable lives, born of a gold rush, and came quite prepared to have their way here. But ere long these same men, recruited from the wildest spirits from out the four winds

of heaven, after a little experience of the strong and impartial laws of a British colony, steadily and unflinchingly administered by such men as Chief Justice Begbie and those who have followed him, not only threw aside their objectionable habits, born of uncontrolled lawlessness, but gave their high and restless spirits a new direction and became some of the most energetic and valuable citizens of the newly discovered gold region, and, as already alluded to, even placed by us to do duty, and they did it well, as jurors at Assizes.

All men, British or American, or of whatever country, were thoroughly welcomed in British Columbia, and by none more heartily than Gov. Douglas, who sought them out individually, for he was always seeking to learn, and always accessible to any one who had anything to say—gained their confidence, and so obtained from them valuable information derived from their own mining experiences in Sierra Nevada, Sacramento, and other California mining camps, and up the Fraser itself, which tended greatly to the success of his subsequent mining regulations and indirectly to that of his Government.

He was the very man for the occasion. So many of these characters (shall we call them?) came up in the rush and so marked the tendency at first among a number of newcomers to become what in those days was called "sympathizers," a tendency very much encouraged by a man named Nugent, who posed as if he had claimed to act on behalf of the Stars and Stripes, that there was for the moment

a fear among timid souls that British Columbia might be "sympathized" out of the control of the Union Jack; but Gov. Douglas must have put an end to all such hopes when he armed a Hudson's Bay Co. vessel with guns and placed her in charge of a trusty crew up the Fraser at Langley to intercept all comers and made them—indeed, every one—entering the Fraser pay to the Queen a dollar a head, under the guise of a revenue tax, practically an acknowledgment of the Queen's authority, before they were allowed to proceed to the gold mining placers up above.

Of the legislation of Vancouver Island not many acts now survive or call for notice in a work of this description. Almost the only one that by repeal and re-enactment in an extended form is still in force, is the Vancouver Island Land Registry Act of 1860, taken from the official draft of the new Torrens Act of New South Wales previous to its enactment there, sent out for the purpose by the

Imperial Colonial Office, and which, like the Torrens Act, purports to carry out the recommendation of the Imperial Real Property Commissioners some years before, recommending the registration and transfer of all real property by transfer on the register, doing away with the delays and expensive searches and the requisition of endless examinations into titles, in use in England previous to every transfer of land and purporting to provide with ease, speed and safety for the conveyance of real property.

This has so far been further carried out by the subsequent legislation of British Columbia, and is capable of still further expansion and completeness in the direction of giving absolute certainty to the certificate of indefeasible title and

Legislation. to the effect of registration by creating by a small tax on registrations a fund for an absolute guarantee. It may be noted, as of mercantile importance, that the Imperial Bankruptcy Acts, which were in use in British Columbia, though not perfect (none such can be made), were much better in every respect than the Dominion Bankruptcy Acts (now abolished), which took their place in 1871, leaving us now with no Bankruptcy Act at all.

While all this was going on in Vancouver Island, the Mainland of Caledonia, which, when Vancouver Island was made a colony, still remained as Indian territory subject to the Hudson's Bay Company's authority, had its name changed to British Columbia, was made subject on the 20th of August, 1850, to an Imperial Act for its government under the name of "British Columbia," with its boundaries established just as at present for the Mainland part of the B.C. of to-day.

M. DOUGLAS was made Governor of the new Colony of British Columbia, and as such was empowered by order of the Queen-in-Council, bearing date the 2nd of September, 1858, to make provision for the administration of justice; and as therein mentioned, to make such laws, institutions and ordinances, as might be necessary for the peace, order and good government of Her Majesty's subjects and others therein.

On the 3rd of November, 1858, a proclamation was made and published of the Revocation of the Crown Grant of the 3rd of May, 1838, to the Hudson's Bay Company for exclusive trading with Indians, so far as the said grant extended to the territories comprised within the Colony of British Columbia.

The 19th of November, 1858, was a great day in the history of British Columbia, for it was the legislative birthday of that Colony. It was signalized by Governor Douglas, accompanied by Mr. Justice Matthew Baillie Begbie, the new Judge of the Supreme Court of British Columbia (appointed by a commission

under the Queen's hand) then recently established under a special
Act of Parliament; and Chartres Brew, the Police Magistrate,
proceeding to Fort Langley (then the presumptive Capital of the
new colony) and there in front of the fort buildings, though
within the palisades, publicly proclaiming the colony—and swearing in all the
above officials for their several offices with much state and all due formalities;
and so the legislative birthday of British Columbia was complete.

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British Cognalized by ie, the new commission er a special Magistrate, pital of the gs, though in all the formalities;



HISTORICAL SKETCHES.



DR. TRIMBLE.



J. S. THOMPSON.



R. W. W. CARRALL.



F. J. BARNARD.



R. J. SKINNER.



JUDGE PEMBERTON.



JAMES ORR.



DR. I. W. POWELL.



DR. J. C. DAVIE.



HENRY NATHAN.

EARLY LEGISLATORS.

3

EARLY LEGISLATORS.



Hon. J. S. Helmcken.



HENRY HOLBROOK.



ARTHUR BUNSTER.



T. L. WOOD.



PHILLIP HANKIN.



A. T. Bushby.



E. G. ALSTON.



H. M. BALL.



PETER O'REILLY.



E. H. SANDERS.

EARLY LEGISLATORS.



BISHOP DEMERS.



RT. REV. BISHOP CRIDGE.



BISHOP HILLS.



BISHOP LOOTENS.



REV. E. ROBSON.



REV. W. DUNCAN.



REV. T. CROSBY.



REV. R. JAMIESON.

A GROUP OF PIONEER MISSIONARIES.

It was the precursor of several remarkable events. The Governor under the Imperial Acts 21 and 22 Victoria, under which he had just proclaimed the Colony, thereby abolished the portions of the laws of Upper Canada which previously applied to it. So Upper Canada and British Columbia were even then in a measure connected. He proceeded next under the above Act and the special authority delegated to him by the Queen's Commission under the Great Seal—empowering him "by proclamation under the public seal of the Colony to make laws, institutions and ordinances for the peace, order, and good government

thereof"—to enact and proclaim—a measure which is given somewhat in full as it is at the foundation of all our subsequent Colonial laws, and is in a form long settled and used in the formation of all new English colonies, and constituting a tie to the Mother

Country which no subsequent revolution or political revolutions can ever entirely sever, to wit—"That all the civil and criminal laws of England as they existed at the date of the proclamation of the said Act, and so far as they are not from local circumstances inapplicable to the Colony of British Columbia, are and will remain in full force within the said Colony till such times as they shall be altered by the Queen-in-Council or by the Governor or other legislative authority in the said Colony, and that such laws shall be administered by all proper authorities against all persons infringing and in favour of all persons claiming protection of the said laws."

By another proclamation, having the force of law, the new Colony was made subject to Customs duties upon goods imported into it, and a first-rate officer, the Hon. Wymond Hamley, was sent out to take charge of it. Thus, while Victoria, the seat of Government both of the Island and of the Mainland, both under one Governor, all of whose interests, beyond his duties and his residence were in Victoria, which was a free port, it is scarcely to be wondered that on the Mainland the feeling should have been much against the arrangement.

Before the Colony was proclaimed the Governor had fixed upon Langley, a level country belonging to the Hudson's Bay Company around the fort, as the Capital of British Columbia, but Colonel Moody, R.E.. who had come out with a corps of 400 Royal Engineers to assist in protecting and advancing the country, and had a dormant commission as Lieutenant-Governor in case of the prolonged absence, illness, or incapacity of the Governor, at once opposed the selection of Langley as being on the wrong bank of the river, and indefensible on military grounds, and with his officers sought a suitable site on the right bank proper, and,

against the advice of his officers, at first fixed on Mary Hill, a Choosing a fine and elevated site near the mouth of Pitt River, in preference Capital. to a still finer site a couple of miles lower down on the right bank, and ordered his senior captain-Capt. Jack Grant, as he was familiarly termed, now General Grant, RE,-to take the axe and make the first cut at one of the trees nearest the river. He was in the act of swinging his axe to deliver the blow, when he was so much impressed with the mistake they were making that he said: "Colonel, with much submission I will ask not to do it. Will you yourself be pleased to take responsibility of making the first cut?"-respectfully giving his reasons. These were of so cogent a nature, one being that the lower site being at the head of tide-water, big ships could come up the Fraser to it and that it was easily defensible by a tete du pont on the opposite side of the river, and similar reasons, that the Colonel was convinced, rowed down the river and ordered the first cut to be delivered on one of the huge cedars with which the hill was covered, and named the new town "Queenborough."

But so great already was the jealousy in Victoria against the projected new city, that Queenborough was considered by the Colonial Secretary, Mr. W. A. G. Young, as too nearly a paraphrase of Victoria, the only permissible Queen City, that after a great inkshed and a long acrid correspondence the name was proclaimed to be not the Queen borough, (Victoria) but Queensborough, which was quite another thing. The site was put up to auction and sold at great prices on the understanding that all the money, a large sum, from the sale should be applied in opening the streets, and clearing away from the lots some of as large and dense timber as the world could possibly produce—an understanding which it need scarcely be said the Government for lack of money to push its roads and public works could not, or would not provide, and the purchasers were obliged to tax themselves a second time and engage in "bees," as in Old Canada, to get even a small quantity of the site cleared, and to submit to the feeling of having been deceived. and to see Victoria streets and roads flourish while Queensborough had to be

content with trails. The sequel may as well be told. The matter was taken up by the Home Government, Her Majesty was en-New Westminster Named. gaged to finally fix on the name and by Royal Proclamation, Queensborough (a convenient name) was converted into a Royal

City and the Capital of Brîtish Columbia under the name of New Westminster, (an inconvenient one) and on the faith of that many invested their all in it. But it "would not stay fixed," for the Victorians exerted their political and financial influence, with the Home Government against it, and in a hot and hostile discussion year after year, and with such effect that on the 19th of November, 1860, the union of the two separate Colonies under the name of British Columbia was accomplished and proclaimed, and the Capital changed from New Westminste to Victoria, and those who on the faith of the Royal Proclamation staked their all were simply ruined, without redress or compensation, leaving behind a wound and a sense of deliberate injustice in the minds of the Mainland against the Island that has never been entirely healed, although the reason given that it was necessary to consolidate not only to save the unnecessary expense of two Governments and two sets of officers where one would do, especially to prepare for Confederation, was not without great weight—a reason of growing importance as the benefits of Confederation are becoming more confirmed and solidified day by day, for Canada, as a young nation, has begun already "to feel her feet." and to take her place with her natural allies and sister British plantations as an integral and foremost portion of the British Empire-considerations not anticipated, at the time when the pain was still acute, by Mainlanders, who felt, and justly, too, that they had been grievously deceived and had thereby lost the sayings and labours of many years, and the means of subsistence for themselves and their families. So, it is no wonder that they gave practical vent to their illhumour-for "it's ill standin' atween a fu' man and a fastin'." But time and a due regard for the common local relationships heals all such wounds. Therefore, to that old arbiter we leave it.

The historical sketches contained in the plate on page 43 are named in the following order from top to bottom:

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I. Government Street, Victoria.

^{3.} Procession, Lord Dufferin's visit.

^{5.} Washing Gold, Cariboo.

^{7.} Glimpse of San Juan Island.

^{2.} Mr. A. C. Anderson's farm house.

^{4.} Bastion, H.B.Co's. Fort, Nanaimo.

^{6.} Prospectors starting for the hills.

^{8.} Steamer "Reliance" at Yale.

*STORY OF CONFEDERATION.

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CONFEDERATION came about in a way in British Columbia entirely different to that in any of the other Provinces. It is scarcely necessary to review the events which led up to the Union of four Provinces in 1867. Although the maritime provinces wanted an alliance of their own, they did not take kindly to one with Canadians, as the inhabitants of Ontario and Quebec were then known, and it was only by political strategy that it was accomplished in the case of New Brunswick and Nova Scotia, while Prince Edward Island remained out for some time after. Quebec at heart was not with the movement, although she joined hands with Ontario, having first fixed her repre-

confederation sentation. Manitoba cost the Dominion a rebellion. Her entry in other into the Federal compact was badly managed, and an unnecessary grievance created, which prejudiced the cause for the time being. In the East Confederation arose largely out of a sentiment of unity. It was an idea—a grand consummation into the accomplishment of which the leaders of both parties entered with enthusiasm. There were many diverse elements and interests to consider, many difficulties in the way, but there were also many obvious disadvantages in remaining apart: and when the Fathers of Confedera-

tion had made up their minds to succeed and went seriously to An work, the difficulties were soon overcome. If was an experiment Experiment. at first, and no man could confidently predict the outcome. There were local irritations, provincial prejudices, and weighty obligations to make good. For a time not a few able, conscientious and truly loyal men, who subsequently became good Canadians and heartily acquiesced, looked on with misgivings and gravely doubted the wisdom of the experiment. If, however, the British possessions in North America were to remain British, Confederation was inevitable. Amalgamation and structural organization were rapidly going on on the United States side of the line, and such a political force could only be counterbalanced and restricted by a similar movement on this side. In the East, therefore, as has been intimated, the stimulus to Confederation was political and national, and was so in spite of local considerations. Manitoba, on the other hand, was a territorial purchase, and was virtually created at the time of its union with the other provinces, and had it not been for the community of Metis, whose fears were inspired by an ambitious zealot, abetted by a few American citizens, there would have been nothing either in the way of local interests or sentimental objections to have interfered.

In British Columbia the conditions were entirely different from, and the considerations of a nature totally unlike those which affected the eastern half of Canada. Geographically, the Crown Colony was far removed from the seat of Government. An almost insuperable barrier of mountains cut it off from the rest of the British possessions. A vast, unbroken and practically uninhabited plain separated it from the nearest Province. Politically or socially, the influences of Eastern Canada did not extend to within a thousand miles of its extremest

boundary eastward. There was absolutely no land communication, and, apart from Hudson's Bay Company fur caravans, only one or two parties had ever come overland. There were comparatively few Canadian-born residents, and these were mainly among the pioneers who had left their native place while Confederation sentiment was still in its infancy, and who had formed new associations, and, to some extent, new ideals and objects in life. The population was largely British-born, with not a few Americans interspersed. The country, in its physical configuration, its resources, its requirements, was in every sense foreign to Canada. Communication and trade were wholly with the Pacific Coast and Great Britain, and sympathies to a considerable extent followed in the line of trade and travel. It is not to be wondered at, therefore, that there was an important element opposed to Confederation at the outset.

The main-spring, however, was not sentimentalism. It was not with the idea of rounding off Confederation, or building up a commonwealth from ocean to ocean, with a common organic structure and a common destiny—nothing of the kind. While there were prominent men in the colony, like the late Hon. John Robson, F. J. Barnard, and the Hon. Amor de Cosmos, who hailed from Canada, and who were no doubt imbued with aspirations of a kind that directed the movement in the East, yet the mass of the population was not influenced by such considerations, and that was the most natural thing in the world. It could not have been expected to be otherwise. Dr. Helmcken, who opposed Confederation conscientiously as well as ably, during the debate to go into committee on the terms

submitted by Governor Musgrave, said with much force that "No union between this Colony and Canada can permanently exist unless it be to the material and pecuniary advantage of this Colony to remain in the Union. The sum of the interests of the inhabitants is the interest of the colony. The people of this colony have, generally speaking, no love for Canada. They care, as a rule, little or nothing about the creation of another empire, kingdom or republic. They have but little sentimentality, and care little or nothing about the distinctions between the form of Government of Canada and that of the United States.

"Therefore, no union on account of love need be looked for. The only bond of Union, outside of force—and force the Dominion has not—will be the material advantage of the country and pecuniary benefit of the inhabitants. Love for Canada has to be acquired by the prosperity of the country and from our children."

Dr. Helmcken did not represent the feelings of British Columbia in so far as the desire for Confederation was concerned, but he struck a hard, cold truth in so far as sentiment was concerned. To rightly understand the feelings of the people on the subject we have to go back to the conditions of the time. The situation has already been described, which in one word, in relation to Canada, was isolation. The circumstances, however, were these: The Province was heavily in debt, the liabilities being a round \$1,500,000 for about 10,000 white people. The after effects of the Cariboo gold fever were being experienced. Prosperity had vanished, times were depressed, money was scarce, and no prospects ahead in Victoria deplored the loss of a free port, to which they attributed a good deal except the chance of new gold fields being discovered. A great many people

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of their former prosperity. On the Mainland, where the Confederation movement was the strongest, there existed a keen dissatisfaction over the removal of the Capital from Westminster. And so all round there was a A Desire for desire for change. As a Crown colony there were only two roads Change. open which offered any hopes of betterment-Confederation or Annexation. While there was a slight movement in the latter direction, and a petition had been gotten up in its favour, signed mainly by Americans; and, while there was a modicum of truth in what Dr. Helmcken said about the majority of people caring little about the distinctions as to the form of Government of Canada and the United States, yet British Columbia was essentially loyal to British institutions and to the British flag. As a political possibility it was not to be thought of, and the sentiments expressed by the Fathers of Confederation in British Columbia, in the debate referred to, showed to what small extent the annexation movement had influenced public opinion. Union with Canada, if it meant no more than continued connection with the mother country, in that respect was unobjectionable at least. It was, in fact, preferable to annexation. Isolation seemed to be hopeless and unendurable. Change was necessary.

For some years before, the subject of a transcontinental railway had been much discussed, both in Great Britain and Canada, and with the writings of prominent men on this subject British Columbians were familiar; because, as a class they were educated, intelligent and well-informed-highly superior to any similar number of men in the other Provinces-a fact easily accounted A Transcontifor. Many were graduates of universities and well connected, a nental Railway. select company of adventurers, so to speak. A railway from ocean to ocean was a popular theme. It opened up new vistas of possibilities not only for Canada, but the Empire. To Canadians it meant a chain to bind the disconnected British possessions together; it meant an outlet to and inlet from the West; it disclosed a new Dominion of great magnitude and prom se. It was a subject brimful of opportunity for the eloquence of oratory and the pen-picturing of the essayist. To Great Britain it afforded that alternative route of commerce long sought for in the North-West passage, for the discovery of which her seamen had been diligent and persistent; and for military transport in case of war.

As Confederation was the order of the day, and was being successfully accomplished, the people of British Columbia were not slow to see that in the undertaking of such an enterprise lay their hopes for the future. With a railway having one terminus at Halifax and the other on the shores of the Pacific, they recognized the importance of their position geographically and commercially—a position which in annexation would only and always be secondary to San Francisco, but in Confederation second to none. In all the political habiliments,

paraphernalia and belongings, clothing, surrounding, and attaching to Confederation the one main object—the essence of it all was a railway—direct communication with the East. As Dr. Helmcken might have expressed it, they loved not Canada for what she was, but for what she could do for them. They noted the terms under which the other Provinces had entered the Federal Union—debts assumed, allowances made for differences of degree and conditions, annual subsidies in lieu of existing revenues, Provincial autonomy, and so on. They knew further the anxiety there was to extend the Dominion of Canada westward to the Pacific Ocean. To be relieved of debt, to throw off the weight of an over-weighty officialdom and to secure a

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eal ple railway and still possess the sovereign rights of self-government by the one act of Union was a consummation devoutly to be wished. The people of British Columbia were wise in their day and generation and knew, or thought they knew, how to make a good bargain, and whatever

may be the differences of opinion that exist to-day as to the position of this Province in the Dominion, they flattered themselves, when the news came from Ottawa as to the outcome of the negotiations there, that they had done well. And who will say, considering the circumstances of the Province at that time, and its impotency to do for itself what the Dominion Government had agreed to do for it, that the issue did not justify some measure of self-satisfaction? A railway 3,000 miles long to be begun within two years; \$100,000 a year in lieu of lands to be given for the railway in question; 80 cents per head of a population computed at 60,000; deliverance from \$1,500,000 of debt; \$500,000 for a dry dock at Esquimalt; superannuation of officials; \$35,000 a year in support of the Government; 5 per cent. per annum on the difference between the debt and that of Nova Scotia and New Brunswick pro rata of the population; Indians to be cared for by the Dominion and nine representatives at Ottawa, three Senators and six members in the House of Commons. In lieu of this the Province gave up the land included in the railway belt, and customs and excise revenues. These terms were subsequently modified to some extent, favourably to the Province, but not in any essential respect.

Looking at it from the standpoint of to-day it would be a difficult task indeed, and perhaps a not over-wise one, to decide as to which of the two parties to the negotiations really made the better bargain. Speculation would not be quite idle as to what this Province would be standing alone as a Crown Colony; but we cannot come to a definite conclusion. Great life and energy have been imparted to the people and great development has resulted. The foundation has been laid for things many times greater in comparison, the magnitude of which we are not yet in a position to realize. It is true the Province is paying a substantial dividend yearly to the Dominion for the latter's investment, and is not

possibilities Opened Up. Dominion assumed enormous obligations, under which she staggered for a time, to carry out the terms of the bargain with British Columbia, but Canada to-day without the West would not rank higher in the category of countries than one of the States of the American Union. With the prestige which a transcontinental line with its trans-Pacific connections has given her, with the markets that have been afforded to her manufacturers thereby, and the wealth that has been added to her domain, the taking of British Columbia into the family compact has constituted it the supreme achievement of Confederation.

To come back to the starting point of Confederation in British Columbia: that may be said to have been the union of Vancouver Island with the Mainland. No doubt the dissatisfaction in the Westminster district over the removal of the Capital had much to do in stimulating the movement, and its foremost advocates belong to the Mainland. It is true that the Hon. Amor de Cosmos, in Victoria, had been among the first—if he was not indeed the first—to publicly advocate it in his paper, the "Standard."

However, it first came prominently to the front during the session of 1867, when a resolution was unanimously passed in its favour, requesting

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Gov. Seymour "to take measures without delay to secure the admission of British Columbia into the Confederation on fair and equitable terms." Gov. Seymour,

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it may be remarked, was at first not favourably disposed to a union with Canada, and whatever his influence with the Executive may have been in this regard is not known; but at all events, when the session of the following year was held, little or no progress had been made in the direction indicated by the resolution in question, and, as a matter of fact, the members of the Government seemed to have changed their attitude in regard to it, and when the subject was again introduced it met with overwhelming opposition. As a result of the action taken, or, rather, not taken, by the Executive Council, an agitation was started throughout the country for the purpose of bringing it to an issue.

At a public meeting held in Victoria on January 29th, 1868, a committee was appointed, consisting of Messrs. James Trimble, Amor de Cosmos, I. W. Powell, J. R. Findlay, R. Wallace and H. E. Seeley, who drew up and signed a memorial, which set forth, among other things, the resolution unanimously passed by the Legislative Council, already referred to; that a public meeting had been held at the same time expressing concurrent views with the Legislative Council; that the people of Cariboo had held in the previous December a highly enthusiastic meeting, and unanimously passed a resolution in favour of immediately joining the Dominion; that public opinion was overwhelmingly in favour of Confederation; that there was only a small party other than Annexationists

who were opposed; that nearly all the offices belonged to the latter party; that there was only a small party in favour of annexation to the United States; that Governor Seymour had not made any representations to the Dominion Government asking for admission, as requested; that the Legislative Council, composed as it was of officials and others subject to the will of the Government, could not be depended upon to express the will of the people, and so on. These and other representations were contained in the memorial which was addressed to the Dominion Government.

Hon. S. L. Tilley, the Minister of Customs, sent the following reply, dated Ottawa, March 25th, 1868: "The Canadian Government desires union with British Columbia, and has opened communication with the Imperial Government on the subject of the resolutions, and suggests im-

mediate action by your Legislators and a passage of an address to Her Majesty requesting union with Canada. Keep us informed of progress."

On the 21st of May of the same year a Confederation League was formed in the city of Victoria, of which the following gentlemen formed the Executive Committee: James Trimble (Mayor), Capt. Stamp, Dr. Powell, J. F. (now Hon. Justice) McCreight, Robert Beaven, J. D. Norris, George Pearkes, R. Wallace, C. Gowen, M. W. Gibbs, Amor de Cosmos and George Fox. The League began with a membership of one hundred in Victoria, and branches were formed in several places on the Island and the Mainland.

In Victoria, prominent among those who opposed Confederation was Dr. Helmcken, then a vigorous speaker and writer, who made his opposition much felt.

On July the 1st of the same year, what was described as "a largely attended and spirited open-air meeting" was held at Barkerville, Cariboo, at which strong

resolutions were passed unanimously condemning the Government for opposing Confederation and favouring "some organized and systematic mode of obtaining admission into the Dominion of Canada." At this meeting Mr.

J. S. Thompson, afterwards a member of Parliament, made an effective and eloquent speech in moving a resolution, which, by the way, was seconded by Mr. Cornelius Booth, now Supervisor of the Rolls for the Province. Before the meeting adjourned a committee of five was appointed to carry out the wishes of the meeting in furthering what had been advocated.

The next most important step in the agitation was the holding on September 14th the somewhat celebrated Convention at Yale, at which most of the leading men of the Province were present. A committee was then appointed, composed of Hon. Amor de Cosmos, Messrs. Macmillan, Wallace and Norris, of Victoria; Hon. John Robson, New Westminster; and Hon. Hugh Nelson, of Burrard Inlet, to carry out the objects of the Convention. The proceedings of this Convention were very much criticised at the time, and were the subject of not a little ridicule on the part of those who were opposed to the movement.

At the next meeting of the Legislature, in 1869, the question was again brought up, with the result that the Government carried an adverse resolution as follows: "That this Council, impressed with the conviction that under existing circumstances the Confederation of this colony with the Dominion of Canada would be undesirable, even if practicable, would urge upon Her Majesty's Government not to take any steps toward the present consummation of such union." Messrs. Carrall, Robson, Havelock, Walkem and Humphreys, who stated that they had been returned as Confederationists, entered a protest against the passage of the resolution, and placed on record their disapproval of the action of the Government.

Despite the attitude taken by the Government, events about this time began to hasten that which facilitated in rather an unexpected way the bringing about of Confederation. There was considerable talk of annexation on the part of, it is true, an inconsiderable minority of American citizens, and a petition, which was circulated and signed principally by the latter, was sent to the President of the United States, praying for admission into the Union. In June of that year Gov. ernor Seymour, whose sympathies and influence during the preliminary portion

of the agitation for Confederation had been on the side of those who were opposed to it, but whose opposition, we are led to understand, was subsequently withdrawn—the result of his visit to England—died. Anthony Musgrave, whose instructions were to bring about Confederation as speedily as possible, in conformity with the Imperial policy, succeeded him. Gov. Musgrave, we are told, "was admirably fitted for the work of reconciling the opposing elements, and his efforts were easily successful." Since the time that the first resolution had passed the House, when it was unanimously agreed to, the events in Canada had led to a temporary damper in the enthusiasm at first displayed over Confederation. There was the dissatisfaction existing in Nova Scotia, which did not augur well for the success of the Union,

The Feeling Elsewhere

The Feeling Elsewhere

Council sat, in 1870, had not yet been settled satisfactorily. These no doubt created some unrest in the minds of some of the leading men in the colony, especially in Victoria, as to the wisdom of joining hands with the Dominion while as yet Confederation was, so to speak, only in the

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experimental stage. There were in British Columbia some indications of improvement of the situation, owing to mining excitement, the result of some new discoveries, and it was thought by some, notably Dr. Helmcken, that it would be better to wait a little longer in order to judge more accurately of the results of Confederation in the other Provinces, and in case of times improving, as seemed probable, British Columbia would be in a better position to d mand her own terms than if she went into the Union on the first invitation.

However, Gov. Musgrave was anxious to carry out his instructions, and no doubt wished to have the honour of bringing the matter to a successful issue during his term of office, and he succeeded, as we shall see, in bringing the Executive to his way of thinking. Prior to the session of 1870 he had, with his Council, framed resolutions to lay before them so as to enable him to deal with the Government of Canada. It was agreed that the terms of Union should not be finally accepted until ratified by the people, and authority was to be asked to reconstitute the Legislative Council, so as to allow the majority of its members to be formally returned for electoral districts, and thus obtain an expression of epinion of the people of the colony.

The terms of union proposed by the Governor were, briefly: Canada to assume the debt of British Columbia; to pay \$35,000 yearly for the support of the local Government, and 80 cents per head of the population, to be rated at 120,000, the rate of 80 cents to be continued until the population reached 400,000, the subsidy thereafter to remain fixed; to commence at once the survey

for a line of railway; to complete a waggon road to Lake Superior within three years after Consederation, and not less than \$1,000,000 to be spent in any one year in its construction; to guarantee 5 per cent. interest on a loan of £100,000 for the construction of a graving dock at Esquimalt; to provide fortnightly steam communication with San Francisco; to give regular communication with Nanaimo and the interior; to build and maintain a Marine Hospital, a Lunatic Asylum and a Penitentiary; to maintain the Judiciary and the Post Office and Customs services; to use its influence to retain Esquimalt as a station for Her Majesty's ships and to establish a volunteer force; to provide a pension for the present officers of the Government: and to allow interest at the rate of 5 per cent. per annum on the difference between the actual amount of the indebtedness of the colony, per head of the population, rated at 120,000, and the indebtedness per head of the other provinces.

On Wednesday, March 9th, 1870, began the memorable debate on the subject of Confederation with Canada, when the then Attorney-General, Hon. (now Sir Henry P. P.) Crease, rose to move: "That this Council do now resolve itself into committee of the whole, to take into consideration the terms proposed for the Confederation of the Colony of British Columbia with the Dominion of Canada, in His Excellency's message to this Council." "In doing so," he said, "I am deeply impressed with the momentous character of the discuss on into which we are about to enter, the grave importance of a decision by which the fate of this, our adopted country of British Columbia, must be influenced for better, or for worse, for all time to come. And I earnestly hope that our minds

and best energies may be bent to a task which will tax all our patriotism, all our forbearance, all our abnegation of self and selfish aims; to combine all our individual powers into one great, united effort for the common good." He then invoked the Divine blessing in the following words: "May He who holds the fate of nations in the hollow of His

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ds he hand, and crowns with success, or brings to naught the councils of men, guide all our deliberations to such an issue as shall promote the peace, honour and welfare of our Most Gracious Sovereign, and of this and all other portions of her extended realm." His speech in introducing the resolution above was brief, but lucid and eloquent. "This issue is," he remarked, "Confederation or no Confederation," and pungently added, "Your question, Mr. President, that I do now leave the chair, means: Will you refuse Confederation at any price or will you have it on favourable terms? That is the issue before us now." Thus was launched a discussion, which, vigorously conducted for a number of days, landed the Province of British Columbia in the arms of the Dominion.

The debate to go into Committee of the Whole lasted three days, and nine days were occupied in discussing the details in committee. Some notable speeches were made, and probably no debate since that time brought into requisition greater talent, or better sustained and more dignified oratory in the Legislative

Assembly. They were able men, some of them, who took part,

Those Who and all the speakers were prominent in the affairs of the country.

Among them were Attorney-General Crease, Dr. Helmcken,

Amor de Cosmos, Thomas Humphreys, M. W. T. Drake, John
Robson, Joseph Trutch, Hy Holbrook, T. L. Wood, F. J. Barnard, R. W. W.

Carrall, E. Dewdney, G. A. Walkem—nearly all of whom are familiar to the
newest comers as men having taken a high place in the affairs of the Province.

It would be impossible in a limited space to give even in outline the salient points in the debate, which, by the way, was reported for the Legislative Council by W. Sebright Green, whose name is familiar to those who read the proceedings of the Royal Colonial Institute. He has read several important papers at its meetings, and takes a deep interest in colonization matters.

Following the Hon. the Attorney-General came Dr. Helmcken, from whom the principal opposition arose. In the course of his remarks he said: "The honorable gentleman laid great stress upon the consolidation of British interests on this coast; but I say, sir, that however much we are in favour of consolidating British interests, our own must come first. Imperial interests can well afford to wait. We are invited to settle this question now and forever; but I say that we are not called upon to do so. The matter will come before the people after the proposed terms have been submitted to the Dominion Government; and it will very likely happen that if these terms were rejected and others of a mean nature substituted by the Government of Canada for the consideration of the

people of this colony, other issues may come up at the polls, and amongst them the question whether there is no other place to which this colony can go but Canada. Whatever may be the result of the present vote, it is impossible to deny the probability of the lesser being absorbed by the greater, and it cannot be regarded as improbable that ultimately not only this colony but the whole of the Dominion of Canada will be absorbed by the United States." As has already been stated, Dr. Helmcken dwelt largely on the fact that the time was inopportune to open the question, because he indicated that the new gold discoveries would bring a large population to the Province and that the present depression would be swept away, and that in that event the Province would be in a better position to go to the Dominion and negotiate for terms.

In noticing the drawbacks of the colony he said: "The United States hem us in on every side. It is the nation by which we exist. It is a nation which

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has made this colony what it is; but, nevertheless, it is one of our greatest draw-backs. We do not enjoy her advantages, nor do we profit much by them. We do not share her prosperity, and we are far too small to be rivals. The effect of a large body and a small body being brought into contact is that the larger will adopt the smaller and ultimately absorb it. And again, I say so, sir; I say that the United States will probably ultimately absorb both this colony and the Dominion of Canada. Canada will, in all probability, desire quite as much to join her ultimately as we do now to join the Dominion." Dr. Helmcken also

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objected to the Canadian tariff, which was lower than that of British Columbia at the time, and consequently unfavourable to the development of the agricultural industry. This was a matter that was very strongly dwelt upon by nearly all the members, and it was held that in arranging the terms the Dominion Government would be specially induced to look after the interests of this Province and see that the farmers were protected from competition from the neighbouring territory of Washington and Oregon. The doctor held that the Confederation would be inimical to nearly every interest of the Province and particularly to the farmers. He said it would be inimical to brewers, to the spar trade, to the fisheries, whaling pursuits and the lumber business. Of all the speeches delivered his may be said to have been the most original.

Hon. Mr. Drake, member for Victoria City, moved the six months' hoist saying: "I need not state, sir, that I have always been opposed to Confederation. I have consistently opposed Federation on any terms up to the present time, and I do not see any reason now to change my opinion." Mr. Drake took very much the same line of objection as Dr. Helmcken. He spoke particularly in

regard to the Canadian tariff, which he said would place the farmers of British Columbia at a very great disadvantage compared with those of the United States. He claimed that distance from Canada, smallness of population, giving an insignificant representation in the Dominion Parliament, and the unsettled state of the intervening territory, would be insuperable barriers to the success of the scheme. The Hon. Mr. Ring, member for Nanaimo, seconded Mr. Drake's amendment, and spoke briefly. Hon. Mr. Robson, it is needless to say, though opposed to the Government, took a strong and patriotic position in favour of the original resolution. He always favoured Confederation.

Perhaps the strongest speech was made by Hon. J. W. Trutch, Chief Commissioner of Lands and Works. His arguments were well presented, and his advocacy of Confederation moderate but firm. Regarding Canada, he said: "I believe, sir, that many of the objections which have been raised to Confederation

have arisen from prejudiced feelings. I have no reason to be prejudiced against or partial to Canada. I believe that Canadians as a people are no better than others, and no worse. I have no ties in Canada, nor particular reason for entertaining any feeling of affection for Canada." He repudiated some suggestions of Hon. Mr. Drake as follows: "The honourable junior member for Victoria asks what guarantee have we that the terms will be carried out. I say at once, sir, if the terms are not carried out, if the Canadian Government repudiate their part of the agreement, we shall be equally at liberty to repudiate ours. We should, I maintain, be at liberty to

Confederation. He considered the time was most opportune. He was in favour of the Province having the right to make its own tariff so as to protect its farming interests, and hailed with pleasure the salmon laws of Canada and advocated the rights of the Indians. Concluding, he said: "As we shall, from our position on the Pacific Coast, be the keystone of Confederation, I hope we may become the most glorious in the whole structure, and tend to our own and England's future greatness."

Hon. Mr. Wood was the next speaker. He supported in an able and argumentative speech the amendment for the six months' hoist. His objections were, first, to the principles of the Organic Act of 1867, as applied to the British North American Provinces; second, to the special application of the principle to this Province; third, to the mode in which the consent of its adoption was attempted

to be obtained. Mr. Wood thought the principle of Confederation was bad in itself and would not work out successfully. He thought that Great Britain favoured it from a selfish point of view, and not from considerations of broad statesmanship. With respect to British Columbia his objections were: Remoteness, comparative insignificance, and diversity of interests. As to the third objection, the mode of bringing about Confederation, he objected to it as not appealing to moral or political considerations, but to pecuniary motives. In other words, the people were being bribed by promises of a railway and a dry dock rather than being convinced by political advantages.

Hon. Amor de Cosmos made a long and vigorous though somewhat discursive speech. He claimed to be the first to advocate Confederation, and as such condemned the Government for delaying so long. He remarked at the opening: "For many years I have regarded the union of the British Pacific territories, and of their consolidation under one Government, as one of the steps preliminary to the grand consolidation of the British Empire in North America.

A Strong Champion.

I still look upon it in this light with the pride and feeling of a native born British American. From the time when I first mastered the institutes of physical and political geography I could see a time when the British possessions, from the United States boundary to the Arctic Ocean, and extending from the Atlantic to the Pacific, would be consolidated into one great nation." Mr. de Cosmos incidentally remarked: "If I had my way, instead of the United States owning Alaska, it would have been British to-day." He laid great stress on the terms of Confederation and was anxious to make as good a money bargain as possible. On that ground he objected to the financial arrangements as submitted by the Government as not creating sufficient surplus of revenue and also to the fiction, as he termed it, of assuming the population to be 120,000 instead of 40,000. It may be remarked here, incidentally,

that the assumption of 120,000 as the population of British Columbia was based not on an estimate of the actual number of people, including Indians, in the Province, but on the relative tariff revenue as compared with that of Canada, which was as three to one. In other words, it was estimated that as every individual paid three times in tariff imposts what was paid in Canada, the population should be figured as 120,000 instead of 40,000. It is curious that the rate of revenue still maintains the same ratio. Our population is now 100,000. According to that method of figuring it should be 300,000 for the purpose of a subsidy.

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The d and t withda House Hon. Mr. Ring again spoke, advocating that the people should have an opportunity of deciding upon the terms before it was discussed by the House.

Mr. Barnard was the most enthusiastic supporter of Confederation, and he took up the subject, as he did anything in which he became interested, with peculiar energy. Speaking as a Canadian born, he said: "I desire, before going further, to allude to a charge commonly laid against my countrymen—often offensively put—but yesterday put by the Hon. Mr. Wood in his usually gentlemanly way. It is that of Canadian 'proclivity.' As a native born Canadian, in common with others, I love the land of my birth. We admire her institutions and revere her laws; but we never forget the land of our adoption, and we should no more consent to see her wronged by Canada than would the tens of thousands

of Englishmen who have made Canada their home permit a wrong to be done her by England. * * * * As to that 'other issue' (meaning annexation) I have no fears for Canada, or this colony either. It used to be fashionable here in early days to associate the name of Canada with rebellion. It was the result of prejudice and ignorance and was a great mistake. * * * To sum up, sir, I say that amongst the statesmen of Canada we may safely look for men fully competent to control the affairs of a young nation. They are men of as much ambition and grasp of thought as are the rulers in the adjoining States; and depend upon it, nothing will be left undone to advance the prosperity and well-being of every portion of their vast Dominion. We may safely repose full confidence in them."

Hon. Mr. Humphreys, for Lillooet, was somewhat fiery in his remarks, and though in favour of Confederation was much "agin" the Government. He wanted to see responsible government made a sine qua non of Union.

Hon. Mr. Carrall, another enthusiastic Confederationist, followed in a well-balanced speech, and coming from Cariboo, he had strong support in his constituents. Speaking of Canada, he said: "After she was prevented from going to the

United States by that abrogation of the Reciprocity Treaty she br. Carrall. turned her attention to her own resources, and I believe she is now going to be one of the most progressive nations upon the earth. Undoubtedly she is determined to progress westward until she reaches British Columbia and the Pacific, and with all her progressive tendencies she will not abate one jot of her loyalty for which now, as ever, she is distinguished."

Hon. Mr. Alston, Registrar-General, a representative of the official element in the House, supported the Government's resolution. Mr. Dewdney, the present Lieutenant-Governor, member for Kootenay, was in rather an awkward position, for, as far as he could ascertain, his constituents were opposed to Confederation; but as he was unable to consult with them upon the terms just submitted, he took the responsibility of supporting the resolution for Confederation,

I do believe that their opinions would be in unison with that of Confederation to his constituents "in the light that it now bears. I do believe that their opinions would be in unison with that of the country generally—in favour of Confederation on terms now proposed." The debate was closed by brief remarks from Dr. Helmcken, defining his position, and the Hon. Attorney-General, Hon. Mr. Drake, member for Victoria City, withdrew his amendment, and the resolution was carried unanimously and the House went into committee of the whole.

The discussion for the next ten days was on matters of detail and was

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Our d be quite too long and irregular to endeavour to present in any concise form. The terms as submitted by Gov. Musgrave were agreed to, with a few exceptions, the principal of which were that the annual grant of \$35,000 to be paid by the Dominion for the support of the Local Government was raised to \$75,000, and the limit of population at which the amount of subsidy became fixed was changed from 400,000 to 1,000,000, and a series of supplementary resolutions added.

Messrs. Helmcken, Trutch, and Carrall were chosen by the Executive to go to Ottawa to arrange the terms with the Dominion Government. The sum of \$3,000 was voted to defray their expenses, and they left on May 10th, 1870, by way of San Francisco. On the 7th of July the special correspondent of the "Colonist" telegraphed as follows: "Terms agreed upon. The delegates are satisfied. Canada is favourable to immediate union and guarantees the railway. Trutch has gone to England. Carrall remains one month. Helmcken and your correspondent are on their way home."

The terms agreed upon have already been given in substance, and were confirmed by the Legislature upon its first meeting thereafter.

In connection with the terms of Confederation, submitted by Gov. Musgrave, and adopted in substance by the Legislative Council, supplementary resolutions, as has already been stated, were passed, stating: 1. That duties levied upon maltsters and brewers, under the Excise Law of Canada, would be detrimental to British Columbia, and requesting that no export duty should be charged on spars exported from British Columbia. 2. That the application of the Canadian

supplementary Resolutions. tariff, while reducing the aggregate burden of taxation, would injuriously affect the agricultural and commercial interests of the community, and requesting that special rates of customs duties and regulations should be arranged for the colony. 3. That a geographical survey of British Columbia be made, such survey to be commenced one year after Confederation. 4. And that all public works and property of British Columbia at the time of admission, except such public works and property as properly belonged to the Dominion under the British North America Act, should belong to British Columbia, and all roads to be free of toll of every kind whatsoever.

The terms of union agreed upon between the delegates from British Columbia and the Government of Canada differed from those adopted by the Legislative Council in the following important respects: That the population should be estimated at 60,000 instead of 120,000; that British Columbia should be entitled to six members in the House of Commons and three in the Senate, instead of eight members in the House of Commons and four in the Senate.

The proposition for the construction of a waggon road from the main trunk road of British Columbia to Fort Garry was dropped, and the Dominion undertook to secure the commencement simultaneously, within two years of the date of the union, of the construction of a railway from the Pacific to the Rocky Mountains, and from a selected place east of the Rocky Mountains to the Pacific, to connect the seaboard of British Columbia with the railway system of Canada and to

Waggon Road Dropped.

Waggon Road Dropped.

Government a land grant similar in extent through the entire length of British Columbia, not to exceed twenty miles on each side of the line, to that appropriated

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to give seven terms but of within magnit Trutch he mad in his said: for the same purpose by the Dominion Government from lands in the North-West Territories and the Province of Manitoba, with this provision, however, that the land held under a pre-emption right or Crown grant within the forty-mile belt should be made good to the Dominion from contiguous public lands. In consideration of the lands to be thus conveyed to the railway the Dominion Government agreed to pay to British Columbia from the date of union the sum of \$100,000 per annum in half-yearly payments in advance. The charge of the Indians and the trusteeship and management of lands reserved for their use and

benefit, were assumed by the Dominion Government. The constitution of the executive authority of the Legislature of British Columbia was to continue as existing at the time of union until altered under authority of the British North America Act, but it was understood that the Dominion Government would readily consent to the introduction of responsible government when desired by British Columbia, and it was agreed by the Government of British Columbia to amend the constitution so as to provide that the majority of the Legislative Council should be elective.

An election was held in November of 1870, in which it is unnecessary to state that the terms of Confederation were the main issue. The new Council met January 5th, 1871. Dr. Helmcken was nominated as Speaker, but declined. The terms of Confederation, as agreed upon, were passed unanimously, and an address was presented to His Excellency the Governor, praying that Her Majesty would be graciously pleased to admit British Columbia, under the provisions of the British North America Act, into the Dominion of Canada.

Responsible government, for which the colony was fully prepared, was a natural consequence of Confederation, and a bill was introduced in the Council on the 31st of January, 1871, to give power to alter the constitution of British Co-

Responsible Government. Ilumbia. The bill was considered in committee of the whole and reported complete, and was formally adopted on February 6th. The first election under the new constitution took place in October, 1871. Hon. Joseph Trutch, conspicuous in bringing about Confederation, had been appointed Lieutenant-Governor of the new Province. Hon. J. F. (now Justice) McCreight was called upon to form the first administration. Among those who were returned to the House, it would be interesting to know, were G. A. Walkem, Joseph Hunter, Cornelius Booth, J. P. Booth, J. A. Mara, John Robson, W. J. Armstrong, Robert Beaven, Simeon Duck, Amor de Cosmos, C. A. Semlin, all of whom, with two exceptions, Hon. John Robson and Hon. Amor de Cosmos, are still alive and prominent.

It was not long before the question of the Canadian Pacific Railway began to give cause for trouble, which existed in a more or less aggravated form for seven or eight years. Few people, even in British Columbia, imagined that the terms of union so far as the railway was concerned would be strictly adhered to, but of course they expected a bona fide attempt to commence and complete it within the time specified. Few people, either, probably had considered fully the magnitude of the enterprise and the difficulties to be overcome. Sir Joseph Trutch, one of the delegates, was fully cognizant of the difficulties, however, when he made a speech at Ottawa in reply to the toast to his health at a banquet given in his honour before his visit to England. Speaking about the limit of time, he said: "If it had been put at twelve or fifteen years, British Columbia would have

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been just as well satisfied, and if the estimated period had been reduced to eight years it would not have been better pleased. But some definite period for the

completion of this work the delegates from British Columbia Not to be Bulinsisted upon as a necessary safeguard to our colony in entering filled Literally. into the proposed Union. To argue that any other interpretation will be placed upon this railway engagement by British Columbia than that which I have given to you as my construction of it, to argue that she expects that it will be carried out in the exact interpretation of the words themselves regardless of all circumstances, is a fallacy which cannot bear the test of common sense. I am sure you will find that British Columbia is a pretty intelligent community, which will be apt to take a business view of the matter. She will expect that this railway shall be commenced in two years, for that is clearly practicable, and she will also expect that the financial ability of the Dominion will be exerted to its utmost, within the limit of reason, to complete it within the time named in the agreement. But you may rest assured that she will not regard this railway agreement as a 'cast iron contract,' as it has been called, or desire that it should be carried out in any other way than as will secure the prosperity of the whole Dominion, of which she is a part. I have understood this railway engagement in this way from the first, and still so understand it."

Immediately after the ratification of the terms of union the work of exploration and survey began, but at the end of the time limit, tst of July, 1873, explorations had only been carried on to an extent sufficient to determine the direction in which the experimental surveys should proceed. It is needless at this date to enter into the details of the several syndicates that were formed for the purpose of building the proposed Canadian Pacific Railway, or the rather

disastrous termination of the Sir John Macdonald Government as the result of the scandal in connection therewith. Hon. Alex. ander Mackenzie was called to power. Previous to the change, however, the Government of British Columbia had been notified that Esquimalt had been selected as the terminus of the railway. When Hon. Mr. Mackenzie assumed the management of affairs his policy in regard to the construction of the railway was opposed to that of his predecessors, inasmuch as he believed in going more slowly and in building the line as the resources of the Dominion would allow,

refusing to be bound by the terms made by the preceding Government in regard to the time limit. Out of this change of policy grew the subsequent dissatisfaction and agitation which troubled the Province for several years. Previous to the incoming of the Mackenzie Administration surveys had been carried on in British Columbia in order to ascertain the best route by way of Yellow Head Pass. One of these was the Fraser route with its terminus at Burrard Inlet; one to Esquimalt via Bute Inlet, by crossing the Seymour Narrows, and the other down the Skeena River.

In 1874 Hon. Alex. Mackenzie introduced his Pacific Railway Bill, by which the line was divided into four sections: the first extending from Lake Nipissing to the west end of Lake Superior; the second from Lake Superior to the Red River in Manitoba; the third from Red River to some point between Fort Edmonton and the Rocky Mountains; the fourth from the western terminus of the third section to some point in British Columbia. The Mackenzie Government declined to accept Esquimalt as the terminus of the railway and made

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RICHARD BLANSHARD.



SIR JAMES DOUGLAS.



LT.-COL. MOODY.



A. E. KENNEDY.



FRED'K SEYMOUR.



ANTHONY MUSGRAVE.



SIR JOS. TRUTCH.



Hon. A. N. RICHARDS.



Hon. C. F. Cornwall.



Hon, H. Nelson.

GOVERNORS AND LIEUTENANT-GOVERNORS.



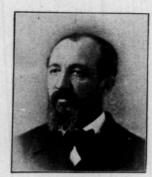
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HON. AMOR DECOSMOS.



HON. G. A. WALKEM.



HON. A. C. ELLIOTT.



HON. ROBT. BEAVEN.



HON. WM. SMITHE.



Hon. A. E. B. DAVIE.



Hon. John Robson.



Hon. THEO. DAVIE.



Hon. J. H. TURNER.

PREMIERS OF BRITISH COLUMBIA.

other alterations in the plans of construction, which were unsatisfactory to the Provincial authorities. In Victoria, especially, there was a very strong feeling

of resentment, to some extent the result of the delay in construc-The Question of tion, but largely arising out of the fact that the Dominion Gov-Terminus. ernment preferred a Mainland terminus to that of Esquimalt. A rupture was at any time imminent. Strong protests were lodged with the Dominion and Imperial authorities. Mr. J. D. Edgar, a confidential agent of the Mackenzie Government, was sent out to British Columbia to assure the people. of the desire of that Government to do them justice; but the Government of British Columbia, being in anything but an amiable mood, refused to negotiate with the delegate in question, inasmuch as he was not clothed with proper credentials, and he was recalled. The Lieutenant-Governor complained to the Imperial Government that a breach of contract had been committed by the Federal authorities in not carrying out the terms of Confederation. In the same year Hon. Mr. Walkem, Attorney-General, proceeded to England with a petition from the Executive Council of British Columbia. While there he negotiated what are

known as the "Carnarvon Terms." These provided that the rail-Carnarvon way from Esquimalt should be commenced and completed with-Terms. out delay; that surveys on the Mainland should be pushed with vigour; that a waggon road and telegraph line should be immediately constructed; that \$2,000,000 a year should be the minimum of expenditure within the Province on the railway construction after the completion of the surveys; that the railway should be completed and opened for traffic to Lake Superior on or before the first of January, 1891. These terms were agreed to by the Dominion Government. Owing to a bill for the purpose of giving the terms effect being defeated in the Senate, further delay arose and further protests were made by British Columbia. Feeling was so acute that separation was loudly threatened. It was to allay this feeling that Lord Dufferin visited the Province in 1876, during which he made his celebrated speech. While materially His Excellency's visit did not do much to advance the interests of the railway, it certainly did much to relieve for a time the strained relations then existing between the Province and the Dominion. The railway made no progress and matters continued to grow worse till 1878, when a petition was forwarded to the Queen, asking that the Province be permitted to withdraw from the Union unless the "Carnarvon Terms" were carried out. A

definite pledge was received in the early part of 1878 that the work of construction in British Columbia would be begun that season and the work pushed vigorously. In this year came about the defeat of the Mackenzie Administration, and Sir John Macdonald's Government at first desired to ascertain if some other route was not possible by which Victoria could be reached than that down the Fraser Valley; but the selection of Port Moody made by Hon. Alexander Mackenzie was subsequently confirmed and the Government contracted with Mr. Onderdonk for the construction of the line from Emory's Bar to Savonas Ferry. The Provincial Government, however, desired to see the line on the Island begun as well, and strongly pressed this matter on the Federal authorities. Not receiving any satisfactory reply, Hon. Amor De Cosmos was sent to England to present a petition to the Queen. The Earl of Kimberley, then Secretary of State, proposed as a basis of settlement the construction of a light line of railway from Esquimalt to Nanaimo; the extension of the Can-

adian Pacific line, without delay, to Port Moody; and the grant of reasonable compensation money for failure to complete the work within ten years. In 1883,

in the first year of Mr. Smithe's administration, after the The Settlement defeat of Mr. Beaven in 1882, the Settlement Act was Act. passed, by which all issues between the Province and the Dominion were finally disposed of. By this Act a subsidy of \$750,000 was pledged by the Dominion Government for the construction of the Island Railway, which, with a liberal grant of land from the Provincial Government, secured the construction and completion of the Esquimalt & Nanaimo Railway. By the Act in question the dry dock at Esquimalt, construction of which had been begun under the Walkem-Beaven Administration, provided that upon its completion the Government of Canada should take it over and operate it as a Dominion work; that the Dominion Government should be entitled to and have conveyed to it all lands belonging thereto, together with the Imperial appropriation; and pay to the Province as the price therefor \$250,000 in addition to the amounts that had been expended or remained due up to the passing of the Act.

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In the meantime a syndicate had been formed to build the Canadian Pacific Railway as a private enterprise. The terms and conditions upon which the syndicate entered upon this gigantic work are too well known to enumerate them here at any length. Suffice it to say, therefore, that the Dominion agreed to give the syndicate \$25,000,000 in cash, 25,000,000 acres of land, guarantee its bonds to the extent of 3 per cent. for a number of years, allow all material necessary in the construction of the line to be imported free of duty, turn over to it such portions of the line as were already constructed and in operation and build other sections, the total value of these being estimated at \$15,000,000. The grand total

value of the aid or subsidy amounted to about \$65,000,000. Politically it created a great deal of excitement in Canada at the time. The syndicate agreed to complete the road by May 1st, 1891. Thus all difficulties and delays were put an end to, and when the Settlement Act of 1883 was passed the term of Confederation may be said to have been finally consummated and not before. The entering into Confederation in 1870 was merely formal; the reality came about and the Province was satisfied only when it was assured beyond all doubt that the railway for which it bargained with the Dominion would be completed.

It is well known that the road was completed five years before the limit specified in the agreement between the syndicate and the Dominion Government,

and the first through train reached Port Moody on July 4th, 1886.

The foregoing is the story of Confederation in so far as it concerns British Columbia. Vancouver's train service was inaugurated May 23rd, 1887, the first through train having reached the Terminal City on that day, since which date a regular daily east and west-bound service has been maintained.

^{*}Story of Confederation.—The foregoing was a contribution of the author to the Souvenir Edition of the Vancouver "World," June, 1896.

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THE first paper started in British Columbia was under the auspices of the late Roman Catholic Bishop Demers, assisted by the Comte de Garro, a Frenchman who had left Paris during the political troubles consequent upon the Napoleonic coup d'etat in 1851. The Bishop had a plant of old-fashioned French type and an old-fashioned hand-press, and he was ambitious to print a newspaper on the Island, mostly devoted to Church interests. About two numbers were published, at Victoria, and then the paper died for want of support.

Early in 1858 the "rush" as it is called, took place to Fraser River consequent upon the discovery of gold. A number of Americans led the "rush" and, as now in the Kootenay country, took prominent positions at once in business and mining. The firm of Whitton, Towne & Co. started a paper called the "Victoria Gazette." This was followed by Frederick Marriott, an Englishman, but a resident of California, who started a paper called the "Vancouver Island Gazette." The last named lived about four or five weeks. The "Victoria Gazette" lived until December, 1858, when it died, and in the meanwhile the Hon. Amor De Cosmos had secured possession of Bishop Demers' plant and commenced the publication of a tri-weekly paper called the "British Colonist," and from this inception the present "Colonist" has continued ever since.

The New Westminster "Times" was printed by E. Hammond King, and was a Government organ, supporting the Government of Sir James Douglas and the Hudson's Bay Co.'s regime, while the "Colonist" was opposed to the Government and Hudson's Bay Co.'s rule. Leonard McClure was the editor of the New

Westminster "Times," which was removed to New Westminster and died shortly afterwards. McClure was the man who made the longest speech ever made by any public speaker, speaking for sixteen hours. He died from the fatigue consequent upon his effort the following year in California.

The "Daily Times," the "Telegraph," the "Express," the "News," and the "Standard," followed in rapid succession at Victoria. The "Chronicle" was established in 1862 by Mr. D. W. Higgins and Mr. McMillan, now Sheriff. The competition was keen, and when the telegraph lines were extended to Victoria in 1866 the "Colonist" succumbed to the hard times and sold out to the "Chronicle." Mr. Higgins continued the paper from 1866 to 1886, when he sold out and retired from the newspaper business.

The "Evening Post" was established in 1880 by Wm. McDowell, and lived only a couple of years. The present "Times" was established about 1884. The "Standard" lived about twenty years. The daily newspaper field is now occupied by the "Colonist" and "Times." The "Province" is a weekly publication, the only one that has ever shown any vitality or staying power.

On the Mainland, however, newspaper life was uncertain. New Westminster

had several daily publications, chief among them being the "Herald," the "Times" and the "Columbian"; the last named alone survives. The "Cariboo

Sentinel," printed at Barkerville by a famous editor of the day, George Wallace, paid handsomely for several years, and only died after the placer mines were exhausted and the population had departed for other fields. The "Yale Tribune" was another pioneer weekly, but it only existed for a brief season. The "Inland Sentinel" is the oldest newspaper in the interior, but the discoveries in Kootenay have breathed life into the nostrils of many enterprises, and several new publications—two of them daily—are in the enjoyment of a vigorous existence, with every prospect of a long and useful career.

There have been frequent collisions between the newspaper press and the Courts in consequence of complaints of libel, etc., and on three occasions only

the press came into collision with the Legislature. On one occasion, in 1861, Mr. DeCosmos of the "Colonist" was brought up for a libel on Mr. Speaker Helmcken, now Hon. Dr. Helmcken, and was arrested by the Sergeant-at-Arms, and, while the Legislature deliberated what was to be done, he apologized and was liberated.

On another occasion the proprietors of the "Chronicle" were charged with libel on G. E. Dennes, member for Salt Spring Island in the Colonial Legislature of Vancouver Island, and were debarred for one week from sending reporters to the Gallery.

The third occasion was when the Kennedy Brothers (the "Columbian," New Westminster) were arraigned, five years ago, for libel on members of the Legislature. They were arraigned at the Bar, and, refusing to apologize, sentenced to be imprisoned by the Speaker, Hon. Mr. Higgins, until the Legislature had been prorogued. This it did in the course of a day or two, and they were liberated by the Speaker's order.

The first cylinder press was placed in operation in the "Colonist" office in the summer of 1862, and steam was first applied to a printing press in the same office in 1876.

The foregoing reminiscences of the press were kindly supplied by the Hon. D. W. Higgins, who is appropriately referred to as the "Father of Journalism"

in British Columbia. They refer principally to newspapers of the earlier period of the Province's history. In addition to those referred to, there were ventures of an evanescent character, almost too numerous to mention. The journalistic field has nearly always been crowded. Owing to sparseness of population, the constituency was ever limited, and, consequently, the support too meagre to make them permanent undertakings.

Among the comic papers that attempted an existence were the "Scorpion" and the "Comet," two lively but short-lived journals, the latter of which was promoted by Mr. John Fannin, present Curator of the Provincial Museum.

The "Free Press" of Nanaimo, a well-established daily, started in 1875, and has outlived numerous rivals, the latest being the "Telegram" and "Mail." The pioneer newspapers of Vancouver were the "News," the "Advertiser" and the "Herald," all at an early period merged into the present "News-Advertiser." The "World," an evening paper, was established in the fall of 1888. For several years the "Telegram," founded in 1890, was a rival evening, and, subsequently, a morning paper, but succumbed to financial difficulties in 1893. The "Mainland

Guardian," owned by Mr. Suter, was published weekly in New Westminster for a number of years, and was succeeded in 1890 by the "Daily Truth," and subsequently changed to the "Ledger," for some time defunct.

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yand Donald, Steveston, Mission City, Surrey and Lardo, in recent years each had its whilom journalistic mouthpiece. The journalistic "boneyard" of British Columbia is full of remains. At the present time journalism is well represented, and, speaking generally, the press is vigorous and well conducted; more especially in the mining regions of Kootenay and Yale has there been a development corresponding to the mining activity. The following is a list of newspapers in the Province at the present time:

Name of Paper.	Editor or Manager.	KIND.	PRICE PER ANNUM	PLACE OF PUBLICATION.	lished
Avenee	W W Name			Widman	18
dvance	W. H. Norris J. C. Henderson	Weekly	Susp'd	Midway Victoria	18
. C. Mining Journal	F. S. Reynolds	Weekly		Ashcroft	18
. C. Mining Record	A. Begg (deceased)	Monthly		Victoria	18
oundary Creek Times	W. I. Harber	Weekly	• 2 00	Greenwood	15
hilliwack Progress	W. J. Harber W. T. Jackman W. H. Ellis	Weekly		Chilliwack	18
olonist (Daily)	W. H. Ellis	Morning	10 00	Victoria	18
olonist	W. H. Ellis	Semi-Weekly.		Victoria	18
olumbian (Daily)	Kennedy Bros	Evening	8 00	New Westminster	
olumbian	Kennedy Bros	Weekly		New Westminster	á
nterpriseast Kootenay Miner	Blake & Ramsay	Weekly		Wellington	18
rand Forks Miner	East Kootenay Pub. Co G. E. McCarter		2 00	Grand Forks	15
olden Era	A. E. Haggen	Weekly	2 00	Golden	18
land Sentinel	F. J. Deane	Weekly	2 00	Kamloops	I
· + a	Brown & Penrose	Weekly	2 00	Wardner	1
ootenaian	D. W. King	Weekly	2 00	Kaslo	1
ootenay mail	Atkins & Smith	Weekly	2 00	Revelstoke	1
amloops Standard	J. T. Robinson	Weekly	2 00	Kamloops	1
edge	R. T. Lowery	Weekly	2 00	New Denver	I
iner	W. A. Jowett	Weekly	2 00	Nelson	10000
ining Critic	M. Gradwohl	Weekly	2 00	Vancouver	1
ining Reviewanaimo Free Press		Weekly	2 00	Sandon	-
anaimo Free Press	Geo. Norris	Daily	8 00	Nanaimo	1
ews-Advertiser	Geo. Norris	Semi-Weekly. Morning		Vancouver	1
ews-Advertiser	F. C. Cotton	Weekly		Vancouver	1
elson Economist	D. M. Carley	Weekly	2 00	Nelson	1
aystreak	E. C. Bissell	Weekly	2 00	Sandon	1
rospector	A. B. Grace	Weekly	1 50	Fort Steele	
ovince.	A. H. Scaife	Weekly	I 00	Victoria	1
evelstoke Herald	G. E. Geogan	Semi-Weekly.	2 00	Revelstoke	100
eview	G. H. Cross	Weekly	2 00	Nanaimo	1
ossland Evening Record.	Eber C. Smith	Evening	10 00	Rossland	100
ossland Weekly Record		Weekly	2 00	Rossland	
ossland Minerossland Weekly Miner	H. W. C. Jackson H. W. C. Jackson	Daily	0 00	Rossland	
osslander	W. H. Jones	Weekly	2 00	Rossland	1000
lverton Silvertonian	Cameron & Butterfield.	Weekly	2 00	Silverton	
ocan City News	D. R. Young	Weekly	2 00	Slocan City	1
ocan Pioneer	I. C. McFadden	Weekly		Slocan City	1
rail Creek Miner	C. E. Trail	Weekly		Trail	1
rail Creek News	W. F. Thompson	Weekly	2 00	Trail	1
ribune	R. Renwick	Weekly	12 00	Nelson	1
ernon News	I. A. McKelvie	Weekly	2 00	Vernon	
ctoria Daily Times	W. Templeman	Evening	0 00	Victoria	I
ictoria Times	W. Templeman	Semi-Weekly.	1 50	Victoria	
awa	Rev. Father Le Jeune	Monthly	1 00	Kamloops	
eekly Budget	J. G. Webster	Weekly	1 00	Union	
Veekly NewsVestern Recreation	M. Whitney	Weekly Monthly	Susp'd	Victoria	
Vorld	J. C. McLagan	Daily	8 oo	Vancouver	
Vorld	J. C. McLagan	Semi-Weekly		Vancouver	i

PACIFIC COAST DATES.

E VERY important event which has transpired on the Pacific Coast since its original discovery by Balboa in 1513 has had an influence, directly or indirectly, on the country as it is to-day. A list of dates is given below which outlines in a chronological way the voyages of the Spanish, Dutch, English, French, and Russian navigators up to the beginning of the present century, and also the more important events of a national and political character. This will afford a preliminary knowledge of a period of over 300 years, and is followed by the more important dates pertaining to British Columbia since the fixing of the Oregon Boundary in 1846.

The period between 1795, after the abandonment of Nootka, and 1818, is marked only by the arrival of numerous trading vessels, principally British and American, but including those of other nations as well. Subsequent to 1818, the history of the Coast to 1846 is practically the history of the North-West and Hudson's Bay Companies, and so far as the territory on the coast of what is British Columbia is concerned, that period may be extended to 1858. During the long interval of fifty years the principal voyages were in ships trading on behalf of those corporations.

LIST OF VOYAGES.

1513	Balboa sees the Pacific	1775	Bodega and Heceta
1517	Hurtado in Gulf of Costa Rica	1776-79	
1518	Discovery Mexico	1778	Capt. Cook at Nootka
1519	Espinosa in Gulf of Costa Rica	1779	Capi. Cook murdered
1519	Cortez	1779	Arteaga and Bodega
1520	Magellan rounds the Horn	T782-84	North-West Fur Company founded
1521	Conquest Mexico	1785	Capt. Hanna
1527	Pizarro		La Perouse
1528	Maldonado	1786	Peters (Russian) N.W. coast
TE20-TE	59 Cabeza de Vaca, Guzman, Niza and Cor-	1786	
1530-15	onada (in Central America)	1786	La Perouse N.W. coast Second Voyage Capt. Hanna
Transl		1786	Lowrie and Guise
1532-35			
1533	Becerra, Grijalva and Jemenez		Portlock and Dixon
1535	Conquest Peru	1786	Discovery Fur Seal Islands
1539	Francisco de Ulloa	1786-87	
1539-42		1787	Russians established Cook's Inlet
1540	Alarcon and Coronado	1787	Barkeley re-discovers Strait Juan de
1542	Rodrigues De Cabrillo		Fuca
T543	Ferrilo	1788	Meares enters Strait of Juan de Fuca
1578-79	Francis Drake's Expedition		Capts. Colnett and Duncan
1587	Cavendish	1787-88	American Sloop "Washington" and Ship
1592	Juan de Fuca discovers Strait		"Columbia"
1602	Sebastian Viscaino and Martin de Aguilar	1788-89	Captains Meares and Douglas
1616	Van Schouten and Lemaire round Cape	1788	Martinez and Haro
	Horn	1788-89	Capts. Gray and Kendrick (American)
1640	Admiral de Fuente	1788	Granting Alaska Fur Monopoly
1681-83	Various Spanish Expeditions	1788	Launching first vessel, N.W. coast
1670	American Treaty	1789	Spaniards possess Nootka
1697	Jesuit Missions, California	1789	"Nootka Affair" (17th Feb)
1713	Treaty of Utrecht	1789	Kendrick through Juan de Fuca Straits
1722	Behring Straits discovered by Behring	1789	Capt. Metcalf
1728	Behring and Tchirikow first voyage on	1790	X. Y. Fur Company founded
1/20	the N.W. coast	1790	Nootka Treaty
1720	Behring and Tchirikow second voyage on	1790	Baranoff Governor Alaska
1729	the N.W. coast		Quimper, Fidalgo and Elisa
	Behring and Tchirikow third voyage on	.1790	
1741		1790	Billings (N.W. coast)
	the N.W. coast	1790-91	Malaspina (Italian in Spanish Service)
1768	Krenitzen and Le Vashef		18 Various Trading Vessels
1768	Expulsion Jesuits, California	1791	Marchand (French)
1769	San Francisco named	1791	Magee and Roberts (American)
1769	Vicente Vila and Gaspard de Portola	1791	Ingraham (American)
1771	Polish Exiles, N.W. caost	1791	Brown
1771	Land Expedition, California, by Don	1792	Galiano and Valdez
	Joseph Galvez	1792	Twenty-eight expeditions are recorded
1774	Perez Voyage North	1792	Quadra at Nootka.
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V. I. becomes Crown Colony B.C. made Crown Colony B.C. Boundary Line defined Arrival Lieut. Col. Moody (24 Sept). Old Parliament Buildings begun Westminster selected Capital B.C. (28th Capt. George Vancouver and Lieutenant Broughton Gray enters Columbia River 1858 1858 1858 1792 Gray enters Columbia River
Broughton enters Columbia
Peter Puget in Vancouver's vessel
Sir Alexander Mackenzie reaches Pacific
Nootka Convention, Madrid
Spaniards abandon Nootka
Vancouver departs
Aussian American (Fur) Company
Thompson's Exploration Interior 1792 1793 1793 1859 1794 1795 1795 Jan) Gen. Harney at San Juan Victoria Phil. Society organized (29th 1859 Jan)
New Westminster founded
New Westminster named (5th May)
First sale N.W. Lots (1st June)
Arrival M. B. Begbie (15th Sept)
Victoria incorporated
Cariboo Waggon Road built
Chilcoten Massacre Thompson enters Bow River
Thompson's Exploration Interior
Massacre, Sitka
Ship "Boston," Crew Massacred
Jewitt's Captivity
Lewis and Clark, Overland to Pacific
Indians attack "Atahualpa"
Ship "Lydia," [Jewitt's Escape)
Fur Companies United (X.Y. & N.W.)
Russians Attempt to Colonize Columbia
River 1859 1859 1859 1862 1800-11 1802 1803 1803-05 1862 1805 1805 1864 1864 First session Leg. Council N. W. (21st Jan.)
Governor Douglas knighted
First issue Cariboo "Sentinel" (June 6)
Union V. I. and B.C. (17th.Nov)
U. S. purchase Alaska (13th Mar)
Surveying route railway
Miners' Mass Meeting, Cariboo (23 June)
First B.C. Parliament in Victoria
Confederation Convention, Yale
Death of Bishop Demers (July 28)
B.C. enters Confederation (July 20)
Passing Constitution Act (Feb. 14)
Settlement San Juan Affair.
Pioneer Society Organized (April 28)
C.P.R. Survey Commenced
Dr. Black Killed (March 23)
Dept. Gov. Musgrave (July 25)
First Assembly after Confederation (Feb. 1805 Jan.) 1864 Thompson Reaches Columbia Thompson River Discovered Simon Fraser Reaches Pacific (via Fraser 1808 1808 1867 1866 River) Thompson, Kootenai Lake Winship's proposed Settlement on Co-lumbia 1808 1868 1868 1810-11 1811 Ship Tonquin at Astoria, Tonquin Mas-1871 1871 sacre
Thompson reaches Pacific (Columbia)
Hunt's Party overland to Astoria
Russian Colony, California
Ship "Beaver" at Astoria
Wreck of the "Lark" at Hawaii
H.M.S. "Racoon" in Columbia River
"Albatross" at Astoria
Ship "Peddler" at Astoria
Ship "Isaac Todd"
Kotzebue's voyage through Behring
Strait sacre 1811-12 1811-41 1812 Dept. Gov. Musgrave (July 25)
First Assembly after Confederation (Feb. 15)
Chief Justice Cameron died (May 1)
A. W addington at Ottawa (Feb. 27)
Death Capt. Wm. Irving (Aug. 28)
Railway Agitation
Starting Victoria Waterworks (Get. 7)
San Juan ceded to U.S.
Moodyville Mills Burned (Dec 22)
British evacuate San Juan
Carnarvon Terms—visit Edgar
Nanaimo Incorporated (Dec. 21)
Salmon Canning commenced.
Loss of Str. "Pacific" (Nov. 4)
Lord Dufferin's Visit (Aug. 15)
Labour Riots, Wellington
Death of Sir James Douglas (Aug. 2)
C.P.R. Route Selected
Death of Hon. Henry Rhodes (Nov. 8)
Wellington Colliery Explosion (April 17)
Death of Senator Carrall
First Work on C.P.R. by Syndicate
Esquinalt Dry Dock Started
Settlement Act
Visit Mr. Van Honne
Last Spike C.P.R.
First Train Burrard Inlets
First Train Burrard Inlets
First Train Burrard Inlets
Vancouver City Started
Vancouver City Started
Vancouver Fire (June 13)
Visit Sir John MacDonald
Death Premier Smithe (Mar. 27)
Mine Explosion, Nanaimo (May 3)
Hon. A. E. B. Davie Died (July 31)
Nelson Started
Revelstoke laid out
Arrival Empress "India" 1813 1813 1872 1814 1872 1814 1815-18 Strait 1873-7 Strait
"The Bordelaise" (French)
Ships "Ontario" and "Blossom"
Astoria Restored to United States
American-Russian Convention
Beechy's Expedition to Behring Sea
British Treaty with Russia
Fort Vancouver Founded 1817 1818 1873 1873 1818 1873 1824 1873 1874 1824 1825 1874 1874-76 1825-26 Russian Ukase
First Steamer ("Beaver") to Pacific
Simpson's and Dease's Expedition into
North Interior 1875 1876 1831 1837 1877 1877 1878 1878 North Interior
H. B. Co. gets Exclusive Privilege Trade
(30th May)
Alaska leased to H. B. Company
Convention Russian Affairs
Sir George Simpson's Visit
The Ashburton Treaty
Victoria selected as H. B. Company's
Fort 1838 1879 1830 1841 1880 1883 1842 Fort 1884 Fort Victoria Erected
First ship England to Victoria
Oregon Boundary fixed (12th July)
Gold discovered California
Vancouver Island ceded H. B. Company
(13th Jan)
Arrival first Governor V. I. (10th March)
Coal discovered Nanaimo
Gold found Q. C. Islands
First Council V. I
Gov. Blanshard Departs (1st Sept)
Fort Nanaimo founded
Victoria surveyed
First School V. I
First Elections, V.I. (Aug. 4)
First Legislative Assembly V. I. (12th
Aug) Fort Victoria Erected 1885 1885 1885 1886 1848 1848 1887 1887 1889 1851 1852 1852 Revelstoke laid out Arrival Empress "India" Kaslo laid out 1892 First Australian Steamer First C.P.R. Str. China Seventh General Election 1893 1894 1892 1856 Aug)
Gold discoveries on Fraser
News of Gold V. I
First edition "Gazette" and "Colonist" Death of Hon. John Robson (June 29) Death Lieut. Gov. Nelson (Mar. 3) Death Chief Justice Begbie (June 11) Rossland Named 1893 1894 Gold excitement B.C.
First Miners arrive Victoria (25th Apr)
First Sale B. C. Lands Klondyke discoveries

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EXPLORERS, TRAVELLERS FUR TRADERS, ETC.

In the following list are indicated the dates at about, or between, which the more celebrated explorers, travellers and fur-traders performed journeys, which have become more or less familiar through published accounts, in the direction of the Pacific. The commencement is properly made with LaSalle, the intrepid explorer and adventurer, who first voyaged the Mississippi to its mouth and opened the road to the Far West, which was at that time beyond the great lakes in every direction, northerly and westerly, wholly a terra incognito. All those referred to are included because the sum of their efforts and discoveries is the knowledge we now possess of, and the development which has taken place throughout not only this Coast, but a vast extent of territories constituting three-fourths or more of the American Continent.

It is to such brave and daring spirits, whether in pursuit of knowledge, in quest of gain, or through love of adventure, we owe the conquest of the West, the fruits of which we now enjoy under conditions of life the most favourable. We speak of the dangers and hardships of Klondyke, but these are insignificant compared with the adventures of men, who, single-handed and defiant of danger, passed through strange territories peopled only with savages, following natural waterways and native trails, along rivers, across lakes, through forests and over mountains, going where white man never trod before and trusting to the provisions of nature, a stout heart, a strong frame and a ready resource for protection and an ultimate safe return. Novelists of the Fenimore Cooper class have entertained us with many thrilling chapters of western pioneer life, but nothing in their fictions is stranger, more romantic, picturesque or grandly heroic than is afforded in actual events in the lives of those, who, in the West, led the way to a destiny of "illimitable possibilities."

To the student who desires to acquaint himself with the main features in the development of our history the list here given will afford a useful guide for the acquirement of a more intimate knowledge.

In the later years the members of the Geological Survey of Canada—Richardson, Dawson, Ogilvie, McConnell, Tyrell, McEvoy and others—at various times have performed notably good work at much risk and under conditions of considerable hardship, and to them more than to any other persons we are indebted for an exact scientific and practical knowledge of the physical characteristics of the whole North-West country and the Pacific Coast of Canada. There have been

too, such men as W. H. Dall, Prof. John Muir, and other scientists of the United States, who have, under similar conditions of privation and toil, added to the general stock of information, particularly in respect to the North-West Coast, Alaska and the Yukon. Nor must we forget such men as Warburton Pike, who in the pursuit of big game and through the love of adventure, for which so many of his countrymen are noted,

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has incidentally acquired a wide experience of the little-known "barren lands" of northern Canada, the results of which have been given to the public in two most interesting and well-known books of travel.

1678-1687	La Salle	1825-28	Sir George Simpson
1731-1743		1825-34	David Douglas
1766-1768		1827	Pilcher
1769-1772		1832	Capt. Wyette
1784-	Umfreville		Peter Ogden
1789-1793	Sir Alexander Mackenzie	1832-39	George Catlin
1797-1811	David Thompson	1832-34	Capt. Bonneville.
1799-1814	A. Henry	1837-43	Roderick Finlayson
1791-16	John McDonald, of Garth	1832-34	A. C. Anderson
1799-1800	James McKenzie	1834-	J. McLeod
1789-1801	Roderick McKenzie	1835-38	Glasunoff
1784	Peter Grant	1836-40	Thomas Simpson
1800-1819	D. W. Harmon	1839	T. J. Farnham
1804-1806	Lewis and Clark	1837	Simpson and Dease
1805-07	Major Pike	1840-52	R. Campbell
1803-16	Duncan Cameron	1843-44	Capt. Fremont
1807-17	George Keith	1846-47	Thomas Rae
1804-06	Charles McKenzie	1845-48	Paul Kane
1807-24	W. F. Wentzell	1846	J. Bell
1805-08	Simon Fraser	1848-49	Sir J. Richardson
1808	John Stuart	1857-58	H. Y. Hind
1811-1814	Franchere	1858	Hind-Dawson
1811-1817	Ross Cox	1859-65	Capt. Palliser
1811-26	Alex. Ross	1862	Dr. Brown, Exploration V.I.
1811-12	Hunt and Crook's Party to Astoria.	1862-64	Milton and Cheadle
1808	Manuel Lisa	1862-68	Frederick Whymper
1819-20	Major Long	1859-60	Earl Southesk
1823	W. H. Keating	1860-69	Walter Moberly
1821-49	Sir James Douglas	1872-81	Prof. Macoun
1823	John Tod	1872	Capt. Butler
1813-46	John McLaughlin	1872	Principal Grant
1811-35	Peter Skene Ogden	1871-76	Sandford Fleming
1815-67	John Work	1875-80	Dr. Bell
1823-27	Ashley Trading Expedition	1883	Lieut. Schwatka [Yukon]

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FOUNDING OF FORT'S.

In the following list is contained the dates of the founding of the Hudson's Bay Company's forts, past and present, in the territory which was formerly included in Oregon and New Caledonia. As no similar list has ever been here-tofore published, it was with considerable difficulty that the dates were in every instance obtained, as they incidentally occur in a wide range of Western books. The list will in a measure outline the progress of the fur companies in covering a vast extent of country. There is an uncertainty about several of the dates given, but without access to the records of the Company in London, Eng., it is difficult to verify them.

1784	Kodiak	1821	Alexandria	1835	Essington
1798-18	Bot Sitka		Chilcotin		Boise
1805	Rocky Mountain Portage	1822	Babine		Rupert
	Fort McLeod	1824-5	Vaucouver	1837	Cowlitz
	Clatsop	1825-6	Colville	1838	Dease
1806	St. James	1826	Connolly		340 Stickeen
1000	Fraser	1827	Langley	1840	Taku.
1807	George	1829	Williammette Settle-	1040	Frances
1808	Henry	1029	ment.	1842	Pelly Banks
1000		-0		1843	Victoria
-01-	Kootenai	1831	[Old] Fort Simpson	1043	VICTORIA
1811	Astoria	1832	Umqua		
	Thompson		Redoubt St. Dionysius	1847	Норе
	Flathead House	1833	McLaughlin	1848	Fort Selkirk [Mouth Yu-
	Fort Sheppard		Nisqually		kon]
	Okanagan	1834	Champoeg		Yale
	Rocky Mountain House		Hall	1852	Napaimo
	Spokan House		Simpson	1868	Fort Tongass [Alaska]
1813	Kamloops	1834	Fort Yukon	1882	Juneau [Alaska]
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CHURCHES-MISSIONS.

1843 First Mass V.I. (Father Balduc) 1847-51 Oblate Missions 1849 Rev. Geo. Staines (Epis.) 1852 Bishops Demers and Lootens (R.C.) 1855 Rev. E. Cridge (Epis.) 1857 Rev. William Duncan (Epis. Missionary) 1859 Dr. Evans (Meth.)	1863 1875-76 1877	Bishop Hills (Epis. Missionary) Revs. Hall and Jamieson (Pres.) Bishop D'Herbomez (R.C.) Rev. E. Cridge (R.E.) Rev. W. Crane (Baptist) Salvation Army Rev. J. W. Pedley (Cong.)
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PLACE NAMES—THEIR SIGNIFICANCE.

A GREAT deal of history is associated with the names which places in a country bear, and it is not the least interesting pursuit in connection with that study to discover their origin and significance. In the list which follows, which does not pretend to be in any measure complete, the author has been dependent upon a number of local authorities and various other sources of information. It has been undertaken in this partial way in order to open up a fruitful field of investigation. Perhaps in no line of enquiry is the liability to fall into

The Liability to Err. error greater, because, as in the wider field of comparative philology, resemblances, real or fancied, are apt to mislead; and in a variety of ways is the student tempted to accept conclusions without sufficient proof or contributory data to confirm them. In regard to what follows no claim is made to absolute accuracy, and corrections or suggestions will be cheerfully received. Apart from the value of such information, one object of this sub-chapter is to awaken interest in the subject generally, with a view to establishing local terminology on an intelligible basis, and treasuring up to posterity definite and comprehensive knowledge of names, which otherwise in a generation or two will become meaningless.

In regard to Indian names, without an intimate knowledge of the language and dialect of each tribe, it is difficult to ascribe original meanings to those of places which have been borrowed from native vocabularies. The pronunciation, as a rule, has been very much corrupted, so that our spelling, which is intended to correspond, affords but a very poor clue to the original. In nearly every case, however, some portion of the word, which is usually compounded, according to the Indian method of expression by juxtaposition, gives an inkling, partial at least, to the signification. We have the root forms, usually distinct, denoting some physical feature on account of which the name has been applied. The Indians never dealt in abstract or arbitrary forms of speech, and hence a name was a concrete and succinct expression of some one or more characteristics of a locality or particular spot, which, however, might happen to apply equally well to half a dozen other localities. For instance, to the Indian there was no such

place as Nanaimo. Kamloops and Hesquiat, in the same way as such names with us associate themselves with particular and distinct localities. The original forms from which these have been crystallized simply referred to some local feature or condition of a locality, and might be used to denote a number of other localities having

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similar features or conditions, with, of course, qualifying variations. With us a name is merely an arbitrary mark of indentification and may have no special significance as applied to the place itself, any more than a leaf turned down in a book, in order to find the page again readily, has to do with the subject matter of the letter press. Places with the Indians were identified by "waters meeting", by "salmon running," and so on, and tribes and peoples by "dwelling on the water," or on "the river," etc. We have, therefore, among Indian names, of a particular tribe or people, recurring, and more or less regular and permanent, root-forms—such as "at," "moo," or "muh," "tin," "ane" or "ene," signifying "people" or "dwelling," by which if we arrive at the qualifying prefix or associated word forms, we can in every instance obtain the meaning of the whole name.

Abbotsford-After H. Abbott, General Superintendent C.P.R., Vancouver.

Admiralty Inlet-Named by Vancouver after the British Admiralty in 1792.

Agassiz-After Louis Agassiz, the owner of property there.

Alberni Canal was named after a Spanish officer, Don Pedro Alberni, who was in command of a company of volunteer soldiers in the expedition to Nootka, under command of Lieutenant Elisa, sailing from San Blas February 5th, arriving at Nootka April 5th, 1790.

Albert Head-From Victoria's first name, Fort Albert, after the Prince Consort.

Aldergrove—From heavy second growth of alder.

Alert Bay-After H.M.S "Alert," a vessel of war on this station.

Ainsworth—After Geo. J. Ainsworth, Oakland, Cal., promoter of the Kootenay Railway & Navigation Company.

Alkali Lake-From alkali character of district.

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Ashcroft-After the house of the Cornwalls in England.

Banks Island—After Sir Joseph Banks, who sailed with Capt. Cook round the world in the "Endeavour," 1769. Named in 1786.

Barclay Sound—Named by Capt. Barkley of the British ship "Imperial Eagle," sailing under Austrian colours, after himself, 1787.

Barkerville—After Wm. Barker, a pioneer miner, who died recently in the Old Man's Home, Victoria.

Barnston Island (Fraser River)—After Barnston, a Hudson's Bay Company officer in early days.

Beacon Hill—From a long mast erected on the summit to direct the way to the harbour of Victoria.

Bella Coola-The Indian name is "Billa Whullia."

Bentinck Island—After Sir George Bentinck, Duke of Portland, 1846, by Captain Kellett, H.M.S. "Herald."

Big Bar-So named from the bar in the Fraser there.

Blinkinsop Bay—After Mr. G. Blinkinsop, who came out to this Coast in the Hudson's Bay vessel "Cowlitz" as an apprentice to the sea service in 1840, and now (1897) residing at Fort Rupert—named by Capt. Pender.

Boston Bar—Named by the Indians on account of the number of Americans there, who were known as "Boston Men" in contradistinction to "King George's" men.

Brotchie Ledge-After Capt. Brotchie, late of the "Cowlitz," Harbour Master, Victoria, 1850.

Bowen Island-After a settler on the island.

Broughton Strait—After Lieutenant Broughton, Commander of the "Chatham,"

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- Brown's Passage—South of Dundas Island, named by Capt. Vancouver after Capt. Brown, of the merchant ship "Butterworth," met by Vancouver in the neighbourhood, 1793. The "Butterworth" had previously been a French man-of-war and captured during the late war. Capt. Brown was killed in the Sandwich Islands by the natives, January 1st, 1795.
- Brownsville—Named after Ebenezer Brown, a well-known pioneer of New Westminster, who ran a ferry to a point opposite the city with a view to starting a town.
- Burgoyne Bay-After Sir John Burgoyne.
- Burnaby-After one of the early traders in Victoria.
- Burrard Inlet-Named by Capt. Vancouver after his friend, Sir Harry Burrard-Neale.
- Butterworth Rocks—Named by Capt. Vancouver after the ship "Butterworth."

 One of the officers of the "Butterworth" had been sent out in a boat by Capt. Brown from a harbour in the vicinity, to meet Vancouver when his ship appeared in the offing, and piloted him safely to a secure anchorage, one stormy night in 1793.
- Cache Creek-From provisions "cached" there by miners.
- Cadboro Bay—After the Hudson's Bay Company's schooner "Cadboro," the first vessel to enter Victoria harbour, Capt. Scarborough.
- Call Canal—After Sir John Call, named by Lieutenant Broughton, Commander of the "Chatham," 1792.
- Calvert Island-Named by Capt. Duncan in the sloop "Princess Royal," 1787.
- Camerontown—After "Cariboo Cameron" who struck it very rich in the early Cariboo excitement.
- Canoe Pass-Named and used by miners of 1858 in going up the Fraser.
- Cape Beale—Named by Capt. John Meares (lieutenant R. N.) after Mr. Daniel Beale, of Canton, one of the merchant proprietors of the "Felice" and "Iphigenia"—the two vessels Meares had under his command in a trading voyage to this coast, 1788.
- Cape Flattery—Named by Capt. Cook in 1778 in token of his improved prospects, the weather previously having been very stormy.
- Cape Mudge—After Zachariah Mudge, first lieutenant of Vancouver's ship "Discovery."
- Cape Scott—By Capt. Lowrie and Capt. Guise, of the merchant vessels "Capt. Cook" and "Enterprise," 1786, after David Scott, merchant of Canton, one of the proprietors of the expedition.
- Cape St. James—By Capt. George Dixon, of the "Queen Charlotte," on St. James's day, July 25, 1787.
- Cariboo-From the Caribou deer, named by early miners.
- Carmanah (properly Kamanua)-Name of an Indian tribe now nearly extinct.
- Cassiar—From the "Kaska" Indians, said to have been corrupted into "Cassiar" by the French-Canadian miner Thibert.
- Cedar, Cedar Hill-The names are significant.
- Chatham Island-Vancouver's armed tender "Chatham," named in 1860.
- Cheam-An Indian name, probably from "seam," chief.
- Chemainus-An Indian name.

ım," Chilcoten-Literally, the men of Chilco, or warm water. ifter

Chilliwack (chil-wheyuk)—After an Indian tribe on the Fraser.

Christie Passage-After Navigating Lieutenant Christie of H.M.S. "Sparrowhawk."

Cisco, (Siska).

Clayton-Named by the owner of property there after his home in the United

Clinton-One of the names of the Duke of Newcastle.

Clan William-Earl Clan William married a daughter of Governor Kennedy.

Clayoquot-An Indian village on the West Coast belonging to the nation of "Ahts."

Clew Kumshewa (Q.C.I.)—Two names of two physical features.

Clover Valley-From luxuriant growth of wild clover when first settled.

Clondyke-From "Kron-duik." meaning a river up which salmon run. (It is doubtful if the sound of "r" is made by the Indians.)

Colwood-After Mr. Langford's home in England.

Columbia River-After the ship "Columbia." in which Captain Gray entered its

Comox-Name of an Indian tribe, called by their neighbours Kou-Mouhs.

Coquitlam-An Indian tribe on Burrard Inlet.

Corfield-Named after a settler, Mr. George T. Corfield, 1884.

Cormorant Island-After H.M.S. "Cormorant" on this station.

Cortez Island-See Gabriola.

Courtenay River-Named after Capt. Courtenay H.M.S. "Constance."

Cowichan-An Indian name.

Coutlee-Named after the proprietor of the place.

Craigellachie-Named after a place in Scotland. Hill on which the Grant Clan lit their signal fires in time of danger. "Craigellachie stand sure," is the war cry of the Grants.

Dease Lake-Named by J. McLeod, a chief trader of the Hudson's Bay Company, after Peter Warren Dease, the explorer.

Deloire—A corruption of Liard (Cottonwood) a name afterwards given to it by miners.

Delta-Named on account of being formed by the delta of the Fraser.

Denman Island—Admiral Denman in command of this station, 1862.

Departure Bay-Named by J. D. Pemberton when Surveyor-General of Vancouver Island.

Destruction Island-Named by Capt. Barkley in commemoration of a boat's crew belonging to his vessel being murdered in the vicinity by the natives,

Dewdney-Named after Lieutenant-Governor E. Dewdney.

Discovery Island—After Vancouver's ship "Discovery," named in 1860.

Dixon Entrance-Named by Sir Joseph Banks after Capt. George Dixon, of the merchant vessel "Queen Charlotte." Capt. Dixon first accurately ascertained that the Queen Charlotte Islands were detached from the Mainland and named them after his ship, 1787. Sir Joseph Banks on examining Dixon's chart on the return of the latter to England, was asked by Dixon to give the large opening north of Queen Charlotte Islands a name. Sir Joseph Banks therefore named it Dixon Entrance.

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Donald-After Sir Donald Smith.

Douglas Lake-After Sir James Douglas.

Ducks-After Duck, the first settler on the property.

Duncan Rock—After Capt. Charles Duncan, of the merchant ship "Princess Royal," named by Vancouver in 1792, to whom Duncan had given valuable information relating to the North-West Coast. Duncan had served in the Royal Navy as Master.

Duncan-Named after Mr. Duncan, a settler there.

Duntz Head-After Capt. Duntz, H.M.S. "Fisgard," 1844.

Elgin (New Wetsminster District)—After Lord Elgin.

Enterprise Channel-Str. "Enterprise" sunk in collision by S.S. "Rithet," 1884.

Emory Bar-Named after a miner.

Esquimalt—Spanish name Port Valdez, named by Capt. Quimper, vide Haro Strait. Mr. J. W. McKay gives the origin as from "Swi-mehl-ihl," a place gradually shoaling, i.e., the flats at the mouth of Saw Mill Creek. The name was afterwards applied to the harbour.

Essington—Named by Capt. Vancouver after Capt. Essington, R.N., who was in command of the frigate "Sceptre," met by Vancouver at St. Helena on his way home, 1795.

Fairview-From picturesque situation.

Fisgard Light-After H.M.S. "Fisgard," 1844, Capt. Duntz.

Fisgard Sound-Named by Capt. James Hanna, of the "Sea Otter," 1786.

Fort George-After King George. (See list of Forts.)

Fort Sheppard (properly Shepherd)—After John Shepherd at one time Governor of the Hudson's Bay Company.

Fort Rupert, named by the Hudson's Bay Company after Prince Rupert.

Fort Steele-After Capt. Steele, of the Mounted Police.

Foul Bay-From foul anchorage, a nautical term.

Friendly Cove, Nootka Sound—Named by Mr. Strange, head trader or super-cargo of the merchant vessels "Capt. Cook" and "Enterprise," 1786.

French Creek-Named by the miners during the Big Bend excitement.

Gabriola Island, Cortez Island, Hernando Island, Texada Island, Galiano Island and Valdes Island—Named by Capt. Galiano, of the Spanish brig-of-war "Sutil," who with Capt. Valdes, of the schooner "Mexicana," was met by Capt. Vancouver off Point Grey; like himself, they were on a voyage of discovery in these waters, 1792.

Galena-A mining designation from character of ore.

Gardner's Inlet-After Sir Alan Gardner. Named by Vancouver, 1793.

Ganges Harbour-Named after H.M.S. "Ganges," 1874.

Germansen Creek, (Omineca)—After a miner of that name.

Gilford Island-After Lord Gilford, Captain of "Tribune," 1860.

Glacier, on C.P.R.—From great glacier there.

Glenwood-After Glenwood, Minnesota, by the first settlers there.

Golden—A miner's appellation to signify mineral richness.

Goldstream—So named from discoveries of gold made there in 1858.

Gordon Head-After Capt. Gordon, R.N., H.M.S. "Pandora."

Grand Prairie—From character of country, translated from the Indian Eshelliwha-spellam. Gre Ha

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Grenville Channel—Named by Vancouver after Lord Grenville, 1793. Haddington Island—After Earl of Haddington, 1st Lord of the Admirality, 1846, by Pender.

Hall's Prairie-After the first settler.

Haro Strait—After the sailing master of the Spanish vessel "Princess Real," Capt. Quimper. The "Princess Real" was an English merchant vessel "Princess Royal," seized by the Spaniards at Nootka, 1789, and restored to her owners at Sandwich Islands, 1791.

Harrison—Named after a Quaker director of the Hudson's Bay Company.

Hastings—After Admiral Hastings, who was at one time interested in the Wellington mines.

Hatzic-An Indian name.

Heceta and Plumper Passages—H.M. ships "Heceta" and "Plumper" employed surveying in these waters.

Hernando Island. (See Gabriola.)

Hesquiat—An Indian village on the West Coast. All words ending with "at" or "ot" signify a tribe of the "Aht" nation, so called by Mr. Sproat.

Hood Canal—Admiral Lord Hood, 1792. Named by Vancouver.

Hope-Named by Sir James Douglas.

Horsefly—From the number of flies infesting pack horses there. Howe Sound—Named by Vancouver after Admiral Lord Howe.

Illecillewaet-An Indian name.

Jervis Inlet—Named by Capt. Vancouver after Sir John Jervis, subsequently Earl St. Vincent.

Johnson's Landing-Named after a settler there.

Johnstone Strait—Named after Mr. Johnstone, master of the "Chatham," 1792. Kamloops—From "Kamalulipa," meaning "cut through and water meeting." Kelowna—The Indian name for grizzly bear.

Kensington Prairie—Named by H. T. Thrift, after Kensington in Surrey, Eng. Keremeos—An Indian tribe of the southern interior, the only Indians who sound the "r." Literally "cut in two by a stream of water."

Kettle River—From holes worn in limestone rock by the action of hard pebbles and water.

Kitamat—A tribe of Indians on the west coast of the Mainland of B.C. "Kit" signifies a people and "mat" an island, according to Mr. J. Deans—an island people.

Kitlupe-From "kit" and probably "lope," a rock or stone.

Knight's Inlet-Named by Lieutenant Broughton, Commander of the "Chatham," after Capt. Knight," R.N.

Koksilah, Kwa-kui-sa-la-A village of the Cowichans.

Kootenay—From the Indian name Kootenuha. May mean "people of the water."

Mr. McKay thinks it is a combination of "co" water, and "tinneh" people.

Kuper Island-After Kuper, Commander of H.M.S. "Thetis."

Klyoquot. (See Hesquiat.)

Lac la Hache-An axe lost there.

Lama Passage—After the brig "Lama," Hudson's Bay Company, 1844. Ladner's Landing—After W. H. Ladner, a prominent settler there. Langley (Fort Langley)—After a Hudson's Bay Company director.

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Langford-After Mr. Langford, who farmed there for the Hudson's Bay Company.

Lansdowne-After Lord Lansdowne.

Lardo or Lardeau-Properly Alado.

Lewes River—Named by Campbell, of the Hudson's Bay Company, after Chief Factor John Lee Lewes.

Liard or Rivière aux Liards—Refers to abundance of cottonwood growing on the banks.

Lillooet-An Indian name.

Lowe Inlet-After T. Lowe, of the Hudson's Bay Company.

Lulu Island—Named after a Kanaka in the Hudson's Bay Company's service. Lytton—After Lord Lytton.

Malaspina Strait—Named after Capt. Malaspina, an accomplished Italian navigator in the service of Spain who commanded an expedition in these seas, 1791.

Malcolm Island—After Admiral Sir Pulteney Malcolm, who was Commander-in-Chief at St. Helena when Napoleon I. arrived there as a prisoner. Named by Capt. Pender, 1863-69.

Maple Ridge-After abundance of maple found on the ridge.

Manson Creek (Omineca)-After a miner.

Mara-After J. A. Mara, ex-M.P.

Matsqui-An Indian name.

Mayne Island—After Commander Mayne, who wrote a book on British Columbia. McDame Creek—After McDame, a coloured man, who first mined on it.

McNeil Bay-William McNeil, Chief Factor Hudson's Bay Company, 1860.

McPherson's-On the E. & N. Railway. After a settler there.

Meares Island-Capt. John Meares, of the merchant ship "Felice," 1788.

Metchosin—Smets-shosin—"the place of oil," also "smelling of oil"—A whale stranded there was cut up by the Indians for his blubber and his flesh was dried for food. The place and the Indians were odoriferous for a long time after.

Metlakahtla (Muh-lit-pah-la Literally "meeting of the waters."

Mile Houses-Along Yale-Cariboo waggon road and other waggon roads.

Moodyville—After S. P. Moody, a partner in the Moodyville Saw Mill. He was drowned on the Str. "Pacific."

Morseby Island, Q.C.I. group-After Admiral Morseby, R.N.

Morseby Island in Haro Strait-After Admiral Morseby, R.N.

Mission City-After St. Mary's Mission, located there.

Mt. Lehman-After J. Lehman, the first settler there.

Mt. Stephens—By Vancouver August 1st, 1792, after Sir Phillip Stephens, secretary to the Admiralty.

Mt. Tolmie-After Dr. Tolmie, a physician of the Hudson's Bay Company.

Mt. Baker-Named by Vancouver after his third lieutenant, Joseph Baker.

Naas River—After the Indians who named themselves "Ewen Naas" to Vancouver in 1793.

Nanaimo—Named by Mr. J. W. McKay after the tribe of Indians there. "Moo" signifies dwelling.

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Nanoose Bay—The Nanoose tribe, now nearly extinct. Properly "Nu-nuas," tending inwards, from "nuas," to push or work in, indicating the indenture of the bay.

New Caledonia—The name given to the north-eastern portion of the Province by the first traders of the Interior, who were mostly Scotchmen. New Caledonia occupied the north-east corner of British Columbia contiguous to what was then known as Oregon territory and extended in a south-westerly direction to a point on the coast.

New Denver-A mining town, sufficiently explanatory in itself.

New Dungeness-From its similarity to Dungeness Spit in England. Vancouver.

New Westminster-Originally Queensborough, named by Her Majesty. (See chapter on "Early Settlements.")

Nicola-After an Indian chief, whose name was "N-kua-la."

Nicomen—Name of an Indian tribe on the Fraser River, properly Ni-kaomin, a place cut through by a water course.

Nicomekle-An Indian name, diminutive of Ni-kaomin.

Nootka Sound—By Capt. Cook under the mistaken idea it was the native name of the sound. Cook had a short time previously named the place King George's Sound, 1778. It is not probable that the name has any original significance at all.

Notch Hill—A settlement north of Nanaimo, so named from a notch on top of the hill.

Oak Bay-From the number of oaks surrounding it.

Oregon—The origin of the name is much beclouded, and in all probability, like Nootka, arose out of a misapprehension. Carver in his book of travels in the interior of North America, refers to the "Oregon River," which he supposed emptied into the Pacific Ocean, although whatever river it was it must have been at least 1,000 miles from the sources of the Columbia. However, on that account the country through which the Columbia River flowed came to be known as the Oregon Territory, a name applied to a vast extent of country including all the southern part of British Columbia.

Okanagan—An Indian name "Ukanakane," meaning people of "Ukana," the affix "ane" and "ene" meaning "people of," as in Spokane, Spallumcheen, Simil-kameen and Tulameen.

Osoyoos—Properly So-oyûs, a sheet of water nearly divided into two by a narrow extension of the land from opposite sides.

Palliser—After Capt. Palliser, whose explorations westward in Canada are well-known, the record being contained in the "Palliser Papers."

Pavillion Mountain—From Pavillion. Mr. J. W. McKay says, French for flags or standards. The grave of Te-empt, the principal chief of the Shuswaps, placed on a mound near the foot of this mountain, was formerly decorated with numerous flags.

Pelly River—Named by Robert Campbell, Hudson's Bay Company, 1850, after Governor Pelly.

Perder Island, Pender Harbour—After Navigator Lieut. Pender, who surveyed a large part of these waters in the old "Beaver" in 1863-69.

Penticton-Indian name, properly Pente-hik-ton.

Plumper Pass—(See Heceta.)

Point Wilson-Named by Vancouver after his much esteemed friend, Capt. Geo. Wilson, R.N.

Port Angeles—Port of Angels. Spanish name for the valley of the Elhua River, i.e., Val. de las Angeles.

Port Effingham-By Capt. Meares, in honour of the Earl of Effingham, 1788.

Port Hammond—After John Hammond, a C.P.R. engineer, who owned and laid out a townsite.

Port Kells-After Henry Kells, owner of the property at the river landing.

Port Simpson—Named by the Hudson's Bay Company after Amilius Simpson, ex-Lieutenant R.N. He commanded one of the Hudson's Bay Company's vessels, and died and was buried at Port Simpson, where his grave exists to-day.

Port Guichon-After Guichon, a settler near Ladner's Landing.

Port Haney-Contractor on construction of C.P.R.

Port Moody-After Lieut.-Col. Moody, R.E.

Port Townsend-Marquis of Townshend, 1792, named by Vancouver.

Princess Royal Island-Named by Capt. Duncan after his vessel, 1787.

Protection Island—A shelter to the harbour of Port Discovery. Vancouver, 1792.

Puget Sound—After Peter Puget, second Lieutenant of the "Discovery." Capt.

Vancouver, 1792.

Quamichan-An Indian name.

Queen Charlotte Sound—After the wife of George III. by Capt. Lowrie and Capt. Guise, of the trading vessels "Capt. Cook" and "Experiment,"

Queenborough or Queensborough—Early name of New Westminster. (See chapter on "Early Settlements.")

Quesnelle—After Jean Baptiste Quesnelle, a French Canadian explorer of the Hudson's Bay Company, in the early part of the century.

Revelstoke-After Lord Revelstoke, of the firm of Baring Bros., bankers.

Richmond-After Richmond, Surrey, Eng.

Richfield, Cariboo-A name expressing its origin.

Rivers Inlet-By Vancouver after Sir Henry Rivers, 1792.

Robson-After the late John Robson.

Rogers' Pass-After Rogers, a C.P.R. engineer, who discovered it.

Rose Spit-Named by Capt. Douglas, of the trading vessel "Iphigenia," 1788.

Rossland-After Ross Thompson, who pre-empted the townsite.

Salt Spring Island—From the existence of salt springs there.

Sea Bird Island—Named after the Str. "Sea Bird," which ran ashore there in 1858. Sea Island—So called being nearest to the sea of the two islands, Lulu and Sea.

Seattle-An Indian chief's name.

Seymour Narrows-After Sir George Seymour, R.N.

Sicamous-Indian name, meaning "places cut through."

Sidney-Named by Admiral Richards.

Similkameen—An Indian name. (See "Okanagan,") the abode of the Simila-ka-muh.

Shortreed's (Surrey)-After the Shortreed family settled there.

Shuswap—Properly Seh-huap.

Skeena-Corruption Si-en, meaning "the river."

Somenos-S-a-mina, hunters or inland men.

Sooke Inlet-Indian chief's name, 1846.

Spence's Bridge-After Thomas Spence, who built it as a toll road.

Spuzzum-Equivalent to Speyam, Spellam, Spilhan. Indian for flat land.

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Stephens Island-1793. See Mount Stephens.

Steveston-After W. H. Steves, original owner of the townsite.

Stewart River-Named by R. Campbell after James G. Stewart, son of Hon. John Stewart, Quebec.

Stikeen (variously spelled)—According to Mr. J. W. McKay, is from a Tlingit word "sta-hane," meaning "the river."

Surrey-After Surrey in England.

Tacoma-An Indian chief's name.

Tappen Siding-After contractor on C.P.R.

Tatla Lake-An Indian name.

Tatoosh Island—Named after an Indian chief of the latter part of the last century. Telegraph Creek—A name due to the fact that the Overland Telegraph line was

intended to cross the Stickeen at this point, in 1866.

Texada Island. (See Gabriola Island.) Thetis Island—After H.M.S. "Thetis."

Thibert Creek-After Thibert, a French Canadian, who discovered it, 1873.

Trail and Trail Creek—From the trail leading along it. The Dewdney trail, which was an extension of the Hudson's Bay Company's trail to Fort Sheppard. followed the valley of this creek.

Upper Sumas-"Sm-mes," an Indian name.

Vancouver Island and Vancouver City—After Capt. George Vancouver, the great navigator of this coast. Vancouver is called the Terminal City.

Victoria—Named after Queen Victoria, frequently referred to as the Queen City. (See chapter on "Early Settlements.")

Vernon—After the Hon. F. G. Vernon, Agent-General, an early settler in the Okanagan Valley and for a number of years representative of the district in the Parliament and a member of the Government.

Walker Creek—One of the creeks of the Cassiar excitements, named after Walker, who discovered gold there.

Waneta-Corruption of Juaneta.

Wellington-Named by Hon. R. Dunsmuir, proprietor of the place.

Westham-After a village in Essex, England.

Whidbey Island-After Mr. Whidbey, master of the "Discovery," 1792.

White Pass—Named by Surveyor Ogilvie in honour of the late Hon. Thos. White, Minister of the Interior.

White River—So called by R. Campbell on account of the milky appearance of its waters.

Williams Creek—After "Dutch Bill," a miner who panned out the first gold there. Yale—After a former Factor of the Hudson's Bay Company.

Yukon-Named by J. Bell, of the Hudson's Bay Company after what he understood to be the Indian name of it.

ISSUES OF POSTAGE STAMPS.

W HEN Vancouver and British Columbia were Crown Colonies, they, of course, had their own postal systems, and their own postage stamps, of which there were several issues. On account of the supply on hand having been destroyed at the time of Confederation, Vancouver Island and British Columbia stamps are now very rare and highly prized. The Canadian Philatelic Hand-

book (1892), No. 1, describes them as follows:-

This Province first issued stamps in 1861. The first stamp issued was the two and one-half pence, which may be described as follows: Head of Queen Victoria to left in the centre of stamp; "British Columbia" at the top and "Vancouver Isle" at the bottom, both in two lines; on the left-hand side "Postage," and on the right-hand side, in two lines, "Two Pence Halfpenny." The stamp was in colour pink. It is found both perforated and unperforated. In 1865, a five and a ten-cent was issued for use in Vancouver Island only. They were both of the same design, and may be described as follows: Head of Queen Victoria to left in circle; "Vancouver Island" above, and value in words below. The colour of the five-cent was rose. The color of the ten-cent was blue. Both the five and ten cent stamps are found perforated and unperforated.

In 1864 a three-penny stamp was issued. The centre of the stamp was occupied by an oval scroll, on which were the words, "British Columbia Postage, Three Pence." Inside the space inclosed by the scroll was a Roman numeral

"V," surmounted by a crown. Perforated; colour blue.

Issue 1868.—In this year stamps were printed from the above plates of the three penny, in colours, and surcharged the value in cents. Research has disclosed the fact that all British Columbia stamps are water marked "Crown and CC."

To Mr. Futcher, Victoria, the author is indebted for a copy of "Stanley Gibbons' Stamps of the British Empire (1897)" for the following list, which contains an accurate description, with the market value of each.

	스러 이 그들이 아니라 요즘 이 없는 것이 없는 것이 없어 들었습니다.
BRITISH COLUMBIA AND VAN-	BRITISH COLUMBIA.
COUVER ISLAND.	
	Un. Used.
Un. Used.	1865. Wmk. Crown CC.
1861. No wmk. Imperf.	Perf., 14
2½d., light brown £35	3d., blue 26 40
The same, Perf., 14	1867-69. Surcharged 4
2½d., brown-rose 17 6 16 6	Wmk. Crown CC. Perf. 14
2½d., rose 17 6 16 6	2c., black and brown 40 66
-,2,	5c., black and red 20 0 12 6
VANCOUVER ISLAND.	10c., blue and pink £12
VANCOUVER ISLAND.	25c., violet and yellow 76 86
	50c., red and violet 30 o,
1865. Wmk. Crown CC. Imperf.	\$1, green
5c., rose	The same, but perf., 121/2
10c., blue 90 0 80 0	5c., black and red 60 0 60 0
The same, but perf., 14	10c., blue and pink90 0 80 0
5c., rose 17 6 17 6	25c., violet and yellow 30 0 35 0
10c., blue 15 0 15 0	50c., red and violet 50 0 45 0
	\$1, green100 0 105 0

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RATES OF POSTAGE.

THE rates of postage in early days, as may be supposed, were high, and correspondence was necessarily limited in volume and frequency. There are about thirty countries included in the official list published, and for the purpose of comparison the rates of foreign postage are given for the years 1860 and 1869 from Vancouver Island and British Columbia for a few of the countries to which correspondence would be most frequent for letters not over a half oz. in weight, which included a colonial charge of five cents:

	1860	1869		1860	1869
Aspinwall	20C.	25c.	Germany	40c.	35c.
Australia	48	40	Great Britain	34	25
Belgium	47	35	Mexico	25	25
British N.A. Provinces	20	15 .	Peru	32	50
Cape of Good Hope	43	50	Portugal	68	50
Chili	39	50	Russia	48	40
China	-	25	Sandwich Islands	15	25
San Francisco	15	25	United States	_	25
France (50	40	Spain	48	47

In the colony of British Columbia prior to the union with Vancouver Island the postage prepaid was as follows, the rate between the points named being the same for New Westminster, Douglas and Hope as for Yale:

				W	illiams		
		ile. nsprs.			Lake. ltrs.	Quesnelle. ltrs.	Antler. ltrs.
New Westminster	5d	21/2d	IS	5d	28.	38	48
Douglas	5d		IS		28	38	48
Hope	5d		28		28	38	48
Yale			IS		28	38	48
Lytton	IS		IS		28	38	48
Lillooet	IS				28	38	48
Williams Lake	28		28			IS	28
Quesnelle	- 38		38		38		Is
Antler	48		48		28	IS	

As a matter of interest in this connection it may be stated that a mint was established in New Westminster among the first of the governmental institutions, but only a very few gold pieces—now among the rarest of modern coins—were coined. The plant lay unused in the building built for the purpose—which was finally torn down to make room for the present free library structure—for many years. Hon. J. S. Helmcken has written a souvenir pamphleton the coins of the period, which is of great interest.

B.C. TARIFF.

I will be interesting for purposes of comparison to give the tariff of British Columbia as it was prior to Confederation and that in force subsequently, or even at the present time. One of the objections of the opponents of Confederation in British Columbia was that the tariff of Canada was lower than that of British Columbia, and would consequently be disadvantageous to local interests.

SPECIFIC DUTIES.

Ale and Porter, in wood.pr gal	\$0 15	Live Stock:	
Ale and Porter, in bottle			\$2 00
pr doz (qts)	30	Beef Cattle pr hd	3 00
Bacon and Hams pr to	4	Milch Cows pr hd	2 00
Barley, Oats, Field Peas, Malt.		Sheep and Goats pr hd	75
pr 100 fbs	30	Hogs pr hd	2 00
Beans, Split Peaspr to	I	Potatoes pr fb	1/2
Bitters pr gal	I 50	Rice pr tb	11/2
Butter pr to	10	Sugar, raw pr fb	. 2
Candlespr tb	5	Sugar, refined pr tb	21/2
Cheese per tb	5	Ac	cording
Cider pr gal	15	Spirits: to	Proof.
Cigars (2c. each) pr 100	2 00	Brandy pr gal	2,00
Coal pr ton	I 25	Gin, Whiskey, Rum, and all	
Coffee, raw pr tb	3	other kinds pr gal	2 00
Coffee, unmanufactured pr tb	6	Teaper tb	121/2
Eggs pr doz	121/2		25
Flour pr bbl	I 50	Vegetables, viz:	
Fresh Fruits, viz:		Onions pr tb	. 2
Apples, Pears, Plums. Cher-	-/.	Other kinds, fresh pr tb	I
ries, Currants, Raspberries,	/	Wheatpr 100 fbs	35
Strawberries, and Gooseber-	-	Wines, viz:	
ries pr tb	I	Champagne and Moselle	
Gunpowder, sporting pr tb	6	pr doz (qts)	3 00
Gunpowder, blasting pr tb	. 3	China Medicated pr gal	I 50
Hay pr ton	4 00	California, red and white	
Lard pr tb		pr gal	25
Lime pr bbl		Claret pr gal	20
Lumber:	0-	Port, Sherry, and all other	
Rough, Fir and Cedar		descriptions pr gal	75
pr 1,000 ft	3 00	Bran and Shorts pr 100 fbs	25
Dressed Fir and Cedar	3	Buckwheat pr fb	I
pr 1,000 ft		Oatmeal pr fb	I
Shinglespr 1,000		Cornmeal pr tb	1/2
Fence Pickets per 1,000		Hops pr tb	10
Laths pr 1,000		Shot pr fb	2
Daties pr 1,000	. 00	onot illining prior	

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AD VALOREM.

Per Cent.	Per (Cent.
Axes 15	Molasses	121/
Beef, salt 10	Nails	
Billiand and Bagatelle Tables 121/2	Nuts and Almonds	
Blankets 20	Oils	
Boots and Shoes 20		
Bread	Opium	
Bread 20		10
Cards, playing	Pork, salt	10
Clothing, ready-made 15	Plants, Trees, and Shrubs	
	Poultry, dead and alive	
Confectionery 30	Quicksilver	
Drugs, medicines 20	Rope, Cordage, and Twine	5
Dry Goods 12½		15
Earthenware 12½		121/2
Fish, preserved, dried and salt 15		25
Firearms 1 12½	Vegetables, preserved and salt	10
Fruits, preserved and dried 12½	Waggons, Carriages	20
Furniture 15	Trunks	121/2
Glass and Glassware 121/2		121/2
Groceries 12½	Trindon Dubites and Doors	20
Hardware and Ironmongery 121/2	Ship-Building Materials, viz:	
Harness and Saddlery 20	Manufactured Sails	20
Hemp, Canvas, etc 2½	Cotton Canvas	5
Leather 15	Troodennate Titterining	121/2
Jewellery 20	Yeast Powders	121/2
Machinery 10	All other articles not enumerated	
Matches 121/2	in either of the above lists, nor	
Meat, preserved 121/2	in the following list of free	.,
Meat, fresh 30	goods	121/2

FREE OF DUTY.

Agricultural Implements, Books Printed and Manuscript, Bricks, all Fresh Fruits not enumerated in Schedule of Specific Duties, Coin, Gunny Sacks, Iron and Steel, all kinds of Woods not enumerated in Schedule of Specific Duties, Calves under twelve months old, Personal Effects, Salt, Garden Seeds, Grain for Seed, Tar and Pitch, Tin, Copper and Zinc, Wire (iron and brass), Copper Sheets, Boiler-plates and Bolts and Patent Metal for Ships, Iron Hoops, Sheet Iron, Rough and Partially Manufactured Woods used in construction of Carriages and Waggons, and Steel Springs, Anchors, Cables, Chains and Copper Bolts for Ship-building, Fresh Fish, Fish Oil, Whalebone, Raw Hemp for Rope-making, Tallow, Gas Retorts, Fire Clay, Furs, Hides, Lemon and Lime Juice, Guano, Wool, Oakum, Jute, Waggon Axles, Ship's Blocks and Junk, and Blacksmith's Coal, Lead in pipe, sheets and bars.

FIRST GOLD EXCITEMENT.

M. JAMES MOORE, "the Pioneer of Pioneers," who came from San Francisco with the first party of gold-hunters to the Fraser River in 1858, and who has remained in Cariboo District all these thirty-eight years, being now in the employ of Mr. J. B. Hobson, manager of the Cariboo Hydraulic Mine, has kindly furnished me with the facts regarding the first gold excitement in British Columbia, and the events that led to the discovery of the rich gold fields of the Horsefly and Quesnelle Rivers, the Antler, Lightning, and the famous Williams Creek, upon which this article is based. In February, 1858, the Hudson's Bay Company's steamer "Otter" arrived in San Francisco from Victoria, B.C. Mr. Holt, the purser of the "Otter," brought some gold dust with him, to be coined or run into a bar at the

United States Mint in San Francisco. This gold had been obtained from the

Indians who lived and hunted along the banks of the Thompson River, a tributary of the mighty Fraser.

The report that gold had been found on the Fraser and its tributaries soon got noised round San Francisco, and a small party of prospectors, James Moore amongst the number, started for the Eldorado in March, 1858. This party ascended the Fraser River and discovered rich pay at Hill's Bar, one and a half miles below Fort Yale. In April, 1858, this party sent letters to their friends in San Francisco containing samples of gold dust. The receipt of these letters from the pioneer party and the gold dust caused the greatest excitement ever known in California. The entire population of San Francisco—merchants, capitalists, business men of all descriptions, as well as the ever-present gamblers—were alike seized by the insane desire to sell out their businesses, their homes, and any other

Property they were possessed of, for any sum that would bring them and their outfit to the golden banks of the Fraser. Pieces of valuable real estate on Kearney and Montgomery streets, and in other desirable locations in San Francisco, were sold for less than the cost of the improvements by the excited people in their haste to get to the new gold fields. It is needless to dwell upon the many trials and hardships of these pioneers to British Columbia. A comparatively small number reached their goal and succeeded beyond their most sanguine expectations; many fell by the wayside, and many more returned to their deserted homes in California—sadder, poorer, but wiser men.

The pioneer party at Hill's Bar continued their work there until 1859, when some of the party went up the Fraser to the Quesnelle River, where a number of rich bars were also found and worked with good results. Charlie Snyder and two other prospectors discovered Snyder's Bar on the main Quesnelle River, from which they took out \$1,700.00 worth of gold dust in one day, and for many days thereafter met with almost equal success. Hyde's Bar, McDonald's Bar, and many other paying bars too numerous to mention here were also struck on the Quesnelle River. This same year—1859—another party struck out overland and discovered the Horsefly River, and there also found good diggings on the bars and benches. Ira Crow and six other miners worked on the Horsefly

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whos who histo while ing t River, opposite what is now the Horsefly Hydraulic Mining Company's property. About the same time another party composed of James Moore, Henry Ingram, and four others, arrived on the Horsefly and discovered the celebrated Blue Lead deposit of auriferous gravel at the place now covered by the Harper lease, which lease was sold in 1895 to the Horsefly Gold Mining Company, of which R. T. Ward, of San Francisco, is manager.

Rich bars were also discovered on the North and South Forks of the Quesnelle River the same year. The next year—1860—Keithley Creek was discovered by George Weaver and party. Harvey Creek was struck by George Harvey and his party, and about the same time, Goose Creek, Duck Creek and Snowshoe Creek were also discovered in the fall of 1860.

About the same time Captain Lowen, George Weaver, and "Siwash" Mc-Donald left Keithley Creek and went over the Bald Mountain on a prospecting tour, and discovered the diggings at Antler Creek. The news of this discovery did not leak out until 1861, in the spring, and caused a stampede from the forks of Quesnelle, which was then the headquarters for mining in that part of Cariboo District. In 1861 the celebrated Williams Creek, the richest diggings ever discovered in the world, was found by a man known as "Dutch Bill." Many claims

were taken up on this creek, many of them paying dividends of from \$20,000 to \$60,000 a year, and one man named Cameron left the country after a year's work with \$150,000 in gold dust. The size of the claims then was one hundred feet square to the man. Lowhee Creek was discovered by Dick Willoughby and party. Lightning Creek, Last Chance, Grouse Creek and several other similar gold-bearing creeks were found about the same time. All the diggings on these creeks paid well. Money was abundant, gambling and dissipation of all kinds were the order of the day. No thought of the morrow entered the heads of the miners and the same story of the pioneers of '49 in California has to be told of the miners in Cariboo, that many of them left the country without a dollar, and that many remained in the country and are alive are working for small wages or living on the bounty of their friends.

Most of the claims on the above mentioned creeks were what is known as "drifting" claims. A shaft would be sunk to bed-rock and the bottom strata taken out and washed, the ground for the workings being held up by timbers. It is said that the largest amount taken out of any one claim in twenty-four hours' working was taken out of the Diller claim on Williams Creek, where two men, working on the face of the drift, cleaned up 204 pounds avoirdupois of gold in twenty-four hours, or a value exceeding \$52,000. The Diller claim, consisting of 300 feet of ground, paid about \$300,000 in all.

The more accessible of the above mentioned claims have been pretty well worked out in the vicinity of Barkerville, but vast areas of ground have remained practically unexplored along the Fraser, Horsefly and Quesnelle Rivers and other mountain streams, which await but capital and intelligent exploration to develop into paying properties.

We now go back to the original party of miners at Hill's bar in 1858, whose trials and tribulations will make interesting reading alike to the old pioneers who may scan these pages and to that younger generation to whom the early history of the settlement of the Province is ever an engrossing study. One day, while the party were working away with their rockers on the bar a boat belonging to Captain Taylor arrived with a load of whiskey which he was selling to the

Indians for \$5.00 worth of gold dust per bottle. / Many of them became drunk, and the white men on the bar, fearing for their lives, offered to purchase all the whiskey he had aboard for his own price. He declined the offer, so the miners, taking the law into their own hands, marched down to the boat one morning with their guns at full cock, and while a few of them stood guard over the captain, the others broke in the heads of the casks and emptied the whiskey into the Fraser River, giving Captain Taylor an hour in which to get out of sight, which he lost no time in doing. The Indians on the bar numbered about 300 to thirty whites, and some action of this extreme nature was necessary to avoid an outbreak on the part of the aborigines.

After this incident some of the worst Indians in the band begame discontented and inclined to be rather ugly. One day one of them took a pick belonging to one of the white men and upon his refusing to return it the owner of the pick broke a shovel over the head of Mr. Indian. Of course, this precipitated a row in camp. The Indians formed by themselves with their · Trouble with muskets and the whites a short distance away armed for what Indians. might occur. The Chief of the tribe being present got on a stump and made a long speech in his native language, urging his braves on to a slaughter of the whites. Whilst the whites were standing their ground bravely, but fearing the worst, a barge of the man-of-war "Satellite" hove in sight around the bend of the river, with Governor Douglas and the captain of the "Satellite" and a dozen blue-jackets on board. If ever visitors were welcome, Governor Douglas and his barge load of British marines were welcome to this little party of whites whom they arrived in the nick of time to save from annihilation. When the Governor landed on the bar the marines fired a salute in his honour. their grievance to him and he persuaded the Indians to leave the bar and go to Fort Yale, where a small Hudson's Bay trading post was established and pacified the Indians by giving them a "blow out" of hard tack and molasses. No further trouble was experienced by the whites on Hill's Bar with the Indians. On Governor Douglas' second visit to the bar, about six weeks later, he appointed the first Justice of the Peace, George Perrier. At this time the miners were making from \$100 to \$150 a day with rockers.

Shortly after the Governor's first visit the little party had a visit from "Billy" Ballou, a California expressman, who was so well pleased with their prospects that he started the pioneer express of British Columbia. Of course, the miners all gave him lots of samples of gold dust to be conveyed to their friends in San Francisco, the receipt of which caused the greatest excitement California ever knew.

All the miners on the bar were American citizens, except one, who was familiarly known as "Bloody Edwards," who was a great favourite with all the boys, and whenever they got feeling jolly over a fresh arrival of the juice of the barley they would try to make an American of Edwards, but it was no go with

him. He told them he was content to be a "bloody good Englishman," and always wound up the argument by giving "three bloody good cheers" for the Queen. Edwards had a trading post at Hill's Bar. and amongst his stock, of course, was the inevitable whiskey. One evening the boys collected at the store and were enjoying themselves as usual, when someone questioned Edwards' bravery. Edwards, to prove his grit, held a lighted candle at arm's length at the back end of the store, while some of the boys stood at the front

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end and commenced to fire shots at the candle from their revolvers. One of the sober men present, seeing the danger, proposed that all hands take a drink, which they did, and so ended the shooting, probably saving Edwards' life.

In 1858 the first Gold Commissioner was appointed at Lytton, being a Frenchman named Captain Trevallis, a very eccentric character. At one time he confiscated a lot of whiskey brought in overland from Oregon. In long winter

The First Gold Commissioner.

The winkey brought in overland from Oregon. In long winter evenings when the boys got dry they would visit the Captain and express doubts as to whether the seizure was genuine liquor, and to prove the matter the Captain would tap a barrel and sample it with them, the result being that the fumes frequently overcame him and the

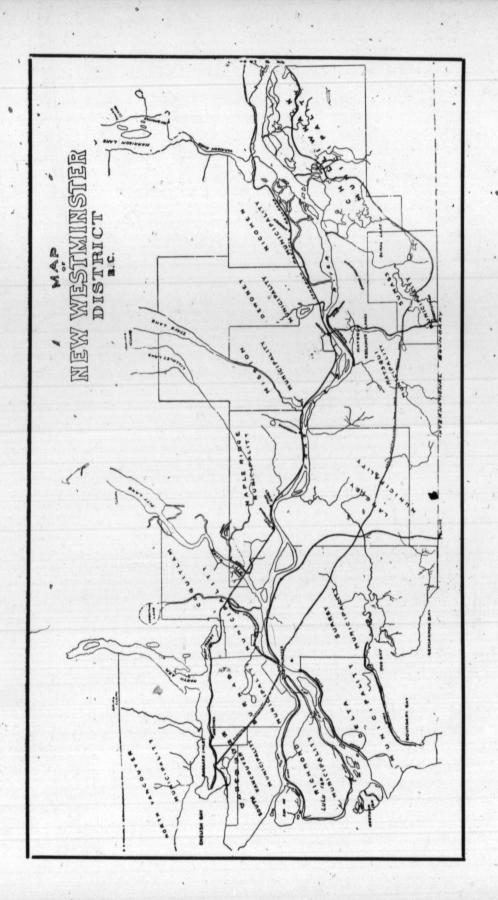
He was succeeded in 1859 by Captain Maynard Ball, a retired Captain of the

boys would have to put the Gold Commissioner to bed.

English Army, who became a great favourite with all the miners. Another eccentric character of these early days was Judge Cox, who left California during the excitement of 1858 for Victoria, and having no money to pay his passage from San, Francisco, shipped on board a sailing vessel and went about with the crew when the ship was putting to sea, but when eight bells struck and the sailors went to the galley for their dinner they found nothing ready. Cox being ignorant of everything pertaining to the cullinary art had nothing ready for them, and this riling the hungry sailors, they went to the captain with their complaints. The captain ordered Cox to appear before him and then Cox admitted he knew nothing about cooking, but said he was broke and wanted to get to Victoria. The ship being then at sea Cox could not be put ashore, and one of the crew had to be pressed into the service. The captain found that Cox was an Irish gentleman in reduced circumstances, so he made the best he could of his bargain and took him into his cabin to straighten out his accounts. After Cox arrived in Victoria, Governor Douglas appointed him Customs House Officer at Yale to collect revenue on goods and animals coming in overland from Oregon. He was afterwards appointed Gold Commissioner at Williams Creek, which po-

sition he filled satisfactorily to all. He had a curious way An Eccentric of his own of deciding cases. He would generally advise Judge, parties not to bring their troubles into court, but settle them outside. On one occasion he was trying a case when both plaintiff and defendent swore they were the rightful owners of a certain mineral claim. Judge Cox gave his novel decision thus, that both men start from the Court House together, get an axe apiece and run two miles to the ground in dispute, and the man who drove the first stake to get the ground. In another trial as to disputed ground on Cedar Creek which took place on a Saturday the Judge reserved his decision until the Monday, when he decided in favour of the plaintiff, but the successful litigant was ordered to pay all costs, including the defendant's lawyer. The defendant gave notice that he would appeal from the Judge's decision. After the Court adjourned the defendant went into the Judge's private office on other business, and the Judge, thinking he was on the appeal case, said: "On Saturday I intended to decide in your favour, but the effects of a champagne supper to which I was invited by the defendant caused me to change my mind."

Williams Creek, during the palmy days of '61 and '62, was a lively place. Theatres, dance halls, hurdy-gurdy girls, saloon keepers and gamblers reaped a rich harvest from the liberal miners who ever thought the gold in their claims would never give out and were as careless of their gold dust as though it had no value. Many of the young women in the dance halls married the miners and



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Behr binec established homes in different parts of Cariboo, becoming the mothers of large families and gaining the respect of all who knew them. But a limit to the productiveness of the diggings came at last, and Williams Creek for many years has been

like many of the rich placer diggings in California, a nearly de-Later serted village. During the last few years the Cariboo Gold Fields Developments. Company have purchased a number of claims along the creek that the miners were unable to work on account of water and are running a draining tunnel to relieve the claims of the surplus water, and are bringing in water by means of a ditch at a high elevation which will enable them to work the ground by hydraulic elevators under a pressure of about 900 feet. Mr. Champion, a mining engineer, and an old resident of Cariboo, is the manager and superin-Many teams are now on the road from Ashcrost to Soda tending engineer: Creek with heavy hydraulic pipe for this Company and an era of prosperity seems. likely to dawn again for Williams Creek. Many other rich gravel claims have been purchased and will be fitted up during the next season in the vicinity of Barkerville, and several quartz promising ledges are being developed. Many prospectors were out during the season of 1896, and the year 1897 will see many more claims in operation with a greater prospect of permanence perhaps than the short-lived prosperity of '61 and '62 and a possibility of equally as rich diggings being found as were those worked on Williams Creek in those halcyon days.

H. B. HOBSON.

THE ALASKA BOUNDARY QUESTION.

THE United States was allowed by purchase, on the 13th of March, 1867, the year of our Dominion nativity, to become the owner of a stretch of country 1,100 miles in its fullest extent and 800 miles at its greatest width. The sum paid was \$7,200,000. It has turned out to be a gilt-edge real estate investment,

notwithstanding that at the time there was strong opposition to it in the United States. Little was known of the resources of Alaska then, and the folly of buying a field of ice and a sea of of mountains was forcibly commented upon.

No doubt political rather than material reasons weighed with the Administration at Washington, because it gave a foothold in the north of the Continent, in addition to the possession of a vast realm in its southern half. For political, if for no other reasons, Great Britain should have prevented such an accomplishment. If her statesmen had made themselves familiar with the conditions of the Coast from narratives of the distinguished navigators of their own country, or the history of the Hudson's Bay and Russian Fur Companies, they must have known that the wealth of furs and fish alone would have justified its purchase, to say nothing of rounding off their North American possessions. * *

Russia acted wisely in relieving herself of a responsibility that brought little or nothing in return. Great Britain lost an immense opportunity thereby, and inherited as a consequence the Behring Sea dispute and the Alaska Boundary question, the costs of which combined, it is safe to say, would have paid for the territory. Since that time Alaska

has developed rich gold mines, a great fur trade, and a salmon canning industry that have rendered it extremely valuable, with possibilities of much greater things.

We have, however, to deal with a fact and not with an hypothesis. In the present discussion it is not necessary to enter at length into a history of Alaska. It was discovered in 1741. In that year Behring, on his third voyage for the Russian Government, first saw the stupendous peak of Mt. St. Elias, rising from the shore under the 60th parallel. Previous to that—from as far back as 1643—voyages had been made north to the Behring Straits on the east coast of Asia. From the date of Behring's voyage, the Russian fur trade began; but for many years it was conducted under great hardships and terrible sacrifice of life, owing to the rigours of the climate and ignorance of the coasts. The value of the furs, however, stimulated expeditions of various kinds, and a number of settlements of fur hunters. In 1799 the Russian American Company, of which the present Alaska Commercial Company is a lineal descendant, was formed

Alaska Comwith a concession of exclusive privileges over the whole of the mercial Co. present Alaskan territory and as much more as it could safely cover, and continued its monopoly by renewals of its charter until 1859. For ten years, from 1839 to 1849, the Hudson's Bay Company had a lease of the territory between the parallels of 54 deg. 40 min. and 58 degs. Those who have read Washington Irving's "Astoria" will remember the graphic description of Alexander Baranof, for twenty years Governor of Alaska and agent of the Russian Fur Company, a fur king of high degree, who governed the whole Russian American Coast with absolute sway. He is described by Greenhow as a "shrewd, bold, enterprising and unfeeling man, of iron frame and nerve and the coarsest habits and manners." His eccentricities were alarming to his visitors who came to trade with him, especially in the matter of making them drink potent grog until it was his pleasure to treat with them. Baranof is the most striking, if not the most admirable, figure in North-West Coast history.

The Russian treaty of 1825 is the origin of the present (Alaska) boundary question. For some time prior to this the conflicting interests of Great Britain, the United States and Russia, all of whom laid claims to possession of the North-West Coast north and south, were the subject of diplomatic negotiations. The United States claimed everything from the 42nd degree of latitude to the 53rd, "if not to the 60th." Great Britain filed a much similar claim, while Russia stipulated for everything north of the 49th. The American Government made a proposal that a joint convention should be concluded between the

three Powers, with a view to having their respective jurisdiction defined. Neither of the other two Powers accepted the invitation. * * In 1824, however, the United States succeeded in concluding a convention with Russia, the practical import of which was that both parties had a right to trade for ten years in any part of the Coast not occupied by the other, after which they were to be confined to certain limitations as to territory, neither to claim jurisdiction over territory not then occupied. Notwithstanding this, in 1825 a treaty was made between Great Britain and Russia, very much similar in many respects to the Russian-American Convention, except that Russia acknowledged the rights of Great Britain to the Coast south of the parallel fixed upon as a dividing line. The treaty of 1825 clearly annulled the convention of 1824.

And now we come to the provisions of the Treaty of 1825, out of which the present trouble grew. Articles III. and IV. principally interest us at present,

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Rus 26th part and I quote in full from the original as presented to the Imperial Parliament in 1825.

"The line of demarcation between the Possessions of the High Contracting Parties, upon the Coast of the Continent and the Islands of America to the North-West, shall be drawn in the manner following: Commencing from the southern-most point of the Island called the Prince of Wales Island, which point lies in the parallel of 54 deg. 40 min., North Latitude, and between the 131st and 133rd degree of West Longitude (meridian of Greenwich), the said line shall ascend to the north along the channel called the Portland Channel, as Article III. far as the point of the Continent where it strikes the 56th degree

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Article III. far as the point of the Continent where it strikes the 56th degree of North Latitude; from this last mentioned point the line of demarcation shall follow the summit of the mountains situated parallel to the coast, as far as the point of intersection of the 141st degree of West Longitude (of the same meridian), and finally from the said point of intersection, the said meridian lines of the 141st degree, in its prolongation as far as the Frozen Ocean, shall form the limit between the Russian and British possessions of the Continent of America to the North-West."

"With reference to the line of demarcation laid down in the preceding article it is understood: First. That the island called Prince of Wales Island shall belong wholly to Russia. Second. That wherever the summit of the mountains, which extend in a direction parallel to the coast, from the 56th degree of

North Latitude to the point of intersection of the 141st degree

Article IV. of West Longitude, shall prove to be at the distance of more than ten marine leagues from the ocean, the limit between the British possessions and the line of coast which is to belong to Russia as above mentioned, shall be formed by a line parallel to the windings of the coast, and which shall never exceed the difference of ten marine leagues therefrom."

Before discussing these articles in relation to the present dispute, it may be well to point out that Article VI. stipulates that British subjects, "from whatever quarter they may arrive, whether from the ocean or from the interior of the Continent, shall forever enjoy the right of navigating freely, and without any hindrance whatever, all the rivers and streams which, in their course towards the Pacific Ocean, may cross the line of demarcation upon the line of coast described in Article III. of the present Convention."

After the Crimean War, a Treaty of Commerce and Navigation between Her Majesty and the Emperor of all the Russians was concluded, in which (Article XIX.) the above was confirmed and declared to be continued in force, so that when in 1867 the United States purchased Alaska, that country stepped into Russia's shoes, and succeeded to all the rights, privileges and appurtenances thereto. * * *

It is to be observed, too, that notwithstanding any conditions of the sale so far as Russia and the United States were concerned, they were not binding on Great Britain, the transfer having been made without the latter being made a party to it; but in Clause VI. of the treaty between Russia and the

United States, Russia did virtually revoke what she had granted to Great Britain in regard to free and unrestricted navigation of the rivers through that territory to the sea. This, of course, Russia could not voluntarily do without the consent of Great Britain, but by the 26th Article of the Treaty of Washington, 1871, to which Great Britain was a party, navigation was made open for purposes of commerce only, and in the

opinion of the law officers of the Crown, "give new rights, and amount to that extent and in that sense to an admission that any former rights (free navigation for all purposes) were abrogated."

Concerning the concession in question, the Hon. Edward Blake, in 1877, as Minister of Justice, in a memorandum discussing the merits of a case arising

out of this very clause, remarked with much force as follows:

"28. The latter part of the 26th Article is as follows: 'The navigation of the Rivers Yukon, Porcupine, and Stikine, ascending and descending from, to, and unto the sea, shall forever remain free and open for the purposes of commerce to the subjects of Her Britannic Majesty and to the citizens of the United States, subject to any laws and regulations of either country, within its own territory, not inconsistent with such privileges of free navigation."

"29. At the time of the negotiation, British subjects had already the fullest right to navigate, for all purposes, all the streams flowing from the British territory in the interior through Alaska. The United States had no right to navigate any of these streams beyond the boundary of Alaska. Great Britain asked for, and obtained

Gave Everything for Nothing.

as a concession, a limited right to navigate three of these streams for certain purposes, conceding to the United States the right to navigate these three streams through Columbia on equal terms. Thus this so-called concession by the United States was, in fact, a concession by Great Britain to the former country, which gave nothing and got everything." * *

The Legislative Assembly of British Columbia in 1872 passed a resolution praying the Lieutenant-Governor to call the attention of the Government of the Dominion of Canada to the necessity in the interests of "peace, order and good government," of taking steps to have the boundary line properly defined. The immediate reason for this was that gold had recently been discovered in the Cassiar District, or northern part of British Columbia; a large number of miners had gone in, and a considerable trade was carried on. There was practically only one route into the gold fields, and that was via the Stikine River, which had its outlet through Alaskan or American territory. The importance of having a definition of the respective limits of British Columbia and Alaska is apparent. * *

Numerous requests on the part of the Canadian Government, inspired by representations from British Columbia in the interests of law and order, were made to the United States through Great Britain, to have the boundary line defined. The question had not then been raised as to the Portland Canal. The latter was practically accepted by both parties as the proper boundary. It was important, owing to the interest taken in mining matters, that there should be no mistake as to where the boundary really was according to the terms of the treaty. Although the American Government professed an anxiety to have it settled, and a

bill was introduced in Congress in 1872 to give effect to a commission of enquiry, nothing was done, on the ground that more important legislation demanded attention, and that Congress would not vote so large a sum of money as was required, something like a million and a half dollars. A suggestion was made by the American Government that in lieu of an accurate and exhaustive determination it would be "quite sufficient to decide upon some particular points, and the principal of these they suggested should be the head of the Portland Canal, the points where the boundary line crosses the Rivers Skoot, Stakeen (Stikine), Taku Islecat and Cheelcat, Mt. St. Elias, and the points where the 141st degree of west longitude crosses the Rivers Yukon and Porcupine." The Canadian Government was quite willing to accept the

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proposition, but for some reason or other nothing more was done, notwithstanding that the question was pressed time and again on their attention by the Canadian Government.

In 1877 Mr. Joseph Hunter, civil engineer, Victoria, was delegated by the Dominion Government to make a survey of the Stikine River for the purpose of defining the boundary line where it crosses that river. Of course his report was not expected to be final, and the work was necessarily hurried; but it was important, and settled the matter for the time being. He fixed the boundary line at 19.13 miles from the coast at right angles, and 24.74 miles by the river. His find-

A Provisional Arrangement. ings were accepted without prejudice to the rights of their contention by the American Government, and it so stands until finally settled by the present commission. From Mr. Hunter's observations it is quite clear that there is a range of mountains running parallel with the coast, the summit of which forms the boundary. That I believe is the Canadian contention. The Americans, on the other hand, have claimed that there is no defined mountain range governing the case, and that the line must follow the sinuosities of the coast.

Up to 1885 it does not appear that a line "through Portland Channel" was ever questioned as the true boundary line. The issue was raised by the late Mr. Justice Gray, of Victoria, B.C., one of the fathers of Confederation, and an able jurist. As it stands, the Alaska Boundary Question presents two phases, one being the delimitation of the line from the "head of Portland Channel," wherever that may be shown to be, and the other is the interpretation of Article III. With the former we will not deal. It is a matter of survey, and is in the hands of competent men. The latter involves an interpretation of Clause III. of the treaty.

In 1885 Mr. Justice Gray made a report to the British Columbia Government, in which he pointed out that the line running through Portland Channel, as marked on the maps, did not harmonize with the other conditions of the Article. To understand his contention involves no fine legal skill; it is a plain statement. The line commencing at the southernmost point of Prince of Wales Island, Cape Chacon, is to "ascend to the north along the channel called the Portland Channel." Portland Canal is fifty miles from Prince of Wales Island, and a line to there would not ascend to the north, but go in a south-easterly direction. It may be held that it does go north on the ground that the general

direction is north; and if no other conditions were demanded, Portland that might hold good, although not strict interpretation. It, how-Channel. ever, is required that the line is to go north along Portland Channel, until it strikes the 56th degree of latitude at a point of the continent. Portland Channel does not reach the 56th degree of latitude at all, and being wholly within the continent, a line following its channel could not possibly strike a point on "the continent." Then, again, it is stipulated that Prince of Wales Island is to belong "wholly" to Russia. There can be only one inference from that, when we consider that a large group of islands, the principal of which is Revilla Gigedo, intervenes between Prince of Wales Island and the mainland, and that is that some other channel than Portland Canal was intended, otherwise it would have been stipulated that the group of islands inside of it, and not Prince of Wales, should belong "wholly" to Russia. The channel separating Prince of Wales Island from these islands, or in other words, Clarence Straits, must have been meant. If Prince of Wales Island is to belong wholly to Russia, what about the group of islands which intervenes? If, on the other hand, you discard the

Portland Canal, and carry your line up either Behm's Canal or Clarence Straits, you meet all conditions, striking the continent exactly at the 56th degree of north latitude, leaving Prince of Wales Island wholly within Alaska territory.

More than that, the Portland Canal boundary, in continuing it, lands you into a second absurdity. As was pointed out by Mr. Justice Gray, the head of Portland Canal is far east of the Coast range of mountains, and in order to strike their summit, the line would have to cross several intervening mountains, making as is shown in Mr. Hunter's map, a sudden dip at right angles. Continuing the boundary directly northward, from Point Chacon through Behm's Canal or Clarence Straits, you follow the Coast Mountain Range naturally. Every circumstance and reasonable assumption favours the contention that the Portland Canal of Vancouver's charts is not the Portland Channel meant in the treaty.

It is not known what maps were used at the convention. Doubtless Vancouver's charts were. However, it is not likely that Great Britain would concede more territory to Russia than what Russian maps showed Russia claimed. There

is in Victoria an old French map, 1815, copied from maps in St.

Petersburg bearing date of 1802, and the dividing line as shown there is up Clarence Straits with Revilla Gigedo and all the islands included within the British Possessions.

The question in this case is not one of delimitation so much as of construction. Taken by themselves, the words "through the Portland Channel" are explicit, and would come under the rule that what is plain needs no interpretation, consequently binding without cavil; but where, as in this, the provisions are inharmonious and contradictory, interpretations must be resorted to. The rules of interpretation are clear. We must take all the conditions of the article and judge from the intention of the framers.

The Alaska Boundary Question really resolves itself into three main physical divisions, each one of which is dependent upon a distinct series of evidence or independent data, which, taken in order, are:—

I. The construction of the clause of the Treaty of 1825 by which the line of demarcation from Cape Chacon, the southernmost point of the Prince of Wales Island, is to be determined until it reaches a point of the Continent at the 56th degree of north latitude.

2. The determination of the line of demarcation from the last named point following along the coast line (see Clause III. of the Treaty quoted in the foregoing) until a point on the coast is reached where it is intersected by the 141st degree of west longitude.

3. Fixing astronomically the 141st degree of west longitude and its prolongation northward "as far as the frozen ocean."

The first of these involves, as has already been pointed out, the construction of the language of the Treaty according to well-understood and firmly established rules of interpretation adopted in international disputes of this character. This division of the subject has been fully dealt with in the foregoing.

The third phase of the dispute is dependent entirely upon astronomical definition, and is a simple matter, having already been practically disposed of by the work of surveyors.

The second is perhaps the most difficult of the three and upon the settlement of the dispute involved the most important issues hinge. Settlement rests

not only upon physical data, regarding the requirements of which the character of the country presents many obstacles, but upon a judicial arbitrament as to what physical data are admissible as evidence, and also as to how certain terms, such as "coast," "ocean" and "summit of the mountains" are to be construed in relation thereto. So far there has never been any official presentment of the respective facts made, as that stage of the proceedings has not yet been reached where a formal submission of claims before, or for the appointment of, a court of arbitration is necessary, and hence there is no clear or authoritative definition of issues. The issues have been mainly formulated in newspapers and magazines, and the territory in dispute has been indicated by map makers rather than jurists. The main fact to be observed is that the United States Government have assumed possession, which to them has constituted the essential "nine points of the law."

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Briefly, however, it would appear that the respective contentions are (these have been so succinctly and fairly outlined in a recent editorial on the subject in the Victoria "Daily Colonist" that the treatment cannot very well be improved upon by a layman, and the liberty is taken of transferring the editor's remarks to these columns):—

"In a general way the United States is understood to intend to hold that the word 'ocean,' in the treaty of 1825 between Great Britain and Russia, means the waters inside of the Archipelago, that there is no 'summit' within the meaning of the Treaty in the mountain range running along the coast and within ten marine leagues therefrom, wherefore the boundary must be drawn at a uniform distance of ten marine leagues from the continental coast line, disregarding the islands altogether, which line would be parallel to the sinuosities of the coast and hence put all the inlets within Alaska. The Canadian position may, in the same general sense, be said to be that by the word 'ocean' in the Treaty the high sea outside of the Archipelago is meant, and that the boundary must be drawn ten marine leagues from the outer rim of the Archipelago, except where the summit is nearer the coast then ten marine leagues, in which case the line will follow such summit. This would give Canada all of the inlets and even a portion of some of the islands, which latter would appear to have been contemplated by the Treaty, for that document expressly provides that the whole of Prince of Wales Island shall belong to Russia. The legal and natural inference from this would be that the whole of the other islands might not belong to Russia when the line was located. A secondary claim on the part of Canada is that, admitting the water on the shore of the Mainland to be the ocean, there is a summit nearer the coast than ten marine leagues, and that the two inlets above-mentioned extend beyond it. Should the claim of the United States, as above defined, be sustained, Canada would have no harbour on the coast between the 56th and 60th parallels of north latitude. If the Canadian claim is held good the head of Lynn Canal and of Taku Inlet would be in Canada, and if the contention that the boundary shall not be at a greater distance than ten marine leagues from the outer rim of the Archipelago prevails, Canada would own the whole of the Stikine River."

The former part of the foregoing consists of extracts from an article by the author on the " Alaska Boundary," in the " Canadian Magazine."

SECOND OVERLAND JOURNEY.

In the autumn of 1861 intense interest was aroused in the eastern section of this Dominion by the reported discovery of large deposits of the precious metals in the mountains of Cariboo. Thousands of the young men and not a few of the older ones prepared to journey thither, chiefly by the Panama route, then the only means of public conveyance. Others, however, there were, who from considerations of cost, and possible speed, for the route was much shorter, committed themselves to the perils of a journey overland through the British North-West. Several small parties, perhaps twenty in all, each unconscious of the intent of the other, left their homes about the 1st of May, 1862, and travelling westward via Detroit, Milwaukee, St. Paul and the Red River, reached Fort Garry about a month later. Here, and en route, these several parties fell in with each other,

and combining from this point in one large party numbered about

150 souls, with perhaps an additional fifty who arrived subsequently and followed in a second party, two weeks later. From

Fort Garry these parties travelling westward a few points to the north over the Great Plains passed the Hudson's Bay Company's Forts, Ellice, Carlton, Pitt and Edmonton, reaching the latter point on July 22nd. August 18th the party reached the Rocky Mountains, which they crossed by the Yellowhead Pass in latitude 52½ north. Arriving at Tête Jeune Cache on the western slope August 27th, a portion of the party from this point journeyed southward with the bulk of the animals via the north branch of the Thompson, while the main body with eight animals came down the Fraser by rafts and canoes to Quesnelle Mouth where they disbanded September 11th, 1862, some going into the mines while others scattered through the country toward the Pacific seaboard. Though the journey was long it was inexpensive, costing per head about \$98.

The experience of these travellers over the plains portion of the journey, though somewhat irksome by reason of the hurry consequent upon a desire to reach the Eldorado of their hopes early in the season, was, on the whole, not a difficult undertaking. In the mountain and Pacific Slope sections, however, difficulties of moment were encountered and overcome with meagre appliances—indeed with little else than heroic dispositions and a determination to succeed. These traits characteristic of youth, well represented in the company, were greatly intensified by reason of the prospect of soon sharing in the golden harvest

of Cariboo. Under such exhilarating influences, and inured to danger by long association, serious difficulty and imminent peril not infrequently supplied occasion for jest. Food, however, became a consideration as the journey ran into months of travel, and the party found itself in an inhospitable region, where the choice at times lay between an attempt to surmount obstacles hazardous in the extreme, and regarded as well nigh impossible, and accepting the alternative of starving where they were.

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In the mountain journey by land they met with difficulty in scaling some of the elevated sections, trail accommodation was scant, and the possibility of a slip into eternity reasonably imminent. Another source of discomfort and trial was found in the presence of innumerable swamps in high altitudes. The valleys of the Rockies usually afforded comfortable travel, but almost invariably a

rise to a plateau meant to encounter a swampy section, portions of which seemed to be bottomless. Now and again the whole train would be literally "swamped" and the attention of the weary wayfarers directed to the work of relief. Packs would first be removed and placed on solid ground, and then, and at times with extreme difficulty, the animals would be assisted to extricate themselves from the mire into which their exertions had forced them.

The main body of the first party, and those of the second who followed down the Fraser River from Tête Jeune Cache to Quesnelle escaped most providentially with the loss of four of their members, all of whom perished in attempts to run rapids in canoes. Those journeying by rafts, of whom there were about ninety on five such means of transport, were more fortunate, though compelled in common with all to face the perils of the treacherous stream without a guide or any knowledge of the character of the waterway before them, portions of which they could not have reached to scan, even had their well-nigh exhausted provision store admitted of the delay. As an instance of that condition of recklessness and blind confidence into which men are apt to fall who have long been accustomed to meeting

dangers in various forms, we have only to remember the fact that
the raft of the Queenston party ran all one night lighted only by
the stars. Fancy a party of twenty-three men lying down to sleep
at the mercy of the current with as little concern for the possible

consequences as if resting safely on terra firma. Less fortunate, however, in choice of routes were those who chose to seek civilization via the North Fork of the Thompson River. In this party were about twenty men, one woman and three children. Their primary object in leaving the main body was to seek a means of saving the animals, of which there were quite a number, all of which would become their property, and represent considerable value once they reached settlement. The experience of these people, if not more thrilling, was more varied and trying than was that of the main body who followed down the Fraser.

The journey was a month longer, slow progress having been made through the dense forest lying between the Fraser and Thompson Rivers, through which it was necessary to cut their way. On the Thompson they were several times shipwrecked, as well as being compelled at times, owing to drift blocking the channel, to abandon their rafts and dugouts, make a portage and construct others.

The animals were abandoned, two of their company were lost by drowning, and the remainder brought to the verge of starvation, which was averted by the timely discovery of an Indian potato patch, and through all this, in addition to weariness and fatigue of the former part of the journey from Fort Garry, came a woman having the care of three small children, compared with the responsibility, trials and discomforts of whom, the male portion of the company are not worthy to be considered. Finally the mother and her three little ones reached Kamloops, and another was added to their number the day after their arrival.

A carefully computed approximation of the distances travelled by the party disbanding at Quesnelle, and taking Queenston, Ontario, as the starting point, gives results as follows:

Queenston to Quesnelle	miles
Distance on foot and by raft	miles
Number of days actual travel	. 94
Actual number of days on the road	. 142

A comparatively full diary of the journey was written by Thos. McMicking Captain of the Company from Fort Garry westward—in the autumn of 1862. Lectures have since been delivered, and recently a book published by Margaret McNaughton of Quesnelle Mouth, which, though simply compiled from such notes and information as could be found at this distant date, and without the author having personal knowledge of the incidents of the journey or the territory traversed, is valuable as being the only public record so far aiming at a full account of so interesting and important an event.

Although the journey was performed at considerable sacrifice of time, and, unfortunately, with loss of life, and is not likely to be attended with any direct personal advantage to those who survived it; yet, in

the Results.

a public and national sense, we may reasonably believe that it has not been without a practical and beneficial effect.

Since every corner of Canada was represented in this company, many of whom would convey to their own neighbourhood some goodly report of the land, it follows that public attention was thereby awakened, resulting in the early colonization of vast interjacent territory, destined to become the very heart and centre of the great British American Empire, wherein will be united in one grand confederation the then widely separated Provinces. The expedition furnished the Pacific Colony with many sturdy pioneers, whose strength of arm and force of character did valiantly in the early and trying days. It assisted materially in hastening the time when our highly favoured country should take its place among the nations and become one of the great highways for the commerce of the world.

R. B. McMICKING.



HIS EXCELLENCY LORD ABERDEEN.

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OLD PARLIAMENT BUILDINGS.

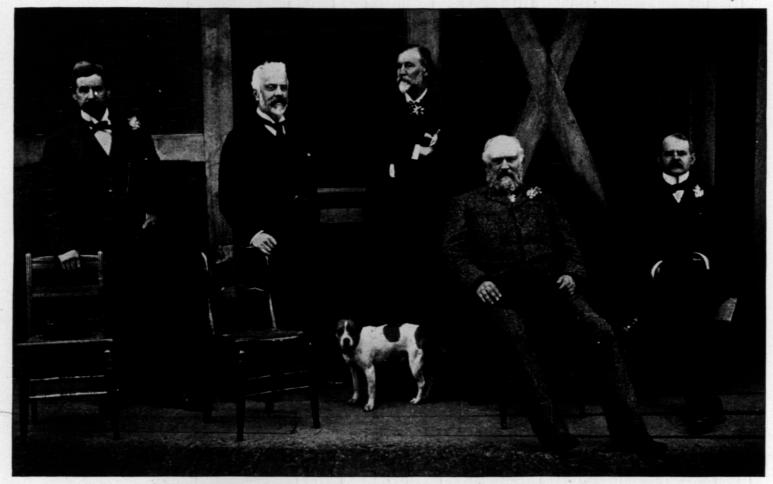
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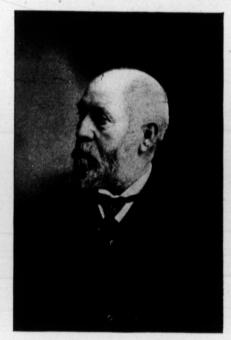
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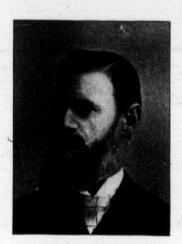
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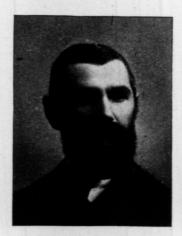
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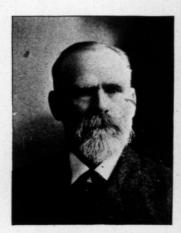
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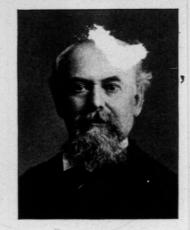
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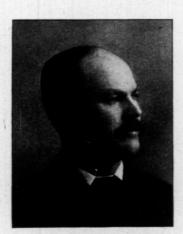
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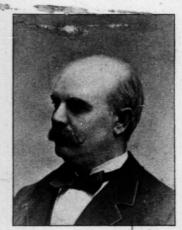
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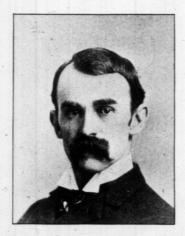
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PARLIAMENTARY.

HE growth of Parliamentary Government, or Responsible Government, as it is more often called, in British Columbia, was slow. The Colonies of Vancouver Island and British Columbia, first settled by the Hudson's Bay Company, enjoyed only the semblance of popular government from their first settlement until 1871, when the Colonies entered the Canadian Confederation as a Province.

By the term "Responsible Government" is meant a pledge and security for the rightful exercise of every act of Royal authority, and it is required by the British Constitution that the Ministers of State for the time being shall be

held responsible to Parliament and to the law of the land for all public acts of the Crown. Previous to 1859 the electoral privilege was confined to property-holders, or holders of real estate. Consequently, when the Government of Sir James Douglas divided the Colony of Vancouver Island into Electoral Districts, in some Districts only one, and frequently only four, voters returned a member. Such was the case at Nanaimo, when one voter returned a member to the Legislature in 1859.

Amongst the first arrivals of gold hunters in 1858 were many natives of Canada and the Maritime Provinces, where Responsible Government had existed for many years. These colonists were naturally anxious to have a similar form of Government adopted here, and almost at once an agitation was inaugurated for the change of Government by the well understood wishes of the people and was the rallying cry. Hon. Amor de Cosmos established the "British Colonist" newspaper to advocate Responsible Government in December, 1858. The movement was a popular one; but it required thirteen years of hard hammering in the press and on the public platform, and an entire transformation of the central power from Downing Street to Ottawa before the people came to their own.

In March, 1860, Gov. Douglas met a House of fifteen members, partly composed of appointed members and partly of members selected by popular vote. The political business of the country was conducted under similar auspices, with some slight changes, until 1864. In that year Gov. Kennedy succeeded Gov. Douglas as Governor of Vancouver Island, and Governor Seymour was appointed

over the Mainland, then known as British Columbia. Legislative Councils were convened in both colonies, and in 1867 the two were united, on petition of the Legislature of Vancouver Island, under the one term, British Columbia. The Government continued to be of a hybrid character until 1870, when Gov. Musgrave was appointed and introduced a semblance of Parliamentary Government, by enlarging the number of constituencies and reducing the qualification of voters. He summoned a Legislative Council in that year, partly composed of appointed members, but a small majority of the Council were sent by the people.

The terms of union with Canada were discussed by that Council and adopted by them. In those terms there was no provision for responsible Government. In fact, a clause which was attempted to be inserted by the popular members of the Council was defeated by a majority vote of the body; so when the delegates, Messrs. Trutch, Helmcken and Carrall, took the terms to Ottawa, they contained no clause providing for the establishment of responsible Government. The late Hon. John Robson, the late Mr. H. E. Seelye and myself held a conference, and decided that in order to secure Parliamentary Government

Responsible Government Conceded. it would be necessary for one of our number to proceed to Ottawa, and inform the Government there that unless responsible Government was assured by the terms, we should oppose the adoption of the terms altogether and thus delay Con-

federation. Mr. Seelye was selected as the delegate, and proceeded to Ottawa in the same boat and on the same train that carried the Government delegates. He was a warm personal friend of Mr. Tilley, afterwards Sir Leonard Tilley, then Minister of Customs at Ottawa, and he succeeded in convincing the Ottawa Government that our contention that the Province was sufficiently advanced to entitle it to representative institutions was correct. When the terms came backet they contained a clause to that effect, and upon those lines the Government has ever since been administered. The expenses of Mr. Seelye's mission were entirely borne by myself.

The first Parliament convened in British Columbia after Confederation met early in 1872. Mr. McCreight, now Mr. Justice McCreight, was Attorney-General and Premier. In the winter of 1872 a vote of want of confidence in the Government having been passed, Mr. McCreight and his colleagues resigned, and Mr. de Cosmos was called upon to form a Ministry. It will therefore be seen that the form of Government in British Columbia is similar to that of Canada and Great Britain, with the single exception that there is no Upper House; and in case of an adverse vote the Government must go out, as in every other country that has responsible Government. The rules of procedure are those governing the Parliament of the Mother Country.

D. W. HIGGINS.

COLONIAL AND PROVINCIAL GOVERNMENTS.

EGISLATIVE ASSEMBLY, VANCOUVER ISLAND, FIRST PARLIAMENT, 1855 TO 1859.—Victoria town, James Yates and J. W. McKay: Esquimalt and Victoria districts, J. S. Helmcken* and J. D. Pemberton; Esquimalt town, Thomas J. Skinner; Sooke district, John Muir.

* Speaker.

LEGISLATIVE ASSEMBLY, VANCOUVER ISLAND, SECOND PARLIAMENT, MARCH, 1860 TO FEBRUARY, 1863.—Victoria town: 1st session, March, 1860, to February, 1861, J. H. Cary, S. Franklin; 2nd session, June, 1861, to January, 1862, J. H. Cary, S. Franklin; 3rd session, March, 1862, to December, 1862, J. H. Cary, S. Franklin; 4th session, January, 1863, to February, 1863, J. H. Cary, S. Franklin. Victoria district: 1st session, March, 1860, to February, 1861, H. P. P. Crease, W. F. Tolmie, A. Waddington; 2nd session, June, 1861, to January, 1862, H. P. P. Crease, W. F. Tolmie, A. Waddington, J. W. Trutch (vice Crease), J. Trimble (vice Waddington); 3rd session, March, 1862, to December, 1862, W. F. Tolmie, J. W. Trutch, J. Trimble; 4th session, January, 1863, to February, 1863, W. F. Tolmie, J. W. Trutch, J. Trimble. Esquimalt town: 1st session, March, 1860, to February, 1863, W. F. Tolmie, J. W. Trutch, J. Trimble.

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Sept 1863 1864 D. P of Co from Sept ber, W. A 1861 G. T. Gordon; 2nd session, June, 1861, to January, 1862, G. T. Gordon; 3rd session. March, 1862, to December, 1862, T. Harris, Wm. Cocker (vice Harris); 4th session, January, 1863, to February, 1863, Wm. Cocker. Esquimalt district: 18t session, March, 1860, to February, 1863, J. S. Helmcken, James Cooper, R. Burnaby (vice Cooper); 2nd session, June, 1861, to January, 1862, J. S. Helmcken Robert Burnaby; 3rd session, March, 1862, to December, 1862, J. S. Helmcken, R. Burnaby; 4th session January, 1863, to February, 1863, J. S. Helmcken, † R. Burnaby. Lake district, 18t session, March, 1860, to February, 1861, G. F. Foster; 2nd session, June, 1861, to January, 1862, G. F. Foster; 3rd session, March, 1862, to December, 1862, G. F. Foster; 4th session, January, 1863, to February, 1863, G. F. Foster: Sooke district: 18t session, March, 1860, to February, 1861, W. J. Macdonald; 2nd session, June, 1861, to January, 1862, W. J. Macdonald; 3rd session, March, 1862, to December, 1862, W. J. Macdonald; 4th session, January, 1863, to February, 1863, M. J. Macdonald. Saanich district: 18t session, March, 1860, to February, 1861, John Coles; 2nd session, June, 1861, to January, 1862, John Coles; 3rd session, March, 1862, to December, 1862, John Coles; 3rd session, March, 1863, to February, 1863, John Coles. Salt Spring district: 18t session, March, 1860, to February, 1861, J. J. Southgate; 2nd session, June, 1861, to January, 1862, J. J. Southgate; 3rd session, June, 1861, to January, 1862, A. R. Green; 2nd session, June, 1861, to January, 1862, A. R. Green; † D. B. Ring, (vice Green); 3rd session, March, 1862, to December, 1862, D. B. Ring; 4th session, January, 1863, to February, 1863, D. B. Ring.

*Resigned October, 1861. ‡Resigned January, 1862. ||Resigned November, 1860.

ttSpeaker.

†Resigned October, 1861. †Resigned September, 1862. †††Resigned October, 1861.

EXECUTIVE COUNCIL OF VANCOUVER ISLAND, SEPTEMBER, 1863, TO SEPTEMBER, 1866.—Hon. William A. G. Young, acting Colonial Secretary, from September, 1863, to August, 1864*; Hon. George Hunter Cary, Attorney-General, from September, 1863, to August, 1864†; Hon. Alexander Watson, Treasurer, from September, 1863, to September, 1866; Hon. Joseph D. Pemberton, Surveyor-General, from September, 1863, to October, 1864]; Hon. Henry Wakeford, acting Colonial Secretary, from August, 1864, to June, 1805); Hon. Thomas Lett Wood, acting Attorney-General, from August, 1864, to September, 1866; Hon. B. W. Pearse, acting Surveyor-General, from October, 1864, to September, 1866; Hon. W. A. G. Young, Colonial Secretary, from June, 1865, to September, 1866.

*Leave of absence. !Resigned.

Superseded by Colonial Secretary.

LEGISLATIVE ASSEMBLY, VANCOUVER ISLAND, THIRD PARLIAMENT, SEPTEMBER, 1863, TO AUGUST, 1866.—Victoria city: 1st session, September, 1863, to July, 1864, W. A. G. Young, A. DeCosmos, I. W. Powell, J. C. Ridge, S. Franklin (vice Ridge); 2nd session, September, 1864, to July, 1865, A. DeCosmos, I. W. Powell, S. Franklin, C. B. Young, A. DeCosmos (re-elected), L. McClure, (vice C. B. Young); 3rd session, November, 1865, to August, 1866, I. W. Powell, S. Franklint, A. DeCosmos, L. McClure, C. B. Young (vice Franklin). Victoria district, 1st session, September, 1863, to July, 1864, E. H. Jackson, W. F. Tolmie, J. Trimble; 2nd session, November, 1864, to July, 1865, W. F. Tolmie, J. Trimble, James Dickson; 3rd session, November, 1865, to August, 1866, W. F. Tolmie, J. Trimble, James Dickson; 3rd session, November, 1865, to August, 1866, W. F. Tolmie, J. Trimble, James Dickson; 4rd session, November, 1865, to August, 1866, J. J. Southgate, L. Stamp (vice Southgate). Esquimalt district: 1st session, September, 1863, to July, 1864, J. S. Helmcken, & R. Burnaby; 2nd session, September, 1864, to July, 1865, J. S. Helmcken, & R. Burnaby; 2nd session, September, 1864, to July, 1865, J. S. Helmcken, R. Burnaby; 3rd session, November, 1865, to August, 1866, J. S. Helmcken, John Ash. Lake district: 1st session, September, 1863, to July, 1864, J. Duncan; 2nd session, September, 1864, to July, 1865, J. Duncan; 3rd session, November, 1865, to August, 1866, J. Duncan. Sooke district: 1st session, September, 1863, to July, 1864, J. Carswell; 2nd session, September, 1864, to July, 1865, J. Carswell: Saanich district: 1st session, September, 1863, to July, 1864, J. Carswell, 3rd session, September, 1864, to July, 1865, C. Street; 2nd session, September, 1864, to July, 1865, C. Street; 2nd session, September, 1864, to July, 1865, C. Street; 3rd session, September, 1865, to August, 1866, J. Cochrane. Satts. Spring district: 1st session, September, 1863, to July, 1865, G. E. Deans, 3rd session, September, 1865, to August, 1866, J. Cochran

*Resigned Jan., 1864.

Resigned Feb.,1865. ||Resigned Oct., 1864.

1Seat declared vacant April, 1866. ttUnseated on petition.

Legislative Council of Vancouver Island, September, 1863, to September, 1866;—Hon David Cameron, Chief Justice, from September, 1863, to November, 1865*; Hon. D. B. Ring, acting Attorney-General, from September, 1863, to October, 1853; Hon. Alexander Watson, Treasurer, from September, 1863, to September, 1866; Hon. Roderick Finlayson, Member of Council, from September, 1863, to September, 1866; Hon. Alfred J. Langley, Member of Council, from September, 1863, to January, 1864]; Hon. B. W. Pearse, acting Surveyor-General, from October, 1863, to August, 1864, Hon. Joseph D. Pemberton, Surveyor-General, from April, 1864, to October, 1864;†† Hon. Donald Fraser, Member of Council, from April, 1864, to September, 1866; Hon. Henry Wakeford, acting Colonial Secretary, from August, 1864, to June, 1855†††; Hon. Henry Rhodes, Member of Council, from August, 1864, to September, 1866; Hon. B. W. Pearse, acting Surveyor-General, from October, 1864, to September, 1866; Hon. B. W. Pearse, acting Surveyor-General, from October, 1864, to September, 1866; Hon. B. W. Pearse, acting Surveyor-General, from October, 1864, to September, 1866; Hon. B. W. Pearse, acting Surveyor-General, from October, 1864, to September, 1866; Hon. B. W. Pearse, acting Surveyor-General, from October, 1864, to September, 1866; Hon. September,

tttSuperseded by Colonial Secretary. ###President.

Legislative Council, 1864 to 19th July, 1871.—Session 1864: The Hon. Arthur N. Birch, Colonial Secretary; Hon. Henry P. P. Crease, Attorney-General; Hon. Wymond O. Hamley, Collector of Customs; Hon. Chartres Brew, Magistrate, New Westminster; Hon. Peter O'Reilly, Magistrate, Cariboo East; Hon. E. H. Sanders, Magistrate, Yale; Hon. H. M. Ball, Magistrate, Lytton; Hon. J. A. R. Homer, New Westminster; Hon. Robert T. Smith, Hope, Yale and Lytton; Hon. Henry Holbrook, Douglas and Lillooet; Hon. James Orr, Cariboo East; Hon. Walter S. Black, Cariboo West.

Session.—1864 to 1865, Hon. Arthur N. Birch, Colonial Secretary and Presiding Member; Hon. Henry P. P. Crease, Attorney-General; Hon. Charles W. Franks, Treasurer; Hon. Wymond O. Hamley, Collector of Customs; Hon. Chartres Brew, Magistrate, New Westminster; Hon. Peter O'Reilly, Magistrate, Cariboo; Hon. H. M. Ball, Magistrate, Lytton; Hon. A. C. Elliot, Magistrate, Lillooet; Hon. John C. Haynes, Magistrate, Osoyoos and Kootenay; Hon. J. A. R. Homer, New Westminster District; Hon. Henry Holbrook, Douglas and Lillooet Districts; Hon. Clement F, Cornwall, Hope, Yale and Lytton Districts; Hon. George A. Walkem, Cariboo East District; Hon. Walter Moberly, Cariboo West District.

Session 1866.—Hon. Henry M. Ball, acting Colonial Secretary, and Presiding Member; Hon. Henry P. P. Crease, Attorney-General; Hon. Charles W. Franks, Treasurer; Hon. Joseph W. Trutch. Chief Commissioner of Lands and Works; Hon. Wymond O. Hamley, Collector of Customs; Hon, Chartres Brew, Magistrate, New Westminster; Hon. Peter O'Reilly, Magistrate, Kootenay; Hon. Andrew C. Elliot, Magistrate, Lillooet; Hon. John C. Haynes, Magistrate, Osoyoos and Kootenay. Hon. J. A. R. Homer, New Westminster District; Hon. Henry Holbrook, Douglas and Lillooet Districts; Hon. Clement F. Cornwall, Hope, Yale and Lytton Districts; Hon. George Anthony Walkem, Cariboo East District; Hon. Robert Smith, Cariboo West District.

Session 1867.—First session after union with Vancouver Island. Hon. Arthur N. Birch, Colonial Secretary and Presiding Member; Hon. Henry P. P. Crease, Attorney-General; Hon. William A. G. Young, acting during session as Treasurer; Hon. Joseph W. Trutch, Chief Commissioner of Lands and Works; Hon. Wymond O. Hamley, Collector of Customs; Hon. Thomas Lett Wood, acting during session as Solicitor-General; Hon. Henry M. Ball, Magistrate, Cariboo West; Hon. Chartres Brew, Magistrate, New Westminster; Hon. George W. Cox, Magistrate, Cariboo East; Hon. William H. Franklyn, Magistrate, Nanaimo; Hon. William J. Macdonald, Magistrate, Victoria; Hon. Peter O'Reilly, Magistrate, Kootenay; Hon. Edward H. Sanders, Magistrate, Yale and Lytton; Hon. Amor DeCosmos, Victoria; Hon. J. S. Helmcken, Victoria; Hon. Joseph D. Pemberton, Victoria District; Hon. John Robson, New Westminster; Hon. Robert T. Smith, Columbia River and Kootenay; Hon. Joseph J. Southgate, Nanaimo; Hon. Edward Stamp, Lillooet; Hon. Geo. A. Walkem, Cariboo; Hon. Francis J. Barnard, Yale and Lytton.

Session, 1868—The Hon. W. A. G. Young, Acting Colonial Secretary and Presiding Member; Hon. Henry P. Pellew Crease, Attorney-General; Hon. Robert Ker, acting during Session as Treasurer: Hon. Joseph W. Trutch, Chief Commissioner of Lands and Works; Hon. Wymond O. Hamley, Collector of Customs; Hon. Henry M. Ball, Magistrate, New Westminster; Hon. Geo. W. Cox, Magistrate, Columbia and Kootenay; Hon. Thomas Elwyn, acting during Session as Magistrate for Cariboo; Hon. Wm. J. Macdonald, Magistrate, Victoria; Hon. Peter O'Reilly, Magistrate, Yale and Lytton. Hon. Warner R. Spalding, Magistrate, Nanaimo: Hon. Thomas Lett Wood, Magistrate, Victoria; Hon. Amor DeCosmos, Victoria; Hon. John S. Helmcken, Victoria; Hon. Joseph D. Pemberton, Victoria District; Hon. John Robson, New Westminster; Hon. Robert T. Smith, Columbia and Kootenay; Hon. Edward Stamp, Lillooet; Hon. Geo. A. Walkem, Cariboo; Hon. Francis Jones Barnard, Yale and Lytton.

Session, 1868-69.—The Hon. W. A. G. Young, Acting Colonial Secretary and Presiding Member; Hon. Henry P. Pellew Crease, Attorney-General; Hon. Joseph W. Trutch, Chief Commissioner of Lands and Works; Hon. Wymond O. Hamley, Collector of Customs; Hon. Arthur T. Bushby, Acting Postmaster-General; Hon. Edward G. Alston, J.P.; Hon. Henry M. Ball, J.P.; Hon. Henry Holbrook, J.P.; Hon. Peter O'Reilly, J.P., Hon. A. F. Pemberton, J.P.; Hon. Edward H. Sarders, J.P.; Hon. George Anthony Walkem, J.P.; Hon. Thomas Lett Wood, J.P.; Hon. Robert W. W Carrall, Cariboo; Hon. John C. Davie, Victoria District; Hon. M. W. T. Drake, Victoria City; Hon. Henry Havelock, Yale; Hon. John S. Helmcken, Victoria City; Hon. Thomas B. Humphreys, Lillooet; Hon. David B. Ring, Nanaimo; Hon. John Robson, New Westminster.

Session, 1870.—The Hon. Philip J. Hankin, Colonial Secretary and Presiding Member; Hon. Henry P. Pellew Crease, Attorney-General; Hon. Joseph Wm. Trutch, Chief Commissioner of Lands and Works; Hon. Wymond O. Hamley, Collector of Customs; Hon. Arthur T. Bushby, Acting Post-master-General; Hon. Edward G. Alston, J.P.; Hon Henry M. Ball, J.P.; Hon. Henry Holbrook, J.P.; Hon. Peter O'Reilly, J.P.; Hon. Augustus F. Pemberton, J.P.; Hon. Edward H. Sanders, J.P.; Hon. George A. Walkem, J.P.; Hon. Thomas Lett Wood, J.P.. Hon. Francis Jones Barnard, Yale; Hon. Robert W. W. Carrall, Cariboo; Hon Amor. DeCosmos, Victoria District; Hon. Edgar Dewdney, Kootenay; Hon. M. W. T. Drake, Victoria City; Hon. John Sebastian Helmcken, Victoria City; Hon. Thomas B. Humphreys, Lillooet; Hon. David B. Ring, Nanaimo; Hon. John Robson, New Westminster.

Session, 1871.—The Hon. Philip J. Hankin, Colonial Secretary, [Speaker]; Hon George Phillippo, Attorney-General; Hon Joseph. W. Trutch,* Chief Commissioner of Lands and Works; Hon. Wymond O. Hamley, Collector of Customs; Hon. Augustus F. Pemberton, J.P., Hon. Edward G. Alston, J.P.; Hon. Henry Nathan, Victoria City; Hon. John S. Helmcken, Victoria City; Hon. Amor DeCosmos, Victoria District; Hon. Arthur Bunster, Nanaimo; Hon. Hugh Nelson, New Westminster; Hon. Clement F. Cornwall, Hope, Yale and Lytton; Hon. Thomas B. Humphreys, Lillooet and Clinton; Hon. Robert W. W. Carrall, Cariboo; Hon. Robert J. Skinner, Kootenay.

*On the 14th February, 1871, the Hon. P. O'Reilly was appointed a member of the Legislative Council vice the Hon. J. W. Trutch, absent from the Colony.

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LEGISLATIVE ASSEMBLY AFTER CONFEDERATION.

CONSTIT- UENCY.	MEMBERS.	First Parliament (To Aug. 30, 1875)	SEC'ND PARLIAM'NT (To April 12, 1878)	THIRD PARLIAMENT (To June 12, 1882)	MEMBERS.	MEMBER ELECT F'TH PARLIAMENT (To June 3, 1886)
Cariboo	3	Joseph Hunter	A.E.B. Davie b John Evans Geo. Cowan	Geo. Cowan		Geo. Cowan Chas Wilson Robt. McLeese
Cassiar Comox Cowichan	2	John Ash, M.D Wm. Smithe John P. Booth	Wm. Smithe	John Ash, M.D Wm. Smithe E. Pimbury.	1	John Grant Wm. M. Dingwall William Smithe
Esquimalt. Kootenay .		A. Rocke Robertson. Henry Cogan John A. Mara Charles Todd	Fred'k Williams	Fred'k Williams H. Helgesen C. Gallagher R.L.T. Galbriath		Hans Helgesen C. E. Pooley R. L. T. Galbraith
Lillooet	2	A. T. Jamieson f H'n.T. Humphreys g Wm. Saul (vice Jamieson) Hon. T. Humphreys Wm. M. Brown	Wm. Morrison	Wm. M. Brown Wm. Saul		Alex. F. B. Davie Edward Allen
Nanaimo	1	(vice Saul) John Robson	John Bryden h D. W. Gordon (vice Bryden)	Jas. A. Abrams	2	Robt. Dunsmuir Wm. Raybould
N. West'r City		Henry Holbrook		Ebenezer Brown W. J.Armstrong (vice Brown)		W. J. Armstrong
N. West'r District	2	W. J. Armstrong	Ebenezer Brown W. J. Armstrong	D. McGillivray W. J. Harris		John Robson James Orr
Victoria City	4	J. F. McCreight Simeon Duck Robt. Beaven	Robt. Beaven Jas. Trimble, M.D. A. C. Elliott	Rob't. Beaven	4	Robt. Beaven Theo. Davie Simeon Duck
Victoria District	2	W. F. Tolmie (vice DeCosmos) W. A. Robertson	w. F. Toimie	J. W. Williams J. T. McIlmoyl HonT.B.Humphreys	2	M. W. T. Drake Geo, A. McTavish R. F. John
Yale	3	(vice Bunster) Robert Smith Jas. Robinson Chas. A. Semlin	J. A. Mara F. G. Vernon Robert Smith	J. A. Mara F. G. Vernon P. Bennett	3	Chas. A. Semlin John A. Mara Preston Bennett k G. B. Martin (vice Bennett)

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LEGISLATIVE ASSEMBLY AFTER CONFEDERATION. *

CONSTIT- UENCY.	MEMBERS	FIFTH PARLIAMENT (To May 10, 1890.)	MEMBERS.	SIXTH PARLIAMENT (To June 5, 1894.)	CONSTIT- UENCY.	MEMBERS.	SEVENTH PARLIAM'T (1894-97.)
Cariboo	3	J. Mason R. McLeese G. Cowan	3	Joseph Mason n Hon. J. Robson o S. A. Rogers I. B. Nason (vice p Joseph Mason) Dr. Watt (vice Hon. J. Robson) Wm. Adams (vice I. B. Nason)	Cariboo	2	S. A. Rogers Wm. Adams
Cassiar	1	John Grant		R. H. Hall Joseph Hunter	Cassiar Comox	I	John Irving. J. Hunter
Cowichan .	2	Hon. W. Smithe m Henry Fry (vice Hon. W. Smithe) C. E. Pooley	2	Hon. Theo. Davie Heny Croft	Cowichan- Alberni	2	Hon. Theo. Davie x Major Mutter G. A. Huff
Esquimalt. Kootenay.	10	D. W. Higgins Lt. Col. Jas. Baker	2	Hon. C. E. Pooley Hon. D. W. Higgins (E.) Lt. Col. J. Baker. (W.) J. M. Kellie	Esquimalt.		(vice Hon. T. Davie) Hon. C. E. Pooley Hon. D. W. Higgins (E.) Col. Baker
Lillooet	2	Hon. A. E. B. Davie q. E. Allen A. W. Smith (vice Hon. A. E. Davie)		D. A. Stoddart A. W. Smith	Lillooet		(%.) J. M. Kellie (S.) J. Fred. Hume (E.) J. D. Prentice y D. A. Stoddard (vice Prentice)
							(W.) A. W. Smith
Nanaimo	2	Hon. Robt. Dunsmuir. Wm. Raybould r Geo. Thompson (vice Wm. Raybould) A. Haslam (vice Hon. R. Dunsmuir)		T. Forster C. C. McKenzie	Nan. Dist .	2	(N.) John Bryden (S.) Dr. Walkem
Nan. City . N. West'r City	1	W. N. Bole t	1	T. Keith J. Brown	Nan. City . N. West'r City	1	Jas. McGregor J. B. Kennedy
N. West'r District	3	Hon. John Robson W. H. Ladner Jas. Orr	3	Hon. John Robson n T. E. Kitchen James Punch C. B. Sword	N. West'r City		(Dewdney) C. B. Sword (Delta) Thos. Forster (Richmond) T. Kidd (Chilliwack)
Victoria C.	4	Robert Beaven E. G. Prior v J. H. Turner Theo. Davie w		(vice Hon. J. Robson) John Grant Robert Beaven Dr. G. I., Milne	Victoria C.	4	T. E. Kitchen z R. P. Rithet Hon. J. H. Turner H. D. Helmcken
Victoria District	2	R. F. John	2	Hon. J. H. Turner D. M. Eberts G. W. Anderson	Victoria District		John Braden (8.) D. M. Eberts (N.) J. P. Booth
r.,	1						1 1
Yale,	3	C. A. Semlin F. G. Vernon G. B. Martin	3	Hon. F. G. Vernon G. B. Martin C. A. Semlin	Yale	-	(N.) Hon. G. B. Martin (E.) Donald Graham (W.) C. A. Semlin
Vanc. City.			2	F. C. Cotton J. W. Horne	Vanc. City.	***	A. W. Williams Robt. Macpherson
Alberni TheIslands			I	Thomas Fletcher J. P. Booth			F. C. Cotton

a—Appointed Clerk, Records, Kootenay, Apri 1872. b—Accepted Office May 1877 and was defeated. c—Died Sept. 1879. d—Appointed Gold Commissioner, Cassiar, May 1879. e—Died Oct. 1877. f—Died Nov. 1872. g—Resigned Sept. 1874. h—Resigned Dec. 1876. i—Resigned Nov. 1889. j—Resigned February 1874. k—Died Aug. 1882. m—Died 1887. n—Died Jan. 1891. o—Died June 1892. p—Died Aug. 1893. q—Died Aug. 1888. r—Died 1886. s—Died 1869. t—Appointed Judge 1881. u—Resigned to sit for Cariboo. v—Resigned for House of Commons. w—Ran for Cowichan. x—Resigned March 4, 1895, appointed Chief Justice. y—Resigned on Election Protest and was Defeated. z—Died during Session 1897.

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BRITISH COLUMBIA LEGISLATURE.

Table Shewing the Dates of Opening and Prorogation of the Several Sessions, and of the Dissolutions of the Legislature.

	Ses- sion.	Opening.	Prorogation.	Dissolution.
First	ı	Feb. 16, 1872	April 11, 1872	
	2	Dec. 17, 1872	Feb. 21, 1873	
	3	Dec. 18, 1873	Mar. 2, 1874	
	4	Mar. 1, 1875	April 22, 1875	Aug. 30, 1875
Second	I 2	Jan. 10, 1876	May 19, 1876	Aug. 30, 1075
	2	Feb. 21, 1877	April 18, 1877	
	3	Feb. 7, 1878	April 10, 1878	April 12, 1878
Third	I	July 29, 1878	Sept. 2, 1878	April 12, 1070
	2	Jan. 29, 1879	April 29, 1879	
	3	April 5, 1880	May 8, 1880	
	4	Jan. 24, 1881	Mar. 25, 1881	
	5	Feb. 23, 1882	April 21, 1882	Tune 12 1880
Fourth	I	Jan. 25, 1883	May 12, 1883	June 13, 1882
	2	Dec. 3, 1883	Feb. 18, 1884	
	3	Jan. 12, 1885	Mar 9, 1885	
	4	Jan. 25, 1886	April 6, 1886	June 3, 1886
ifth	I	Jan. 24, 1887	April 7, 1887	June 3, 1000
	2	Jan. 27, 1888	April 28, 1888	
	3	Jan. 31, 1889	April 6, 1889	
	4	Jan. 23, 1890	April 26, 1890	May 10 1800
Sixth	I	Jan. 15, 1891	April 20, 1891	May 10, 1890
	2	Jan. 28, 1892	April 23, 1892	
		Jan. 26, 1893	April 12, 1893	
	3 4	Jan. 18, 1894	April 11, 1894	Tune 5 1904
eventh	I	Nov. 12, 1895	Feb. 21, 1895	June 5, 1894
	2	Jan. 23, 1896	April 17, 1896	
	3	Feb. 8, 1897	May 8, 1897	





Fac-simile of \$20 gold piece coined in the British Columbia Mint.
(By kind permission of Hon. J. S. Helmcken).

Administration and Members of the Executive Council Since 20th July, 1871.

	NAMES.	PORTFOLIO.		DA	TE.			CAUSE OF REMOV	AL.
			From			То			
Hon.	J. F. McCreight, Q.c A. R. Robertson, Q.c	Premier and Attorney-General	Dec., Jan.,	1871 1872	23	Dec.,	1872	Ministry resigned.	
"	Henry Holbrook {	Lands and Works	Nov., Jan.,	1871 1872	15	Jan., Dec.,	1872) 1872)	do	
"	G. A. Walkem, Q.C Amor DeCosmos	Lands and Works	Dec.,	1872	11	do Feb.,	1874	do Resigned.	
"	G. A. Walkem, Q.c {	Attorney-General	do Feb., 1	874}	27	Jan.,	1876	Ministry resigned.	
"	Robert Beaven	Lands and Works23 Provincial Secretary	Dec.,	1872		do do		do do	1
"	W. J. Amstrong {	Without Office	do Feb.,	1873	28 27	Feb., i	1873)	do	
"	A. C. Elliott {	Premier, Attorney-General and Pro- vincial Secretary	Feb.,	1876	25	June,	1878	do	
"	T. B. Humphreys E. Brown Wm. Smithe	Lands and Works Finance and Agriculture President of Council Finance and Agriculture Provincial Secretary	Aug.,	1876	-	Tune.	· 1876	do do Resigned. do do	
"	G. A. Walkem {	Premier, Att'y-General, Lands and Works, and President of Council 26	June,	1878	13	June,	1882	Apptd. Judge.	
"	T. B. Humphreys Robert Beaven	Provincial Sec. and Min. of Mines	do do			do do		Resigned.	

	"	Robert Beaven	Premier, Lands and Works, Finance, Agriculture and Pres. of Council	13	June,	1882	30	Jan.,	1883	Ministry resigned.
	"	T. B. Humphreys	Provincial Sec'y and Minister of Mines		do		22	Aug	T882	Resigned
	"	I. R. Hett	Provincial Sec'y and Minister of Mines. Attorney-General		do		20	Tan	1882	Ministry resigned.
	"	W I Armstrong	Provincial Secretary2	2	Ana	T882	30	do.	1003	do
	"	Wm Smithe	Premier, Lands and Works	3	Ton	1002	-	March	-99-	Deceased
		wm. Smithe	riemier, Lands and Works29	9	Jan.,	1003	29 .	March,	1007	Deceased.
	"		Attorney-Gen. and Premier (April 1887)		do		-	Aug.,	1889	Deceased.
	"	John Robson {	Provincial Secretary, Minister of Finance and Agriculture		do		-	July,	_	* * *
	"	M. W. T. Drake, g.c	President of Council		do		Q	Doo	-00.	Designed
	"	Simeon Duck	Finance and Agriculture	r 7	March	T88=	TE	Oct.	1886	do
	"	Hon John Robson	Minister of Finance and Agriculture 16	6	Oct.	1886	73	Aug	1885	do.
	"	F. G. Vernon	Chief Commissioner Lands and Works	T	April	1882	1	Aug.,	100/	
		Robert Dunemuir	President of Council	Q	April,	1887				Deseased
		J. H. Turner	Finance and Agriculture		do	100/				Deceased.
			Promier Provincial Coretary and)				666			
		John Robson	Minister of Mines	3	Aug.,	1889	-	June,	1892	Deceased.
	"	F. G. Vernon	Chief Commissioner Lands and Works		do			do		Ministry dissolved.
	"	I. H. Turner	Finance and Agriculture		do			do		do
	"	Theo. Davie. o.c	Attorney-General		do do do			do		do.
	"	C. E. Pooley, O.C.	President of Council		do			do		do
		C. 24. 2 concy, g.c	Tresident of Condon		do			do		do
	"	Theodore Davie, Q.c.	Premier, Attorney-General and Pro-	2	July,	1892	4	March,	1895	Resigned.
	"	F. G. Vernon			do			do		do
	"	J. H. Turner	Finance and Agriculture		do			do		do
			Education and Immigration, Pro-) 28	8	May.	1892		do		
		James Baker	vincial Secretary	7	Sept	1892		do		
	"	C. E. Pooley, Q.C			July,			do		
	"	J. H. Turner	Premier, Finance and Agriculture	. 3	Jaroh	180-				
	"	C. E. Pooley, Q.C	President of Council	+ 1	do	1095				
		the state of the s	Provincial Secretary, Min. of Mines,)		do					
	"	James Baker	Min. Education & Immigration. S Chief Commissioner Lands and Works		do					
	"	G. B. Martin	Chief Commissioner Lands and Works		do	3177				
	"	D. M. Eberts, Q.C	Attorney-General		do					
_							-	-	-	

GOVERNORS OF VANCOUVER ISLAND.

NAME	From.	To.
Richard Blanshard Sir James Douglas, K. C. B. Arthur Edward Kennedy	1849 Nov. 1851 Oct. 1864	Nov. 1851 Mar. 1864 Union 1866

GOVERNORS OF BRITISH COLUMBIA.

NAME.	From.	To.		
Sir James Douglas	Sept. 1858 Apr. 1864 Aug. 1869	Apr. 1864 June 1869 July 1871		

LIEUTENANT-GOVERNORS' SINCE CONFEDERATION.

NAME.	From.	To.
Sir J. W. Trutch, C.M.G A. N. Richards C. F. Cornwall Hugh Nelson Edgar Dewdney	July 1871 July 1876 July 1881 Feb. 1887 July 1892	July 1876 July 881 Feb. 1887 July 1892

CHIEF JUSTICES OF V.I. AND B.C.

NAME.	From.	To.
David Cameron Mr. Justice Needham Matthew Baillie-Begbie Hon. Theo. Davie	185 t 1858 1859 189)	1858 1859 1894

LIST OF SPEAKERS.

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Vi

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[6] Ya

NAME.	From.	To.
Hon. J. S. Helmcken	1856	1871
" James Trimble	1872	1878
" F. W. Williams	1878	1882
" J. A. Mara	1884	1886
" C. E. Pooley	1887	1889
" D. W. Higgins	1890	14

PROVINCIAL ELECTIONS OF 1894.

Below is given the returns of the Provincial General Elections of July, 1894, which, owing to the interruption of communication by floods, were held at various dates. The returns of bye-elections, etc., are given in foot notes.

DISTRICT OR RIDING.	CANDIDATES.	No. Voters.	No. Members.	Votes Cast Govern- ment.	Votes Cast Opposition
Cariboo	W A Adams S A Rogers. Dr H Watt R McLeese Maj-Gen Kinchant	456	2	147 167 138	142 95

DISTRICT OR RIDING.	CANDIDATES.	No. Voters.	No.' Members.	Votes Cast Govern- ment.	Votes Cast Opposition
Cassiar	John Irving	206	1	102	
[1] Chilliwack	T E Kitchen	801	i	45	325
[2] Cowichan-Alberni	S A Cawley Hon Theo Davie—acclamation	516	2	303	
	J M Mutter—acclamation Joseph Hunter	522	"i"		****
Comox	Dr Stahlschmidt			239	129
Delta	Thos Forster	1,130	1	317	545
Dewdney	C B Sword Dr J M LeFevre	795	1		327
Esquimalt	Hon C E Pooley Hon D W Higgins—acclamation	451	2	224	
Kootenay East	Hon James Baker	625	. "i"	250	
	N C Schou		···i	2	166
Kootenay North	Wm Brown	550	1	217	125
Kootenay South	J F Hume	925	1	258	401
[3] Lillooet East	J D Prentice	190	"i"		83
Lillooet West	D A Stoddart	129	"i"	82 €1	
	Keithley	974	···i		36
Nanaimo City	Thos Keith			431	411
Nanaimo North	John Bryden	702	1	411	139
[4] Nanaimo South	W W Walkem	294	1	146	
New Westminster	J B Kennedy	1,409	ï	****	120 594
Richmond	D S Curtis T Kidd	951	"i"	574	368
Richmond	C S Douglas			290	
	R McPherson	3,790	3		1,911 1,766
Vancouver	R A Anderson				1,736
	R J Tatlow			920 979	
	E Odlum S Greer			607	208
A (R P Rithet	4,617	4	2,504	200
	Hon J H Turner H D Helmcken		::::	2,361 2,286	
Victoria City	John Braden			2,160	
	G L Milne Hon R Beaven				828 793
	W G Cameron A Dutton				664
Victoria North	J P Booth	330	i	136	661
	Hon D M Eberts	597	···ì	274	103
[5] Victoria South	John Carev			100	
Yale East	D Graham Hon F G Vernon	1,022	"i"	404	417
6] Yale North	Hon G B Martin H McCutcheon	693	"i"	312	
Yale West	C A Semlin	500	"i"	****	227 198
	James Wardle			122	130

[1] Mr. Kitchen died near the close of the session of 1897, and an election was held on the 8th of May, when A. S. Veddar was elected to succeed him. [2] Upon the elevation of Hon. Theo. Davie to the Supreme Court Bench, Mr. G. A. Huff, Alberni, succeeded him by election. [3] The election contest in East Lillooet was contested, and, as the result of a compromise, a new election was held after the session of 1895. Mr. D. A. Stoddart was returned. [4] Dr. Walkem, although elected as a Government supporter, during the session of 1897, voted and spoke in Opposition. [5] Hon. D. M. Eberts, upon being appointed Attorney-General, was elected by acclamation. [6] When Hon. G. B. Martin became Chief Commissioner of Lands and Works he was re-elected by acclamation.

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42 95

Elections were previously held on the following dates: Oct., 1871; Sept., 1875; May, 1878; July, 1882; 7 July, 1886; 13 June, 1890. Political dividing lines in the Provincial Parliament are Provincial and not Dominion, as in the other Provinces. Six Liberals support the Government and five Conservatives are in Opposition. In Dominion politics the House stands divided in the proportion of 20 to 13.

NEW PARLIAMENT BUILDINGS.

THE new Parliament Buildings, which are to be opened somewhat appropriately this the year of the Queen's Jubilee, indicate in a substantial way the remarkable progress the Province has made in recent years. The huge masses of gray stonework, towering above the quaint old present wooden structures form a striking picture, and the stately outlines of the magnificent buildings, embedded in the midst of green foliage, with the blue waters of James Bay in the foreground and the glorious Olympic Mountains behind, produce a most beautiful, and in its way, unequalled, effect.

The general outline of the design is Renaissance in style, though treated in so original a manner as to make any particular description somewhat mis-

Design and Material.

Beading. It is evident that the building has been designed more in a spirit of accordance with the materials to be obtained and in conformity with local requirements than with a desire to follow academic rules. The result consequently is much more interesting and distinctive.

The stone used in the buildings is of a pearly gray colour, of a very transparent tone and casts delicate and various shadows with each change of the sky. This particular quality of the stone adds a very great charm to the building. This stone was obtained from Haddington Island, about 300 miles north of Victoria, and between the Island of Vancouver and the mainland.

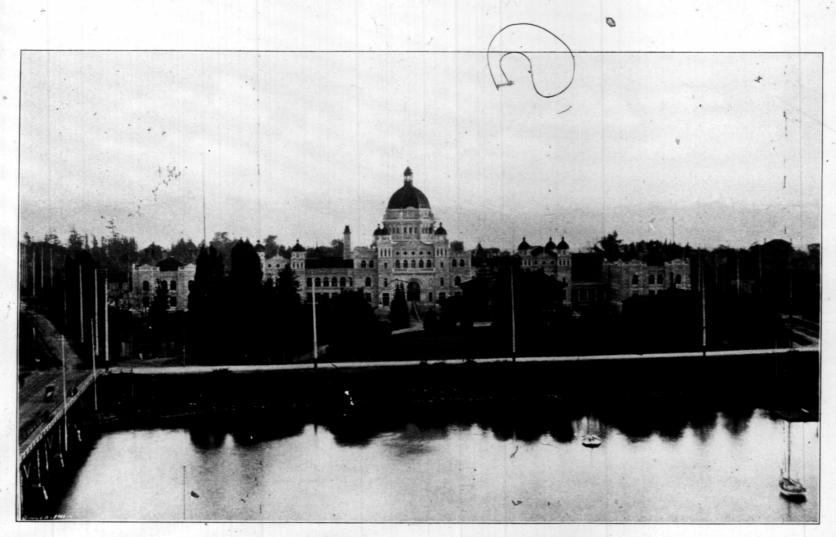
The roofing of the building is in slates, obtained from the quarries of Jervis Inlet, whilst the granite steps and landings, some of very great size, were obtained from Burrard Inlet and Nelson Island quarries. All of these, as well as most of the other materials and woods, were obtained in the Province.

The various domes are covered with copper, which has taken on a greenish shade, blending admirably with the gray stone walls and blue slates.

The general idea of the interior of the building is a cross with three long arms, each of which contains a separate department on both the ground and first floors, and the remaining short arm is the principal entrance. Thus, whilst each department is planned and arranged as a separate and distinct building, with its own separate entrances, staircases, vaults, etc., yet direct access is obtained to each from the central main entrance hall. It is impossible to over-estimate the sim-

plicity that this arrangement gives to the plan, and the ease with which any one can find his way to any one of the numerous offices. The Central Hall is treated appropriately with its importance, and forms the most striking feature of the interior. Being surmounted by the dome, which is so conspicuous a feature of the exterior, this central hall is very lofty and has several balconies and balustrades opening on to it and reached by winding staircases contrived in the thickness of the walls, by which you ascend on your way to the cupola surmounting the building—a favourite place for sightseers, as a splendid view of the whole surrounding country can be obtained from this height.

From the central hall several charming vistas are obtained down the corridors, which are all arched and vaulted and finished in white polished Keene's



NEW PARLIAMENT BUILDINGS, (1897).

TAKEN FROM NEW POST OFFICE.



W. A. Franklin, H. Messenger. Amor de Cosmos.

Heary Holbrook. W. O. Hamley. E. G. Alston. M. W. T. Drake. T. L. Wood. H. M. Ball. E. Dewdney. A. T. Bushby. Philip Hankin. J. W. Trutch. Thos. Humphreys. John Robse.

John Robson.

Chas. Good, Clerk.

B. C. ASSEMBLY BEFORE CONFEDERATION.

cement, the windows being filled with stained glass. The interior staircases are moulded solid stone stairs, with wrought-iron railings, all manufactured in the Province. These steps are constructed in a manner unique on the Coast, one end being built in the wall and the other end apparently unsupported, giving a very light and airy appearance. The strength of this system of stair-building is, however, as undoubted as the appearance is attractive.

A large vaulted lobby opens on to the Legislative Hall, an apartment 60x40 feet on the floor level, amply large enough to accommodate far more than the present thirty-three members, with galleries for the public extending beyond this again, these galleries being over the corridor surrounding the Hall. The Legislative Hall is panelled in Italian marble, Breccia and Pavanazzo and Verona St. Ambrozia being mostly used, with large monolithic columns of green Cippolino at each bay. The general effect is very rich.

The Speaker's canopy in oak is an intricate and ornamental work, and is pointed to with pride as an example of the joiner's skill. Round the Legislative Hall are the various committee rooms and offices, including the Library of the Legislative Assembly. Each of these is panelled in some one of the various native woods, and in them are exhibited choice samples of birds-eye maple, cypress, fir, cedar, alder and spruce.

The building generally is fire proof, a great deal of concrete work being used, and all wood as far as possible avoided in the construction to obviate shrink-

age and decay as well as danger from fire. The electric light is used throughout, and the lavatories are fitted up in the most sanitary manner with tiled walls and floors, and marble is used for all divisions and fixtures. The total cost of construction, including furnishings complete, will be under \$840,000.

On either side of the main structure is ranged the Printing Office and Museum, connected by means of colonnades, forming a facade of over 500 feet in length. These colonnades are graceful in appearance, and form convenient covered approaches from one building to the other. The Museum, which is a perfectly fire proof building, will contain the unique and noted collection of Provincial animals and curiosities.

It is the intention to tear down the present buildings now obstructing the view and when this is done, the grounds will be laid out in a manner to blend with the general architectural effect. A granite terrace wall is to be constructed in front of the main facade, whence the grounds will slope gradually down to the water front. A small granite curb with cast-iron standards and a chain will enclose the grounds.

The whole of the work was let to local contractors, each trade being dealt with separately. All work was done according to schedule rates comprised in carefully and elaborated Bills of Quantities. Quantities are unusual on this Coast, but are generally adopted in the Old Country and the effect of their use has led to the satisfactory avoidance of serious disputes, and has materially diminished the cost of the building.

Mr. F. M. Rattenbury, formerly of Leeds, England, is the architect, every detail being drawn by himself, and Mr. E. C. Howell, of London. England, supintendent, to both of whom is due every credit for the imposing edifice now in the final stages of completion.

THE OLD PARLIAMENT BUILDINGS.

THE old buildings to be replaced by the new structure just described were commenced in 1859, the original contract for which exceeded \$100,000. A good deal of objection was raised to their erection at the time, on several groundstheir cost, their location, their being undertaken without consent of Parliament, and their designs. However, as the cost was defrayed out of Hudson's Bay Company funds, Governor Douglas proceeded with them regardless of his censors. A feature very much criticised was the isolation or detachment of the various departments from each other in separate buildings. That, with the quaint style of architecture, somewhat suggestive of Chinese pagodas, earned for them the designation of "birdcages," and to this circumstance Birdcage Walk, being a continuation of Government Street past the Government Grounds, owes its name. They consisted of five buildings, originally used as a Central or Administrative Department, a Court House, a Legislative Hall, an office of the Chief Commissioner of Lands and Works, and a Printing Bureau. There was a quaintness and picturesqueness about them and cause a feeling of regret on account of their demolishment, but the business of the public office having long ago outgrown their capacity their fate was inevitable.

COUNCIL OF VANCOUVER ISLAND.

August, 1851, to August, 1863.

	NAME	FROM	то
Hon, James Dou	ıglas*		November 1851
Hon. John Tod		August 1851	October 1858
		August 1851	June 1856
Hon. Roderick	Finlayson	November 1851	August 1863
			December 1862
		November 1858	August 1863
		July 1859	August 1863
Hon, Alfred J.	Langley	February 1861	August 1863
	appointed Governor Resigned	†Resigned \$Died 21st Decem	ber 1862

THE GOVERNMENT OF BRITISH COLUMBIA.

LIEUTENANT-GOVERNOR, HIS HONOUR EDGAR DEWDNEY.

EXECUTIVE COUNCIL.

Provincial Secretary and Minister of Mines	
Attorney-General	
Minister of Finance and Agriculture	
Chief Commissioner of Lands and Works	
President of the Council	
Clerk of the Executive Council	

LEGISLATIVE ASSEMBLY.

THE HONOURABLE DAVID W. HIGGINS, SPEAKER.

NAME.	CONSTITUENCY REPRESENTED.	P.O. Address.
Adams, William	Cariboo	Lightning Creek.
Baker, the Hon. James	East Kootenay	Victoria [Sp'g Is
Booth, John Paton	North Victoria	Vesuvius Bay, Sal
Braden, John	Victoria City	Victoria
Bryden, John	North Nanaimo	Victoria
Cotton, Francis Carter	Vancouver City	Vancouver
Eberts, Hon. David MacEwen.	South Victoria	Victoria
Forster, Thomas	Westminster (Delta Riding)	Clayton
Graham, Donald	Yale (East Riding)	Armstrong.
Helmcken, Harry Dallas	Victoria City	Victoria
Higgins, Hon. David William.	Esquimalt	Victoria
Huff, George Albert	Cowichan-Alberni	Alberni
Hume, John Frederick	West Kootenay (South Riding)	Nelson
Hunter, Joseph	Comox	Victoria
Irving, John	Cassiar	Victoria
Kellie, James M	West Kootenay (North Riding)	Revelstoke
Kennedy, James Buckham	New Westminster City	New Westminste
Kidd, Thomas	Westminster (Richmond Riding)	
Macpherson, Robert	Vancouver City	Vancouver
Martin, Hon. George Bohun	Yale (North Riding)	Victoria
McGregor, James	Nanaimo City	Nanaimo
Mutter, James Mitchell	Cowichan-Alberni	Somenos, V.I
Pooley, Hon. Charles Edward.	Esquimalt	Victoria
Rithet, Robert Paterson	Victoria City.	Victoria
Rogers, Samuel A	Cariboo	Barkerville, Crbo
Semlin, Charles Agustus	Yale (West Riding)	Cache Creek
Smith, Alfred Wellington Stoddart, David A	Lillooet (West Riding) Lillooet (East Riding)	Lillooet
Sword, Colin Buchanan	Westminster (Dewdney Riding).	
	Victoria City	Matsqui
Turner, Hon. John Herbert Walkem, William Wymond	South Nanaimo	Victoria Nanaimo
Williams, Adolphus	Vancouver City	Vancouver
Vedder, A. S	Westminster (Chilliwack Riding)	Chilliwack
reader, in Service	" commister (chimiwack Riding)	CHILIWACK

OFFICERS OF THE HOUSE.

Clerk of the Legislative	Assembly	 Thornton Fell
		C. C. Pemberton
Sergeant-at-Arms		 R. Anderson
		R. Wolfenden
Librarian		 R. E. Gosnell

DEPARTMENTAL OFFICERS.

Attorney-General					 	H	on.	D. M. Eberts, Q.C.
Deputy Attorney-General . Superintendent Provincial	Police				 		• •	Arthur G. Smith
Provincial Secretary and M	inister	of	Mines	::	 	.Col.	the	Hon, James Baker

Deputy Provincial Secretary Minister of Mines. Provincial Mineralogist. Provincial Assayer Inspector of Coal Mines. Minister of Finance and Agriculture. Auditor-General. Deputy Minister of Finance. Supervisor of Rolls Chief Commissioner of Lands and Works Deputy Commissioner. Surveyor-General. Provincial Timber Inspector. Minister of Education and Immigration Superintendent of Education Minister of Immigration Immigration Agent. Mirister of Agriculture Deputy Minister of Agriculture Lispector of Fruit Pests. Chairman Provincial Board of Health. Secretary Provincial Museum	Col. the Hon. James Baker .W. A. Carlyle .H. Carmichael .A. Dick (Nanaimo) .Hon. J. H. Turner .J. McB. Smith .A. Flett .Cornelius Booth .Hon. G. B. Martin .W. S. Gore .T. Kains .R. J. Skinner .Col. the Hon. James Baker .S. D. Pope .Col. the Hon. James Baker .John Jessop .Hon. J. H. Turner .J. R. Anderson .R. M. Palmer .Dr. J. C. Davie .Dr. George H. Duncan .John Fannin
Secretary Bureau Statistics	
SUPREME COURT	REGISTRARS.
Victoria Vancouver New Westminster Nanaimo Kamloops Nelson Barkerville Clinton Lillooet COUNTY COURT	A. E. BeckJ. J. Cambridge, Deputy Registrar
	- 2 NEW 1987년 1987년 1981년 1981년 1982년 1982년 1982년 1981년 1982년 1982년 1982년 1982년 1982년 1982년 1982년 1982년 1982년 1982년 1982년 1
Victoria New Westminster Nanaimo Kamloops Nelson Barkerville Duncans Yale Ashcroft Nicola Union Chilliwack Rock Creek Granife Creek Midway Vernon Revelstoke Donald	
PROVINCIAL GOVERN	MENT AGENTS.
Alberni. Cariboo. Cassiar. Cowichan Comox Fort Simpson.	J. Bowron, BarkervilleJames Porter, P.O. LaketonH. O. Wellburn, DuncanW. B. Anderson, Comox

HOLE IN THE SECOND CONTROL OF THE SECOND CONTROL OF THE SECOND CONTROL OF THE SECOND CONTROL OF THE SECOND CONT
Kamloops
Kootenay East-SouthJ. F. Armstrong, Fort Steele
Vootenay Wort
Kootenay West
Kootenay West
Kootenay East—North John E. Griffith, Donald
Lillooet F. Soues, Clinton
Nanaimo
New Westminster D. Robson, New Westminster
New Westminster D. Robson, New Westminster
NicolaJohn Clapperton, Nicola Lake
Okanagan
Quesnelle
Yale
Wandar C of Wistonia
Warden Guol, Victoria
Warden Gaol, New Westminster
Medical Superintendent Lunatic Asylum, New Westminster. G. F. Bodington, M.D.
The list of Gold Commissioners and Mining Decorders is given in the chanter
The list of Gold Commissioners and Mining Recorders is given in the chapter
on Mining.

COUNTIES.

PRIOR to 1895 the districts of British Columbia were separately designated for County Court, Supreme Court and Shrievalty purposes. In 1895 the Counties Definition Act was passed, defining the various divisions of the Province for the administration of justice and for all other purposes. Under this Act the divisions are as follows:—

I. The County of Victoria, which consists of the Electoral Districts of (a) Victoria City. (b) North Victoria. (c) South Victoria. (d) Esquimalt.

2. The Electoral Districts of (a) Nanaimo City, (b) North Nanaimo, (c) South Nanaimo, (d) Cowichan-Alberni, (e) Comox, (f) Cassiar.

3. The County of Vancouver, Electoral Districts of (a) Vancouver City, (b) Richmond Riding, excepting the Municipality of Burnaby.

4. The County of Westminster, Electoral Districts of (a) New Westminster City, (b) Delta Riding, (c) Chilliwack, (d) Dewdney Riding, (e) Burnaby Municipality, (f) Hope and Yale Polling Divisions.

5. The County of Yale, the Polling Divisions of Kamloops, Nicola Lake, Okanagan and Rock Creek, in Yale Electoral District.

6. The County of Cariboo, Electoral Districts of (a) Cariboo, (b) Lillooet, (c) Lytton and Cache Creek Polling Divisions in Yale.

7. The County of Kootenay, Electoral Districts of (a) East Kootenay, (b) West Kootenay.

The Counties Definition Amendment Act, 1897, intended to create procedure under which the provisions of the various statutes relating to the administration of justice and cognate subjects can be more readily given effect to and carried out in those portions of the Province which are rapidly increasing in population, provides, in the first place, that the Lieutenant-Governor-inCouncil may create a new county, comprising such portion of the area of the counties of Kootenay and Yale as may be expedientate be called the County of South Kootenay, and therein provide all necessary registries and offices, and appoint Registrars, Sheriffs, Deputies and officers, and in the next place empowers the Lieutenant-Governor-in-Council to take the necessary measures to procure the more effectual carrying out of such statutes in the counties already in existence under the Act of 1895.

QUALIFICATION OF ELECTORS.

At elections for members of the Legislature of the Province, every male of the full age of twenty-one years entitled to the privileges of a natural-born British subject, having resided in this Province for twelve months, and in the Electoral District in which he claims to vote for two months of that period immediately previous to sending in his claim to vote, shall be entitled to vote at any election. In each Electoral District there are one or more Collectors or Registrars of Voters, whose duty it is to prepare and revise the lists of voters, and to enter upon such lists the names of those applying for and entitled to obtain the entry of their names thereon. A person desiring to be entered as an elector must make an application in writing to the Collector of the Electoral District or Polling Division in which the applicant resides, and may be called upon to answer the following questions:

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- I. What is your Christian name, surname, place of residence (street and number, if any, of the house in which you live), and occupation?
 - 2. Are you of the full age of twenty-one years?
 - 3. Are you a natural-born or naturalized subject, and which?
- 4. Have you ever taken the oath of allegiance to any foreign state, or been naturalized as a subject of a foreign state, and if so have you since been naturalized as a British subject, and when and where?
- 5. Have you resided in the Province of British Columbia for twelve months prior to the date of your application to be registered as a Provincial Voter?
- 6. Have you resided or had your chief place of abode in this Electoral District for a continuous period of two months prior to this date? If not in this District, in what (if any) Electoral District?
- 7. Are you now registered as a Provincial Voter in any Electoral District in British Columbia? (If the answer be yes) In what District?
- 8. Do you now reside in the District for which you apply to be registered as a Provincial Voter? On what premises do you reside?

ALIENS.

On May 14th, 1859, by Proclamation by His Excellency James Douglas, K.C.B., Governor and Commander-in-Chief in British Columbia, it was provided that:—"Every alien shall have the same capacity to take, hold, enjoy, recover, convey, and transmit title to lands and real estate of every description in this Colony, as if he were at the time of the passing of this Act a natural-born British subject; and no person shall be disturbed in the possession or precluded from the recovery of any lands or real estate in this Colony by reason only that some person from or through whom he may derive his title was an alien." This provision was continued as section 10 of the "Aliens Act, 1867," in force on the 2nd of April, 1867, and consolidated as section 17 of the "Law and Equity Act, Con. Acts, 1888," Chap. 68, and is still the law of the Province, conserving to aliens the same rights as British subjects in regard to the holding and dealing with real property. It should be noted that an alien, in order to become a preemptor of Crown Lands, must declare his intention to become a British subject. (See tit. Crown Lands.)

ARMS OF BRITISH COLUMBIA.

THE Coat-of-Arms of the Province in use until the year 1896 was merely a crest or badge, and was unsuitable for representation upon a shield, or for association with other insignia of the Dominion, and was also unmeaning, as it presented no national idea with reference to the Province, being simply an emblem of the Royal Family of England. The present Arms was designed to remedy these defects and to express heraldically and appropriately the peculiar position of British Columbia with regard to the British Empire. The features to which it is intended thus to draw attention are: First, unity with the British Nation, both by descent and government; second, its extreme western geographical position; third, its maritime strength; fourth, its assured permanence and glory; fifth, its local fauna.

These objects are attained in the following manner, respectively: First, the field is covered by the Union Jack, the grand standard and national emblem; second, upon a chief is defined the setting sun; third, this charge is placed upon a field, barry undy, which heraldically symbolizes the sea; fourth, the motto,

Signification of State or individual, refers to the sun, which, though apparently setting, never decreases, and to the Empire which has a glory or radiance encircling the world; fifth, the supporters, a Wapiti Stag and Big Horn, are the most noble creatures of the Province, and typify dignity and strength.

These two animals have a peculiar significance, inasmuch as they represent the union of the Mainland and Island, the Wapiti being confined in its habitat to Vancouver Island, and the Big Horn found only in the mountain ranges of the Mainland.



THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

Arms: Union Jack on a Chief barry undy, of six ar. and az., a sun, setting in base, or.

Crest: On an Imperial Crown a lion statant gardant, imperially crowned, all or.

Motto: "Splendor sine occasu."

Supporters: Dexter, Wapiti Stag; sinister, a Big Horn, all ppr.

The design has been officially adopted by the Government of the Province as the British Columbia Coat of Arms.











(LATE) HON. ROBT. DUNSMUIR.

JOHN MUIR.

HON F. G. VERNON, AGT.-GEN. HON. A. ROCKE ROBERTSON.

BRITISH COLUMBIA REPRESENTATIVES IN HOUSE OF COMMONS.

MEMBERS ELECTED HOUSE OF COMMONS.	CARIBOO.	NEW WESTMINSTER.	VCOUVER.	VICTORIA.	YALE.
st Parliament, 1871-2	J. Spencer Thompson.	Hugh Nelson	Robert Wallace	Hon. Henry Nathan Hon. Amor DeCosmos	Charles F. Houghton
d Parliament, 1872-4	J. Spencer Thompson.	a Hugh Nelson	Hon. Sir Francis Hincks	Hon. Henry Nathan Hon. Amor DeCosmos	Edgar Dewdney.
d Parliament, 1874-8	J. Spencer Thompson.	James Cunningham	Hon. Arthur Bunster	Hon. Amor DeCosmos Francis James Roscoe	Edgar Dewdney.
th Parliament, 1878-82 . b	J. Spencer Thompson. a James Reid (vice Thompson.)	J. A. R. Homer (vice McInnes.)	Hon. Arthur Bunster		c Edgar Dewdney. F. J. Barnard. (vice Dewdney.)
th Parliament, 1882-86.	James Reid	J. A. R. Homer	D. W. Gordon	E. C. Baker Noah Shakespeare	F. J. Barnard.
th Parliament, 1886–91 . a	James Reid	b Donald Chisholm G. E. Corbould (vice Chisholm.)		e Noah Shakespeare. Col. Hon. E. G. Prior. (vice Shakespeare.) d E. C. Baker Thos. Earle (vice Baker.)	J. A. Mara.
th Parliament, 1891-96.	F. S. Barnard	G. F. Corbould	b D. W. Gordon A. Haslam(vice Gordon.)	Thos. Earle	J. A. Mara. BURRARD.
th Parliament, 1896-1901	Hewitt Bostock	Aulay Morrison	W. W. B. McInnes	Thos. Earle	G. R. Maxwell.

e Appointed Postmaster. a Appointed Senator.

b Died.

appointed Indian Commissioner.

d Resigned.

DOMINION ELECTIONS.

The result of the elections in British Columbia for the House of Commons, held June 23, 1896, was as follows:

BURRARD.	VICTORIA.
No. voters, 10,290; No. members, 1. Votes cast Votes cast Liberal. Cons. Geo. Maxwell 1512 G. H. Cowan 1214 W. J. Bowser 420 NEW WESTMINSTER No. voters, 8,602; No. members, 1.	No. voters, 6,971; No. members, 2. Votes cast Votes cast Liberal. Cons. Hon. E. G. Prior
Votes cast Votes cast Liberal. Cons. Aulay Morrison 1758 R. McBride 1460 VANCOUVER.	No. voters, 7,743; No. members, 1. Votes cast Votes cast Liberal. Cons. Hewitt Bostock 1824 J. A. Mara 1479
No. voters, 4,404; No. members, 1. Votes cast Votes cast Liberal. Cons. W. W. B. McInnes 1020 A. Haslam 823 Jas. Haggart 647	Total No. voters, 38,010. Total No. members, 6. Total No. Liberal votes cast, 8,921. Total No. Cons. votes cast, 9,241.

At the last general election of 1891, although British Columbia was entitled to six members, the distribution was somewhat different. As the result of the decennial census-taking, Vancouver City, with a population of 15,000, had grown up and was without representation. To remedy that, notwithstanding that the whole increase of population was not sufficient to entitle British Columbia to increased representation, the large but sparsely populated districts of Yale and Cariboo, that formerly enjoyed separate representation, were merged into one constituency, and the new district of Burrard, which includes Vancouver City, was created. At this election general political dividing lines were for the first time introduced into the contest throughout the Province. Heretofore, although the representatives from British Columbia as a rule supported the Administration at Ottawa, local issues and personal considerations usually decided the results. Victoria was the only constituency in which strictly liberal candidates stood, but the sentiment was, prior to the last election, strongly Conservative.

CONSTITUTION OF THE SUPREME COURT.

THE Supreme Court of British Columbia is composed of a Chief Justice and four Puisné Judges. Prior to the passing of the Act 42 Vict., (B.C.) Chap. 20, (1878) the Court was composed of a Chief Justice and two Puisné Judges. This Court was originally called "The Supreme Court of Civil Justice of British Columbia," and was constituted by proclamation having the force of law, issued by the Governor of the Colony of British Columbia on the 8th June, 1859.

PUISNE JUDGES.

NAME.	From.	To.
Hon. Henry Pering-Pellew Crease '' John Hamilton Gray '' Alexander Rocke Robertson '' George Anthony Walkem '' Montague William Tyrwhitt Drake	3rd July, 1872 26th Nov. 1880 23rd May, 1882	5th June, 1889 1st Dec., 1881

(1) Mr. Justice Crease was appointed Deputy Judge in Admiralty of the Exchequer Court of Canada for the Admiralty District of British Columbia, 27th November, 1893.

CONSTITUTION OF THE COUNTY COURTS.

B Y "The County Courts Act, 1883," passed by the Legislative Assembly of the Province of British Columbia, which came into force on the 29th February, 1884, the following County Courts, which are Courts of Record, were established, namely:—

The County Court of Victoria;
The County Court of New Westminster;
The County Court of Yale;
The County Court of Cariboo;
The County Court of Kootenay;
The County Court of Nanaimo.

An additional County Court, called the "County Court of Vancouver," was established by the Act 56 Vict. (B.C.) Chap. 10, which, as respects this Court, came into force on the 1st December, 1893.

The Governor-General appoints the Judges for each Court.

Any County Court Judge may act as Judge in any other district than that assigned him for causes such as death, illness or unavoidable absence, or at the request of the Judge of that other district: the fact of his doing so with the cause to be reported in writing to the Provincial Secretary.

The several Judges of the Supreme Court may sit and dispose of any business in any County Court of the Province.

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Holbrook. Walkem. Brew. Ball.

Birch, (Franks.) O'Reilly, Moberly, Homer, Crease,

MEMBERS 2nd PARLIAMENT, NEW WESTMINSTER.



LATE CHIEF JUSTICE CAMERON.
V. I.



SIR MATTHE BAILLIE-BEGBIE, Late Chief Justice, B. C.



SIR HENRY P. P. CREASE, Retired Supreme Court.



Hon. J. F. McCreight.



HON. G. A. WALKEM.



HON. M. W. T. DRAKE.



Hon. Theodore Davie, Chief Justice.

MEMBERS OF THE SUPREME COURT.

After the e procedure of assimilated plony empower to be Cond the power tently the confection of Courts were ourt Judges with 1883."

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(1) Judge 9.

(2.) Judge

Customs: Insperance of the couver, John M. Johnson. Inland Rev. E. Miller.

Indian Departm indent of Indian Aff Marine and Fish apt. J. Walbran, Vic leamboats, J. A. Tho

Dominion Pul estminster. Post gs Bank: Manag Baynes Reed, Esqu d Timber: Land A nitentiary: Warden ctoria. Quarantine After the union of the Colonies of British Columbia and Vancouver Island e procedure of the County Courts in all parts of British Columbia was amended d assimilated by the "County Court Ordinance, 1867," and the Governor of the plony empowered to appoint any Stipendiary Magistrates or Justices of the face to be County Court Judges. This provision of the ordinance was repealed at the power of appointing vested in the Governor-General of Canada. Subsemently the commissions held by the then County Court Judges were revoked and the Courts were presided over by a Judge of the Supreme Court until County court Judges were again appointed under the provisions of "The County Courts 1883."

NAME.	PLACE.	From.	To.
gustus F. Pemberton thur T. Fushby lliam N. Pole	New W'm'ster.	23rd Sept. 1867.	14th Jan. 1881 18th May 1875
nry M. Ball	Cariboo	18th Sept. 1867	14th Jan. 1881
Harrison ()		25th April. 1884	2nd Aug. 1889
ment F. Cernwall		19th Sept. 1889	
n Forin	Kootenay	1896	************
Harrison	Nanaimo	3rd Aug. 1889	
ter O'Reilly	Yale	18th Sept. 1867	14th Jan. 1881
lliam Ward Spinks		19th Sept. 1889	
	Lillooet)	
ward H. Sande s	and	} 18th Sept. 1867	14th Jan. 1881
PME .	Clinton)	
	Nanaimo)	
arner R. Spalding	and	28th Sept. 1867	14th Jan. 1881
	Comox)	
	. Vancouver		

(1) Judge Harrison transferred to the County Court of Nanaimo 3rd August,

(2.) Judge of County Court of New Westminster acting.

DOM NION GOVERNMENT OFFICIALS.

Customs: Inspector, J. S. lute, New Westminster. Collectors—Victoria, A. R. Milne; neouver, John M. Bowell; New Westminster, Peter Grant; Nanaimo, B. H. Smith; Nelson, George Inson. Inland Revenue; Inspector, W. Gill, Victoria; Collectors—Victoria, R. Jones; Vancouver, E. Miller.

Indian Department: Commissioner of Indian Reserves, Hon. P. O'Reilly, Victoria; Superindent of Indian Affairs, A. W. Vowell, Victoria.

Marine and Fisheries Department. Agent, Capt. J. Gaudin, Victoria; Commander S.S. "Quadra" pt. J. Walbran, Victoria; Inspector of Fisheries, John McNab, New Westminster; Inspector of emboats, J. A. Thomson, Victoria; Inspector of Hulls, J. Collister, Victoria.

Dominion Public Works: Resident Engineer and Agent, Jas. R. Roy, New estminster. Post Office: Inspector, Capt. E. H. Fletcher, Victoria. Dominion Sayes Bank: Manager, J. H. McLaughlin, Victoria; Meteorological Service: Director, Baynes Reed, Esquimalt. Experimental Farm: T. A. Sharpe, Director, Agassiz. Dominion Lands d Timber: Land Agent, John McKenzie, New Westminster; Timber Agent, James Leamy. nitentiary: Warden, J. C. White, New Westminster. Weights and Measures: Inspector, H. Findley, ctoria. Quarantine: Medical Superintendent, A. T. Watt, M.D.

MUNICIPAL.

HE policy concerning municipal legislation continuously followed by the Legislature of this Province has been to give as large as possible a measure of local and self-government to municipal corporations, and to facilitate the incorporation of municipalities wherever warranted by population and property. The general legislation at present in force respecting municipalities is contained in three Statutes passed during the session of 1896, known as the Municipal Incorporation Act, the Municipal Elections Act, and the Municipal Clauses Act and amendments to the two last-mentioned Acts, passed in 1897, dealing respectively with municipal incorporations, elections, government and internal management. Adequate provisions in these Acts conserve the corporate rights, powers and liabilities of existing municipalities.

Under the first mentioned Act a city municipality, to include a tract of land of not more than 2,000 acres in area, may be incorporated by Letters Patent upon petition signed by the owners of more than one-half in value of the lands within the proposed boundaries, if within such boundaries there are resident and have been so resident for six months immediately previous to the signing of the petition and large than one hundred male. Patient are interested to the period of the petition and large than one hundred male. Patient are interested to the period of the period of the petition and large than one hundred male.

tition, not less than one hundred male British subjects of full age; and a township or district municipality upon petition by the like proportion of owners, (including preemption of at least one year's standing), if there be so resident at least thirty male British subjects of full age. The Act also contains elaborate provisions for securing an extension or reduction of corporate limits, and for securing the dissolution of a municipal corporation upon petition of the ratepayers, should circumstances render such a course necessary.

The Elections Act codifies the provisions relating to this branch of law; the qualifications of electors, the methods of their registration, and the time and method of holding the annual elections being all fixed by Statute, it being left to the Municipal Councils to fix by by-law the places for holding the nominations and polls and to appoint returning officers and their deputies. For the annual elections the nominations are held on the second Monday in January, and the polling, if any, on the Thursday following. The voting is by ballot; the provisions regulating the mode of voting, the counting of ballots and announcing the results and for the prevention of intimidation and corrupt practices, being substantially to the same effect as those regulating elections for the Legislative Assembly; there are also provisions providing for the filling of vacancies in Councils and provisions empowering the Supreme and County Courts to try upon petition the validity of contested elections. In order to be qualified for nomination and election in a city municipality as Mayor,

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the candidate must be a British subject and must have been registered as the owner of the property to the extent of \$1,000 in assessed value above any registered encumbrance or judgment, and as Alderman must be a British subject, with a similar real property qualification of \$500. The qualifications of Reeve and Councillors in district municipalities are similar, with the exception that the real

Councillors in district municipalities are similar, with the exception that the real property qualifications are \$500 and \$250 respectively. All civic officers and employees are elected by ballot and hold office at the pleasure of the Council. Every municipality is divided into wards so as to allow equal representation as near as may be on

the basis of assessed values, and a re-division on this basis is necessary when the amount of assessed property in any ward exceeds in proportion to its representation in the Council more than 40 per cent. of the assessed property in any other ward.

Any male or female being a British subject of the full age of twenty-one years who in city municipalities has paid on or before the 1st of November, and in district municipalities before the 30th day of November prior to the date of nomination all rates, taxes, fees, imposts, etc., is qualified to vote at the municipal elections, (a) who is a land owner; (b) who is the holder of a trade license, the annual fee for which is not less than \$5, or (c) who is a householder.

The Municipal Clauses Act, continuing and elaborating the policy of the former Municipal Acts, has for its object the creation of a comprehensive system of municipal government and management, altogether self-supporting, that is to

Municipal government and management, altogether self-supporting, that is to say, dependent for municipal expenditures entirely upon municipal revenue; the Municipal Councils being for the more effectual accomplishment of this object invested with powers to raise a revenue by taxation, and also with legislative and executive pow-

ers, the scope and limits of these powers and the methods of their exercise being fully and carefully defined.

In city municipalities the Mayor, and in district municipalities the Reeve, is the chief executive officer of the corporation, his duties and powers being defined by the Act, and including unrestricted powers and authority to order the conduct of all municipal officers and employees, to direct the method and management of corporate business, and to return for re-consideration any by-law or resolution of the Council, this partial power of veto being subject to the right of the Council to re-consider and again pass the by-law or resolution over the veto of the Mayor or Reeve. The Council exercise the corporate powers of the municipalities and in cities consist of a Mayor and not less than five and not more than nine aldermen, and in districts of a Reeve and not less than four and not more than seven Councillors.

Real property ownership as before mentioned is a necessary qualification for the holding of elective office in a municipality. All civic officers and employees are elected by ballot by and hold office at the pleasure of the Council.

The Council of every municipality has power to make, alter and repeal bylaws in relation to upwards of 150 classes of subjects, the general effect of the elaborate statutory enumeration of their legislative powers being to invest them with authority by by-law to assist the establishment of rarious enterprises within the corporation limits; to construct and acquire water works, lighting, sewerage,

Powers by By-Law and tramway systems; to aid educational and charitable institutions and objects; to raise municipal revenue by means of taxation and by the issue of trades licenses; to prevent fires and accidents, and to regulate the carrying on of all trades which have in them elements of danger to life or health; to prevent factices injurious to public morals or tending to disturb the peace; to maintain, repair and regulate streets, bridges and wharves; and to enable permanent works to be carried out on the local improvement principle.

The general power of a Municipal Council to incur liabilities on behalf of the corporation is restricted to the extent of the municipal revenue for the current year. The carrying out of municipal works involving expenditure which cannot be met out of the current revenue, loans by the issue of debentures upon the security of rateable lands or improvements (either or both) of the municipality may be obtained upon by-laws passed by the Council and assented to by the rate-payers assessed for property within the municipality up to an aggregate amount

(exclusive of loans for works to be performed on the local improvement principle) not to exceed twenty per cent. of the assessed value of the lands and improvements of the municipality. For the purpose of carrying out works to be performed on the local improvement principle by local assessment loans may be obtained upon by-laws in like manner, except that the by-law must expressly show that the debt is created on the special rate settled by the by-law and on that security only. A by-law passed illegally may be quashed upon application of any ratepayer made to the Supreme Court within thirty days after the by-law has been finally passed by the Council.

By-laws for contracting debts for other than ordinary expenditure can only be introduced on a petition of at least one-half of the value of the land in township or district municipalities and at least one-tenth of the value of real property in city municipalities, and no such by-law after having been passed can

be altered or repealed except by consent of the Lieutenant-Governor-in-Council.

Only those who are the assessed owners of land or real property may vote on money by-laws. In city municipalities a three-fifths majority is necessary to carry a by-law requiring the assent of the electors.

The Council of every city municipality may invest its sinking fund in Dominion or Provincial Government securities or deposit it in an incorporated bank,

or may invest it in other securities.

District municipalities may from time to time invest in Dominion or Provincial Government securities or in first mortgages of real property held and used for farming purposes and being the first lien on such property, but no sum invested in mortgages shall exceed one-half of the value of the real property on which it is secured.

N every municipality the Assessment Roll, as annually prepared and returned by the Assessor on the date fixed for such return by resolution of the Council, is revised by the Council sitting as a Court of Revision to hear and determine all complaints made by ratepayers of having been wrongfully inserted in or omitted from the Assessment Roll, or of having been therein undercharged or overcharged. The sittings of the Court are advertised for one month in the "Official Gazette" and in the local press; and the Court is composed of five members of the Council, of whom three form a quorum. An appeal lies from the Court of Revision to a County Court Judge or to a Judge of the Supreme Court and again to the Court of Appeal. The Council may, after the

final revision of the Assessment Roll, levy a rate of one mill for Assessment. health purposes and two mills for school purposes. The Court of Revision is also empowered to act as, and its members are constituted a,

Board for the equalization of the assessed value of land and improvements which are, under the Act, assessed separately; improvements, in many instances, being

exempted.

All arrears of taxes bearing interest at six per cent, are by the Act made a first charge on the property affected, and payment may be enforced by action and judgment, or by the sale at public auction of the lands in respect of which taxes are in arrear. Owners of real property which has been sold for taxes have the right to redeem within one year, by paying or tendering to the Clerk of the municipality the sum paid by the purchaser with legal interest thereon.

In district municipalities every male person between twenty-one and fifty years of age inclusive, not otherwise assessed, is liable to perform two days' statute labour annually. Any property holder not assessed over \$500, and whether resident or non-resident, is also charged with two days; over \$500 and not exceeding \$1,000, three days; and for every additional \$1,000, one day. Statute labour may be commuted in cash, at the amount fixed by by-law, not in any case to exceed \$2 per day.

Municipalities in addition to powers of taxation by statute labour and assessment may levy and collect license fees in respect of some twenty-nine trades, occupations and privileges at various rates, the limits of which are defined.

Cities are also empowered to construct certain works such as sewers, drains, sidewalks, pavements, etc., under the local improvement system, for which the

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or Re regula has po sioner of lice applica paper. that it property specially benefitted may be taxed. No such local improvements, however, except branch sewers and connections, may be undertaken if a majority of the owners of the property effected (holding at least one-half in value of such property) petition against it. Provision is also made for the car-

Local Improvement rying out of works on the local improvement principle in district municipalities. Drainage and dyking under the supervision of the Commissioners on the local improvement plan are also fully provided for, and in respect of all works of local improvement, the ratepayers are empowered to proceed against the proposed by-law for illegality or to appeal, in regard to any errors in the assessment, to a Court of Revision in the same way as provided

for in the general assessment.

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The following property is exempt from taxation: Churches, burying-grounds and cemeteries, hospitals (and grounds not exceeding twenty acres for public and three acres for private hospitals); orphanages (and grounds not exceeding five acres); and property vested in or held by Her Majesty in an official capacity; Indian lands; and lands and improvements belonging to the municipality (except where chargeable in respect of local improvement).

POLICE Magistrates in city municipalities are appointed by the Lieutenant-Governor-in-Council, who also fixes the salaries, but they are paid by the municipality. A Police Magistrate is also ex officio a Stipendiary Magistrate and a Police and License Commissioner, and is not allowed, directly or indirectly, to act as a barrister or solicitor in criminal matters. Mayors and Reeves

Administration of Justice.

are ex officio Justices of the Peace. The Act expressly imposes upon all municipalities the duty of maintaining a sufficient force of police and providing a gaol and also of enforcing not only the municipal by-laws, but the criminal law, and the general laws of the Province. In township or district municipalities the police are appointed and paid by, and hold office at the pleasure of the

Council. In city municipalities the police are appointed by and are under the control of the Police Commissioners. The Commissioners fix the remuneration of the police, and the Council is obliged, subject to the right of appeal to the Lieutenant-Governor-in-Council, to pay such remuneration, and to provide clothing,

accoutrements and accommodation for the police.

The Board of Police Commissioners consists of the Mayor, Police Magistrate and an appointee of the Government; two members of the Board constitute a quorum. Provision is made for the filling of vacancies. The Commissioners have full power as to summoning and examining witnesses and the making of police regulations. In all cities and towns there are required to be a Chief of Police and such number of officers and assistants as may be deemed necessary by the Council, but not less than is reported as absolutely necessary by the Police Commissioners.

All fines, fees and forfeitures imposed under by-laws, and in cases where a municipality pays \$250 or over for a Police Magistrate, those collected under the authority of the Provincial Laws are paid into the Municipal Treasury and used

as a part of its revenue.

Boards of Licensing Commissioners are constituted in each city or district municipality who have exclusive powers in the granting, transfer, renewal and cancellation of licenses for the sale of liquor. In cities the Mayor, the Police Magistrate and a person appointed by the Government constitute the Board and in

district municipalities, the Reeve, two Councillors elected annually for that purpose by the Council, and two Justices of the Peace with jurisdiction in the municipality and being the registered owners of property of the value of \$500 or over. The Mayor or Reeve as the case may be is the presiding officer. The Board does not make regulations, but simply administers the law. The Council of every municipality has power to pass by-laws regulating the conditions under which the Commissioners may act, and limiting, prescribing and otherwise regulating the issuance of licenses. Retail liquor licenses are granted in respect to premises only, and all applications for transfer or new licenses must be duly advertised in a local newspaper. An important feature of the licensing system in regard to new applications is that it recognizes the local option principle. No retail liquor license can be granted

in a city unless the application therefor be supported by a petition of two-thirds of the lot owners and resident house holders and two-thirds of their wives as well within the lot in which the premises are situated, or in the block opposite; and if the premises be situated on a street corner, then of two-thirds of all the lot owners and resident house holders and their wives. In city or town municipalities of less than 1,000 inhabitants and in township and district municipalities no retail licenses may issue without a similar petition in its favour with respect to the whole of the municipality; and in order to obtain a license in any rural settlement a like petition must be presented signed by two-thirds in number of the householders, and the wives of such householders, residing within five miles of the premises for which the license is sought.

ASSISTANCE to public schools is dealt with under the head of Education.

Local Boards of Health are also dealt with in a special chapter. It is the duty of every city municipality to make suitable provision for its poor and destitute.

It is also the duty of all municipalities to publish periodically statements of its financial affairs in a local newspaper; and no municipality can grant special privileges or give exemptions of any kind unless assented to by a vote of the people. Councils may, however, by a resolution, grant aid to Hospitals, Agricultural Societies, Mechanics' Institutes and charitable institutions, give bounties, for the destruction of wild beasts, provide buildings for municipal purposes, acquire land for sanitary purposes, regulate the meeting of the Council and pay the expenses of delegates so far as these relate to their own municipality.

Provision is made with the assent of the electors for the establishment of a free library, and any municipality may by resolution grant aid in celebrating Her Majesty's birthday or in any gathering for public sports and amusements; or in establishing an institution for persons afflicted with contagious or infectious diseases. The city municipalities of Vancouver and New Westminster are incorporated under Statutes granting special charters, which have been from time to time amended by the Legislature. The general Acts, of which an outline has been given above, do not apply except where especially provided, brought into force by, or where no special enactments in that belong the legislature of the two special half in contained in the applied Acts. In the charters of the two

special charters. given above, do not apply except where especially provided, brought into force by, or where no special enactments in that behalf is contained in the special Act. In the charters of the two cities in question, while the methods of organization and administration differ in many details, the principle of govern-

ment is in general effect the same as that in cities governed by the general Act. In Vancouver the local improvement system has been extensively adopted, while this has not been the case in other cities. In Vancouver also the ratepayers elect representatives to the Licensing and Police Boards and the Boards of Park and Water Commissioners.

The municipal system of British Columbia is largely founded on the experience of other Provinces, modified to suit local conditions, but more especially is it based on that of Ontario, where the development of municipal institutions received its earliest and most successful exemplification. In this Province, unlike Ontario, with its extensive and compact rural population, the con-

Municipal Growth.

ditions of municipal growth have been mainly urban in character. In the outlying districts, owing to extent of territory, sparseness of population, and magnitude and costliness of municipal undertakings, the development of municipal organizations has been limited and of slow growth, and attended with difficulties which it is anticipated will be to a great extent removed by the growth of population and consequent development of the natural resources of the Province.

As in all new countries, perfection has not been attained at the outset, and the law has been subject to numerous alterations from time to time to suit conditions which are necessarily more or less transitory. As the Province develops in wealth and population we may look for a more rapid expansion of the municipal system, more particularly in the interior mining districts; and although our municipal code has at last been fairly well established and worked out, it must continue for some time to be the subject of periodical revision and grave consideration on the part of the Legislative Assembly.

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LIST OF MUNICIPALITIES.

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Name of	Date of Incorpo	ration		G1 1
Municipality.	Month	Year	Reeve or Mayor.	Clerk.
Rural.			(Reeve.)	
Burnaby	Sept. 22	1892	Nicolai C. Schou	
*Chilliwhack	April 26	1873	A. C. Wells (Vice T. E. Kitchen, dec'd)	Joseph Scott
Coquitlam	July 30	1891	E. A. Atkins	Robt. D. Irvine
*Delta	Nov. 10	1879	William McKee	
Dewdney	April 7	1892	Albert L. Dion	
Kent		1894	John McRae	
Langley		1873	Phillip Jackman Sr	
*Maple Ridge		1874	Robt. Blackstock	
Matsqui	Dec. I.	1892	Louis R. Authier	
Mission		1892	James A. Catherwood	Anth'v M. Vercher
Nicomen		1892	(Ceased to exist)	
North Cowichan		1873	Thos. A. Wood	James Norcross
North Vancouver		1891	(No Reeve elect. 1897)	
	Nov. 10	1879	Duncan Rowan	
Salt Spring Island		1873	(Not now in existence)	
South Vancouver		1892		George Martin
Spallumcheen		1892	August Schubert Jr	
Squamish		1892	(Did not organize)	
Sumas	Ion 5	1892	Fred Fooks	A C Powman
*Surrey		1879	John Armstrong	Albert A Dichmon
(Urban.)	Noy. 10	1079	(Mayor.)	(Clerk.)
Grand Forks		1897	John A. Manly	I. A. Aikman
Greenwood		1897	Robert Wood,	A. S. Black
Kamloops		1893	Marshall P. Gordon.	John I. Carment
Kaslo	Sept 14.	1893	Robt. F. Green	F. F. Chipman
Nanaimo		1874	Jos. H. Davidson	
Nelson		1897	John Houston	
†New Westminster	Inly 16	1860	W. B. Shiles	Fred R Glover
Rossland	July 10	1897	R. Scott	
Wancouver		1886	Wm. Templeton	
		1862	C. E. Redfern	
&Victoria Wellington		1895	C. E. Redierii	

*Letters patent of Chilliwhack were surrendered and new letters patent issued in 1881 and again in 1883; those of Maple Ridge and Surrey in 1882; Richmond 1885, reincorporated 1892; Delta, 1888.

†New Westminster was created a municipality by proclamation of Sir James Douglas July 16 1860. Its limits were extended October 22, 1861, and made subject to the provisions of the Municipality Act of 1872. Letters patent were surrendered and new letters issued in 1881. A special charter of incorporation was obtained in 1887, which was amended in 1895.

†Vancouver was incorporated by special act in 1886. The first by-law appointing officers (not dated) appeared in the B.C. Gazette May 27, 1886. The act of incorporation was amended by the Legislature in 1887, 1889, 1890, 1891, 1892, 1893 and 1895.

(Victoria was created a municipality by ordinance, dated April 2, 1867, which repealed the original act of incorporation of 1862, and subsequently came under the provisions of the Municipality Act of 1872 on the 25th of June, 1873. The General Municipal Act, under which it is governed, has been amended from time to time.

Rossland, Nelson and Grand Forks were incorporated under a special act passed last session of Parliament, entitled the "Speedy Incorporation Act."

-	-					
33,248	4,780	28,448		283,074 00	258,454 00	Cowichan
:		80		77,000 00	38,500 00	Wellington
			1,292,720 00	959,260 00	2,566,405 00	New Westminster
:			20,000 00		1,369,203 00	Nanaimo
			2,701,630 00	3,640,460 00	10,901,340 00	Victoria
			91,30 00	114,318 00	384,515 00	Vernon
5,000			667,000 00	2,218,285 00	13,000,869 00	Vancouver
65,280	21,790	43,490			862,0141 1	North Vancouver
12,898	6,098	6,800		824,489 70	1,392,853 89	South Vancouver
77,000	15,191		500 00		1,002,967 00	Surrey
		17,272	28,221 00	28,221 00	135,431 00	Sumas
43,083	1,902	7,008		55,105 00	407,647 00	Spallumcheen
30,564	1,334	29,030	7,700 00	184,140 00	1,149,782 00	Richmond
	1,617	17,775		21,522 00	194,396 00	Mission
	8,033	41,950		143,453 88 not taxed.	583,663 61	Matsqui
	3,879	3,407			279,558 00	Maple Ridge
76,437	68,904	7,533		157,925 00	810,100 00	Langley
10,192	3951/2	9,7971/4	31,811 38	19,742 38	12,060 00	Kent
480		480	3,000 00	48,435 00	235,201 00	Kaslo
			32,000 00	157,350 00	152,420 00	Kamloops
13,728	V	14,306			101,524 90	Dewdney
42,144	5,699	36,445		\$ 199,008 00	1,153,164 00	Delta
	5,406	8,796			256,857 00	Coquitlam
44,422		44,422			812,076 00	Chilliwhack
23,000			\$ 44,800 00		\$ 779,555 00	Burnaby
Total acreage with- in Municipality.	Number of acres as- sessed as wild.	Number of acres as- sessed as improved.	Total value of Exemptions.	Assessed value of Improvements,	Assessed value of Real Estate (actu- ally taxed).	
(20)	(82)	(AZ)	(10)	(ar)	()	

STA

2,00 \$421,43

STATISTICS.

7,150	13,331	17,427	\$36.784 16	\$817.640 04			\$20,622 82	2 cer 1013
	190	241		2,763 94	2½ p.c	36 p.c	351 89	2,007 55
	93	148		661 75		5 mills		609 25
:	1,319	1,439	:	113,411 85		3 " gross		105,817 05
	1,216	1,216		22,882 64		C		
3168	3,035	3,035		254,130 80		11/2 p.c on improv'ts.		209,025 85
15.00	91	91		7,598 50				
2,000	5,000	5,000	9,784 72	305,000 00				
	153	723		10,880 50		15 mills	***************************************	10,780 50
N. MI	63	560		13,928 53	2 p.c	1/2 of 1 p.c	9,806 09	4,122 44
VE I L	153	1,050	2,888 67	10,196 42	2½ p.c	6 mills	3,808 62	6,017 80
	32	159		1,808 91		I p.c		1,403 91
	179	179		2,776 51	2½ p.c	6-10 of 1 p.c	330 63	2,445 88
	208	333	15,924 11	10,410 60	20 mills.	5 mills	693 45	4,889 45
	82	215		1,716 05	2½ p.c	% of I p.c	344 05	1,242 25
A BA	144	317		4,020 81	2 p.c	1/2 of 1 p.c	2,188 75	146,962 00
W.	122	267		3,254 19	21/2 p.c	I p.c	754 13	2,435 06
:	240	606		5,000 00	2½ p.c	2-5 of 1 p.c	2,188 75	3,962 25
TV:	53	99		2,577 78	2½ p.c	% of 1 p.c	215 62	1,241 82
FOR	361	313		9,475 04		15 mills		4,254 54
100	116	171		5,049 58		1% p.c		4,743 58
136	73	129	1,886 90	1,343 05		114 p.c. general rate	7	
1,100	127	285	3,974 74	. 9,523 34	1½ p.c.	6 "	891 60	1,192 30
	28	155	:	3,862 11	2½ p.c	7 "	2,726 00	1,036 11
	178	510	\$ 2,325 02	5,042 01		6 "		5,042 01
	75	638		\$ 11,336 13	1½ p.c	7 mills	\$ 8,512 00	\$ 2,206 00
Number of Absen-	Number entitled to vote.	Number of Rate- payers on Roll.	Special tax (if any) for Drainage De- bentures Im- provements.	Total taxes, 1896.	Rate on Wild Land.	Rate on Improved Land.	Total taxes on Wild Land.	Total taxes on Improved Land.
(5c)	(5B)	(5A)			(4B)	(4A)	(3B)	(3A)

B.-I. URBAN.-RECEIPTS ENDING DECEMBER 31ST, 1896.

	Victoria,	Vancou ver.	1-	Westmin- ster.	Welling- ton.	Nanai- mo.		Kam- loops.		Kaslo.		Vernon.	Total.
*Balance, 1895	\$ 77.208 0	4		\$ 1.029 67		\$ 203 7	2	\$9.276 52	2 \$	260 3	889	\$ 212 85	\$ 88,192
†Taxes	254,130 8	0 \$300,574	35	81,855 84	\$ 504 75	19,640 8	I	3,708 40	9	2,158 5	6	3,067 87	665,641 4
Licenses:	-51,-5	1011	00	, 00					1				
\ I. Hotel	17,280 0	0 19,340	50	3,767 50	200 00			1,600 00)	2,900 0	00	1,200 00	46,288 0
2. All others	13,575	0 7,809	75	3,106 25	470 50			1,242 50)	2,048 5	0	478 50	28,731 0
Fees, Fines, Rents, etc	- 6,609 5	5 6,155	39	4,276 17				309 50	0	436 7	5	112 25	17,899 6
Water Rates		0 49,401	94	18.211 35			. 1	4.798 3	5 .				126,147 6
Electric Light				16,420 58				4,102 45	5 .				20,523 0
Miscellaneous						8,661 7	5	306 00	0	280 0	00	18 00	9,265 7
Interest on Bank deposits	2,237 4	6 881	45	1,381 28									3,118 9
Interest on Sinking Funds.	9,106	8 3,802	64	1,381 28	3	912 6	8						15,202 9
From Government:													
I. Schools	18,577 3	8 17,516	18	6,820 34		6,549 0	4						49,462 9
2. Any other grants	500 0	0 5,500	00	500 00		8,000 0	0	500 00)	1,888 o	00	200 00	17,088 0
Refunds of Money	465 3	3		900 00							-		1,365 3
Receints from Loans	4.7						1		1				
Borrowed current				89,146 00		15,400 0	Ю					5,000 00	109,546 0
Debentures borrowed:	2							1					
r Water Works					,			2,500 00	3	30,173 3	33		32,673 3
2. Other purposes Sinking Fund						8,240 5	0						8,240 5
Sinking Fund		. 6,900	00				:	1,514 20) .				8,414 2
All other Sources	1,621	7 22,366	26	227,502 00	52 50	2,093 7	8	134 30				36 04	253,805 9
	455,047 9	1 440,248	46	454,916 98	1,227 75	69,702 2	8	29,992 31	1 4	10,145 5	2	10,325 51	1,501,6067

*Exclusive of Sinking Fund.

†Gross Amount.

‡Face Value.

B. 2.-URBAN.-EXPENDITURE ENDING DECEMBER 31ST, 1896.

	Victoria.	Vancou- ver.	Westmin- ster.	Welling- ton.	Nanai- mo.	Kam- loops.	Kaslo.	Vernon.	Total.
* Municipal Government:									
I. Elections	\$ 502 0	\$ 576 75	\$ 59 55		\$ 190 41	\$ 31 85	\$ 52 50	\$ 56 50	\$ 1,469 57
2. Salaries, etc	47,985 38		15,669 54		2,659 46	2,740 01	3;419 04	875 00	109,069 28
3. Printing, etc			787 85	\$ 216 61	1,214 37	88 85	649 38	228 50	10,309 89
4. Insurance, etc	2,984 30	1,489 73	2,111 15		161 50		1,043 51	56 40	7,846 59
5. Water supply	13,185 4		2,480 82			3,373 24			27,609 04
6. Lighting			14,370.03		4,831 00	6,398 03			50,536 07
7. Fire protection		4,411 22	6,069 06		1,690 95	632 18		994 43	18,766 53
8. Law costs			1,486 99		395 33	200 00	766 96		
9. Other expenses					2,207 84	437 44			
† Construction :	, ,	1							0,,0
Streets, etc	39,168 80	35.400 10		695 87			2.943 72	1.154 52	79,363 10
Sewers		2.050 75		, , ,	7.105 51		,,,,,,	-,-54 5-	21,484 47
Water-works		6.699 05	500 71			2.150 83	16.067 28	155 50	55,963 40
Electric light		, ,,,	865 33						8,244 82
Buildings, etc.	1.841 36		11.918 27			11317 47	828 75		14,588 38
Buildings, etcBoard of Health	11.025 33	17.787 84	912 11		42 85		13	406 91	31,075 04
All charities	8,438 93	500 00	840 35		45	25 00		345 30	10,158 58
Administrat'n of Justice			5.751 18		4.258 T2			343 30	52,544 72
School Board	43,276 52		18,174 24		10.074 42			048 48	130,536 53
Investments and deposits.		6.300 00	227,387 28		0.151 08	500.00		174 00	279,514 40
Bonded Debt:	30,000 24	0,300 00			A STATE OF THE PARTY OF THE PAR				The second of th
Debentures redeemed.		6,900 00							6,000,00
I. Principal									25,535 73
2. Interest		92,035 92	28.222.72					450.00	120,819 64
Refund of money		14,649 28	02 146 00		15.400.00			2 000 00	126,195 28
Interest on loans	00 438 72	2,286 05	5,294 91		286 28	2.000 00	7.543 22	202 00	117.051 20
Miscellaneous	10 202 72	42,506 44	16.863 00	151 26	200 20	-,000 00	100 00	T 050 40	70,965 OI
A sectialicous.	10,293 /3	42,300 44	10,003 09	131 20			100 00	1,050 49	70,905 01
	400,207 56	405,943 01	453,032 08	1,063 74	69,570 03	25,965 92	34,394 91	10,323 03	1,400,500 28

^{*} Maintenance account.

‡ Includes sinking fund.

[†] Charged to construction account.

D.-I. URBAN.-ASSETS, DECEMBER 31st, 1896.

	Victoria,	Vancouver.	Westmins'r	Well-ington.	Nanai'o.	Kam- loops.	Kaslo.	Vernon.	Total.
	\$	\$	\$	\$	\$	\$	\$	\$	\$
*Cash in Treasury	54,840 35	27,135 42	12,756 93	164 01	132 25	4,026 39	5,750 61	2 48	104,808 44
Taxes in arrears	101,843 11			104 50	14,824 60	349 95	8,897 23	9,113 35	431,741 27
Sinking Funds	259,095 42	153,629 95	64,426 18						489,262 03
Land (including parks)			132,954 07		4,750 00		2,247 25	200 00	696,951 33
Buildings, Furniture, etc	121,840 00	157,990 08	40,024 68	155 00	8,376.89	500 00		451 88	329,338 55
School property	133,800 00	253,930 49							4079,152 2
Water Works	750,000 00	788,930 40	467,122 22			30,000 00	16,967 28		53,019 902
Fire Hall and appliances	48,000 00	61,527 37	26,943 86		8,850 00	2,000 00		1,011 54	148,332 77
Electric light building, plant	52,000 00		116,441 62			17,500 00			185,941 62
Cemetery	35,528 00	3,700 00	4,000 00				24 30		43,252 30
Any other assets		18,035 32	224,524 60	195 00	14,627 71	500 00			2 257,882 63
	2,113,746 88	1,669,256 11	1,237,997 64	618 51	97,145 64	55,890 54	34,247 91	11,080 10	5,219,983 3

D.-2. URBAN.-LIABILITIES, DECEMBER 31st, 1896.

FOR:	\$	\$	\$	\$	\$	\$	\$	\$	\$
FOR: Local improvement works	10,788 00	187,100 00							197,888 oc
Water works	487,500 00	765,000 00	455,000 00			27,500 00	30,173 33		1,765,173 33
Electric light	71,000 00		116,000 00			15,000 00			202,000 00
Other municipal works	1,085,500 00	829,100 00	328,000 00		50,000 00		2,538 83		2,295,138 83
Schools	85,000 00	150,000 00			10,000 00				245,000 00
All other objects	95,000 00	71,900 00			25,500 00	9		5,000 00	197,400 00
Loan for current expenses			70,000 00					3,000 00	73,000 00
Other liabilities	24,956 92	9,701 83	27,261 48	406 08	6,748 76			9 00	69,084 07
	1.850.744.02	2.012.801.83	006.261.48	406 08	92.248 76	42.500.00	32.712 16	8.000 00	5,044,684 23

RURAL MUNICIPALITIES.

Receipts Ending December 31	st, 1896.	C—1	C-2	Exper	nditure Ending December 31st, 1896
Bal. 1895 (exclusive sinking fund) ORDINARY REVENUE— Gross Revenue, Taxation Licenses	. 100,523 91 . 4.768 00 . 1,251 41 . 531 57 . 288 57	8,806 11,262 57,944 1,993 1,630 7,997 5,502 6,828 3,466 2,979 15,504 33,675 2,742 14,385	28 Burnaby\$ 67 Chilliwack. 94 Coquitlam 37 Delta 95 Dewdney 36 Kent 54 Langley 16 MapleRidge 48 Matsqui 10 Mission 53 N. Cowichan 82 N. Vanc'ver. 67 Richmond 67 Sumas 86 Surrey 99 S. Vanc'ver.	8,799 07 10,437 88 49,113 71 1,861 54 1,514 67 7,329 33 5,408 55 5,015 67 3,244 80 2,732 69 11,897 22 33,515 02 33,515 06 11,637 86	Salaries, &c. 15,922 or
Current Expenses From Sinking Fund BORROWED ON DEBENTURES— Dyking and Drainage Other purposes MISCELLANEOUS	. 26,930 53 . 450 00 . 41,320 51 . 20,711 48	\$225,871	97 \$	202,032 86	Debentures 20,423 28 Loans, &c 2,380 8 Int. on Debentures 25,788 16 Refund of Loans 24,385 77 Interest on Loans 1,262 31 Miscellaneous 12,497 28 \$202,032 86

D.-3. RURAL.-ASSETS

	Burnaby.	Chilli- whack.	Coquit- lam.	Delta.	Dewdney	Kent.	Langley.	Maple Ridge.
	\$	\$	\$	\$	\$	\$. \$	\$
*Cash in Treasury	456 03	7 60	\$ 825 o6	8,830 66	132 25	55 96	578 21 3,815 12	93 61
l'axes in arrears	11,656 58	10,863 24			8,901 47	889 82	3,815 12	3,306 00
Sinking Funds	942 00		657 64	2,265 09				
Other investments Land (including parks,		60 75		*(dyk'g)	······			
&c.)	203 00	2,000 00						200 00
Buildings, furniture,				. 0 1				
&c	20 00	950 00			10 00		1,000 00	1,000 00
Other assets	22,237 39				40 00	50 50	3,329 26	20 00
	35,515 00	13,881 59	8,243 52	14,294 11	9,083 72	996 28	8,722 59	4,619 61

^{*}Exclusive of sinking fund

D.-4. RURAL.-LIABILITIES,

Debentures outstand- ing— 1. Railways	\$.	\$	\$	\$	\$	\$	\$	\$
2. Drainage and dy'g 3. All other objects.				*	17,228 75			
Interest coupons Due Sinking Funds				1,549 71	1,838 16			
Loans, current expen- ses		1,000 00			2,000 00		750 00	400 00
penses Other liabilities		.,		19,386 09	6 67 1,266 20	381 37	161 65 1,672 97	
	35,170 00	20,000 00	21,242 00	20,935 80	22,339 78	381 37	2,584 62	1,397 9





Fac-simile of \$10 pieces coined in the old B.C. Mint, New Westminster.
(By kind permission of Hon. J. S. Helmcken).

DEC

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DECEMBER 31st, 1896.

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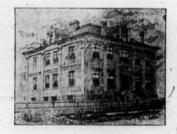
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Matsqui.	Mis- sion.	Rich- mond.	Spallum- cheen.	Surrey.	North Cowich'n	Sumas.	North Vancouver.	South Vancouver.	Total.
\$ 1.812 81	\$ 221 30	\$ 159 77	\$ 1,079 12	\$ 2,748 00	\$ 255 84	\$	\$ 3,607 60	\$ 2,975 29	\$ 23,839 11
9,063 87			666 46		624 46		0, 1	, 10,508 50	155,502 53
	700.00	7 000 00		1,000 00	200.00			ma ⁰ ro	1,060 75
20 00	100 00	1		180 00					8,331 10 7,014 11
145 00	•••••	1,992 07	68,820 00	15,000 00	51 00			4-5 7-	111,685 22
11,041 68	3,117 47	52,343 17	70,771 58	46,182 91	43 00	4,621 04	25,231 15	17,848 19	327,810 51

DECEMBER 31st, 1896,

						1			
\$	\$	\$	\$	\$	\$.\$	\$	\$	\$
		90,000 00		25,000 00					151,22 7
		90,090 00					60,000 00		
			49,000 00	750 00			2,300 00		
									2,291 7
	200 00					1,533 00			5,883 0
	4 00					29 26			201 5
1,259 50				1,043 64		652 32		464 74	28,696 3
1,259 50	791 07	180,000 00	69,642 00	26,793 64	445 50	2,214 58	62,300 00	35,464 74	508,962 5



CENTRAL SCHOOL, VANCOUVER.



HIGH SCHOOL, VANCOUVER.

EDUCATIONAL.

HE educational system of British Columbia as at present developed is an adaptation of the best features of the systems of the other Provinces, which are all more or less homogeneous. It is quite a coincidence that two Provinces of the Dominion so widely separated as British Columbia and New Brunswick should in the same year, 1872, have adopted a Free School Act, both, in some measure, modelled after a similar Act passed in Ontario as early as the year 1846, but which was subsequently changed and amended before being brought into satisfactory shape.

In 1855 the Hon. the Hudson's Bay Company established free public schools on Vancouver Island. For several years these schools on Vancouver Island supplied the educational needs of the community, which, it is needless to say, at that period were limited. In 1865 a free school system was established

History. Set apart as a school fund for that year. When the union of the colonies of Vancouver Island and British Columbia was effected in 1868, the free school system first referred to was virtually dead, and school matters throughout the Province generally continued in a most crude and unsatisfactory condition until 1872.

The educational system in this Province, as established by the Public School Act 1892, was administered by a Board of Education, composed of "six fit and proper persons," appointed by the Lieutenant-Governor-in-Council, and presided over by the Superintendent of Education.

After the abolition of this Board by the Public School Act, 1879, its chief powers and duties were transferred to the Lieutenant-Governor-in-Council; more complete control over local school matters was given the Boards of Trustees, notably the power of appointment and dismissal of teachers, formerly held by the Board of Education; and a system of monthly reports of the attendance, etc., for each school was instituted, the teacher being required to supply the Minister of Education and the Trustees with monthly information in all matters pertaining to his school. By the Public School Act of 1891, which involved a somewhat radical departure, the members of the Executive Council are created a Council of Public Instruction, with power to create school districts, provided, as amended in 1896, that no school district shall be created wherein there shall not be at least twenty children of school age (between six and sixteen years), to grant such sum or sums of money as may be re-

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subjects to esement to careffice by the ject direct and izing by the ject t

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writingraph dition surat theni quired to pay the salary of the teacher in such district; in rural districts to defray the cost of erecting school houses; to appoint a Board of Examiners to examine

teachers and grant certificates; to appoint Inspectors of Public The New Schools; to make rules and regulations for the conduct of public System. schools; to prescribe the duties of teachers; to determine the subjects and percentage required for teachers' certificates; to prescribe a uniform system of text books, as well as the courses and standard of study for schools; to establish a Normal School, and make regulations for its conduct and management; to establish High Schools, where the higher branches may be taught, and to cancel or suspend for cause the certificate of any teacher. The chief executive officer of the Education Department is the Minister of Education, who is assisted by the Superintendent of Education. To the latter official are committed, subject to the approval of the Council of Public Instruction, the supervision and direction of the inspectors and schools, enforcing the provisions of the School Act and the regulations and decisions of the Council of Public Instruction, the organizing of Teachers' Institutes, the granting of temporary certificates, countersigned by the Provincial Secretary, the preparation of an annual report of the condition'of the Public Schools, and the closing of schools when the average attendance falls below ten, and the preparation of suitable forms for making all reports required under the Act.

From the introduction of the Public School System until 1888, the whole cost of maintaining the school machinery was paid directly from the Provincial Treasury. Since that time the municipal corporations of the various cities of the Province, four only being included, have been required to bear more and more the

cost of education within their respective limits, until at the present time the Provincial aid to these corporations on account of education consists of a per capita allowance of \$10 per head based on the actual average attendance, all expenses being borne by the cities. The salaries of the teachers outside of the four cities and those of the various officials of the Department are fixed and voted each year by the Legislature.

The liberality with which education is provided for is evident from the fact that, wherever outside the limits of the cities there are twenty children of school age within a radius of a few miles, known as a school district, a school house is built, the salary of the teacher paid, and the incidental expenditure borne by the Province. For all purposes during the year 1895-6 the cost of education to the Province was \$234.335.04, and to the cities \$91,511.93, or \$325,846.97 in all.

The various schools embraced in the system are spoken of as common, graded and high schools. These schools are free and are conducted on strictly secular and non-sectarian principles. It is enjoined upon all teachers that the highest morality shall be inculcated, but that no religious dogma or creed shall be taught. The Lord's Prayer may be used at the opening and closing of schools. There are at present in operation 202 rural schools, 22 graded schools (including ward schools) and 4 high schools. Total number of teachers employed in rural schools, 258; graded, 118; high, 12.

The course of study in rural and graded schools embraces reading, spelling, writing, arithmetic, grammar, composition, history (English and Canadian) geography and physiology (anatomy, physiology, hygiene and agriculture). In addition to the above the following subjects may be taught: book-keeping, mensuration, geometry, drawing, algebra, temperance, music, needlework and calisthenics.

The management of schools in rural districts is entrusted to a board of three trustees elected by votes of the district. In city districts the school board consists of six members elected by the votes of the electors duly qualified to

wote for Mayor, and to act without emolument, except the Secretary of the Board. Women, the wives of qualified freeholders or bouseholders (except the latter be trustees) are eligible to sit on the Board of Trustees, and in Victoria act in that capacity with satisfactory results.

The question of providing for higher education very early occupied the attention of the Legislature, and as soon as warranted a high school was established. The City of Victoria was the seat of the first institution of this kind. The Victoria High School was opened in August, 1876, and continued to be the only free institution of that rank until the establishment of a similar one in New Westminster in 1884. During 1886 a high school was opened in Nanaimo, and in Japuary, 1890 one was established in Vancouver. The high schools are under the control of the local Boards of Trustees in the districts in which such high schools are situated, and no such school can be established in any school district in which there are fewer than twenty persons duly qualified and available to be admitted as high school pupils. For admission to high schools pupils are required to pass a satisfactory examination in the subjects prescribed for graded and confinon schools. The curriculum in addition to the English course of subjects prescribed for graded and common schools embraces the commercial course (book-keeping, etc., together with all subjects prescribed for the English course and other subjects in which candidates for first-class grade G certificates are examined), and a classical course (Latin, Greek, French, together with all subjects in which candidates for first-class grade A certificates are examined).

In 1896 an important departure was made looking to university affiliation. School Boards in Victoria, Vancouver, Nanaimo and New Westminster were allowed on petition to obtain a charter of incorporation to permit the affiliation of the high schools with colleges managed by Boards of Governors, and it is probable that advantage will be taken of this provision by several of the boards at least. No fees can be charged in high schools except in the case of pupils over sixteen years of age.

The standard of qualification for a teacher is a high one, and the examinations, though perhaps not so severe as in some of the other Provinces, are fair

and ample tests of efficiency. Examinations take place once a year simultaneously at Kamloops, Vancouver and Victoria, beginning on the 4th of July and ending on the 16th. Candidates are required to give thirty days' notice of their intention, to be twenty years of age, if male, and eighteen years of age, if female, and to furnish satisfactory testimonials of good moral character. The following certificates are granted, viz:—

- 1. Temporary, good until next examination;
- 2. Third-class grade B, valid one year;
- 3. Third-class grade A, valid two years;
- 4. Second-class grade B, valid three years;
- 5. Second-class grade A, valid five years;
- 6. First-class grade B, valid for life or during good conduct;
- 7. First-class grade A, valid for life or during good conduct.

Temporary certificates are only granted in exceptional cases and are practically obsolete now.

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There are thirteen subjects prescribed for third-class, which are the same as those taught in the public schools, with education added. Thirty per cent, of the marks for each subject and forty per cent, of the aggregate are required for grade B, and forty per cent, and fifty per cent, respectively, for grade A.

Second-class B, same as third-class, with mensuration, book-keeping, and one of the following: Music (theory), drawing (linear), botany. Forty per cent. of the regular subjects, thirty per cent. of the special, and fifty per cent. of the aggregate marks are required.

Second-class A, same as second-class B, with algebra, geometry (Book 1), and one of the following: Zoology, astronomy, rhetoric; forty per cent of each paper and sixty per cent, of the aggregate.

First-class B, same subjects as second-class A, with mensuration (measurement of volumes), book-keeping (double-entry), algebra (to know the subject), geometry (Books 2, 3 and 4), natural philosophy, statics, dynamics and hydrostatics, English literature, and one of the following: General history, chemistry, geology; forty per cent. of the individual subjects and sixty per cent. of the whole.

First-class A, same as first-class B, with geometry (Books 5 and 6), practical mathematics (trigonometry, land surveying and navigation), ancient history, Latin, Greek, or French; percentage of marks forty and sixty per cent. respectively.

There is no Normal School for the training of teachers, although the question of its establishment has been much discussed of late. The lack of one is

greatly felt. It is quite probable that this is an institution which will be inaugurated at an early date. The present Minister of Education recognizes its value, and is favourable, not only to its establishment, but to the introduction of industrial training and applied sciences as well. Provision has been made for the supervision of all the schools in the Province, although owing to the extent of country to be travelled, and the rugged character of its exterior, this must necessarily be limited in the outlying districts.

While the schools in the Province were few in number the whole work of supervision devolved upon the Superintendent of Education, but the subsequent expansion of the system called for the appointment of four additional officers (two being appointed recently), who, as Inspectors of Schools, now undertake almost the whole work of inspection. Victoria City has also recently appointed a City Inspector.

Even in the Provinces that can boast of a Normal School, the establishment of Teachers' Institutes has been considered necessary, in order to secure in as high a degree as possible the benefit contemplated by the school system. These conventions were held in this Province as early as the year 1874, but the most successful educational institution which was provincial in its character was organized in 1885 by Dr. Pope, the present Superintendent of Education. Branch institutes were subsequently formed, and have done much to elevate the tone and bring about uniformity of method.

As has been stated, the educational system of British Columbia is entirely free, undenominational and non-sectarian, and the disposition on the part of the great majority is in favour of its continuance in that form. There are, however,

National and Sectarian Schools.

National and Sectarian who desire may have their children educated on lines agreeable to their own religious beliefs. The Roman Catholics have colleges for boys at Victoria and New Westminster, and Mission Schools at Victoria, Mission City, Kamloops, and elsewhere; while the Sisters of that denomination

have successful academies at Victoria, Vancouver, New Westminster and Nanaimo.

The Methodist denomination carries on a well-equipped college at New Westminster, which is amliated with similar educational schools in Eastern Canada.

Mission Schools for Indians are also conducted under its auspices at Fort Simpson, Chilliwack and elsewhere. With the exception of the Roman Catholic body, the Church of England was the first to establish denominational schools on the Coast. There are several boys' and girls' academies in Vancouver, New Westminster, Victoria, and Nanaimo, under its control, and a number of Mission Stations along the coast. The kindergarten has not yet been officially incorporated in the public school system, but there are private kindergartens in several of the cities.

The gradual growth of the schools as well as the cost of maintenance are fully shown by the record of attendance and expenditure given in the following tabular statement taken from the Annual School Report of 1895-6:—

COMPARATIVE STATEMENT OF ATTENDANCE AND COST OF PUBLIC SCHOOLS FROM 1872-73 TO 1895-96.

Year.	Number of School Districts.	Aggregate Enrolment.	Average Daily Attendance.	Percentage of At- tendance.	Expenditure for Education Proper.
1872-73	25	1.028	575	55.93	\$ 36,763 77
1873-74	37	1,245	767	61 60	35,287 59
1874-75	41	1,403	863	61.51	34,822 28
1875-76	41	1,685	984	58.39	44,506 11
1876-77	42	1,998	1,260	63.06	47,129 63
1877-78	45	2,198	1,395 50	63.49	43,334 01
1878-79	45	2,301	1,315 90	57.19	*22,110 70
1879-80		2,462	1,293.93	52.56	47,006 10
1880-81	48	2,571	1,366.86	53.16	46,960 69
1881-82	50	2,653	1,358.68	51.21	49,268 63
1882-83	59	2,693	1,383.00	51.36	50,850 63
1883-84	67	3,420	1,808.60	52.88	66,655 15
1884-85	76	4,027	2,089.74	51.89	71,151 52
1885-86	86	4,471	2,481.48	55.50	79,527 56
1886-87	95	5,345	2,873.38	53.75	88,521 08
1887-88	104	6,372	3,093.46	48.54	99,902 04
1888-89	109	6,796	3,681 14	54.16	108,190 59
1889-90	123	8,042	4,333.90	53.89	122,984 83
1890-91	141	9,260	5,134.91	55.45	136,901 73
891-92	154	10,773	6,227.10	57.80	160,627 80
1892-93	169	11,496	7,111.40	61.85	190,558 33
1893-94	178	12,613	7,785.50	61.72	169,050 18
1894-95	183	13,482	8,610.31	63.86	189,037 25
1895-96	193	14,460	9,254.25	64.00	204,930 32

^{*} Half-year.

SCHEDULE OF SALARIES, 1895-96.

Teachers.			Salari	ies.				Teach	ers.			alar		
1	at		\$135	per	mon	th		3		at	\$67	50 p	er month.	
1	**		125	•	16			4		44	65	00	"	
1	**		120					73		**	60	00	"	
1 .			108		**			26		. "	55	00	"	
12	41	*	100		**			2			52	50	**	
8			90		**			150			50	00	46	
2	44		85		**			7		**	40	00	**	
8	**		80		**			1		**	35		**	
9	**		75		**		1	5		**	30		"	
1	**		72				6 .	5		"	25		"	
15	**		70		**									

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Per car Net Ex Averag The following is a list of the schools for the training of Indians under the ægis of the Indian Department, but conducted on denominational lines:—

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SCHOOL.	Location.	DENOMINATION.
Ahousaht	. Cowiehan	Presbyterian
Aiyaush	North-west Coast	Church of England
Alberni Home	West Coast	Presbyterian
Alert Bay Industrial	. Alert Bay	Church of England
" Day	Nimkish	"
Bella Belia	Bella Bella	Methodist
Cape Mudge	Cape Mudge	***
Coqualeetza Home	Chilliwack	"
Gwayasdums	Kwawhewlth	Church of England
	Hazelton	Church of England
Kamloops Industrial		Roman Catholic
Kincolith	Kincolith	
	Babine Lake	Church of England
Wish-b-1-	North-west Coast	Church of England
Kootenav Industrial		
	. Kootenay	Roman Catholic
Kuper Island Industrial	. Kuper Island	25-12-41-1
Lakalsap	North-west Coast	Methodist
Massett	Massett, Q. C. I	Church of England
Metlakahtla Industrial	. Metlakahtla	***
Metlakahtla Day	"	
Nanaimo	. Nanaimo	Methodist
Nitinat	. West Coast	"
Oiaht.	. Haines Island	Roman Catholic
Port Essington	. Skeena	Methodist
Port Simpson Girls' Home		
" Day	. Simpson's	"
Skidegate	. Queen Charlotte Island	"
Somenos	Somenos	"
Songhees	. Victoria	Roman Catholic
St. Mary's Boarding	St. Mary's Mission	"
Uclueleht	. West Coast	Presbyterian
William's Lake Industrial	. William's Lake	Roman Catholic
Yale Boarding	. Yale	Church of England

CERTIFICATES OF TEACHERS, 1895-96.

CLASS AND GRADE.	MALE.	FEMALE.	TOTAL.	
First Class A First Class B Second Class A. Second Class B. Third Class A. Third Class B. Length of Service. Temporary		44 18 33 56		
	149	186	335	
" Vancouver City New Westminster		······	. 296,250 0 . 299,300 0 . 56,500 0	
Total value School Property Province EXPENDI	TURE, 1895-96.		. \$891,195 0	
" Van	ernment	•••••••	50,182 6 51,050 6 18,178 0 19,973 4	
Per capita Grant to Cities Net Expenditure to Province Average Daily Attendance			325.846 -	

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ABSTRAC	T OF AT	TENDANG	CE, 1895-9	6.		
No. of Pupils Enrolled "Boys" "Girls " Average Actual Daily Attendance	. 7,437 . 7,023	No. of H Average	Daily At	ol Pupili tendanc	se Cities ural	288
EX	PENDITU	RE TO D	ATE.			
Education Proper	402,480	00	Cities. \$500,000 0 200,000 0	0	Total. \$2,646,115 00 602,480 00	
To TotalLess Government Grant to Cities since			\$700,000 0	0	\$3,248,595 00 225,000 00	
Net to date					\$3,028	3,595 00

It is very difficult to arrive at exact figures in the case of the cities, but approximately the statement of cost of education under the two headings, since 1891, is correct.

The foregoing statistical information gives not only a clear idea of the growth of schools but of the Province itself. It is worthy of note that during the past decade the number of children attending school has been more than quintupled.

PROVINCIAL HEALTH LAWS.

N the 23rd of February, 1869, the "Health Ordinance, 1869," was passed, the preamble reciting: "Whereas it is necessary to adopt measures with the object of preventing or guarding against the origin, rise or progress of endemic, epidemic, or contagious diseases, and to protect the health of the inhabitants of this Colony, and for the purpose to grant to the Governor-in-Council extraordinary powers to be used when urgent occasion demands." This Act remained in force at the time of the consolidation of the Provincial Statutes in 1888, and, with the exception of the preamble, was incorporated into that consolidation as Chap. 55. Its provisions were found to be inadequate when put to the test at the time of the smallpox epidemic in 1892.

The development of health legislation in British Columbia has followed the same course that such legislation has usually followed in the several Provinces, States of the Union, and other countries. The incentive of every improvement in the laws concerning the health of the people has been a visitation, or threatened visitation, of some dread disease.

In the summer of 1892 the disease was on several occasions imported from the Orient, and on one of these occasions the infection seemed to have been sown smallpox Epidemic. The sudden outbreak caused a panic throughout the Coast cities. Over 150 cases occurred, and there were thirty deaths. The money loss to the community, direct and indirect, was very great. The money paid out by the City of Victoria alone was some \$60,000. It also affected more or less severely all the Coast cities.

The need of a better Health Act was made apparent by this epidemic, consequently at the next session of the Legislature the then Attorney-General and Premier, Hon. Theodore Davie, introduced an Act modelled on the Ontario Public Health Act which was very much more comprehensive and complete. An im-

portant feature of the new Act was the establishment of a Provincial Board of Health, consisting of five members.

Previous to the epidemic of 1892 very little work had been done under the old Act. Many of its provisions could not be made use of until action had been taken by the Lieutenant-Governor-in-Council in the direction of making rules,

Regulations by Order-in Council.

Regulations by Order-in Council.

Regulations by Order-in Council.

Regulations by Order-in Council.

Regulations, etc. Until the year mentioned no important order-in-council had been passed under this Act. But at the beginning of the outbreak in the summer of that year, a popular demand induced the Provincial Government to take the necessary action to previncial Health Officer, and acting under the regulations that were quickly drawn up and proclaimed under authority of the Act, he was able to effectually check the spread of the epidemic. Of course, under the authority of the Municipal Act, Municipal Councils were empowered to legislate on health matters, but action taken by virtue of such authority was necessarily restricted in scope and lacked unanimity when uniformity and concertness were required.

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During the same year cholera had been prevalent in many of the cities of Europe, particularly Hamburg, and this continent was seriously threatened, several infected ships arriving at the New York quarantine station. The approach of this plague served a good turn, since it, too, influenced the growing opinion as to the necessity of more effective legislation regarding the public health. As one result of this opinion a set of sanitary regulations were promulgated by order-incouncil.

The "Health Act. 1893," was broader in its provisions than the old one, and contemplated bringing into existence an efficient Board of Health for the Province, which was to study the causes and labour to prevent disease, not merely to deal with should it unfortunately make its appearance. Local Boards of Health were also created, consisting in municipalities of the Council, and in outlying districts of the Government Agent or of such other constitution as the Lieutenant-Governor-in-Council might see fit.

When the bill was passed by the Legislature the excitement in connection with the epidemics of smallpox and cholera had subsided and the Act was not brought into force at once. Owing, however, to the widespread prevalence of cholera in Japan and its arrival at Honolulu the Act was proclaimed on September 26th, 1895. Probably serious outbreaks of diphtheria, typhoid and scarlet fever in various parts of the Province also influenced the taking of this step. Among the duties assigned by the Act to the newly appointed Board were the following: To take cognizance of the interests of health and life among the people; to study the vital statistics of the Province; to make sanitary investigations

scope of the Health Act. also of the causes of disease and especially of epidemics; also of the causes of mortality and the effects of localities, employments, conditions, habits, and other circumstances upon the health of the people; make suggestions regarding the prevention and limitation of contagious and infectious diseases, inquire into the action to that end being taken by local Boards of Health; also to inquire into the sanitary condition of public institutions and buildings; to acquire and disseminate information concerning the public health and distribution of sanitary literature; to issue regulations (subject to the approval of the Lieutenant-Governor-in-Council) for the prevention, treatment, mitigation and suppression of epidemic, endemic, infectious, or contagious disease. Speaking broadly, it is, in fact, the duty of the Board to concern itself with all things affecting or likely to affect the public health. A consideration of the duties thus imposed upon the Board makes it apparent that the Provincial Board of Health has a most important work to perform.

The Board at once commenced the work of organization. It prepared regulations regarding smallpox, scarlet fever and diphtheria and supplemented them by a well-digested pamphlet on disinfection. The regulations embody provisions for the enforcement of modern methods of isolation and quarantine, disinfection, vaccination, etc. They provide for the appointment of medical and other health officers, establishment of isolation hospitals and suspect stations.

There was at first a disposition to underrate the usefulness of the Board, more especially as the expense of carrying the work on on the scale contemplated

by the Act involved considerable expense during "time of peace," and as a consequence the appropriation made by the Legislature was limited. A series of events occurred, however, to call for active interference and the unexpended balance of the previous year was called into requisition by order-in-council, which enabled the Board to perform its functions more fully than would otherwise have

teen possible.

The most important of the forces united to demand this action on the part of the Government was what threatened to be a serious outbreak of typhoid fever in the mining region of the Kootenay country. A great number of people had lately been attracted to these districts, but there had practically been no attention paid by any one to sanitation. The inevitable consequences of neglect, of proper sanitary supervision and lack of previous preparation to cope with an outbreak of

disease soon became manifest. The condition of affairs was Typhoid in alarming. His Honour the Lieutenant-Governor, after a visit to this portion of the Province, brought the facts to the attention of the Premier in a letter dated May 27th, 1896, in which it was recommended that the Health Act be put in force without delay. This letter was laid before the Board with the request that the necessary action be taken immediately. The information placed before the Board from this and other sources made it apparent that many places in the Province were in a condition favourable to the spread of disease, should it make its appearance. The Board, after full discussion and consideration of all these facts, prepared a set of sanitary regulations applicable to the

whole Province.

The main features of these regulations are as follows: Provision is made for the effective abatement of nuisances injurious to the public health. The pollution of all classes of drinking water and running streams is made punishable. Public water supply, drainage and sewerage is dealt with and the duty imposed upon local health authorities of constructing the necessary works. The abolition of the unsanitary privy-pit and cess-pool system and substitution of earth-closets is called for. Improved methods for the disposal of waste waters sanitary Regulations is required. The adoption of an efficient scavengering service must be inaugurated or other effective means, such as burning or burying, employed for the disposal of faecal matter, garbage and refuse in each community. Inspection and regulation of slaughter houses, dairies, piggeries and market gardens are provided for. The sale of food and drink unfit for use is prohibited. Duties of local Boards of Health, Medical Officers and Sanitary Inspectors are prescribed. Other subjects affecting the public health are comprehensively dealt with. In fact, between the "Health Act, 1893," and the various regulations of the Board, the range of preventive medicine has been covered to considerable extent.

The Board also passed a resolution instructing the then Secretary, Dr. A. T. Watt, to prepare pamphlets dealing with various sanitary topics, infectious diseases, etc. A resolution was likewise passed suggesting that the Government instruct the Secretary to visit the different towns and settlements of the Province for the purpose of acquiring information as to the sanitary needs of those places and giving instructions to local health officers. A trip was subsequently taken with very satisfactory results. Many matters in much need of attention were examined into and action taken thereon. After his return, Dr. Watt pointed out the necessity for the appointment of a Provincial Sanitary Inspector who should devote his whole time to organizing the sanitary services in the various parts of the Province. Capt. Clive Phillipps-Wolley was accordingly appointed and proceeded at once to the Kootenay country, where he spent the latter part of the summer and the fall. He succeeded in placing the towns he visited in a greatly improved condition.

As to the political issues involved, or the personal work of the members of the Board of Health, however meritorious, it is not within the scope of this volume to discuss, except to say that as an officially constituted organization its usefulness and necessity have been demonstrated. Efficiently controlled, it is a guarantee of protection against epidemic forms of disease which, by contact with the Orient through steamship communication, are frequently imminent. The Board has been but a short time in existence, and in addition to the efforts already put forth towards improved sanitary condition, it has made numerous suggestions

which will doubtless be shortly incorporated in the health code.

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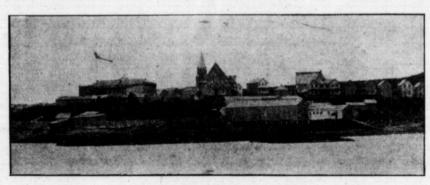
The executive of the Provincial Board of Health is as follows: J. C. Davie, M.D., Victoria, Chairman; J. M. Lefevre, M.D., Vancouver; R. Eden Walker, M.D., New Westminster; L. T. Davis, M.D., Nanaimo; Geo. H. Duncan, M.D., Victoria, Secretary.

There are local Boards of Health contemplated for each of the municipalities and certain defined districts in unorganized territory.

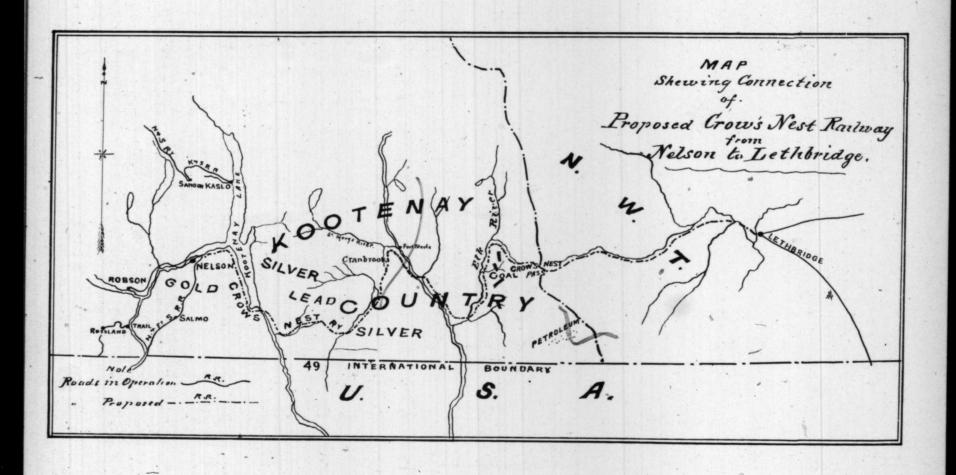
VITAL STATISTICS.

THE subject of vital statistics is one that has had attention from time to time from the Legislative Assembly, and one of the first of the early acts was one to provide for registration of births, deaths and marriages; but it was imperfectly carried out and amendments were made for more effective record. However, the system has not, in the opinion of the Executive of the Provincial Board of Health, yet attained perfection, and it is one of the matters to which attention is being devoted. Heretofore, apart from the records contained in the official reports of the Registrars of Births, Deaths and Marriages, and a certain classification of causes in regard to death, nothing has been attempted upon which to base scientific conclusions. It will be obvious that the table following does not give an accurate record of the natural increase of the population, due, as already intimated, to imperfect registration. From this it would appear that the excess of births over deaths in a period of twenty-four years was only 2,690. In latter years it will be seen that the more stringent provision for registration has had a beneficial effect.

YEAR.	Births.	DEATHS.	MARRIAGES	YEAR	BIRTHS.	DEATHS.	MARRIAGE
1872	[4 mos] 50	[4 mos] 37	[4 mos] 15	1885	320	323	193
1373	164	112	88	1886	335	307	212
1874	174	83	78	1887	362	439	262
1875	181	113	96	1888	462	527	342
1876	236	130	141	1889	572	552	431
1877	193	98	95	1890	641	555	431
1878	226	104	122	1891	922	750	655
1879	223	134	145	1892	1,165	757	655
1880	263	170	94	1893	1,241	827	640
1881	314	249	148	1894	1,378	836	595
1882	293	280	146	1895	1,252	735	621
1883	283	328	169	1896		received.	
1884	263	377	227		11.513	8.823	6,592



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OUR INDIANS.

VERY accurate census of the Indians is contained in the Indian Department Reports of 1895 and 1896. In found numbers they are put down at 25,000. For some years previous they were given at about 35,000, but this investigation proved to be the result of duplication, a mistake which arose out of a change of the classification of some of the northern tribes, and which was continued without being detected. From the fact that the census of the Indians obtained about 1873 for the northern half of the Province being largely an esti-

mate, it is impossible to say very definitely to what extent they have decreased. I am not inclined to the belief that the decrease since that time is as great as generally supposed. In the early tory of the Province, owing to the ravages of smallpox and the fierce inter-

history of the Province, owing to the ravages of smallpox and the fierce intertribal wars which were carried on, the Indians of the North-West Coast were greatly reduced in numbers. The Haidahs, for instance, once a powerful and numerous nation, have in British Columbia dwindled down to three small communities, and their home in Queen Charlotte Islands contains many deserted villages, which have long been the prey of curio collectors. They still continue to decrease, as do also others of the Coast tribes, but on the whole, within the past twenty-five or thirty years the influences of civilization, not wholly without evil results, have tended to arrest decay, and some tribes have even been on the increase. It is perhaps inevitable that the Red Men should gradually retire before the white race, but the conditions in British Columbia have been more favourable to the struggle against Fate than in almost any other part of the Continent of America. The abundance and accessibility of food, the mildness of the Coast

climate, the protection afforded under a very beneficent form of Government, and the better social status of many of them, have given them an advantage as to permanency over all other of the native races. One thing which has tended largely to their benefit is their position of independence. With the exception of being in a general way under the ægis of the Indian Department they receive no special favours such as are accorded to the Treaty Indians—no annuities or financial assistance. They are obliged to maintain themselves by hunting, fishing, trade and labour, the opportunities for which are always at hand. Game is abundant, the sea and rivers teem with fish; during the canning season they are largely employed at good wages, and at various seasons earn money lumbering, on the farm, and in other capacities. They are, as compared with their eastern brethren, industrious, and are usually well

supplied with ready cash for all their necessities. Such a thing as famine or starvation among our Indians is extremely rare, if, indeed, it ever occurs. Their trade is highly esteemed by traders, and is as a rule a fairly lucrative one. In many places they have comfortable houses, and though not remarkable for their cleanliness or intelligence, they possess to some degree the refinements of civilization. Though not so picturesque as the plain Indians they are, sociologically speaking, on a higher plane. Naturally more docile and less nomadic, it was fortunate that, owing to the wise policy of the Hudson's Bay

Influence of Company in dealing with them, when the country came under Hudson's Bay Co. the rule of organized Government they were prepared to accept the sovereignty of white men with good grace. If we except some trouble in the early days with the miners on the Fraser River, several murders by the Fort Rupert Indians, and the Chilcotin Massacre, which latter was not without provocation, nothing has occurred of the nature of the atrocities which have taken place in the United States, or in a lesser degree on several occasions east of the Rockies in Canada. In fact, British Columbia has been remarkably free from disorder of this kind. When trouble did, or threatened to, occur it was repressed in its incipiency with a firm, but not a cruel hand. Respect for the law was early instilled in a judicious way, rather by the demonstration, than the exercise, of force. The worst Indians inhabited the coasts of Vancouver Island and adjacent islands, and these had ever in their hearts the wholesome dread of a Hudson's Bay Company's gun-boat or a man-of-war. It was rarely necessary to call either into requisition.

Probably one reason to account for the Indians of the Coast being more vicious than the interior tribes was that for a century they had been brought in contact with traders of foreign countries, who in their ships carried on a barter, in which rum was more or less a factor and honesty or scrupulous methods formed no part of the consideration. Those tribes who traded exclusively with the Hudson's Bay Company, learned to trust white men and respect a covenant.

A very large volume could be written on the Indians of British Columbia, and of the whole Coast, with respect to their habits, customs, traditions, etc. Much has been written in a disconnected way. To give even a brief outline description of what an intelligent conception of their life and character as a whole involves would be quite impossible in the space allotted to the Indians in this volume.

Compared with their eastern brethren, concerning whom readers outside of the Province are more familiar, it may be said that in most respects they are their antithesis. The "plain Indian" is tall, lithe, sinewy; has elongated face, aquiline nose and plack piercing eyes. He is built to run, ride, see and smell at long range. He is quick, agile and restless. The "Siwash," which is the common name to designate our Indians, is short, thick-set in body and small in legs, with a big, square, flat face on a head that sits close to a pair of heavy shoulders.

There is usually large chest and arm development. Nature has built him to suit his occupation, viz: to sit in a canoe and fish. The canoe is to the Siwash what the horse is to the Sioux. Or it may be, perhaps, more accurate to say that his occupation has made him what he is. This description applies more particularly to the Coast tribes, but as you go farther interior the types more nearly approach that of the plain Indian. It has already been referred to in a previous chapter, the resemblance to the Japan-

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ese is striking, and dressed alike it is sometimes difficult to distinguish the nationality. The Indians, however, are heavier in build and coarser in feature than the Japanese, who possess a tightly knit frame and roundish, smooth features. It must be understood, however, that different nations and septs differ in appearance and minor characteristics.

ETHNOLOGICAL AFFINITIES.

N discussing this question, which has become one of very wide interest among ethnologists, especially on the American Continent, it is not possible at the present stage of investigation to arrive at very definite conclusions. respect to the origin of the aboriginal races of the New World, none perhaps excite more interest than those of the Pacific Coast. While they possess certain of the characteristics peculiar to all the Indians of North America, the Rocky Mountains seem to draw a broad, well-defined ethnographical line of demarcation, which suggests affinities of an Asian rather than of an Eastern

American nature. If an "Atlantis" can account for the Iroquois, A Peculiar there may have been a lost continent in the Pacific to account People. for the great Tinneh nation or people. Or as the Norseman by way of Greenland reached the North American vinland 1,000 years ago, so successive migrations of Tartars by way of Behring Straits or the Aleutian Isles may have in primitive times peopled this coast. If in a Welsh colony, by chance or design, cast upon the eastern shores of America, we are to look for the progenitors of the noble Mandans, though ever so doubtful, we might with equal probability imagine a fleet of junks, storm-beaten, drifting to the west coast of Vancouver Island, and the crews there perforce making a home for themselves. By whatever route or under whatever circumstances our native races found a footing here, there is much to suggest for them an Asiatic origin.

Mr. Charles Hill-Tout, of Vancouver, Western Member of the Special Committee appointed by the British Association to organize and carry out an ethnological survey of British North America, having devoted himself to the investigation of this subject and acquired a good deal of data necessary for its discussion, was requested by the author to contribute a monograph to the Year Book, giving some of the results of his enquiries, which he kindly did. It is to be regretted that the space available will not permit of this admirable paper being reproduced in full, and the liberty has been taken of condensing parts of it and

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At the outset Mr. Hill-Tout refers to some of the theories advanced at an earlier period to account for the origin of the primitive inhabitants of America, which are pronounced to be "the wildest and most contradictory." these is one put forward by Thomas Norton early in the seventeenth century that they were Trojan refugees, because there was a fancied resemblance in some of the words he heard them use to the language of the Greeks and Romans. For instance, there was the word "Pasco-pan," the former part of which was pure Latin and the latter pure Greek, which left no doubt in his mind that the speakers were acquainted with the Grecian deity Pan. "It is only fair," adds the writer,

"to say of this singular method of demonstrating affinity that Some Early comparative philology was a science then unknown." Another Theories. theory by Dr. Cotton Mather was that the appearance of man on this continent was due to the direct agency of the Wicked One, which, in the quaint manner of thinking of the last century, was to place him beyond the influence of the Gospel, and thus to preserve a remnant of the human race wholly his own. Still another attempt at the solution of the problem made the Indians the lost ten tribes of Israel. "But with all their extravagance of fancy," says Mr. Hill-Tout, "the early investigators never fell into the error of supposing them to be Autochthones. This unwarrantable hypothesis was reserved for later investigators to put forward."

It is pointed out that the general tendency to look to the Old World as the original home of the Aborigines of America accumulated such a mass of evidence in its support that it only required "the crowning and conclusive evidence of linguistic research to make what was before a highly probable fact a scientifically demonstrable truth." To Dr. Latham, by the application of the principles of comparative philology, is due the credit of first drawing attention to the Asian element in the language of certain Western tribes. He claimed that the Western Indians were related to the Peninsula Mongoloidæ, the name given by him to the Japo-Corean and allied stocks. Following him came other investigators, among whom were Prof. Vinson, a noted Basque scholar; Prof. J. Campbell, of Mon-

treal; Horatio Hale, and, more recently, Cyrus Thomas, of the American Bureau of Ethnology. Prof. Vinson, it may be stated, discovered a resemblance between the "grammatical structure of the language of that singular people, the Basques of the Pyrenees and the tongues of the Iroquoian and Algonquian stocks," who, by the way, are exceptional in the use of the "r" sound, and his discoveries were corroborated by Campbell and Hale. Cyrus Thomas claimed Polynesian affinities for the Mavo-Quiché of Central America. Mr. Hill-Tout's own investigations on the same lines have enabled him to "gather incontestable evidence of East Asian and Polynesian affinities for some at least of the British Columbia stocks." He points out, what has been remarked and is a matter of common observation even among strangers, the marked physical traits they share in common with Asiatics among us, a fact of which the latter are themselves aware, and upon which they comment, and says:

"I possess copies of photographs of some Yeniseians, taken by George Kennan in his journey through Siberia, which so closely resemble photographs of Indians of the district taken by myself that it is impossible to distinguish between them. This remarkable likeness struck Kennan himself, who writes thus in this connection: 'It will be seen from the illustrations that

Physical Resemblances. in this connection: 'It will be seen from the illustrations that the Káchinski feminine type is distinctly Indian, and there are suggestions even of the Indian in their dress. All of the Káchinski Tartárs that we saw in the Minusinsk district (on the Yenisei), if they were dressed in American fashion would be taken in any Western State for Indians without hesitation or question.' There is no exaggeration in saying that in physical traits the Coast Indians approximate much nearer to the tribes and races of Eastern Asia than they do to the stocks of Eastern America."

Referring to migration to this Continent, Mr. Hill-Tout remarks: "I do not desire to be understood as saying that this Asian migration took place within recent times, or in one single wave, such evidence as we have all tending to show that it was at some comparatively distant period in the past, probably before the settlement of the Japanese and their congeners in their present home, and possibly during some of those periodic upheavals and consequent displacement of population which we know to have taken place in Asia in former times. Nor do I think it very likely that we shall ever be able to affiliate with any degree of closeness any of the present tribes of this Province or Coast to any of the existing tribes or races now in Asia. The separation has been too long for that. But

that the ancestors of our present tribes and the ancestors of certain Asian stocks had a community of origin, or once lived in close contiguity, the evidence at hand makes it impossible to doubt. Let us briefly examine some of this evidence, and particularly that drawn from linguistic sources, which is of the highest importance in determining all questions of racial affinity; and which, indeed, is the only evidence that has any

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weight in the minds of American ethnologists, who have found by experience the general untrustworthiness of other data in attempting the classification of the diverse tribes and nations of this Continent. And it may be interesting here to state that this method of linguistic classification has resulted in giving us some 160 distinct groups, or stocks, as they are called, in America, whose diverse

languages differ among themselves more widely than do the languages of the Aryan races of Europe. According to the learned Americanist, Dr. Brinton, there are about eighty distinct stocks in each half of the Continent, and Major Powell, the director of the American Bureau of Ethnology, who has mainly confined his attention to the Indians within the jurisdiction of the United States, numbers about fifty-nine north of Mexico, of which no less extraordinary number than forty are found along the west coast, six of which inhabit our own Province of British Columbia. These are the

- 1. Haida-Tlingit.
- 3. Kwakiutl-Nootka.
- 5. Kitunaha (Kootenay).
- 2. Tsimshean.
- 4. Salish.

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6. Déné or Athapascan.

"These, of course, are divided and sub-divided into many divisions and septs. * * * I would here warn those who look for startling, superficial resemblances that the evidence gathered from a comparison of languages cannot, from the nature of the case and from the long separation of the races in question, be nearly as self-evident and obvious as the evidence from physical and other material sources, although in the case of the Dené stock the lexical, and, in t e more primitive elements, even the structural, resemblance to archaic Chinese and allied forms is plainly discernible: and as certainly demonstrable by corresponding resemblances in the Aryan stocks, and infinitely more so than the resemblances in the 160, more or less, 'American' stocks themselves."

Mr. Hill-Tout goes on to point out that the apparent lack of similarity in Western American and East Asian languages, when the physical resemblances are so striking, is not far to seek. Racial traits are the result of slow and gradual processes, effected by varying local conditions, and, once imprinted, are indelible,

while speech is an organic growth, liable to constant change, the principle of which is well understood and amply demonstrated in our own tongue, which, in its present form, differs widely from that of our Saxon forefathers, or even from that of Chaucer.

Many instances are given of the changes thus effected. Dialects of any one large division or stock differ widely, and, therefore, it is not surprising that after the undoubtedly long period that has elapsed since the separation from their Asian congeners the languages of our native tribes should bear little superficial resemblance to modern Asian stocks; but, while there may be wide morphological differences, fundamentally there may still exist a radical unity.

"It is only," says the writer, "in a comparison of the radical and cons ant elements—for the science of Philology has demonstrated nothing so clearly as that amid all the mutations and transformations of language there is an underlying constant element-of the Western American and Eastern Asian languages that we can hope to discover their primitive relationship." However, wit I languages so diverse and imperfectly known, time and careful analysis alone can demonstrate satisfactorily their origin and properly classify them. Concerning the six stocks of the Province, though there have been vocabularies and grammars of all of them, no serious attempt has been made at rigid analysis, whereby the radical and constant elements can be separated from the more mutable and formative parts, such, for instance, as has been accomplished by Rev. Father Morice in respect of the Dené language. This is considered a sine qua non in order to arrive at safe conclusions. A number of these root forms are given to illustrate the writer's meaning. Notwithstanding the imperfect data at our dsposal, there are nevertheless sufficient "to detect Asian affinities in the languages of the aborigines of this district, and enough progress has been made to warrant the claim here set forth and to encourage further work in the same direction."

While philological evidence stands first in determining ethnological affinities, stress is also laid on psychical traits. The writer goes on: 'It is well known that the Kwakiutl tribes are the most warlike, most independent and adventurous of all the British Columbia groups. They were the scourge and terror of the coast in former years. It was a party of this stock which attacked and slew the crew of the ship "Tonquin," sent out by Jacob Astor to this Coast in 1811. It was these Kwakiutls who used to sail up the Fraser for fifty or one hundred miles, plundering and devastating the villages of the Salish tribes on its banks and carrying off their captives into slavery. In short, for warlike daring, independence of character and adventurous spirit, they were without equals on the Coast. These psychical traits, while they mark them off from the other stocks, assuredly suggest affinity to the Polynesians, between whom and themselves there are many points in common. It is also a significant fact, I think, that the name of their culture-hero, "Kanikilak," round whom so many of their legends centre, is strikingly Polynesian in form, and is practically identical with the Hawaiian generic

term for man, viz: "Kanaka." At any rate, if the Kwakiutl-Psychical Nootka stock is not of purely Polynesian origin, it has undoubtedly come under Polynesian influences and partakes of the Polynesian character. And, indeed, there is nothing antecedently improbable in this. The distance between the Sandwich Islands and our Coast is less than that trayersed by many of the Polynesian groups, and the current that here sets northward may well have carried one or more of their adventurous bodies of emigrants to our shores. We know that the Sandwich group was peopled by Samoan emigrants in successive waves or bodies. How easy, then, for some of these to have missed and passed the islands and been carried northward. However, whether the Kwakiutl may be considered as descendants of some of these adventurous bodies, whose purity of descent has been obliterated by marriage and intercourse with Columbian stocks, or whether we see in them an original West Coast Indian race, merely modified by Polynesian blood and influences, I will not at this time venture to determine, but I do affirm that the resemblances between them and the Polynesian in character, language, and other respects, and their separation from the other British Columbia stocks by many customs, beliefs and practices peculiar to themselves, make one or other of these hypotheses necessary.

And what has been said of the Kwakiutl-Nootka may, mutatis mutandis, be said of the Haida-Tlingit with regard to Japo-Corean affinities. The superior artistic powers of the Haida, as manifested in their well-known carvings and sculptures, not only mark them off very strongly in this respect from all the other tribes of British Columbia, but readily suggest marked psychical similarities between them and the Japanese, the general principles and conventionalized forms of whose arts have much in common with the Haida, the paintings of the Japanese being characterized to this day by their lack of perspective; and, while I am fully conscious that this alone is not conclusive evidence of relationship between them, if these facts, together with their remarkable physical resemblance, be taken

into consideration with the data furnished from their language, Compared , it will, I think, raise more than a presumption of their racial affinity. But I confess to the same difficulty here as with the Japanese. Kwakiutl-Nootka stock, of determining with precision the relations which undoubtedly do exist between the Haida-Tlingit and the Japanese in the present stage of my investigations. While certain marked physical and mental characteristics point to a common origin, the evidence thus far gathered from their language, though strongly favouring the idea, scarcely yet warrants my asserting it as a demonstrable fact. But the apparently limited lexical forms in common may well be due to our imperfect knowledge and faulty analysis of the Haida tongue, as well as to the difference in the intellectual life and conditions of the people since their separation; as their differences in grammatical structure are undoubtedly due to the different influences under which their languages have been brought, causing them to develop along different lines; the Japo-Corean developing under Chinese influences, to a large extent, along Chinese lines; the Haida-Tlingit under American influences developing

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along American lines. Moreover, the one has been a literary language for at least 1,500 years, and the other merely a spoken language, subject to all the influences of mutation which affect the speech of an unlettered and barbarous people. But, notwithstanding all the differences which now exist between these languages, the number of lexical elements in common is sufficiently great, and some of the structural similarities so marked that if they do not actually conclusively prove a community of origin for these two peoples, yet they fully warrant me in claiming Japo-Corean affinities of some kind for the Haida-Tlingit stock. Again, the difficulty of determining the exact

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that if they do not actually conclusively prove a community of origin for these two peoples, yet they fully warrant me in claiming Japo-Corean affinities of some kind for the Haida-Tlingit stock. Again, the difficulty of determining the exact relationship between the two is proportionately greater, inasmuch as the Japanese themselves are undoubtedly a composite race. Latham classifies them as Turanian, as also does Edkin; Pickering as Malays; Pritchard as belonging to the same type as the Chinese; and in the narrative of the United States expedition they are ranked as a branch of the Tartar family. They might equally well have been classified as Polynesians, for their language is full of Polynesian terms, and their system of syllabication is practically one with the Polynesian. These seemingly contradictory classifications are not so mutually antagonistic as they appear. Physical and linguistic data alike furnish undoubted evidence of relation to these diverse groups; and the vocabulary of the tongue demonstrates the composite origin of the people as assuredly as our own language demonstrates the composite elements that go to make up our own race. In view, then, of these wide racial affinities and the composite nature of the Japanese tongue, it will be seen that it is no easy task to determine

with anything like exactitude the connection between the Haida-Tlingit and the Japanese. I was at first disposed to regard such linguistic resemblances as I have discovered as the result of some comparatively recent contact with the Japanese nation, but the strong physical and mental traits they have in common; and the fact that in their folklore they have a tradition of two separate races or peoples on the Islands, the one Heaven-born, i. e., themselves—which myth is strongly Japanese in sentiment and character—the other clam-shell, or earth-born, whom they pressed into slavery; and the additional fact that there is no trace, so far as I have been able to discover it, though it may yet be discoverable, of Buddhistic doctrine in their beliefs, which one would expect to find if contact or intercourse of any kind with the Japanese had taken place since the doctrine of Buddha had been known in Japan, have led me to change my opinion in this respect. However, the exact relationship of the Haida-Tlingit to the Japanese may be for the present left undetermined; it is sufficient that they have undoubted Asian affinities of some

But beyond doubt the clearest and strongest evidence of Asian relationship and origin comes from the Déné or Athapascan stock. In mental traits there are not wanting striking similarities to mark this relationship. They are as a race—at any rate, the British Columbia division of them—quiet and peaceful, conservative and patient. Physically they approximate more nearly to the Mongoloid type than they do to the typical Eastern stocks, but the evidence

from their language is the overwhelming proof of their Asian affinities. I have already referred in brief to the monosyllabic character of the primaries, or radicals, of their tongue, and to the Chinese-like method of associating these by simple juxtaposition; and if this were the occasion for it, it would not be difficult to bring out these resemblances in detail. It will be sufficient to point out here that there are four district classes of nouns in the Déné tongue. These are: First, radicals, which are always monosyllabic in form, and correspond to the "primaries" of the Chinese, and, like them, are always simply determinative in force, such as "tsé," stone; "thu." water. Second, radicals of simple import and mainly dissullabic in form. which. Father Morice says, are genuinely unsynthetic, being, like the former, merely determinative, as "tse-khe," woman; "tañ-gron," summer; and which answer to that class in the Chinese which has been called for obvious reasons the "clam-shell" substantive. The third and fourth classes are polysyllabic nouns of the "eye-lash" and "plough" kind already illustrated, the former of which is in close agreement with the Chinese compound nouns that take,

a classifier with them, this classifier being found in the Déné at times also, as in the word "eyelashes," where it is seen in the initial syllable "ne," meaning man, and indicating that the particular eyelashes spoken of belong to the human kind. This "homo" classifier is seen in many other substantives of this class that stand for different parts of the human body, particularly the head. I

Vocabularies. will just call attention to one other salient characteristic of the two languages, and then bring this introductory sketch to a close by giving a brief comparative list of some of the radicals common to the two languages. I refer to the nasalization of the final "n," which is as marked in the Déné tongue as in the Chinese. The similar ties between the Déné and Chinese here mentioned by no means exhaust the list, but they will be sufficient, I think, with the comparative vocabulary, to afford a fair idea of the grounds upon which I base my claim of Chinese affinities for the Déné stock:

ENGLISH.	CHINESE.	DENI
face	men	nin
feet	gea, keuk	khe
mouth .	how	fwa
skin	pe	eve
mountain	tsan	tsal
son "	tsai (boy)	tsail
summer	chan-chon	tan-gron
stone .	tse	tse
grass	to	tlo
corpse	kle-zie	e-zie
fish	ngue	lugu
star	slen, sen	shen, sen
water	tsui	thu
bird	dea, tea	ta 😘
wood	chi	chin
tree	tse	tsel
wet	tsel	tsel
arrow	chi	kie
bone	kwet	kwen
child	tsi	tse-ya
dog	kuen	tlen
day	chen	tzin
man .	yan, jin	dane, tin
grandfather	tsu	etsi-yan
grandmother	tsu	etsu
mouse	shu	klu, tlu
eddy	ooi	oe
fish	ue	ue
breath	hi	eyi
ves	ha	a, haha
tongue	tiu-li	tsu-ri
arm (the whole)	kin-pong	kin
green	lii of herbs)	lli (of wood)
far ,	uen (farther)	yuen
white	pak (grey)	pa
small	tsai	tsel
short	tuen	tue
good	shin	zin
Book	******	

Of the above the Déné radicals are taken mainly from the lists prepared by Father Morice, and the Chinese from Edkin, Chambers, Lobscheid, and intelligent local Cantonese. With regard to these latter I may state that in a recent conversation with one of them on the Chinese similarities in the Déné tongue the remarked that his countrymen were quite aware of many points in common between themselves and the interior Indians, and that they were interested in discovering the reason of this. They believe that Chinese came to this Coast in some way in the distant past, and, being unable to

Internal Evidence. return, settled here; and he offered as evidence of this belief that ancient Chinese money had been found in the Cariboo district under such circumstances that it could only have been lost or placed there many centuries ago, and that the Déné method of sending messages by means of tying knots in a cord was just what the Chinese used formerly to employ. These facts may be of little value in themselves, but they are of interest here as showing that the Chinese resemblances I have discovered in the Déné are familiar to the Chinese of the Province, who have themselves sought in various ways apparently to account for them.

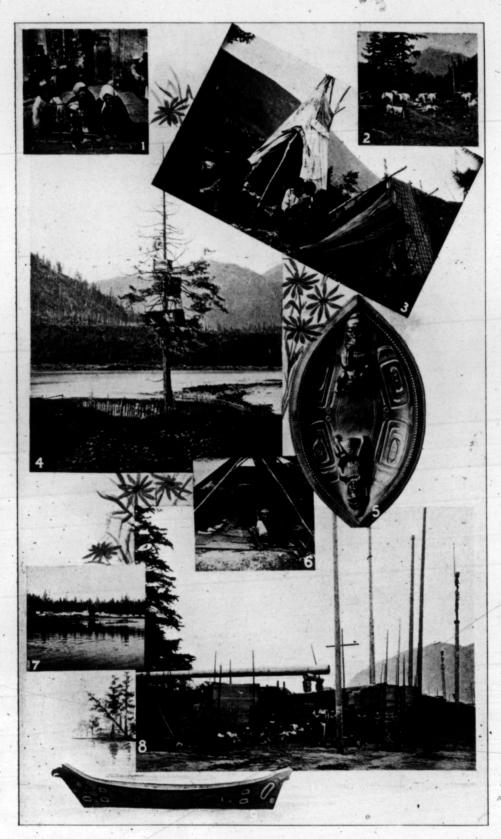


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Of the other three British Columbia stocks not dealt with in this sketch, though I have discovered sufficient Asian elements in their languages to put for myself their Asian affinities and origin beyond doubt, I have not yet determined these affinities nor formulated my evidence; but if no other evidence were offered of the Asian affinities and origin of our native tribes than that of the Déné alone,

the traits they have in common with the other stocks and the underlying ethnic unity of all the Coast tribes would of itself establish this fact; and if the ethnic unity of the whole American race be, as Dr. Brinton claims, a veritable fact, then would it not only establish the Asian affinities and origin of the British Columbia stocks, but of the whole race. For if one of its integral members be Asian, then, if this claim of ethnic unity means anything, all are Asian. But with this logical conclusion I leave Dr. Brinton to deal—I am not concerned to establish this view myself.'

THE Dénés, or Tinnehs, are very widely distributed. Rev. Father Morice, in his "Notes on the Western Dénés," says: "No other aboriginal stock in North America, perhaps not even excepting the Algonquian, covers so great an extent of territory as the Déné. The British Isles, France and Spain, Italy and any two or three of the minor European Commonwealths taken together would hardly represent the area of the region occupied by that large family. They are divided into two important branches, the Northern and Southern Dénés."

Regarding the former the writer just quoted says: "West of the

Their Distribution. Rocky Mountains they are to be found from 51 deg. 30 min. of latitude to the borders of the Eskimo tribes, while on the east side of the same range they people the immense plains and forests which extend from the Northern Saskatchewan down almost to the delta of the Mackenzie River * * * the almost entire breadth of the American Continent." The Southern Dénés, which include the Navajos and Apaches, extend through Oregon, Arizona, Colorado, Oklahoma, California and New Mexico. In round figures the northern tribes number 16.000 and the southern 23,000. The Déné stock is also designated "Athapaskan," but, as Rev. Father Morice points out, very inappropriately. The habitat of the northern half has already been indicated, practically covering what is the unorganized district of the North-West

Northern Tribes. Territory of Canada, and including the Loucheux, the Hares, Bad People, Slaves, Dog-Ribs, Yellow-Knives, Caribou-Eaters, Chippewayans, the Beavers and Sarcees. Those on the west side of the Rocky Mountains in British Columbia are a few Beavers, the Nah'ane (Stickeen River and east), the Carriers (Stuart's Lake north and south), Tsilkohtin (Chilcotin). Their numbers are: Beavers, probably 200 in British Columbia; Nah'ane, 700; Carriers, 1,600; Chilcotins, 460. To these tribes Rev. Father Morice has given the name Western Dénés. It is not practicable to give the exact spelling of the author from whom we quote, owing to typographical limitations, but as nearly as possible the tribal sub-divisions and their localities are as follows:

Stone Tsil-Koh'tin, immediately south of Chilcotin River. Tles-Koh'tin, 10 miles north of the mouth of Chileotin River. T'lothen-Koh'tin, north bank of Chilcotin River, 45 miles fro Independent Septs, Fort Alexander and Nakuntl'un.

CARRIER TRIBE.

Lthau'tenne, Fort Alexander.
Nazku'tenne, Quesnelle and mouth of Black Water River.
Nutca'tenne, on Black Water and throughout its basin.
Tano'tenne, Fort George.
Natlo'tenne, Fraser Lake.
Na'kraztli'tenne, Stuart's Lake.
T'laz'tenne, upper end of Stuart's Lake and tributaries.

BABINE SUBTRIBE.

Netu'tinni, Babine Lake. Hwotsu'tinni, Buckley River and Francais Lake.

TSE'KEHNE TRIBE.

Yutsut-qenne, from Salmon River to McLeod's Lake.
Tse'kehneaz, from McLeod's Lakes to the Rocky Mountains.
Tsat'qenne (the Beavers), south side of Peace River.
Tse'taut'qenne, base of Rocky Mountains, close by preceding.
Sarcees, immediately east of Rocky Mountains, 51 lat. N.
Saschut'kenne, Connolly Lake and north; west side Rocky Mountains.
Otzenne, north of preceding; same side of mountains.
Tselohne, north of preceding; same side of mountains.

It will be observed that Rev. Father Morice does not include among the Dénés either the Tsimpsheans or the Kootenais, and generally it may be remarked that the classification of nations, or peoples, given by Mr. Hill-Tout as belonging

to British Columbia is the accepted one.

On this point Niblack, in his "Indians of the North-West Coast," says: A provisional classification of the Indians of the North-West Coast, from Puget Sound to Cape St. Elias, based on philological considerations, would, according to Dr. Franz Boaz, divide them into three groups, as follows: I. Salish, Kwakiutl and Wakashan (Nutkan); 2. Tsimshian; 3. Tlingit and Haida."

THE Haida nation or people are perhaps the most notable of all on the Coast. They are quite distinct in their language, traditions, and physical and psychical traits. The Rev. Mr. Harrison, of Massett, for many years a missionary there, and thoroughly familiar with them, says:—

"The Haidas do not in any way resemble the red Indian met with in other parts of British Columbia. The face is broad, and cheek bones protrude, their eye-brows have a Mongolian slant, they are powerfully built, but are not without grace in their manner and walk. They may be said to be of the square, wooden type, with brown skins and black hair, ruddy cheeks, and brown and red hair are not uncommon. All the Haidas from the lowest to the highest are related in rank to the head Chief of the nation. The slaves, however, do not rank at all, but were formerly bought and sold like dogs. * * *

Slavery. The Haidas are industrious; men, women and children all find something to do at all seasons of the year. * * The intellectual powers and processes of the Haidas excel the ordinary class of Indians on the North Pacific Coast. Their language contains more words, and is most difficult to master. Compared with other Indians in British Columbia and Alaska they would be placed at the head in rank of physique and activity. The young people are eager to be taught and also evince a determination to master their books. Some of the men are six feet two inches tall and their bodies are developed in perfect proportion. They are expert seamen and can sail their buoyant cedar canoes in a storm that would be dangerous to ships. The women share the good qualities of the men. They are exceedingly strong and work equally as hard as the men. Comparitively speaking they have handsome and agreeable features."

Rev. Father Morice, who is probably the best living authority on the Dénés, which numerically is the largest and most widely distributed Indian race in Western America, in his "Notes on the Western Dénés," describes the three principal tribes on the Western Slopes of the Rockv Mountains as follows: "The Tsé Kéhnes are slender and bony of stature, rather below the average, with a narrow forehead, hollow cheeks, prominent cheek bones, small eyes deeply sunken in their orbits, the upper lip very thin and the lower lip somewhat protruding, the chin very small and the nose straight. * * * Out of every ten men, five who have long been fathers will appear to you like mere children. I

have noted been fathers will appear to you have here established have never seen but one fat person among them, and one that was bald. Note the Carriers are tall and stout without as a rule being too corpulent. The forehead is much broader than that of the Tsé Kéhne and less receding than is usual with American aborigines. The face is full, with a nose generally aquiline, and in every case better formed than their heterogeneous neighbours. * * * The Tsil Koh'tin, on the other hand, are short in stature, broad-faced and broad-shouldered, with prominent cheek bones, heavy

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jaws and with a nose which is not uncommonly thick and flattish. They may be said to have some physical resemblance to the Chinese. * * * The only points in common among the three tribes are the black eyes, the dark, coarse and straight hair, and the small hands and feet."

Father Morice describes the Northern Dénés as generally pusilanimous, timid and cowardly, but a noteworthy quality, especially in such as have remained untouched by modern civilization, is their great honesty. They are generally gentle in disposition, he says, and have usually shown a remarkable receptiveness.

THEIR PLACE IN THE NATION.

THE Indians of Canada are wards of the Dominion Government, which has an Indian Department especially organized to guard their interests and to attend to their requirements. The Department is under the general superintendence of one of the Dominion Ministers of State, usually that of the Minister of the Interior. There is a Deputy Superintendent General of Indian Affairs under the supervision of the Minister who has immediate control of, and takes action in, all matters concerning the Indians and their general welfare. Connected with this Department there is in each Province of the Dominion of Canada a Superintendent of Indian Affairs, who reports to the Deputy Superintendent General and receives his instructions. He is assisted by Indian Agents, clerks and other functionaries sufficient to carry out the object of the Government.

The treatment of the Indians is uniformly just, considerate and humane. Wars and minor disturbances of the peace have consequently been almost entirely avoided, the Canadian Indian being in most cases a useful, law-abiding subject. Industrial boarding schools and ordinary day schools have been established by the Government and missionary bodies for the Indians, wherever practicable, with good effects. They are fast advancing towards modern civilized conditions. Some of the bands are enfranchised and exercise all the rights of citizenship in full. The less advanced ones, who, to a small extent, may be said to be in a state of pupilage, have their minor affairs regulated by the provisions of the Indian Act which are from time to time amended by the Dominion Legislature to suit their advancing conditions.

Reservations of land are made for the Indians of sufficient extent to enable them to make independent livings. These are held for them inviolate by the Indian Department and are subdivided into plots which the Indians may hold and own in severalty, but they may not sell any property belonging to the reserve without permission from the Government. The Indians are not necessarily con-

fined to these reserves; they have full liberty to move about the country and to seek employment wherever they can find it. They may also buy and own lands outside of the reserves and enfranchisement is open to them all, under proper and necessary qualifications. The same laws apply to the Indians as to the whites, with the exceptions: That the Indian reserve properties may not be seized for debt, that there are special enactments against supplying Indians with intoxicants of any kind, and that certain provisions are made in their case for the descent of property.

Under the provisions of the Indian Act the Indians may elect chiefs and councillors who may enact by-laws for the regulation of minor local affairs on their reserves. These by-laws require the approval of the Government before they can be enforced. The procedure for enforcing them being under the Rules for Summary Proceedings, etc., before the established courts. The Indians are not allowed judicial powers although some of the chiefs are at times prone to assume very arbitrary measures in respect to their tribesmen.

The exercise of the functions mentioned above has the effect of opening the Indian's mind to the principles and possibilities of local self-government, and by the time he is admitted to the privilege of enfranchisement he becomes proficient as regards the standing and obligations of citizenship.

NUMBERS AND DISTRIBUTION.

ACCORDING to Mr. J. W. McKay, of the Indian Office, Victoria, who is probably the best local authority on the Indians of British Columbia, there are only four distinct nations or peoples among them. The Tlingits, which Mr. Hill-Tout couples with the Haidas, he says do not belong to British Columbia, the Kootenais and the Tsimpsheans he classes with the Tinnehs or Dénés. Mr. McKay classifies them as follows: The Kwakeulth, the Salish, the Haidas and the Tinnehs. Their distribution is shown in the following table, which, with the exception of the classification referred to is taken from the last report of the Indian Department. In the last column "K" stands for Kwakeulth, "S" for Salish, "T" for Tinneh, "H" for Haidas. It may be remarked that the divisions made in the report of the Indian Department are by no means scientific, and are much in need of revision. They are accepted here because the census has been made according to the empirical lines therein laid down and an enumeration otherwise would be difficult. The census referred to here it should be understood is that taken by the officers of the Department and is entirely distinct from the general census of 1891.

AGENCY AND TRIBES.	No.	PROTESTANT	CATHOLIC.	PAGAN.	NATION.	AGENCY AND TRIBES.	No.	PROTESTANT.	CATHOLIC.	PAGAN.	NATION.
WEST COAST.				0		FRASER RIVER.					
Ahous-aht Clao-qu-aht Clao-qu-aht Chaic-cles aht- Ehatt-is-aht Ewl-hwilh-aht Hes-qui-aht Howchuk-lis-aht Kel-sem-aht Ky-uk-aht Match-itl-aht Mooacht-aht Nitin-aht Nooch-ahtl-aht Opitches-aht Pacheen-aht To-qu-aht Tsesh-aht Tsesh-aht Totals	266 119 126 176 195 42 83	40	160 150 62 66 66 50 195 22 41 1220 35 120 80 80 42 110 14 46 10 46	110 116 577 60 86 42 198 30 84 84 83 13 33 34 42 54	K	Aitchekitz No. 3 Reserve (1) Cheam Chehalis. Coquitlam Douglas Ewa-woos False Creek Homalko Hope Hastings Sawmill Katyie Klahoose Kapilano Kwaw-kwaw-apiet Langley Mission (2) Musqueam Matsqui New Westminster	10 29 128 127 25 83 35 57 75 86 98 53 18 56 166 99 444 71	16	29 128 111 25 83 35 26 75 87 86 98 24 118 56 166 91	91	S

I Burrard Inlet; 2, Burrard Inlet.

namil	82 96	21	218 45 226 37 51 17 30 286 69 23 8		8	Yu-cutce (11) 21 21 Thatce 39 39 Grand Rapids 16 16 Tsis-tlain-li (12). 14 14 Pintee 36 36 Stuart's Lake 161 161 Fraser's Lake 59 59 Stony Creek 99 99 Fort George 123 123 Tsis-tlatho 69 69
emberton Meadows specim. miah-moo. chelt mass owlitz. uiahla weahm. aammon umach uuatits. w-a-mish (3) wah. oookum Chuck uilkayer awah-looks. ymour Creek. way xas Lake. he-wassan oo-wah-lie	218 19 45 226 58 51 17 30 286 69 47 27 82 96	21	218 45 226 37 51 17 30 286 69 23 8			Grand Rapids. 16 16 Tsis-tlain-li (12). 14 14 Pintee. 36 36 Stuart's Lake. 161 161 Fraser's Lake. 59 59 Stony Creek. 99 99 99 Fort George. 123 123 Tsis-tlatho. 69 69 69
emberton Meadows specim. miah-moo. chelt mass owlitz. uiahla weahm. aammon umach uuatits. w-a-mish (3) wah. oookum Chuck uilkayer awah-looks. ymour Creek. way xas Lake. he-wassan oo-wah-lie	218 19 45 226 58 51 17 30 286 69 47 27 82 96	21	218 45 226 37 51 17 30 286 69 23 8			Tsis-tlain-li (12). Pintee 36 36 36 Stuart's Lake. (9) 161 161 Fraser's Lake. 59 59 Stony Creek. 99 99 Fort George. 123 123 Tsis-tlatho. 69 69
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chelt imass owlitz uiahla weahm. iammon umach uatits. w-a-mish (3) wah ookum Chuck ulteen ulkayer awah-looks. ymour Creek way xas Lake he-wassan oo-wah-lie	226 58 51 17 30 286 69 47 27 82 96	21	226 37 51 17 30 286 69 23 8		"	Stuart's Lake. 161 161 161 161 162 163 163 164
mass oowlitz uiahla weahm ammon umach uatits weah msh (3) weah msh (3) weah msh (2) way way was Lake he-wassan oo-wah-lie	58 51 17 30 286 69 47 27 82 96	21	37 51 17 30 286 69 23 8		"	Fraser's Lake 59 59 59 59 59 50 50 50 50 50 50 50 50 50 50 50 50 50
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owlitz uiahla. weahm. ammon umach. uatits. w-a-mish (3) wah. ookum Chuck uilteen uilkayer awah-looks. ymour Creek. way xas Lake. he-wassan oo-wah-lie	51 17 30 286 69 47 27 82 96	24	51 17 30 286 69 23 8		"	Fort George
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iammon umach. uatits. w-a-mish (3) wah. ookum Chuck ulteen ulkayer awah-looks. ymour Creek. way xas Lake. he-wassan oo-wah-lie	286 69 47 27 82 96 122	24	286 69 23 8		1	
umach unatits. w-a-mish (3) wah oookum Chuck ulteen ulkayer awah-looks. ymour Creek. way xas Lake he-wassan oo-wah-lie	69 47 27 82 96 122	24	69 23 8	0.000000		McLeod's Lake) (93 93
uatits w-a-mish (3) wah ookum Chuck ulteen ulkayer awah-looks ymour Creek way xas Lake the-wassan oo-wah-lie	47 27 82 96 122	24	23 8		44	Fort Grahame (13). (10) {
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w-a-mish (3) wah ookum Chuck ulteen ulkayer awah-looks. ymour Creek way xas Lake. he-wassan oo-wah-lie	27 82 96 122		8		**	
wah. ookum Chuck ulteen ulkayer awah-looks. ymour Creek. way xas Lake. he-wassan oo-wah-lie	82 96 122					Na-anees (14) 149 149
ookum Chuck. ulteen uulkayer awah-looks. ymour Creek. way xas Lake. he-wassan oo-wah-lie	96				- 1	
ulteen ulkayer awah-looks. ymour Creek. way xas Lake. he-wassan oo-wah-lie	122		82		**	Totals 2,783 605 1,712 46
ulteen ulkayer awah-looks. ymour Creek. way xas Lake. he-wassan oo-wah-lie	122		96		44	-7-0
ulkayer. awah-looks. ymour Creek. way. xas Lake. he-wassan oo-wah-lie			122		**	
awah-looks ymour Creek way xas Lake he-wassan oo-wah-lie					. 1	WILLIAM'S LAKE.
ymour Creekway way xxas Lake he-wassan oo-wah-lie						WILLIAM'S LAKE.
way xas Lake he-wassan oo-wah-lie						
ras Lakehe-wassan oo-wah-lie			38	12	"	Alexandra 49 49
he-wassan oo-wah-lie	33		33		**	Alkali Lake 158 158
he-wassan oo-wah-lie	37				66	Aneham 198 198
oo-wah-lie	43				16	
reach-ten	50					
		02				Bridge River 98 98
***	46	33	13		**	Canoe Creek 151 151 151
Wharnock	41		41		66	Cayoosh No. 1
Yale	95	33	62		**	Carroach No a
Yu-kwea-kwi-oose	26	33				
	20	4	22		1	Clinton 38 38
Totala	- 0		-			Dog Creek 11 11
Totals	3,381	237	2,962	182		Fountain 197 197
			-			High Bar 51 51
		3350	-			
			12.1	100	. 11	T 111 + 3T
DARINE AND UPDER CURRY.			FTPS GAT			
BABINE AND UPPER SKEENA.	MARKET !	DA SELA		9/12/1		Lillooet No. 2 (16) 10 10
	Mary				- 11	Pavilion 61 61
Kit-wang-agh)	147	102		45	T	Quesnelle 67 67
Kit-wan-cool	68			29	**	
Kit-se-quah-la (4)	80				44 1	
1-4				31		Seaton Lake No. 2 2 2
Set-an-max (5) \ (6) \	240			-57	11	Seaton Lake No. 5 31 31
Kits-pioux	221			95	"	Seaton Lake No. 6 50 50
Kis-go-gas	272	90		173	**	Soda Creek 79 79
Gal-doe	43			36	44	
Moricetown (7))	150			0	11 14	
Ho-quel-get		2.000	150		"	Taasey 53 53
2	151		151		11	William's Lake 146 146
ort Babine	164		164		"	
Old Fort Babine)			151		44	

^{3,} Howe Sound; 4, Old and New Village; 5, Hazelton; 6, Kitsum Division, upper Skeena River; 7. Lachal-sap; 8, Babine Group; 9, Carrier Group; 10, Sickanees; 11, Portage Babine and Stuart's Lakes; 12, Lake Trembleur; 13, nomadic; 14, 2 bands, north of Connolly Lake, semi-nomadic; 15, No. 1; 16, Chinook.

NORTH-WEST COAST. Iassett (17)	33	10					No	PROTEST	CATHOLIC	PAGAN	
fassett } (17) {				100		COWICHAN.					
cidegate (17) }						Sooke			30		
cidegate (17) }			e a	A SECTION	н	Cheerno	65		65		the-
			78		16	Esquimalt	24		24		
ew		66	66		**	Songhees					
					т	Malakut	15				
incolith			232		-	Tse-kum	22				
itlax			108		1 166	Panque-chin.	61		61		
ach-als-ap					1	Tsart-ilp	62		62		
itangataa: }(18) {						Tsaw-out					
itwintshilth.						Kil-pan-lus			9		
iyaush		16	55	. 91	1					300	1
itlachdamax.) [64	Comeakin	139				
ort Simpson)					66	Khe-nip-sim	62				6
etlakahtla					44	Kok-si-lah			29		
itkatla (19)	And the second s	30	00		44	Ouamichan			270		
itkaata						Somenos	105		105		
itsumkalem.		56			**	Hellelt					
itsalas)			101		1 - 2 - 2 - 1	Sic-ca-meen			-		
itimatt						Kul-leets					
itlope						Ly-ach-sun			60		
hina Hat (20)			100		***	Ll-mache					
ella Bella			285		**	Penel-a-kuts.	135				1
weekayno			148			Tsussie	49				
uassella) (Nanaimo	167	167	12		-
inisquit) (39		. 89	100	Sno-no-wus	14				
ella Coola { (21) }		9	72			Oualicum.	16				
allion) (12		42		Puntledge, etc. (25)			69		
				Par		Galiano Island and Fishing Stations (26)			25		1
Totals	3,9	3,	273	721	E O I	Mayne Island	30		30		
						Haitch Point	4		4		
그리고 있는 것 하면서 가장 하고 잘 제안되었다.					18.84	Discovery Islands	36		21		
	5 m 16 m		18 738	1.		Cowichan Lake	9		9	,	
KOOTENAY.		1 3				Newcastle Townsite	26		26		
		00		0		Kuper Island (27)	52		52		
olumbia Lake) (78		8	11	Ruper Island (2/)					
t. Mary's (22) }		37				Totals	2,029	167	1,862		
obacco Plains) (34			**	Totals		4			1
lat Bow (23)		2	16			KAMLOOPS.					
inbaskets (24)		, I	5	I			161	95	66		
그리 맛있다면서 하면 가는 그리고 내 많은 것 같다.	-					W-b-line	24	14	IO		
Totals	5	2	56	2		Kekalus (28)	11		II		
	-	-	-	1		Skuwha Chataway	II		II		13

^{17.} Haidas; 18, Nishgars; 19. Tsimpsheans; 20, Oweekayno; 21, Taillons; 22, Upper Kootenay; 23, Flat Bow; 24, Shuswaps; 25, Sail-up-sun and Comox; 26, and Fishing Stations; Industrial Schools; 28, Spuzzum Group.

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KAMEOOPS-CONTINUED,					Haltkum* (43)	52
					Kualt* (44).	68
wayaum.	134	60	74		Spallumcheen* 63	63
	43		17			
aktam	II	II			Totals	41 2
zzy	68		68			
mok) (II	11				
nus	58	58			OKANAGAN.	13.0
yam \(30) \\	20	25				
k	. 29	20			Skamaplix (45) 159	
itsam	105	105				59
khlukatan (31)	74	74		1	25	35
		31				30
aha (32)	31	51			01/1	30
	8	0			Chúchuwayha \((47)\) 43	43
ppa	22	22			Ashuola 23	23
umcheen)	159	123	36		Shennosquankin (43	43
sawat	17	17				77
/a	49	49				
pium	25	25			Totals 558	58
imeen	23	23			550	20
akin (33) {	49	49				
une (33)	50	50				
ih		20			KWAWKEWLTH.	1
t	4	4				
	15	15			Ah-wha-mish 108 108	
hain	16	16			Koskimo' 124	124
ар	14	14			Kea-wit-sis 75	75
ikeep	37	37			Kwat-seno	. 31
aomin	24	24			Kwaw-shela 57 57	
ahanih (34) (93	93			Kwaw-kewlth	
mckeen.) (84	84			Kwi-ah-kah 42 42	
inos(, ,))					Mah til ni	
eist. (35) {	46	46				
otsin)	25	25			Note and to	
		20				.0 106
a. (36)	20				Nimkish 141 141	
	15	15			Nu-witti	74
h1 (37)	57	57			Ta-nak-tenk	138
	116	62	52		Toa-waw-ti-e-neuh 149 149	
ishaatin.	25 .				Waw-lit-sum	68
kanaht }(38) }	25 .		25		Wi-wai-ai-kum 107	07
t	16	16			M-Wai-ai-kai 113 113	
skat) (18 .		18			
ntans* (39)	137		137		Totals 1,639 . 859	07 673
histan* (40)	-		100		1,039 . 059	0/3
1loops*			234			
kchuqualk* (41)		2000				14.
aut* (42)			132			
Aut (44)	133 .		133			

29, Boston Bar Group; 30, Bothroyd Group; 31, Kanaka Bar; 32, Siska Group; 33, Lytton Group; 34, Nicomen Group; 35, Cook's Ferry Group; 36, Oregon Jack Group; 37, Ashcroft; 38, Nicola Group; 39, Bonaparte; 40, Deadman's Creek; 41, North Thompson; 42, South Thompson; 43, Adam's Lake; 44, Little Shuswap Lake; 45, Okanagan Lake; 46, Osoyoos; 47, Similkameen; 48, Douglas Lake.

* Shuswap Tribes.

RECAPITULATION

No.	PROTES-	CATHOLIC.	PAGAN.
2,750	154	1,469	1,127
2,783	605	1,712	466
	37	1,862	721
562	3,2/3	562	
2,029	167	1,862	
	1,437		2
1,639	859	107	673
2,500			V
25,068	6,769	12,628	3,171
	1,899 3,994 562 2,029 2,880 651 1,639 2,500	2,750 154 3.38 237 2,783 605 1,899 37 3,994 3,273 562	2,750

On the North-West Coast totemism permeates the whole tribal organization. The ceremonies at birth, initiation, naming, matrimony, feasting, dancing, funerals, and all the other social occasions, all have for their object, in some way, the identification of the individual with his totem under its specific name. A totem is simply an organization of consanguineal kindred into a recognized group or band, but with its definition and practical workings we have more to do later.

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Amongst the Tlingit, Haida and Tsimshian, the organization is based on mother-right; that is, birth-rights, such as rank, wealth, property, etc, are received from the mother. Amongst the southern tribes of British Columbia father-right is the form of social organization.

Considered in relation to men, totems are of at least three kinds: I. The clan totem, common to a whole clan, and passing by inheritance from generation to generation. 2. The sex totem * * * 3. The individual totem, belonging to a single individual and not passing to his descendants.

These totems, clans, or gentes are sometimes organized into groups called phratries, the union of the latter forming the tribe of people. We have, therefore, (1) the household or family; (2) the totem; (3) the phratry; and (4) the tribe. On the North-West Coast the household is not the unit of the totem or

North-West Coast the household is not the unit of the totem or of the phratry, as more than one totem is represented in each, the father belonging to one totem and the mother and children to another. Besides this, a brother and his wife may belong to the household, or a sister and her husband; thus numerous totems may be represented under one roof.

Note.—Page 171: The central figure in plate, "Some Indian Types," is the Chief of the Kootenais, in modern costume. The others, left to right, from top, are: (1) An Oweekayno girl, West Coast, V.I.; (2) an old Indian; (3) Indian Mary, an old Haida woman; (4) a Siwash: (5) a Medicine Man; (6) Kloochman with basket; (7) an Indian baby strapped: (8) Medicine Woman; (9) Indian guide at Yale.

Page 172: (1) Haida women making mats; (2) Indian pack train: (3) Indian tepee; (4) Salmon cached in tree; (5) carved dish; (6) interior Indian hut; (7) Indian Mission on Burrard Inlet; (8) Indian village on Coast, shewing totem poles; (9) cedar canoe.



PHYSICAL CHARACTERISTICS.

HE Province of British Columbia may be described as a great quadrangle of territory, seven hundred miles long by four hundred miles wide, lying north of latitude 49° and west of the central core of the Rocky Mountains, extending along the Pacific Coast as far as latitude 55°, and including the islands adjacent. North of that degree of latitude it continues inland to latitude 60°, but is shut off from the coast by a narrow strip of Alaskan Territory, and is bounded on the east by longitude 120°.

The southern half of the Province lies between tolerably well defined boundaries. It forms a large and regular rhomboid of elevated land, which is supported on each side by ranges of mountains. Of these the eastern and western may be said to be double, and consist respectively of the Rockies and Selkirks* on the east, and of the Coast and Island Ranges on the west.

The easternmost range of the above enumerated is that of the Rocky Mountains. It is the northern extremity of the great range which forms so well known a feature of the North American Continent. Entering the Province at the 49th parallel of latitude, in constitutes the eastern boundary to latitude 54°, and continues to between 56° and 57°, where it loses its distinctive rampart-like character, and

diés down into lower hills. It has been shown to consist of the upturned edges of the strata that underlie the great north-west plain, and its massive walls are formed chiefly of Devonian and carboniferous limestone. Their average height may be stated at about 8,000 feet. "Near the 49th parallel several summits occur with elevations exceeding 10,000 feet, but northwards few attain this elevation until the vicinity of the Bow River and Kicking Horse is reached. The range appears to culminate about the head waters of the Saskatchewan, Mount Murchison being credited with an altitude of 13,500 feet." There are twelve principal passes, at elevations ranging from 7,100 feet—the South Kootenay—to 2,000 feet—the Peace River Valley.

Parallel to the Rocky Mountains proper, and frequently included under one name with them, though of distinct formation, run the Selkirks. This range, which has been shown by geologists to represent an earlier upheaval, and to

^{*}Note.—The Selkirks are, properly speaking, only a subordinate portion of the more western of the two ranges, but since no term has been generally accepted for the entire range, and since the Canadian Pacific Railway has especially familiarized travellers with this name, it has been thought good to apply it to the whole range of which it thus constitutes the best known part.

exhibit an entirely different series of rocks, is so broken and complex as to have received several names in different parts of its course, as though composed of distinctly separate mountain systems. Such, however, is not the case.

Entering from the south in a three-fold system divided by important valleys, they are called respectively the Purcell, the Selkirk, and the Gold Mountains. To

the north of the great bend of the Columbia River, these give place to the term Cariboo Mountains. At about latitude 54° they die out, or are merged in the cross ranges which form the northern boundary of the interior plateau, and from whence spring the headwaters of the Peace River.

In average altitude these mountains are not greatly inferior to the Rockies, their loftier members rising from 8,000 to 9,000 feet above the sea. The contours are, generally speaking, more rounded and less precipitous than the latter, though in many places they are strikingly pointed with steep and continuous grades, down which snow-slides sweep with resistless force. Their sides, up to several thousand feet, are clothed in dense forests, affording an unlimited supply of good timber.

The average width of the Rocky Mountain Range is about sixty miles, dim-

inishing to the north; that of the Selkirks is about eighty miles.

There is a valley of most remarkable length and regularity, extending from the southern boundary line along the western base of the Rocky Mountains as far as the northern limits of the Selkirks, a distance of over 700 miles, and dividing the two ranges.

To the west of these great ranges British Columbia extends in a wide plateau of table land, which has been originally elevated some 3,500 feet above sealevel. This plateau has been, however, so deeply intersected and eroded by lake and river systems that, in many places, it presents an aspect hardly differing from that of mountain regions. At others, however, it opens out into wide plains and rolling ground, with comparatively low eminences, affording fine areas of agricultural and grazing land. The entire district has been subject to vast overflows of lava, of the disintegrated remains of which the present soil is Interior Plateau. mainly composed. There is a general but very gradual slope of the land from the mountainous country on the southern boundary of the Province to the north, where as has been previously stated, it is hedged in by cross ranges attaining an elevation of from 6,000 feet to 8,000 feet. Notwithstanding this general slope, the principal flow of water finds its way southwards through deep fissures penetrating the mountain boundaries on the southern and western sides. This plateau forms the chief agricultural area of the Province. "The whole of British Columbia, south of 52° and east of the Coast Range, is a grazing country up to 3,500 feet, and a farming country up to 2,500 feet, where irrigation is possible."—(Macoun, Geol. Rep. 1877.)

The interior plateau is terminated on the west by the Coast Range, a series of massive crystalline rocks of some 6,000 feet in average height. This range has a mean width of about 100 miles, descending to the shores of the Pacific, and is in turn flanked by the submerged Island Range, the tops of which form Vancouver and her adjacent islands, the Queen Charlotte Islands and those of the Alaskan Peninsula.

"The most remarkable feature of the coast are the fiords and passages, which while quite analogous to those of Scotland, Norway and Greenland, probably surpass those of any part of the world (unless it be the last named country) in dimensions and complexity. The great height of the rugged mountain walls which border them also give them a grandeur quite their own."—(Dawson, Geol. Sur., 1884)

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The unique position of British Columbia as a watershed on the Pacific Coast of America, will at once be recognized when it is seen that all the rivers of great importance on that coast, with the exception of one (the Colorado), arise from within its boundaries. The drainage from its extensive area of mountains

and highlands is received into the numerous lakes, which have been noticed as forming so striking a feature of the interior. Thence the surplus is discharged into the few large rivers or their many tributaries, which finally reach the sea. These rivers are the Columbia on the south (debouching through American territory into the Pacific Ocean); the Fraser (750 miles long), the Skeena (300 miles), and the Stikine on the west; the Laird (over 300 miles in British Columbia) on the north, and the Peace River (over 300 miles in British Columbia) on the east. These rivers are of great size and volume, and the first four are sufficiently navigable to steamers to form waterways of no small value in the development of the country.

The submerged mountain range which lies to the west of the Mainland, is represented by an archipelago of islands, great and small, the most prominent being Vancouver and the Queen Charlotte Islands. Of the others it may be briefly stated that they produce in miniature all the physical features of the larger group.

The island may be described geologically as a group of upturned gneissic rocks, embracing certain tertiary areas and worn down by glacial action, so that in one place extensive gravel moraines, in another beds of boulder clay, are to be found, while in a third a regular series of late sandstones alternate with the bar-

ren cliffs of trap. Upon such unpromising surface generations of Vancouver and fir trees have flourished, and by their decay have gradually de-Other Islands. posited a mould of increasing thickness sufficient to provide suitable ground for other forms of vegetation, until the country has become covered with a dense growth of timber varying according to its situation and adaptability to the wants of each particular kind. Thus, upon the ridges the pines and many species of undergrowth have held their own, best suited to a moderate degree of moisture and the rocky subsoil. Upon the boulder clay, alder, poplar, and willow have contended successfully against the larger trees and where the gravel has afforded insufficient moistures for the conifers, the hardy but more slow growing caks, which had no chance for existence in the dense pine forests, have gained a foothold, and stud level plains clothed with native grass. Maples appear to have succeeded in some places the burnt out pines; indeed in time much the same sequence of soft and hard timber might be expected on this coast as is known to have occurred on that of the Atlantic, where firs, oaks and beeches have followed in successive order.—(British Columbia. Its Present Resources and Future Possibilities. Official Pamphlet.)



CAMP AT SKAGWAY.

· GEOLOGY OF BRITISH COLUMBIA.

THE general surface of the mainland of British Columbia seems to have been covered with glaciers at no very remote geological period, during which the principal movement of the ice was southeasterly and northwesterly in conformity with the trend of the mountains, leaving traces at several localities at an altitude of more than 6,000 feet above the sea. Superficial deposits of boulder-clay and water-worn stones occur at all heights up to 5,000 feet, and in the lower levels, especially in the northern low country, is found a fine white Glacial Action. silt. Large moraines occur in great numbers, especially in the line of retreat of glaciers towards the mountain ranges. There are many evidences that large bodies of water existed at various heights between the present sea level and over 5,000 feet, such as shore lines and terraces, and clays which must have been deposited in water.

The Strait of Georgia must have been entirely filled with a great glacier, called by Dr. G. M. Dawson the Strait of Georgia Glacier, with a width of over fifty miles and a thickness in places near its termination of more than 600 feet. Ice groovings of remarkable depth and polish are seen in very recently exposed rock near Victoria, showing that the glacier must have swept over the Saanich Peninsula in a direction mostly towards the south with a slight westerly deviation. On the southwest coast of Vancouver Island in the Strait of Fuca the groovings point nearly west, showing that the ice probably escaped to the open ocean through that channel. Further north above Seymour Narrows indications prove that a second large glacier, fed from the fiords of the Mainland, pushed in a north-westerly direction. This is called by Dr. Dawson the Queen Charlotte Sound Glacier.

Tertiary rocks, containing marine shells, are found on the south-west coast of Vancouver Island near Sooke and near Carmanah Point at the entrance of the Strait of Fuca and at various places between these two points, forming a narrow belt parallel with the coast. Tertiary leaf-bearing rocks are found in Burrard Inlet and about the estuary of the Fraser River. Further north in the Queen Charlotte Islands Dr. Dawson found the whole of the northeastern portion of Graham Island to be underlain by tertiary rocks, mainly of volcanic origin. On the main-

land of British Columbia east of the Coast Range the tertiaries occupy large areas with lignites and in certain places even bituminous coal occurs. In the north there has been but little disturbance of the beds, but the southern part of the interior plateau is more irregular and mountainous and the strata, as on the Nicola, are sometimes found dipping at an angle of thirty degrees. Remains of plants, insects and a few fresh water molluscs have been obtained from these interior regions, resembling those elsewhere considered to be miocene, and indicating a temperate climate.

Underlying the tertiary beds in many places are cretaceous rocks. These include the true coal-bearing beds of Nanaimo, Comox and the Anthracite region of the Queen Charlotte Islands. The flora of the Vancouver Island beds consists in the main of modern angiospermous and gymnospermous genera, such as oak, planes, poplar and Sequoia. The Queen Charlotte Island fossils indicate a lower horizon. On the mainland cretaceous rocks have been described along the north-

of the Coast Range and well to the north the cretaceous is probably represented near the Lower Nechaco and also about the upper part of the Skeena River and on Babine Lake. Sections measured in the Vancouver Island region give a thickness of about 5,000 feet, in the Queen Charlotte Islands at Skidegate about 13,000 feet, and at various places on the mainland from 5,000 to 7,000 feet.

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The sub-divisions of the pre-cretaceous rocks have not yet been satisfactorily made, but in the limestone interbedded in the layers of igneous rocks crinoidal remains, and poorly preserved corals and molluscs indicate that the carboniferous formation is largely represented.

In the interior of the mainland the older rocks are mainly massive limestones, diorites, felspathic rocks, quartzites and serpentines. The limestones often

appear as coarse-grained marbles.

Characteristic forms of the Alpine Trias have been found by Dr. Dawson in a black calcareous argillite and in beds of limestone beneath the cretaceous series, and may be represented near Victoria by the slaty rocks of Leech River.

On the Mainland the Coast Range is largely composed of granitic or

gneissic rocks, not yet fully examined.

In the Rocky Mountains is seen the broken margin of the undisturbed sheets of strata which underlie the great plains. They project in block-like masses and the total (exposed) thickness of their beds is reported to be very great. A section in the Rocky Mountains, on the west side of the range, according to Mr.

McConnell, of the Geological Survey of Canada, shows 1,300 feet of dolomites and quartzites containing halysites, 1,500 feet of shales, blackish argillites and limestones containing graptolites,

about 10,000 feet of calc-schists, shales and slates of the Castle Mountain group, and 10,000 or more feet of dark argillites and conglomerates of the Bow River series. The foregoing strata range from the Silurian downwards to the Cambrian.

In the Peace River region of the 55th and 56th parallels the conditions are somewhat changed. Massive limestones of Devonian and probably Carboniferous age associated with saccharoidal quartzites form the axil mountains. Volcanic

accumulations appear entirely absent from the limestone series.

Archæan rocks are believed to be found in the Shuswap series in Kootenaie and Adams Lakes, and also in the Selkirk Range where the Canadian Pacific Railway crosses it. This probably in Devonian or Carboniferous times formed a more or less continuous barrier along the line of the Gold Range, between the interior continental basin to the north-east and the Carboniferous Pacific to the south-west.

In the eastern sea organic limestone with sandy and shaly beds was being deposited. In the west and south-west of the land barrier the conditions were widely different. Here, too, limestones were in process of formation, but extensive siliceous deposits were also forming with a great chain of volcanic vents, nearly coincident with the present position of the Coast Range and that of the Vancouver and Queen Charlotte Islands. Trap and agglomerate rocks were thus added to the series.

Evidence of disturbance at the end of the Carboniferous period is found in the unconformable superposition of the Nicola Triassic on these rocks in the southern portion of the interior of the Province. To the west of the land barrier

The Triassic. in the Triassic and Jurassic a great thickness of volcanic rock with limestones and argillities was being formed along the border of

the Pacific

A further circumstance of interest in connection with the Jura-Trias period is the evidence now obtained that the sea apparently spread uninterruptedly eastward across the Rocky Mountains into the Peace River country at least as far as the 55th parallel. This is proved by the lithological character of the rocks and the fossils they contain, giving us an approximate definition not only of the western but also of the northern limits of the great inland sea which extended southeastward to New Mexico. This period was closed by great disturbances along the whole Cordillera region. In California the Sierra Nevada rose up as a mass of crumpled and compressed folds. In the northern part of British Columbia the disturbances affected the region from the Gold Range to the coast, extending the land area westward to the 121st meridian, and giving, so far as known, the first upthrust to the mountains of Vancouver and Queen Charlotte Islands, but forming no continuous range where the great belt of coast mountains now is.

In the earliest beds of the Cretaceous there is evidence of a general subsidence in progress in the formation of conglomerates and the shore line of the Cretaceous Pacific can be traced a long distance southward and south-westward. In the southern parts of British Columbia it would appear that the Rocky Moun-

tains proper were not elevated at this time, but that the Cretaceous Mediterranean washed the eastern shore of the Gold Range. The Rocky Mountains, however, had begun to form in the Peace River region as a more or less continuous shore line, or series of islands. The Cretaceous period closed with another period of folding, in which additional height was given to the Vancouver and Queen Charlotte Island Ranges and the Coast Ranges. At this time the Rocky Mountains attained their fullest development.

Mountains attained their fullest development.

No traces of the earlier eocene tertiary has been found in British Columbia, and it is probable that the Province was throughout, at that time, a land area. In the miocene the relative elevation of the sea and land was much as at present,

but great inland lakes were in existence.

The miocene closed with extensive volcanic disturbances throughout the country south-west of the Gold Range and eventually by another period of crumpling and elevation, probably coincident with that which pro-

Volcanic
Disturbances.
ling and elevation, probably coincident with that which produced the tertiary coast hills in California, and which gave to the northern part of the British Columbian coast the greater elevatem of fiords, by which it is now dissected, were cut out.

Among the striking points of geological interest in British Columbia are: First, the repeated corrugation, parallel in the main to a single axis which has occurred in the Cordillera region, and second, the great and widespread masses of volcanic material at at least four distinct horizons, proving the activity of an immense period of volcanic forces along this portion of the Pacific margin.

POLITICAL DIVISIONS.

THE Kootenay District, which includes East and West Kootenay, comprises an area of 15,060,000 acres, and occupies a triangular space of the south-east corner of British Columbia. The apex of this district is at a point where 52° north latitude crosses the Rocky Mountains, and the base extends from 118° west latitude to 114° west latitude. The triangle is divided into about, two equal parts, called East and West Kootenay, respectively, the Purcell Range of the Selkirks constituting the dividing line. The whole territory is drained by the Columbia, which forms what is known as "the great bend," passing north through East and south through West Kootenay.

There are three main valleys: one in East Kootenay, occupying or being the drainage basin of the Columbia River, going north; the other, the valley of the Kootenay River and the Kootenay-Lakes. in West Kootenay; the third lying between the Selkirk and Gold Ranges, through which the Columbians

kootenay. bia River expanding into the Arrow Lakes, flows into the three valleys in question, constituting the main routes of communication northward and southward.

East Kootenay contains a large extent of agricultural land, but requiring irrigation as a rule. West Kootenay has but little arable land, the principal part of which lies at the southern boundary along the Kootenay River and is made up of a tract included in the Kootenay Reclamation Scheme described in the chapter on Agriculture.

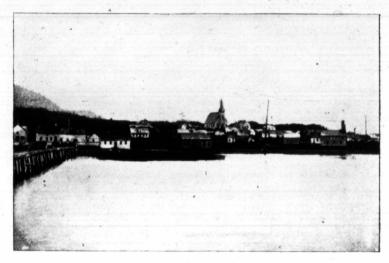
It is unnecessary, however, to state that the name Kootenay in British Columbia has become almost synonymous with mineral wealth, its mountains being rich with gold, silver and copper, and disclosing so far indications of remarkable promise. In consequence of the development that has taken place a number of towns, several incorporated, have sprung up, and are enjoying a large measure of prosperity—Revelstoke, Nelson, Kaslo, Rossland, Trail, New Denver, Sandon, Slocan City, Three Forks, Fort Steele, etc., etc. Donald and Golden in



FREDERICK ARM.



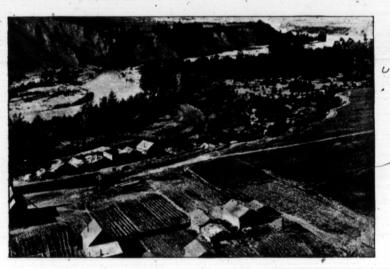
"SAM'S LANDING" AND STAGE, KOOTENAY.



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PENTICTON, YALE.



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fertile. and, v is agricultura back of floo it is altoget East Kootenay, were brought into life by the C.P.R. With the prospective railway development at hand, there is no doubt that the population and wealth of this district will be surprisingly augmented from this time forward.

Yale occupies a large area to the west of Kootenay, extending to the 122nd degree of west longitude, and from about 49° to 52° north latitude. The whole occupies an area of about 15,850,000 square miles, and lies almost wholly within the dry belt of the Province, although from its extent it has a variety of soil and climate. It includes the rich valleys of the Okanagan, the Nicola, the Similkameen, the Kettle River country, and the valleys of the North and South

Yale. Thompson in the vicinity of Kamloops. It possesses perhaps the largest area of purely agricultural and pastoral lands of any other district in the Province. The valleys of the Okanagan District raise excel-

lent wheat, which is milled at two local grist mills.

Yale contains large cattle ranges, and, in addition, gives excellent promise as a fruit-growing district, the range of products including tomatoes, water melons, grapes, peaches, almonds, etc., which are not raised to perfection anywhere in the Coast districts. Futit-growing, however, is only in its incipienty. The C.P.R. passes very nearly through the centre of the district, a little to the north, while the Shuswap and Okanagan branch from Sicamous to Vernon affords communication southward, which is continued to the Boundary Line by means of the Okanagan and other lakes, forming a system of water stretches, parallel to those referred to in the Kootenays.

Yale, in addition to its agricultural resources, is coming into prominence as a mineral district, the new Boundary country being in the southern part, besides which, in the locality of Nicola, in the Similkameen, at Cherry Creek, Hope, Kamloops, and other parts, there have been numerous locations and rich dis-

coveries of ore.

Lillooet contains 10,300,000 acres, lying west of the northern half of Yale District. The northern part of Lillooet forms a parallelogram, extending from 51° to 52° north latitude, and between 120°30′ and 125° west longitude. The southern part forms a smaller parallelogram between 121° and 124° west longitude, and extends from 50°25′ to 51° north lati-

southern part forms a smaller parallelogram between 121° and 124° west longitude, and extends from 50°25′ to 51° north latitude, It contains a large portion of the interior plateau previously referred to, and in a general way exhibits characteristics similar to those in Yale. It is largely a pastoral country, but in the southern portion of it fruit-growing is making good progress.

The district is bisected by the Fraser River, and the Cariboo waggon road passes through it northward from Ashcroft. The district is well adapted for dairying and cattle-raising. Irrigation is necessary in many places owing to the dryness of the climate, and is accompanied by success wherever it has been tried. Formerly, in the days of the Cariboo gold excitement, Lillooet supplied the miners with farm produce, and agriculturally was even more flourishing than at the present time. There is a number of placer deposits which have been developed to some extent, and it is in this district that the somewhat celebrated Golden Cache mine, a controlling interest in which was recently purchased for a very large sum, is located. It includes such districts as Bonaparte River Valley, Lac la Hache, Anderson and Seaton Lakes. Clinton is the judicial centre.

Westminster District lies to the west of the southern half of Yale, and, although by the Redistribution Bill of 1894 its area was very much diminished, it is territorially still an important district, containing about 4,500,000 acres and occupies an unique position in the Province, being bounded on the west by the Gulf of Georgia, on the north by Lillooet, on the east by Yale, and on the south by United States territory. Westminster district is largely made up of the valley of the Fraser River, which, according to Dr. Dawson, is the bed of an

Westminster District and is thus to a large extent made up of alluvial deposits of the Fraser River. What is known as the Fraser River Valley is very fertile, and, with the exception of its being subject to occasional overflow in places, is agriculturally one of the most desirable locations in the Province. The drawback of floods, however, is being overcome by a series of dyking schemes, and it is altogether probable that the Dominion Government will undertake a

comprehensive scheme of protection by straightening the river bed and protecting

Politically, Westminster is divided into four Ridings: Richmond Dewdney, Chilliwack, and Delta, the latter two being on the south side of the river, and the former on the north side of the river. It is largely made up of Municipalities, which include Richmond, Delta, Surrey, Langley, Matsqui, Chilliwack, Kent, Dewdney, Mission, Maple Ridge, Coquitlam, Burnaby, North and South Vancouver. In this respect Westminster differs largely from the rest of the Province, inasmuch as it is the only district in which development on municipal lines has taken place to any extent. At the south-west corner are the cities of Vancouver, the terminus of the C.P.R., and Westminster, which is often referred to as the fresh water terminus, and is the centre of the salmon canning industry.

North of Yale and Lillooet lies the great district of Cariboo, which extends from 52° to 60° north latitude, the latter being the northern boundary line of the Province, and from the 120th to the 126th degree of west longitude, containing in the aggregate the vast area of about 96,350.000 acres. It is drained in

the south by the Fraser River and its numerous tributaries, in the centre by the Parsnip and Peace Rivers and tributaries, and in the north by the Nelson and Liard and tributaries. It was in the district drained by the tributaries of the Fraser River, in the vicinity of Barkerville, that occurred the great gold excitement of British Columbia in early days. It is estimated that out of these rich creeks has been taken an amount equal to between

\$45,000,000 and \$50,000,000 in gold.

The northern half of the district has been but very imperfectly explored, and the information regarding it is limited. The central portion was a rich fur preserve of the Hudson's Bay Company in early days, and in it are located Forts St. John, McLeod, Stuart, and St. James. The Omineca Gold Mining District lies in the western portion near the centre between the northerly and southein limits, and to the south-west lies the large pastoral and agricultural districts included in the Blackwater and Nechaco Valleys, in which are contained areas of grazing land and rich river bottoms, several million acres in extent, which, when communication has been provided, will afford homes for a large number

In the auriferous district already referred to, where the rich placer mines exist, large hydraulicing enterprises have been inaugurated, and some half dozen companies, expending between \$250,000 and \$600,000 each, have obtained extensive leases, and are operating on a very comprehensive scale. The result of these operations will, no doubt, bring back to Cariboo much of its old-time prosperity. Railways are projected into the mining districts from both sides, one from the main line of the C.P.R. at Ashcroft or Kamloops, and the other by way of Bute Inlet on the Mainland coast, either of which would materially advance the mining interests and open up a district which has long suffered from lack of communi-

cation.

Cassiar lies west of Cariboo, occupying an area considerably larger than the latter, or about 105,150,000 acres, extending from the northern boundary of Comox at 51 north latitude to the northern boundary of the Province at 60 north latitude, and all the territory west of that meridian to the Pacific Ocean including Queen Charlotte Islands, except the territory of Alaska, which extends to a little south of 55 north latitude. This extensive tract of territory has for many

years lain practically dormant, and very much of it is still unexplored. It is drained to the westward by two large parallel rivers, the Skeena and the Stikine, reference to which is made elsewhere. are also within its northern limits the sources of the Liard, known as the Dease

River and the head waters of the Yukon.

In former years Omineca and Cassiar, a brief history of which is given elsewhere, were from 1871 onward the scenes of mining excitement, to some extent similar to those of Cariboo in early days and the Klondyke of the present, only on a much smaller scale. The Omineca District occupies a central part of Cassiar, while the richer gold diggings in the vicinity of Dease Lake lie at the extreme north and are accessible by the Stikine River.

Recently much attention has been attracted both to Omineca and to Northern

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Cassiar, and a revival of interest in their mines is looked forward to with confidence. This interest has been intensified by the Yukon rush, and it is altogether probable that the whole northern interior of British Columbia, including Cariboo, will be thoroughly prospected and explored by miners, railway promoters, and others within the next few years, and it is possible that a very important industrial future is in store.

Agriculturally little can be said, or, in fact, little is known, but the general physical characteristics give but little promise on that score, although there are many valleys and low ranges of hills which will afford a very considerable area of pasturage, and it is also probable that vegetables and the hardier fruits and cereals may be grown in many places. In fact, Dr. Dawson's remarks as to the agricultural capabilities of the Yukon would apply to the Cassiar District, only more favourably.

Comox District may be described as a large rectangle, including the northern part of Vancouver Island and a portion of the opposite Mainland, being bounded on the north by the 51st degree of north latitude, and on the east by the 124th degree of west longitude, and comprising about 9,750,000 acres. On the Mainland side it is deeply indented with inlets, of which Jervis, Toba, Bute, Knight and Kingcombe are the principal. These inlets are the outlets for a number of comox. rivers which flow through canyons, and are fed by numerous

comox. rivers which flow through canyons, and are fed by numerous glaciers. The country generally is very rugged, and the coast, on both sides of the straits, and the many islands, large and small, which intervene, are heavily timbered. Here are found the principal logging camps of the Province, and a very important supply of the best merchantable timber. Although sparsely populated as yet, perhaps no other area of British Columbia of similar size contains so much and varied natural wealth, represented in timber, minerals, fish and agricultural land, the last named, though considerable in the aggregate, being, comparatively speaking, the least important. Many of the islands contain good land, and in the vicinity of Comox there are some excellent stretches, while north from Seymour Narrows to the head of the island there are considerable areas, which, if drained and

Coal measures, which at Comox are extensively worked, extend almost to the end of the Island; good fishing is found coveral salmon canneries are in operation. On this coast cultivated, would make valuable cattle ranges and meadows. A Rich District. everywhere and several salmon canneries are in operation. building materials-stone slate, while abundant fine and of are largely represented. gold and silver iron, copper, In Arm are promising mining camps; in the vicinity of Phillips fact, the whole district is richly endowed and is capable of prosperous development. The west coast has been but little prospected as yet: there is comparatively little known of its resources, but there are good fisheries all along it, and recently a number of mineral discoveries, principally of copper, have been made.

The main physical features of Vancouver Island have already been referred to in the opening part of this chapter, and the part not heretofore described, consists of the large district of Cowichan-Alberni, lying south of Comox on the west side, extending south to Esquimalt District, and other political divisions lying eastward.

The greater part of Alberni is rugged and mountainous, and has, as is, in fact, true of the whole interior of the Island of Vancouver, been only faintly explored. There are some grand scenic effects and beautiful inland lakes. Along Alberni Canal, however, is a large area of fertile land and a number of settlers. Here, too, there are many promising mineral indications, with a good deal of preliminary development. On Barclay Sound, and up the coast as far as Nootka, prospecting is active, and particularly for copper, is regarded as one of the coming mining districts of the Province. Owing, however, to the heavy undergrowth, prospecting is difficult. Esquimalt District occupies the south-eastern corner of the Island, in which Victoria City and Esquimalt are situated. North of Esquimalt is the Cowichan District, and north of that the Nanaimo District, which politically is a tri-partition, consisting of South Nanaimo Nanaimo City and North Nanaimo (the latter including Wellington, Texada, and

contiguous islands), Victoria District, North and South, including Saanich and Salt Spring Island, and others of a group known as The Islands, lies east of Cowichan and Esquimalt Districts, on and in the Gulf of Georgia. All the south-eastern portion of Vancouver Island is, compara

tively speaking, well settled, and contains a good deal of agricultural land and many well-cultivated farms. This portion of the Island is well served with good roads, and has railway communication by the Esquimalt & Nanaimo and Victoria & Sidney railways.

The area of British Columbia has been variously set down from 380,000 square miles to 394,000 square miles. From careful surface measurements of the map, the following results approximately have been obtained, according to the present main political divisions:

POLITICAL DIVISION.	SQUARE MILES.	SQUARE ACRES.
Kootenay	23,500 24,300 16,100 7,660 150,550	15,060,000 15,850,000 10,300,000 4,900,000 96,350,000
Cassiar	164,300 7,100* 16,400 409,910	105,150,000 4,550,000 10,000,000 262,160,000

The above figures are given approximately to approach round figures as nearly as possible, and include the territory claimed by Canada in connection with the Alaska Boundary dispute.

CITIES AND TOWNS.

ASHCROFT is a town on the Canadian Pacific Railway, 205 miles east of Vancouver in the Yale District. Its importance consists in its being the forwarding point to Cariboo, Clinton and Lillooet, via the Cariboo waggon road.

The B.C. Express Company have their headquarters, and the "British Columbia Mining Journal," a very reliable and well written newspaper, is published there.

Barkerville is situated on Williams Creek, 285 miles from Ashcroft, at the terminus of the Cariboo waggon road, being reached by the Express Company's stages once a week. Barkerville was formerly an important mining town and is the centre of a mineral district which is again rapidly coming into prominence.

Chilliwack is a thriving little town situated in the centre of the famous Fraser Valley, and on the banks of the Fraser River; is fifty miles east of New Westminster, and about thirty miles west of Hope. The Fraser Valley is about twenty-two miles long and eight miles wide. Chilliwack is distinctly a farming community, and all kinds of fruits, cereals and farm produce grow abund-

chilliwack. antly. It is also noted for stock raising. A great many of the best and most successful farmers and fruit-growers of British Columbia have large, well-cleared farms and comfortable houses here. Fish and game abound, and it is a desirable resort for summer tourists.

Our roads are in first-class shape, and are generally admitted by bicyclists to be the best in the Province

Chilliwack is a progressive, growing town, with a population of about 500 souls, and contains a number of enterprises.

W. T. JACKMAN.

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Esquimalt, three miles from Victoria, is the Naval Station for Her Majesty's ships on the Pacific Coast, where a dry dock and marine railway have been

built. It is rather a quaint old village, and is one of the points for sightseers visiting Victoria. The harbour is one of the finest on the Coast, and is securely fortified. It is also the chief station of the Dominion Meteorological Service in British Columbia, in charge of Mr. E. Baynes-Reed. The ships at present on this station, with headquarters at Esquimalt, are H.M.S. "Imperieuse," H.M.S. "Amphion," H.M.S. "Phaeton," H.M.S. "Leander." and H.M.S. "Icarus." The Rear Admiral in charge is H. St. L. Bury Palliser.

Fort Steele is the present judicial centre of East Kootenay. It is situated on the Columbia Lake 180 miles from Golden, which is the nearest railway station

and telegraph office. It is reached by a steamer from Golden to Windermere and thence by stage. It is on the direct line of the Crow's Nest Pass Railway, now in course of construction, and is about ninety miles from the Crow's Nest Pass. It is in the centre of a mining district of considerable prominence, and the North Star mine, one of the principal properties of East Kootenay, is in the vicinity.

Golden is situated in the valley of the Upper Columbia River at its junetion with the Kicking Horse River. The town derives its importance from the fact that it is the headquarters of navigation on the Upper Columbia River, and also the supply point for the country extending along the Columbia and Kootenay Valleys.

A great deal of lumber is exported annually from Golden, Beaver, and

Palliser, at each of which places sawmills are established.

Mining is assuming extensive proportions, and great activity is being displayed in the development of the ore deposits in the McMurdo District. Cariboo, Bugaboo Basins, and at Ottertail, in the Kicking Horse Canyon. A smelter,

has been built at Golden, but has not yet been operated. The Recorder's Office for the Golden Mining District is located in the town, and contains a magnificent collection of specimens of the mineral ores of the district.

Agriculture is carried on along the Columbia Valley, the present grain production being about 1,000,000 pounds per annum. The breeding of horses and cattle raising are pursuits followed by a large number of settlers. The C.P.R. cattle raising are pursuits followed by a large number of settlers. The C.P.R. Company have decided on making Golden the divisional point between the Pacific and Western sections, and the railway workshops at Donald are to be removed to this point. The town has the privileges of a public park, a school, and a money order office. Fishing, shooting, and boating are available pastimes, the large sloughs on the Columbia River north of this town affording excellent facilities for canoeing and boating. The present population of Golden is 500. A. E. HAGGEN.

Greenwood is one of the many prominent towns which have sprung up in the midst of newly discovered mining camps. About two years ago. when the hardy prospectors were discovering that to the east of Kootenay there was yet another El Dorado. Robert Wood, a pioneer of the Province and an enterprising business man, came into Boundary Creek from Vernon, and, after following the banks of the stream until he came to where it is joined by Twin

Creek, he decided that here was the point to which the trade of the surrounding mining camps could be diverted. He secured the necessary land, surveyed the townsite, built roads to the mining camps, erected a hospital, graded streets and spent money in other directions. His work and the expenditure of his money proved not barren or unprofitable, for to-day Greenwood is a thriving town of 600 inhabitants.

The Boundary Creek "Times" is published at Greenwood.

The success of the town is dependent upon the development of the rich and varied mineral resources of Central, Wellington, Skylark, Providence, Summit, Long Lake, Kimberley, Pass Creek, Deadwood, Copper, Smith's, and Graham Camps, which encircle the town, and none of which are at a greater distance than nine miles. All these camps are at a higher altitude than Greenwood, so that ores can be hauled down hill on an easy grade. An ample supply of water

and water power for smelting or other purposes can be secured from Boundary Creek or any of its numerous tributaries. The route for the Columbia & Western Railway is through the Boundary Creek Valley, and the railway when constructed will therefore pass through the town.

Greenwood is at present reached by a daily stage from Marcus, a distance of sixty-five miles, or by a tri-weekly stage from Penticton, a distance of eighty-

three miles. Both these lines carry mails.

Greenwood is pleasantly situated between the hills. It stands about 2,400 feet above the sea level, and in summer is climatically a delightful spot to live in, while the winters are not sufficiently severe to prevent mining operations being carried on at all seasons of the year.

D. ROSS.

Harrison Hot Springs, a health resort, is situated on Harrison Lake, five miles from Agassiz, on the main line of the C.P.R. It obtains its name from the mineral springs existing there, to which a large number of persons go for treatment. The Harrison Hot Springs- Hotel is located on the lake. The situation altogether is picturesque as well as healthful, and good fishing is available. A new mineral district is being opened up north of this lake.

Kamloops is the oldest city of any commercial importance in the interior of the Province. It is charmingly located at the junction of the North and South Thompson Rivers, on the line of the Canadian Pacific Railway, in the District of Yale, 250 miles from the Pacific seaboard at Vancouver. More than eighty years ago the Hudson's Bay Company established a trading post here, and around this gradually clustered a population which carried on a very widespread commerce

throughout the interior. Kamloops (which is the Indian word signifying "the meeting of the waters") was the outfitting place for the adventurous miner and trapper; and the splendid pasturage afforded by the table-lands and valleys for many miles around early attracted people to the business of cattle raising. Ranching, mining, trading and trapping were the industries which first gave Kamloops its start, and it is the progress being made in these industries, but chiefly in that of mining, which is now advancing the prosperity of Kamloops by leaps and bounds.

The completion through the mountains to Eastern Canada in 1886 of the Canadian Pacific Railway ushered in a new era in the progress of this thriving city, and its growth from that time continued steadily till last year, when it was immensely accelerated by the discoveries of rich deposits of gold-copper ores on Coal Hill, about four miles south of the city. These discoveries have attracted great attention to Kamloops, and hundreds of people, either with money to invest in mines or with the golden expectations of the prospector, have flocked in and overrun the adjacent country. The discoveries were made too late last season to permit as yet of any great development of the mining claims, but enough is already known to satisfy experienced mining men as to its future.

The cattle ranges adjacent and tributary to Kamloops are very extensive, and give pasturage from year to year to about 40,000 head of cattle. About 10,000 head are sent to market each year. Agriculture in the vicinity of the city is carried on by irrigation, and wherever water can be obtained fine crops of fruit, grain, hops, vegetables, etc., are raised, for which good prices are obtained.

Five years ago the City of Kamloops was incorporated. The city has put in a system of electric lighting and water works, assuring at all times a wholesome and copious supply of water for domestic purposes and an efficient protec-

tion from fire.

One of the most delightful features of this city is the fine climate with which it is blessed. Sunshine is the prevailing condition the year round; there is very little wet weather; the winters are mild and not of long duration and the spring, summer and fall seasons charming. The remarkable salubrity of the climate has made Kamloops a favourite

health resort.

Kamloops is well supplied with stores of general merchandise, lumber mills, schools and churches of nearly all denominations; and very many of the

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in the which point municitizens have supplied themselves with residences of comfortable and pretty design. At Kamloops the "Inland Sentinel" is published. [The Kamloops "Standard" has been established since the above was written.—Ed.] The population of Kamloops is about 1,600. The city is the seat of Government for the great Yale District. The Court House and Jail are located here, as well as the Land and Registry Offices of both Dominion and Provincial Governments. There are steamboats plying on the waters of the North and South Thompson Rivers, and in these waters also is to be found as good trout fishing as is to be had in British Columbia. In season grouse, duck, chicken and deer are plentiful, so that the angler and hunter are here favoured with good sport in a good climate.

W. BAILLIE.

The city of Kaslo is situated on the west side of Lake Kootenay, sixty miles north from the International Boundary Line and seventy-eight miles southeast from Revelstoke on the main line of the C.P.R. Population, 2.000. It has splendid water supply by gravitation from Kaslo Creek and good fire protection. The waterworks cost \$28,000. Kaslo is the central distributing point for the Slocan mines, seventy-five good shipping mines being tributary to it. These may

be worked all the year round and at very little expense. The development work is increasing, although a mere beginning has been made. Splendidly equipped steamers run on the lake making connection with the through trains on the C.P.R., N.P.R. and Great Northern. The Kaslo & Slocan Railway (Robert Irving, General Traffic Manager) runs daily trains between Kaslo and Sandon, distance thirty-three miles, where connection is made with the C.P.R. system to Nakusp. The International Trading and Navigation Company's steamers "International" and "Alberta" run daily between Kaslo and Nelson and make connection at Five-Mile Point with the various transcontinental railways of the United States. The "Kokanee" steamer of the C.P.R. also makes daily trips to and from Nelson. Other steamers ply on the lake to Bonner's Ferry, Lardo, Argenta, and Duncan River districts, calling at way ports, such as Balfour, Ainsworth, Pilot Bay, etc.

Kaslo has a beautiful situation on a flat plateau on the lake front. There are numerous fine buildings (chiefly wooden frame), churches, school house, public offices, sawmill (capacity 40,000 feet per day), planing mill, sash and door factory, ore sampling works, brewery and bottling works, two banks, electric light works, and numerous stores for miners' supplies, etc. The city is progressive, 100 buildings having been erected during the spring and summer of 1897, and municipal improvements such as sewerage system, are in contemplation. Kaslo has two newspapers, one weekly (the B.C. "News") and one semi-weekly ("Kootenaian").

J. B. McKILLIGAN.

Ladner's Landing, a town on the south bank of the Fraser River four miles from its mouth, is the business centre of Delta Municipality, one of the best agricultural districts in the Province. There are also a number of salmon canneries in the vicinity, and steamers from Victoria and Vancouver to Westminster and up-river points call regularly.

Midway is a town near the International Boundary in Yale, twenty-eight miles distant from Osoyoos. At present the means of communication is limited.

It is in the centre of a farming and mining district. It has a population under 1,000 and a newspaper, the "Midway Advance."

Nakusp is a small town on Upper Arrow Lake, the terminus of the Nakusp & Slocan Railway, seventy-five miles distant from the main line of the C.P.R.

Nakusp. at Revelstoke. It is the point of trans-shipment for goods going into the Slocan country, and for ore coming out via the C.P.R., which connects with the steamers on the Arrow Lakes and Columbia River. There is a sawmill located there.

Nanaimo City is the direct outcome of the discovery of coal at that point in the year 1850. The Hudson's Bay Company erected a fort there in 1852, from which time it assumed an importance peculiarly its own as the centre and chief point of the coal mining industry of British Columbia. It was incorporated as a municipality in 1874, since which time it has gradually increased in size and

population until at the last census the population was given at about 5,000. Mining operations there at the present time are carried on by the New Vancouver Coal Mining and Land Company, which employs a very large number of men. This Company is the successor to the Vancouver Coal Company, which purchased its property from the Hudson's Bay Company. Nanaimo is connected with Victoria, seventy-eight miles distant, by the Esquimalt & Nanaimo Railway and by steamers with Vancouver, thirty-five miles distant, communication being daily in both instances. It is connected by steamer with Comox and various points on the coast in the vicinity. It is favourably situated for the growing of fruit, and farming to some extent is carried on successfully in the vicinity. The harbour affords safe anchorage and is commodious. The principal shipping of the port is created by the export of coal by ships from San Francisco. The city possesses waterworks, electric light, telephone system, gas works, etc.

Nelson, which was incorporated during the present year, started into life about the year 1890, when the first rush of prospectors into the inverior of West Kootenay took place as the result of the discovery and location of the now celebrated Hall mines. Since then it has gradually grown in size and importance until it is now regarded as one, if not the most important point in the whole of the Kootenay country. It is situated on what is known as the West Arm of Kootenay Lake, twenty-two miles from its mouth, at a point where the Kootenay River begins, and is the terminus of the Columbia & Kootenay Railway, twenty-eight

miles from Robson, on the Columbia River. Connection is made at the latter place with the C.P.R. line of steamers. It is also the northern terminus of the Nelson & Fort Sheppard Railway from Waneta, on the International Boundary, seventy miles south, and from Spokane 200 miles. Nelson is the Government headquarters for the southern district of West Kootenay, where the offices of the Gold Commissioner and Government Agent and other offices are located. It is also the port of entry for the Kootenay District, and headquarters for the C.P.R. officials. Communication is had by steamers with all points on Kootenay Lake and Kootenay River, including Ainsworth, Pilot Bay and Kaslo. It is on the proposed line of extension of the C.P.R. through the Crow's Nest Pass now under construction, and a branch of the C.P.R. is now being constructed from Slocan Crossing near Nelson to Slocan City, which will give Nelson direct communication with Slocan District. There are three newspapers, the "Miner," the "Tribune" and the "Economist"; two chartered banks, a sawmill, sash and door factory, foundry and machine shops, waterworks, electric light, telephone system, etc. The Hall Mines and smelter, which give employment to over 200 men, are located in the vicinity, as are also other mines both silver and gold, on Toad Mountain. Population, about 3,000.

New Denver is an important town on the east side of Slocan Lake at the mouth of Carpenter Creek. It is thirty-two miles from Spokane, nine miles from Sandon and about forty miles west of Kaslo, and the same distance north of Slocan City. Steamer accommodation is had daily to Roseberry, Silverton and Slocan City. There are several sawmills here and a number of mining properties in the vicinity. The New Denver "Ledge," a characteristic mining paper, is its journalistic exponent. The C.P.R. branch line from Nakusp passes close to the city.

The particulars regarding the founding and early growth of the city of New Westminster have been given elsewhere and it will not be necessary to refer at length to its history and development. Its commanding situation on the north bank of the Fraser was the reason for its being selected as the Capital of the Colony of British Columbia. The city is sixteen miles from the Gulf of Georgia, seventy-five miles from Victoria and twelve miles in a direct line from Vancouver City on Burrard Inlet. By the census of 1891 it possessed a population of 7,000

New Westminster. population at the present time. In addition to the regular steamer communication from Victoria, Vancouver and river points, the city is connected with the main line of the C.P.R. by a branch from Westminster Junction and hourly communication by electric tram line from Vancouver, twelve miles distant, is had. The Royal City, as it is sometimes called, is the centre

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of the salmon canning industry of the Fraser River, on which there are located about forty-five salmon canneries. Sailing vessels from England and other parts of the world come up the Fraser as far as New Westminster to load lumber and salmon. The city has a large number of splendid business blocks of brick and stone, and here are located the Dominion Penitentiary, the Provincial Asylum for the Insane, and the Provincial Gaol. The city owns its electric light system and was the first in the Province to recognize the principle of municipal owner-ship in this. It also has a splendid system of waterworks. There are several large sawmills, iron foundries, carriage and furniture factories, a city market,

which is very successfully carried on, cold storage, creameries and other industries. The Great Northern Railway, via Blaine, has its terminus on the opposite bank of the river. There is one daily newspaper the "Columbian," a number of churches, a Methodist College and good schools. New Westminster City is the centre and chief market town of New Westminster District, which in respect to farming development, is foremost in the Province, and upon the agricultural wealth of the district and the salmon canneries of the Fraser River its future must largely depend.

Pilot Bay is situated on the Kootenay Lake, eighteen miles from Kaslo and eight miles from Ainsworth on the opposite side. At this point the Kootenay Lake Reduction Company have erected their smelter, which, Pilot Bay. although for some time closed down, is again about to resume

operations. It has daily communication with all points on the lake.

Port Moody, at the head of Burrard Inlet, was the former terminus of the C.P.R. from which place the line was subsequently extended to Vancouver. At the time the C.P.R. was completed to that point there was considerable activity

in real estate, and Port Moody promised to become what Van-Port Moody. couver is to-day, but the change of terminus suspended all building operations. With the growth of industries around the shores of Burrard Inlet it will undoubtedly yet assume a considerable degree of importance.

Port Simpson is a Hudson's Bay Company's post on the northwest coast of British Columbia near Alaska, 640 miles north of Victoria. A large village of Tsimpshean Indians is located here, and in connection with this there is a Methodist Mission and several industries. The harbour at Port Simpson is a good one, and for this reason it was at one time regarded as a possible terminus of the C.P.R. There is communication by steamer at regular intervals with Victoria.

In the navigable waters of the Great Columbia River where crossed by the Canadian Pacific Railway's main line, Revelstoke is admirably situated as, and is fast becoming, an entrepot of trade for the West Kootenay District, amongst the principal towns of which it must be always numbered. Reliable business houses of national as well as Provincial reputation are establishing ware-

houses there, and the C.P.R. management are there centralizing the business of the Pacific Division as much as possible. Revelstoke is also surrounded by the mineral fields of Big Bend, Jordan Pass, Albert Canyon, Illecillewaet, Lardeau, and Trout Lake, and is for them the chief point of supply. As these camps (now coming rapidly into public favour) progress and are developed a local as well as district trade is secured to Revelstoke, and a

steady growth is noticeable in this respect.

In consequence of the trade advantages of situation, the richness and development of its adjacent mineral fields, and the recent recognition of it by the C.P.R., the town is rapidly growing and its population steadily increasing. It has splendid hotel accommodation, banking, postal and daily mails, and other business facilities, churches, schools, newspapers, societies, and all the advantages of a place much larger. It occupies a splendid site (affording immense room for expansion), is surrounded by magnificent scenery, and has a very mild and fairly equable climate. All hardy plants, fruits and grasses grow well. Population, 1,000.

B. R. ATKINS.

Rossland (population 7,000), on the slope of a basin formed by Red, Monte Christo, Columbia, Lookout Lake, and Deer Park Mountains, about seven miles westward of Trail, on the Columbia River, and eight miles north of the International Boundary. Connection is had with the Columbia River by the Columbia & Western Railway to Trail, thence by steamships to the Arrow Head, and rail to the main line of the C.P.R. at Revelstoke, and with the Spokane Falls & Northern Railway by the Columbia and Red Mountain to Northport.

It owes its importance to the immense deposits of iron and copper pyrritic ore, carrying gold, in the hills surrounding it. The permanence of these mineral lodes has been demonstrated by development work aggregating upwards of fourteen miles. During July, 1897, the quantity of ore shipped to smelters, chiefly that at Trail, averaged 1,400 tons a day, and with a reduction of \$2 per ton in cost of freight and treatment, a carefully prepared estimate of the amount of ore

that could be shipped with profit within a year is 4,000 tons per day, with the probability that the amount could be doubled in two years. The deepest workings are in the Le Roi mine, where 650 feet has been attained. A triple compartment shaft has been commenced, which, when completed, will be furnished with hoisting appliances capable of raising 2,000 tons per day. The business portion is closely built, chiefly in wood. A gravitation system supplies ample water for domestic and fire protection purposes, and an electric light system lighting. Work has commenced in the direction of utilizing the power derived from the falls of Kootenay River to operate an electric plant, from which power will be conveyed to operate and light the mines of the vicinity. In the first instance 3,000 horse power will be generated. A charter

has also been granted for similar works to utilize the power derivable from the Pend O'Reille River for the same purpose. The city is provided with public schools, churches of the Roman Catholic, Episcopal, Presbyterian, Methodist, and Baptist denominations, three theatres, social clubs and reading rooms. The hotel accommodation is ample and of good quality. In sanitation the health of the city has been well maintained through a rigorous enforcement of suitable regulations, and the construction of a system of sewerage for the more thickly populated part was commenced in 1897. Tennis, baseball, football, and gun clubs have been organized, as well as two social clubs. Rossland was incorporated in April, 1897, and is governed by a Council consisting of a Mayor and six Aldermen. It is the seat of the Mining Recorder's Office for Trail Creek Mining Division, and has a Deputy Registrar of the Supreme and County Courts.

W. H. JONES.

Sandon is situated in about the centre of what is known as the wet ore belt of the Slocan District, the ore being mostly galena and carbonates. The first locations were the Payne Group, Slocan Star, Noble Five Group, and Washington, in 1801.

The townsite was located as a mineral claim in 1892 by J. M. Harris, but nothing was done toward laying out the town till January, 1896. About that time two railroads, the Kaslo & Slocan, from Kootenay Lake, and the C.P.R., from

the Upper Arrow Lake, made Sandon their terminus, and the town began to grow rapidly. Now (May, 1897) it has a population of about 2,000, with water system, electric light, fire department, public school, theatre, Methodist and Presbyterian Churches, lodges of the different secret orders, and one newspaper, the "Paystreak."

Four concentrators are now in operation in the vicinity of Sandon, the Slocan Star, Noble Five, Washington, and Alamo. A number of mines are preparing to build concentrators, and others have ore that does not need concentrating, but is shipped direct from the mine. Cody, one mile east, and Three Forks, four miles west of Sandon, have good mines, and are promising points. The wages of miners is \$3.50 per day.

E. C. BISSELL.

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Silverton is a mining camp on Slocan Lake at the mouth of Four Mile Creek, four miles below New Denver, nine miles from Roseberry, on the Nakusp & Slocan Railway. It is one of the numerous towns in the Slocan district which has sprung into life owing to the mining development there. The townsite was laid out during the present year and the population is rapidly on the increase. It has a weekly newspaper.

Steveston is a fishing village at the mouth of the South Arm of the Fraser River and is the chief town of Richmond Municipality. It is surrounded by numerous salmon canneries, to which it owes its existence. There is regular communication by steamers from Victoria, Vancouver, New Westminster and river points.

Three Forks is a mining town on the Nakusp & Slocan Railway, thirtythree miles from Nakusp and four miles from Sandon. It has stage connections daily to Sandon and Cody. Alamo is one mile west of Three Forks, where a concentrator is located.

Trail, situated on the Columbia River, six miles north of the International Boundary line, is the site of the smelter of the B.C. Smelting & Refining Company, with a capacity of 400 tons of ore per day. It is the terminus of the C.P.R. line of steamships plying between that point and Arrowhead, at the north of the Arrow Lakes, while a steamer makes regular trips to Northport,

on the Spokane Falls & Northern Railway. Besides the business incidental to the demands of the large staff of men employed at the smelter and in the mining properties of the vicinity, an excellent supply trade is done with mining camps along the Columbia River. There are excellent hotels, and religious services are regularly held by Roman Catholic, Episcopal, Presbyterian, and Methodist denominations.

Union is the centre of a coal mining and farming district, which gives it considerable importance as the only town north of Nanaimo on the east coast of Vancouver Island. It is beautifully situated on the foothills of the Beaufort Mountains, sixty miles from Nanaimo. It is connected with Bain Sound by a line of railway thirteen miles in length, by which the coal, the mining of which is the principal industry, is taken to the sea for shipment. The coal mines here are operated by the Union Colliery Company, which produce from 700 to 1,000 tons per day of the best steam coal. In addition to shipments to the San Francisco market the coal is manufactured into coke, ovens for which have been recently

erected. and on account of the demand of the smelting industry promises to grow to large proportions. Union is the market for the Comox farming district, which is one of the best on the Island. There is a considerable population and business is well represented. The "Comox Weekly News" is the only newspaper. The town is divided into two parts, The Camp and Cumberland, each having about the same population. Incorporation is about to take place, application for which has already been made. There is a good water supply and an incorporated company has been formed for the purpose of utilizing it to supply the town.

Vancouver is called the Terminal City because it is the land terminus of the Canadian Pacific Railway in British Columbia, and on account of that fact and its situation on Burrard Inlet, one of the finest natural harbours in the world, it has acquired the importance it has during the last decade, within which period it was created and has grown to its present proportions. Early in its existence it

vancouver.

was swept by fire, but the loss it then sustained only tended as a further stimulus to the exertions of the citizens. Vancouver from its position has always been regarded as a city with a future. As the terminus of the C.P.R. with its multifarious connections, and as a natural seaport, it has every prospect of and is surrounded by the proper conditions for becoming one of the great shipping marts of the Pacific Coast. At present Burrard Inlet is the centre of the lumber trade of British Columbia, and the shipping port of the Australian and Oriental steamers running in connection with the C.P.R. The city itself was laid out on a comprehensive scale and made rapid growth. The authorities early applied themselves to the problems of water supply, sewerage, street paving, electric light and tramways, etc., and succeeded in completing satisfactory and substantial systems. Its paved streets and fine water supply are two things of which its citizens are especially proud. It possesses many churches, good schools, several social clubs, a fine theatre, fraternal and benevolent orders in

abundance, athletic associations, etc. Industrially it has made good progress, although not perhaps on the scale at first anticipated. Its principal industries are lumbering, sugar refining, jute and cooperage works, iron works (including the C.P.R. shops), fruit preserving, furniture and candy factories. At English Bay, near the city limits, is good bathing,

and with Stanley Park, a very large reserve, form the principal pleasure resorts. More recently a number of large wholesale firms have established themselves in Vancouver and are competing successfully for a share of the business of the Province. The population at the last general census was about 14,000.

Vernon is the centre and chief supply point for the Okanagan District, which contains several large agricultural valleys of peculiar promise. It is the terminus of the Shuswap & Okanagan Railway, forty-six miles from Sicamous Junction, and has in addition to Government offices a branch of the Bank of

Junction, and has in addition to Government offices a branch of the Bank of

Vernon.

Montreal, a newspaper, the "News and Okanagan Farm Live Stock
and Mining Journal." There is daily communication via the
C.P.R. and with the southern country as far as the boundary by means of
steamers on Okanagan and Dog Lakes, and stages with various points
of the district. Some attention has been recently directed to mineral deposits in the vicinity, and hopes are entertained of a considerable mining development. The city is beautifully situated and the climate is healthful and exhilarating.

Victoria is the Capital and oldest city of British Columbia, and its history, from the outset up to within ten years ago, is practically the history of the Province. Its nucleus was the old Hudson's Bay Company's fort erected in 1843. It was laid out for a city in 1851, and was incorporated as such in 1862. The fact

to which, however, it owed its greatest stimulus was the gold rush in 1858, when it suddenly grew into a city of tents with between 20,000 and 30,000 inhabitants. It, however, suffered many reverses subsequent to that, and there were times when a cannon could have been fired up or down its streets with impunity, except, perhaps, for the danger which might have been incurred by the rival editors, who in such serene days used often to sit on the sidewalks and read their proofs and exchanges. Between the years of 1881 and 1891 population increased very rapidly and at the latter date the official census gave it a population of 16,800, although a much larger population was claimed for it. The attractions of Victoria are its picturesque situation, its climate, and its residential conditions, and in the latter respect it has a future peculiarly its Its numerous homelike residences and the great profusion of flowers by which they are in summer surrounded have always been a matter of comment among visitors and added to these are many pleasure resorts easy of access, with good suburban roads in every direction. It has, of course, electric tram lines, waterworks, electric lighting, etc., etc., and is well supplied with churches and all the social adjuncts of a modern city. Its shipping trade is a large one, one of the largest in tonnage in the Dominion, and its wholesale

Industries. trade is extensive. Its industries, of which there are a number, including flour, feed and rice mills, iron foundries and machine shops, furniture and biscuit factories, chemical and metallurgical works, fruit preserving, pickling and spice factories, boot and shoe and trunk making, soap factories, powder works, etc., are as a rule on a solid and paying basis. Victoria being the Capital has the new Parliament Buildings described elsewhere. It is a port of call for the China and Australasian steamships and has direct communication with San Francisco, Sound ports and all Coast points as far as Alaska.

Wellington, which was incorporated last year, is about six miles north of Nanaimo, with a population of about 2,000. It is the northern terminus of the Esquimalt & Nanaimo Railway and is in the vicinity of coal mines to which it owes its existence principally. The coal from the mines is conveyed to Departure Bay, three miles, by means of a narrow gauge railway, where it is shipped to market.

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CLIMATE.

NOTWITHSTANDING that much has been written about the climate of British Columbia, many micconceptions appear to prevail on the subject outside of the Province. In some quarters, through confusion with the north-west interior of the Dominion, an impression has been formed that at least to the east of the Coast Range fearful extremes of cold are to be endured by the inhabitants, while in others, through a misapprehension of the report of travellers, it has been imagined that the climate of the coast resembles that of the shores of the Mediterranean. In order to acquire a reasonable idea of the true state of the case, let anyone first examine upon a map of Europe that portion of land which lies between the same parallels of latitude, and extends over the same area from the Atlantic coast east, and then consider how far conditions which are known to exist there will be modified by local differences on the Pacific. It will be seen that between latitudes 49°-59° must be included Great Britain, the north-east

corner of France, Belgium, Holland, North Germany, Prussia, - Continental Denmark, the south of Sweden, the Baltic Provinces, and the Climates. coast of Russia to the Gulf of Finland. This tract of country in area and latitude approximately represents British Columbia, and may be considered as a whole to present almost the same climatic conditions. The differences to be allowed for are as follows: First, the Japan current, the north equatorial current of the Pacific, does not flow so closely to the American coast as the Gulf stream does to the shores of Northern Europe, but admits of a return Arctic current from the north. This Arctic current which renders the waters of British Columbia extremely cold, causes a condensation of the moisture borne by the prevailing westerly winds eastwards, and produces a humidity most beneficial to the vegetation of the Province. The winds are arrested, in a measure, by the Coast Range, creating a dry belt to the east of these mountains, but the higher currents of air discharge their moisture against the Selkirks, causing the more copious snowfall which distinguishes that range from its neighbour, the Rockies.

Thus a series of alternate moist and dry belts are formed throughout the Province, which have no parallel on the coast of Europe, where the more broken coast line and absence of lofty mountain ranges, together with Alternate Belts. the practical non-existence of an Arctic current, tend to distribute the rainfall over the whole area. It will be easily seen how these belts will be broken and modified in places by the varied elevation of the mountains and the presence of passes such as the Fraser cañon.

Again, the decrease in elevation of the Rocky and Selkirk Ranges as they approach to the north, admits a free passage for the winds of the Arctic regions to sweep down over the northern portion of the Province, bringing with them a corresponding reduction in temperature in winter or increase in the summer, when the long Arctic day admits an accumulation of dry hot air over these regions. Since there is open sea to the north of the European continent these conditions exist there only in a modified form, although the Baltic Provinces, Poland, and Prussia experience very similar effects from the north-east winds.

And lastly, the elevation of the interior plateau is, of course, greatly superior to that of Northern Europe, making an average difference in barometric pressure of some two inches.

The general result of the above differences between the two regions is to accentuate the rainfall on the shores of the Pacific Coast and the extremes of temperature in the interior. Where the latter extends in areas of high elevation, these

deographical Conditions. extremes of temperatures will necessarily be more felt, while in the valleys and cañons open to the coast and well protected from the north, a more mild and equable climate will result. At the same time, there is a greater symmetry in the main features of land and water the straight coast line and parallel mountain ranges, so the great ocean winds are probably less interfered with by local conditions, and there is a greater regularity of the seasons.

So far as the coast is concerned an increase in rain-fall and general humidity must be expected to the north, where the Arctic current is colder, the Japan current sweeps nearer to the shore and condensation consequently is greater; the east coast of Vancouver will be less humid than the west, from arrest of moisture by the mountains and forests of the island interior, and the shores of the mainland opposite will be more liable to rain and fog from the low temperature of the waters of the Gulf, which are mainly derived from the cold northern backwash, and from the propinquity of heavily timbered mountainous tracts.

It may be said then, that the climate of British Columbia, as a whole, presents all the features which are to be met with in European countries lying within the temperate zone, the cradle of the greatest nations of the world, and is, therefore, a climate well adapted to the development of the human race under the most favourable conditions.

The various local differences alluded to in general terms above, in relation to those causes which produce them, may now be more particularly described.

In the valley of the Columbia and throughout the Kootenay Districts which correspond, as has been seen, with the mountain belt of the Selkirks, the high average altitude renders the air rarified and bracing, the precipitation of moisture being greater on the eastern flank of the Rockies, but falling far below

that of the coast. Regular meteorological returns have not hitherto been made from stations in this section of the country, but from observations taken by Lieut.-Col. Baker during some years' residence at Cranbrook, in the Upper Columbia Valley, the following data may be depended upon as fairly accurate:

The rainfall averages from eighteen to twenty inches per annum, the lesser amount being experienced in East Kootenay, and the snow attains to a depth of from one to three feet, making a total precipitation of about twenty to twenty-four

inches of moisture, according to locality.

The winters extend from December to March, snow not falling, to lie, earlier than the last week in December as a rule. Navigation on the Upper Columbia closes about the beginning of November; on the Arrow Lakes and Lower Columbia not till the end of that month; it opens again about the middle of March. The Kootenay Lake does not freeze over. During the winter the thermometer falls at times considerably below zero, and in summer rises as high as eighty or ninety degrees in the shade, the nights being always comparatively cool. The extreme cold is not severely felt and is of short duration, nor is the summer heat exhausting as in the interior of the continent. Vegetation is rarely affected by drought, and although summer frosts occasionally cause damage in swampy localities, their effects are modified by drainage and cultivation.

Farther west, throughout the region of the Interior Plateau, a drier climate prevails, culminating in the bunch grass country immediately east of the

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reas are ship Coast Range. Here luxuriant vegetation is entirely confined to the borders of the lakes and water courses, while the higher benches and round topped hills present the characteristic semi-barren appearance of this class of

A Dry Belt. pasture land. The rain and snow-fall is very moderate, total precipitation averaging from seven to twelve inches according to

locality. The winter is confined to eight or ten weeks' frost, when the thermometer falls to zero, and in severe seasons considerably below. The average is not extreme nor are the cold spells protracted. The summers, like those of Kootenay, are warm during the day with cool evenings. As the mean elevation is some 1,500 feet, the air of the Interior Plateau is clear and bracing.

Some 1,300 feet, the air of the Interior Flateau is clear and blacking.

South of the Shuswap Lake, a climate is experienced typical of the milder and more moist conditions which prevail in the wide depressions once formed by glacial lakes, and which may be said to present a mean between the dryness of the true bunch grass country and the humidity of the coast. The timber is here plentiful but scattered, vegetation is varied and luxuriant, the rainfall sufficient to

obviate the need of irrigation; the winter and summer not appreciably differing from that of Central Europe.

In the narrow valleys which traverse the Coast Range a climate is found which once more calls for special remark as presenting features of some interest and peculiar to these situations. At Spence's Bridge, on the Fraser, a characteristic point, a meteorological station has been established for some years and ac-

canons of the Coast Range. curate data of this class of climate obtained. Sheltered as these canons are from the cold northern winds, they admit the warm breezes of the coast and upon their sides the sun's rays are concentrated with almost tropical intensity. A temperature much warmer than would

be expected is the result.

No sooner is the Coast Range crossed than an entirely new order of things becomes manifest, indicating a great change in climatic conditions. Vegetation is extraordinarily luxuriant, forests are everywhere, the undergrowth impenetrably dense. The reason of this is at once apparent when it is seen that the rain-fall attains to some seventy inches, increasing as you proceed north and come more

within the immediate influence of the Japan current, to over a hundred inches. The winters are shorter and much less severe, nor are the summers so hot as those of the Interior; yet, owing to the increased amount of moisture in suspension, extremes, such as they are, make themselves more felt by the inhabitants. Still no on can call the climate of the coast of British Columbia an unhealthy or uncomfortable one. Equable, sunny and with a singular absence of storm or tempests, the vicissitudes of life, so far as they depend upon climate, are perhaps less accentuated here than in most parts of the globe.

As was previously stated above in the general account of the climate, the driest point on the coast is seen to be the south-eastern extremity of Vancouver Island, which includes Victoria, and is represented by the observations taken at

Esquimalt.

To speak more generally of the climate of this section, the nights, even in the height of summer, are invariably cool, more so than is ordinarily experienced in England during spells of warm summer weather. The harvest time is rarely unsettled so that until recently, many years had elapsed since damage was incurred in reaping the crops. Winters occur every now and then during which, from the absence of northerly winds, no perceptible degree of frost is experienced, and geraniums and other delicate plants can be grown in the open air. Such severe weather as is met with comes usually in short spells during the months of January and February.

Local fogs prevail over the water during the early spring and late autumn, chiefly in November, when they are sometimes a serious hindrance to navigation. The tides of the coast, between Vancouver Island and the Mainland, as they flow through narrow channels at the northern and southern extremities of the

Fogs and Tides. Island (Seymour Narrows and San Juan de Fuca Straits) are very eccentric, and cannot be reduced to a fixed table. For similar reasons the currents and tide-rips which prevail among the islands of the coast are somewhat perplexing and require local study. Wind storms are rare and the shipping suffers little damage on that account.

In this portion of the Province the higher latitude is responsible for a correspondingly severe climate. In Cariboo and through the Chilcotin country the winters are, for instance, somewhat longer and colder than those experienced in the Okanagan and Columbia Valleys. At Barkerville, in the first named district, the mean January temperature has averaged, for the last four years, 19°, that of April 34°, of July 54°, and October 40°. This, considering the altitude and situation which corresponds with that of Central Russia, is not extraordinarily severe, indeed is very moderate as compared with the interior of the Continent of America far to the south.

Note—The foregoing has been taken from the very excellent description of British Columbia climate contained in the official handbook entitled "British Columbia, Its Present Resources and Future Possibilities."

COMPARATIVE TABLE OF TEMPERATURE, Showing mean highest, mean lowest, monthly mean, and average for twelve months, 1896, at:

		4.0				Ġ.					1 .:
	4	Esquimalt	Küper Island.	French Creek.	Port Simpson.	Abbottsford	Agassiz.	Spence's Bridge.	Mission Valley.	Fort Steele	Barkerville
				-	0	-0	-	0	0	0	0
January	Mean highest Mean lowest Monthly mean Average	42.9 33.8 38.22 38.2	43.1 33.3 36.60 36.6	40.4 30.1 35.24 35.2	34.5 22.4 28.57 28.6	40.5 27.7 34.13 34.1	37.0 27.9 32.45 32.4	29.8 16.8 23.27 23.3	30.0 14.1 22.08 22.1	30.4 12.4 21.41 21.4	19.4 5.8 12.63 12.6
February	Mean highest Mean lowest Monthly mean	46.8 37.0 41.47	46.4 34.8 39.05	45.2 32.6 38.87	42.0 28.8 35.39	47.1 32.9 40.0	47.2 35.9 41.57	46.7 25.5 36.09	40.1 19.9 30.0	40.4 21.0 30.70	31.0 19.6 25.28
March	Mean highest Mean lowest Monthly mean	41.5 48.0 34.0 40.56	39.1 47.7 31.1 38.22	38.9 46.5 29.3 37.93	35.4 42.7 27.3 35.85	40.0 49.1 30 2 39.66	41.6 50.6 33.4 40.19	36.1 49.3 25.9 37.56	30.0 46.9 18.1 32.46	30.7 43.0 20.1 31.54	25.3 30.0 12.1 21.03
April	Average Mean highest Mean lowest Monthly mean	40.6 53.1 38.6 45.27	38.2 53.6 36.9 44.7	37.9 52.2 35.1 43.61	35.8 48.0 31.1 40.43	39.7 54.1 35.2 44.61	40.2 55.6 36.9 44.72	37.6 60.1 34.62 47.35	32 5 56.7 28.3 42.50	31.5 54.2 30.1 42.13	21.0 40.8 25.2 33.02
May	Average Mean highest Mean lowest Monthly mean		44.7 60.3 40.7 50.86	43.6 58.9 39.6 49.27	40.4 54.6 36.3 48.27	44.6 61.4 42.0 51.68	44.7 62.2 43.5 50.63	47.4 69.4 41.4 55 39	42.5 63.4 35.7 49.53	42.1 62.6 37.6 50.09	33.0 50.4 32.7 41.53
June	Average Mean highest Mean lowest Monthly mean	49.7 65.6 48.1 55.51	50.9 68.5 46.3 57.57	49.3 66.0 45.2 55.62	48.3 57.6 42.4 51.90	51.7 69.4 48.7 59.03	50.6 71.7 46.2 56.05	55.4 80.1 49.0 64.58	49.5 76 2 40.0 58.19	50.1 78.1 40 6 59 36	41.5 61.5 37.9 49.72
July	Mean highest Mean lowest Monthly mean	55.5 70.8 51.0 60.34	57.6 76.5 51.8 64.35	55.6 75.7 51.4 63.56	51.9 63.4 47.7 58.07	59.0 80.2 52.9 66.58	56.0 82.2 51.4 65.77	64.6 89.3 58.1 73.72	58.2 83.4 46.6 65.04	59.4 85.8 48.7 67.28	49.7 73.9 44.6 59.25
August	Average Mean highest Mean lowest Monthly mean		64.4 74.0 51 8 61.24	63.6 74.3 50.4 62.31	58.1 64.8 47.2 57.83	66.6 74.1 52.3 63.20	65.8 82.3 50.3 62.09	73.7 87.9 56.8 72.36	65.0 79.4 45.0 62.20	67.3 81.2 44.7 62.95	59.3 72.8 41.4 57.11
September	Average Mean highest Mean lowest Monthly mean	51.44	61.2 65.1 44.9 52.78	62.3 65.0 43.1 54.04	57.8 60.8 43.2 53.48	63.2 67.3 45.1 56.19	62.1 71.3 41.7 53.99	72.4 73.0 48.8 60.90	62.2 67.8 34.1 50.98	62.9 67.6 36.2 51.90	57.1 62.9 32.8 47.86
October	Average Mean highest Mean lowest Monthly mean	55.8 42.4 48.11	52.8 56.8 40.0 46.82	54.0 55.8 38.3 47.08	53.5 54.4 40.2 47.89	56.2 59.2 40.2 49.67	54.0 65.3 40.4 51.92	60.9 64.4 41.2 52480	51.0 54.6 30.5 42.54	51.9 59.2 27.1 43.16	47.9 47.1 31.8 39.47
November.	Average Mean highest Mean lowest Monthly mean	48.1 40.5 33.1 36.77	46.8 39.3 29.2 34.13	47.1 38.5 26.8 32.62	47.9 35.1 20.1 28.18	49.7 37.1 24.1 30.60	51.9 34.5 24.7 29.06	52.8 26.6 10.6 18.62	42.5 27.7 13.7 20.70	43.2 26.9 6.4 16.65	39.5 13.2 2.8 5.20
December	Average Mean highest Mean lowest Monthly mean	36.8 46.8	34.I 46.2 37.I 41.25	32.6 40.8 36.7 40.76	28.2 48 I 33 6 39.94	30.6 44.9 33.7 39.29	29.1 45.6 34.4 39.98	18.6 42.6 28.0 35.34	20.7 32.6 24.6 28.64	16.7 35.8 24.1 29.95	5.2 32.7 19.4 26.03
	Average	42.8	41.3	40.8	39.94	39.29	40.0	35.3	28.6	29.9	26.0
Annual mean		47-37	41.25	46.74	43.82	47.89	47-37	48.16	28.64	29.95	34.84
Average mean	• · · · · · · · · · · · · · · · · · · ·	47.4	47-3	46.7	43.8	47.9	47-4	48.2	42.1	43.1	34.8

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		Esquimalt.	Kuper Island.	French Creek.	Port Simpson.	Abbottsford.	Agassiz.	Spence's Bridge.	Mission Valley.	Fort Steele.	Barkerville.
January	(Rainfall	4.21	8.55	4.53	8.11	5.13 7.8	5.22	0.72	1896 0.38 9.2	0.66	0.34
February	Rainfall	2.87	4.50	2.19	7.27 15.5	3.76	5.42	0.20 6.5	0.00	0.05	0.17
March	Rainfall	2.82 1.1	2.28 6.0	3.24	5.86	5.22 2.1	5.16 3.1	0.39	0.01	0.53	0.08
April	Rainfall	2.98 0.1	1.68	1.15	5.68 5.7	5.31	5.45	0.50	0.50	0.94	0.51
May	Rainfall	1.84	1.64	2.60	4.57	4.38	4.85	1.10	1.52	1.64	2.22
June	Rainfall	1.19	0.88	1.37	4.56	3.96	3.97	0.74	0.93	1.32	3.13
July	Rainfall	0.36	0.27	0.80	5.20	1.29	1.55	0.36	0.22	1.02	2.76
August	Rainfall	0.52	0.17	0.44	7.79	1.33	1.62	0.40	0.51	1.05	3.02
September	Rainfall	2.50	1.23	2.76	10.02	5.12	5.25	0.88	0.15	1.92	3.18
October	Rainfall	3.03	2.56	2.46	12.71	5.50	6.56	0.63	0.65	0.62	1.45
November	Rainfall	6.95	6.06	4.62	13.61	7.81	8.24	0.51 8.3	0.37	0.96	1.01
December	(Rainfall	8.20	8.41	5.20	10.90	7.51 6.4	4.5 8.67 7.6	0.44	0.28	0.59	0.07
Year	Rainfall Snowfall	37.47 31.0	38.23 52.1	31.36 36.9	96.28 60.0	56.32	61.96 48.9	6.87	5.52 59.7	7.2 11.30 40.00	36.8 17.94 161.2

COMPARATIVE TABLE OF THE AVERAGE RAINFALL

In inches at ten principal stations in British Columbia in the months April to September, derived from a group of years:

	Esquimalt.	Kuper Island.	French Creek.	Port Simpson.	Abbottsford.	Agassiz.	Spence's Bridge.	Mission Valley.	Fort Steele.	Barkerville.
April	in. 2.98	in.	in.	in. 5.68	in. 5.31	in. 5-45	in. 0.50	in. 0.48	in.	in.
May	1.94	1.64	2.60	4.57	4.38	4.85	1.10	1.57	0.94	2.2
June July	0.36	0.88	0.80	4.56 5.20	3.96	3.97 1.55	0.74	0.89	I.32 I.02	3.13
August	0.52	0.17	0.44	7.79	1.33	1.62	0.40	0.48	1.05	3.0
September	2.50	1.23	2.76	10.03	5.12	5.25	0.88	1.51	1.92	3.18



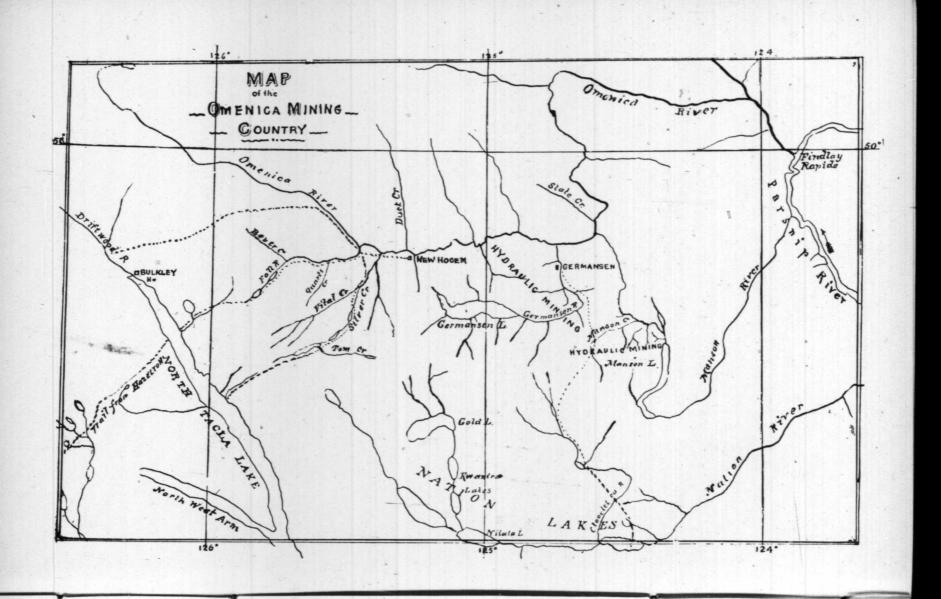
Meteorological Register for the Year 1896, at Thirteen Stations in British Columbia.

COMPILED FROM RETURNS PUBLISHED BY THE PROVINCIAL DEPARTMENT OF AGRICULTURE.

	D	D	B	B	K	V	0	B	4	1	1 4	0	田.
UPPER MAINLAND A LOWER MAINLAND B NORTH-WEST COAST C VANCOUVER ISLAND D GULF ISLANDS E	Esquimalt,	French Creek.	Agassiz.	Abbotsford.	Spence's Bdge.	Barkerville.	Port Simpson.	Hazelmere.	Mission Valley.	Fort Steele.	Salmon Arm.	Rivers Inlet.	Kuper Island.
Elevation above Sea Level in feet	28		52		760		26		1,200	2,433	1,152	25	
Highest temperature registered during	0	9	9	0	0	0	0	0	0	0	0	0	0
the year 1896	80.4	88.0	*95 o.	93.0	104.0	84.0	82.0	89.0	98 0	100.1	94.3	90.0	88.5
Lowest temperature registered during	16.7	8.0	9.0	30	-13.0	-30.0	3.0	-3.0	-17.0	-36.1	-21.5	12.7	10.5
Annual Mean temperature during the	0	0	. 0										
year 1896 Mean daily range of temperature dur-	47.78	47.18	47.81	48.31	48.69	35.61	44.26	48.02	43.40	41.52	43.06	45.11	47.89
ing the year 1896	13.5	17.1	20.1	18.3	23.2	19.6	15.5	21.4	25.7	26.3	23.5	13.2	16.6
Rainfall during the year 1896 in inches	38.67	33.71	64.70	54.12	2.44	8.or	71.14	46.06	5.52	10.18	7.87	92.55	45.12
Number of days of Rainfall	159	136	128	154	35	41	164	132	65	72	41	165	149
	"	11	11	11.	11	"	"	"	31	-11	11	"	- 11
Amount of Snowfall in inches	41.9	43.1	35.5	20.9	30.9	120.	70.0	19.9	59.7	34.0	87.5	101.4	77.3
First Frost	Oct. 5	Oct. 24	Sept. 7	Oct. 26	Oct. 22	Sept 8	Sept. 25	Oct. 27	Sept. 8	Sept. 14	Sept. 23	Oct. 25	Nov. 4
Last Frost	April 17	May 15	April 16	April 18	April 18	June 4	May 15	June 2	June 13	June 11	June 6	May 8	May 15
First Snow	Nov. 4	Nov. 10	Nov. 11	Nov. 14	Nov. 9	Sept. 2	Nov. 30	Nov. 11	Nov. 11	Nov. 7	Nov. II	Nov. 9	Nov. 4
Last Snow	April 7	April 28	Mar. 28	Mar. 28	Mar. 7	May 1	April 28	Mar. 27	April 14	Feb. 29	Mar. 7	April 29	Mar. 30
Warmest Day	July 21	July 14	June 26	June 26	July 15	June 29	July 21	June 26	July 6	July 6	June 28	June 26	July 14
Mean temperature	70° 10'	73° 50'	73° 50'	76° 50'	85° 25'	67°00'	710 67	68° 00'	76° 50'	770 10	779 15	720 50	72 70

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A COAST TRIP.

I F a business man, worried by the ceaseless demands on his attention, and mentally and physically exhausted by close application to office work; if a student whose cheek has paled under the light of the midnight oil; if a man of leisure whose routine of social responsibilities and pleasurable pursuits has produced ennui; if a lover of sport and travel, keen for adventure, and his spirit restless for fresh trophies and a new arena; if a pupil in nature's school, eager to witness the operation of her laws in other and wider forms; if an artist,

in whose soul burns the desire for subjects of sublime beauty and massive grandeur; if a collector of rare and interesting objects; if he belong to the *literati* and is thirsting for fresh fields and unhackneyed topics; if plunged in statescraft and wearied for the nonce by the ceaseless jar of opposing parties; if a professional man with brain and nerves tired and overworked; if no matter who—and can afford two or three weeks holidays, let us invite him to a pleasure excursion, the attractiveness of which among the many opportunities advertised for the summer season, is unequalled for novelty, healthfulness, interest and picturesque outlook—the trip par excellence of the American continent.

Come for a two weeks' voyage along the west coast of British Columbia to Alaska. Free from the cares and conventionalities of every day life, and breathing the very air of heaven itself, you burst, like the Ancient Mariner, into an unknown sea filled with untold beauties, and sail over a bosom of waters unruffled as glass; among myriads of islands; through deep, rugged, rock-walled channels; past ancient Indian villages, mediæval glaciers, dark, solemn, pine-clothed shores, snow-capped peaks, dashing cataracts, yawning mountain gorges, spouting monsters and sea whelps—away to the north a thousand miles almost, to mix with the icebergs that once floated under the sovereignty of the Czar of all the Russias, but now drop peacefully from ancient glaciers over which the American eagle holds watchful guard—a continuous panorama in which the purest, the rarest, the wildest, the most beautiful, and the grandest forms of nature are revealed.

All this may be enjoyed under auspices of ease and comfort equal to that of your own home. The passage from Victoria to Vancouver affords only an inkling of the scenic effects that will be obtained for the next fourteen days. Leaving the inner harbour*the boat swings out into the Straits of Fuca, and you get the first swell of the ocean, fifty miles to the westward. To the right is passed the historic island of San Juan. To the left Vancouver Island is in view. The

Strait of Georgia is crossed at its greatest width. After San Juan is a succession of beautiful low lying and timbered islands. Midway is Active Pass, always a point of great interest and beauty, and which is now a popular summer resort. Having passed Point Roberts, the mouth of the Fraser River, Point Grey and through the Narrows into Burrard Inlet, Vancouver City is reached in about six hours' easy sailing. Right under the bold, high bluff of Brockton Point promontory are the remains of the

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zies pea alre Alo and old Beaver, the first steamer on the Pacific Ocean, which went to pieces on the rocks, and for some time before its final plunge lay the prey of teredo and relic hunters.

From Vancouver the steamer takes a straight cut of thirty miles across the Strait of Georgia, passing Nanaimo and Wellington, where the coal mines of Vancouver Island are located. From here for the whole length of Vancouver Island the steamer hugs its shore, and here, too, begins that maze of islands which continues in more or less bewildering profusion as far north as you go, gradually increasing in size and in character from low lying and heavily timbered to high, bold and rocky. The Strait of Georgia continues about seventy-five miles. The Mainland shore to the right is indented with numerous inlets or arms of the sea—Howe Sound, Jervis Inlet, Toba Inlet, Bute Inlet, and so on, up which, were there time to go, wonderful beauties would be disclosed. There

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are Indian reservations and logging camps and settlers found Up the Gulf of all along. Up Jervis Inlet is a quarry of excellent slate. Texada, Georgia. thirty miles long, low and timbered, with a bold, rocky shore, and traversed by a ridge of rugged trap mountains, is on the Mainland side. It contains important gold, iron, marble, lime and other mineral deposits. To the left are Hornby and Denman, picturesque islands. Over these are seen the mountain ridges of Vancouver Island, the peaks of which here are the highest of the range. Point Holmes on the left, a bold promontory, is passed. From here to Comox the coast is low and heavily timbered inland, and here lies one of the most important coal measures of Vancouver Island, included in the E. & N. Railway belt. Opposite, in the direction of Desolation Sound, are numerous islands— Hernando, Cortez, Mary, and so on—upon some of which are settlers and logging camps. Over in the distance, on the Mainland, rise up the Cascade Mountains, range after range.

Now you creep closer to the Vancouver shore, and presently enter the celebrated Seymour Narrows, once in which, by reason of the high bluff shores, you are shut out from the view on either side. The Narrows proper are about 800 yards wide and about a mile and a half long, though Discovery Pass, to which it is the entrance, is about twenty-three miles long. At flood the tide runs from six to twelve knots an hour, and at ebb from six to eight, the flood and ebb running equal intervals of about six hours each, with about ten minutes still water. Valdez

Island, lying at the entrance to Bute Inlet and forming the right shore of this channel, is a finely timbered island, with a number of logging camps on it, and some well-to-do ranchers on the benches back from the shore. The Euclataw, or Back Narrows, of almost equal note among navigators, on the other side of the island, are also very rapid, and dangerous as well. It was at this point where it was once proposed to bring the line of the C. P. R. through the Yellow Head Pass down Bute Inlet, and connecting with a line of railway to Victoria by bridging Seymour Narrows, the present proposed route of the British Pacific.

Just before entering the Narrows is a village of Euclataw Indians, once regarded as the worst of all the British Columbia tribes, and said to have been cannibalistic. Passing the mouth of Campbell River, you look up the fine Menzies Valley, and over westward on Vancouver Island are towering snow-clad peaks extending for miles. Sailing by Menzies Bay, you enter the Narrows, already described, which, after an exciting run, widen out into Johnston Straits. Along here, on the Vancouver shore, are some beautiful beaches and snug coves and bays, and on the other side a group of small rocky islands—Helmcken, Hard-

wick, etc.—on the timbered benches of which is to be found the finest Douglas fir in the Province. The famous Bickley Bay logging camp is located on the back channel on Hardwick Island.

After having rounded Chatham Point the steamer gets in closer and closer to Vancouver Island, and the shores become more and more precipitous. Along Johnston Straits westward you steam past the mouth of Salmon River, where there are rapids and overfalls, with heavy sea. The straits widen out to about three miles, and now you are directly between the shores of Vancouver and the Mainland, the only place where they directly approach each other.

This approximation continues ten or twelve miles, both shores

This approximation continues ten or twelve miles, both shores being thickly wooded. On the Mainland side are Blinkinsop Bay and Port Neville. The former is a good harbour, with rocky, picturesque shore. The latter is an inlet seven miles long, up which first-class building granite is found. On the Vancouver shore, which presents a bold, rocky front, is the mouth of Adams River, just opposite which commences Cracroft Island, running twenty miles parallel with our course. At the south-east end of it is Port Hartney, a fine harbour.

Myriads of islands, large and small, are to be seen all along the Mainland side as far as Cape Caution, locally known as the Broughton Archipelago. The next point of interest on your left is Beaver Cove, which, in addition to being a good harbour, has an excellent milling site. A marble quarry has been located here. Back of Beaver Cove, extending to the great Nimkish Lake, is an extensive valley. Nimkish River, which is the outlet of the lake into Broughton Sound, Nimkish Lake and Kammutseena River, which empties into it, all afford the finest trout fishing in the Province. This district is a veritable sportsman's paradise, now much frequented for big game—elk, deer, panther, etc.—while the scenery is simply enchanting. From this point the centre of the Island is easily accessible.

Five miles above Beaver Cove we arrive at our first stopping place, Alert Bay, on Cormorant Island, just opposite the mouth of Nimkish River. It is very prettily situated, and is a favourite calling place both up and down. Here are an

Alert Bay. Indian village with a population of 150 or so, whites included, a salmon cannery, a sawmill and two stores, an English Church Mission and an Industrial School. Here the salmon canners have turned their attention to canning clams, which abound in the neighbourhood.

The first thing which strikes the tourist's eye on rounding into Alert Bay is the Indian burial ground, on the south point on the right hand entering the bay. It is fantastically decorated with streamers and flags of different colors, and a variety of grave fences and epitaphs. The next thing which particularly attracts a stranger is a fine totem pole, about thirty feet high, beautifully painted

and carved, which guards the entrance to the present chief's house.

Cormorant Island possesses coal formations. Near it are several rocky islets, upon which discoveries of silver and copper have been made. Farther up is passed Haddington Island, all one quarry of the finest building stone, out of which the stone for the new Parliament Buildings was taken; and still farther on is Malcolm Island, agriculturally the best piece of land on the coast. At this point in our trip we are beginning to lose the companionship of the Douglas fir, which has been abundantly with us from the outset, finding instead forests of hem lock, spruce, red cedar, cypress, birch, and alder, which prevail more or less for the rest of our journey. Opposite Malcolm Island is Port McNeill, boasting a commodious harbour. The country all along here comprises coal measures, which extend for twenty-five miles through to the west coast. Three miles beyond Broughton Straits we enter Queen Charlotte Sound, where the ocean swell is already noticeable, and skirting the north-east coast of Vancouver Island, we put in at the historic Fort Rupert, twenty-one miles beyond Alert Bay.

It consists of the old Hudson's Bay fort, and a large Indian village, situated on a long open beach of shingle and shells, which gives it a white, snowy look. There are no wharf accommodations, and consequently it is only in cases

of absolute necessity that steamers call here, in which case communication has to be made with the shore by boat or canoe. On two occasions this huge village has been shelled and laid in ashes by gunboats sent to demand the surrender of murderers among them.

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Twenty miles beyond Fort Rupert we enter the Galiano Channel and pass Galiano Island, and into Queen Charlotte Sound; thence through Christie Passage, where for the first time we receive the full sweep of the Pacific Ocean, and sniff the salt sea breeze. In the next two hours the steamer has to buffet the long rolling sea from Queen Charlotte Sound, and, heading north-westerly in the direction of Cape Caution, we encounter a low-lying, rocky shore, where are dangerous sunken reefs. Cape Caution is appropriately named, as in its vicinity are innumerable rocks and shoals, requiring great caution on the part of the navigator. This brings us to the entrance to Fitzhugh Sound, and on the right is Rivers Inlet.

During the time since starting up the Straits of Georgia we have not omitted to note the scenery, which, though not on so magnificent a scale as that yet to come, has been nevertheless peculiarly charming. It has been one long series of subjects for the artist, in which rare and elusive effects have entered—marine sketches, land and water combinations, here depressed and there bold and broken shores, backed by recurring benches densely timbered, and away over all, far off and high up, have risen majestically the tops of the Coast Range of mountains ridging the entire length of Vancouver Island on one side, and the might,

The Scenery on the Way.

peaks of the Cascades of the Mainland on the other, giving, on the whole sweep of vision, that indefinable charm which "magnificent distance" alone can lend. Leaving out the few tide rips, which you experience with delight, you have been gliding, not propelled, over water as smooth as glass, and at times your impressions have been dreamlike—now weird and solemn, and again exhilarating. Sea fowl innumerable—gulls, ducks, geese, and others—have kept you company, and occasionally, sometimes frequently, the attention of the party has been diverted to a spouting whale, or a swarm of porpoise, and even land animals, which are to be seen once in a while from the deck. To Rivers Inlet, our next objective point, we will have covered some 350 or 400 miles, and our promises so far have been more than fulfilled.

Now we have entered a distinctly new phase of our trip. We are going north, with the ocean and scattered islands on the left of us, and the Mainland on the right. Leaving Cape Caution and passing Smith's Inlet, a few miles on we enter Fitzhugh Sound, and steam up Rivers Inlet. This was named Rivers Canal by the great Vancouver. Our friends will have recognized in the names of the islands passed some time ago—Hernando, Cortez, Texada, Valdez, and so on—historic memories of early Spanish explorers and navigators, who held the coast for a time conjointly with the British, but, as usual, the christening, which remained with British ascendancy, was done by Vancouver over a hundred years ago.

Rivers Inlet runs up about thirty miles. At the entrance and for several miles up, the sides of the Inlet, which is only one to one and a half miles in width, are steep and covered with dense forests of spruce and cedar. At the head of the Inlet the sides mount up abruptly for about 2,000 feet, and are almost bare of verdure through the action of landslides and avalanches. In this Inlet are seven canneries, a sawmill and a station, formerly used as a salmon saltery. One peculiarity of the salmon run here is that it never, or very rarely, fails. Rivers Inlet is a strikingly pretty place. We travel from here up Fitzhugh Sound, on the right shore of which is to be seen Namu Harbour, where Messrs. Drany & Shotbolt have a cannery, and enter Bentinck Arm, at the head

Rivers Inlet. & Shotbolt have a cannery, and enter Bentinck Arm, at the head of which is situated the Bella. Coola Indians. There is an Indian village here. John Clayton, a trader, and family reside here and keep a store. He has, as well, a large stock ranch. There is a large extent of agricultural country here, where a prosperous colony of Norwegians have settled. The Bella Coola Valley affords the easiest and best route into the Chilcotin country. From here you pass into Lama Passage, where the Bella Bella Indians reside. They have a large, beautiful village, with several stores and a resident missionary. This was the old Fort McLaughlin of Hudson's Bay Company days. Leaving Bella Bella, we sail into Millbank Sound, and enter Graham Reach, passing along the inside of Princess Royal Island, which has high, bluff, rocky shores, and thence through various passages we reach the mouth of the great Gardner Inlet.

The sail up this discloses the most wonderful scenery on the route. The shores are thousands of feet high and almost perpendicular, lending a grandeur and impressiveness to the scene almost indescribable, while magnificent waterfalls and glaciers are to be seen. Perhaps there is not on the whole western coast of America scenery which quite equals it in its way. Captain Vancouver, who ex-

Gardner Inlet. plored this channel over a hundred years ago, described its beauties most graphically. At its head is situated the Kitlupe tribe of Indians, after whom the Inlet is sometimes called. Almost parallel with Gardner Canal is Douglas Channel, the extension of which is known as Kitimat Arm. At the head of this arm there is considerable good land and a pass into the interior. Kitimat Arm is similar in the massiveness and beauty of its scenery to Kitlupe Inlet, but differs in the character of detail. The shores, which are wooded with hemlock, spruce and cedar, are not so abrupt, but are bounded with lofty ranges of mountains running parallel to each other.

Going out of Gardner Canal we enter Grenville Channel, which is ninety miles long, passing along Pitt Island. Here the scenery is extremely picturesque, with adjacent bare walls of rock and high distant peaks. At

Landscape. Lowe Inlet, off the channel, is an Indian station and a cannery. The general effect of so many mountains rising one above the coast, and is equalled only by Klemtoo Passage.

It was omitted to state that on Gribbell Island, at the mouth of Gardner Inlet, is a very fine hot spring. Through Grenville Channel, on Pitt Island, China Hat is passed. This is an Indian village, with the usual missionary and

trader.

Lowe Inlet is the residence during the fishing season of the Kitkahtla Indians, whose chief is the far-famed Sheiks. Chief Sheiks has a monopoly of the fishing here, and with a seine net in the bay, often hauls in from 2,000 to 3,000 salmon a day, for which he gets the highest market price. We have already passed Hartley Bay, where there is a sawmill and an Indian village. And now we are at the mouth of the Skeena River, and take Telegraph Passage, passing the well-

known Standard cannery.

The Skeena River, the mouth of which we have entered, is the largest river on the British Columbia coast except the Fraser, and takes its rise several hundreds of miles in New Caledonia, near Babine Lake. It is the route into the gold country of Omineca. The scenery up to Hazleton and beyond is not unlike that of the Fraser, and in some places quite equals it. Its rugged canyons and fierce rapids require skillful navigation. It is to the Forks of the Skeena where one of the alternative surveys for the C.P.R. was run, and here in 1866 the Western Union Telegraph Company reached with a line which was to connect over-

land, by crossing Behring Straits, with a Siberian line, when the news of the Atlantic cable being laid was received, and the scheme was abandoned. We, however, only explore the mouth of the wonderful river as far as Port Essington. In it are located a number of salmon canneries and three sawmills, the timber used being red cedar, cypress, hemlock and spruce. There is an Indian village here and a church. The view from any point here is very fine, and there is a great deal to interest tourists. The shores are heavily wooded, with mountainous back-ground, and potatoes and berries of all kinds are very plentiful.

Leaving the Skeena, we pass out into Chatham Straits, and, rounding the Tsimpsean Peninsula, soon arrive at one of the most noted places on the coast, Metlakahtla, a very prettily situated Indian village about twelve miles from the

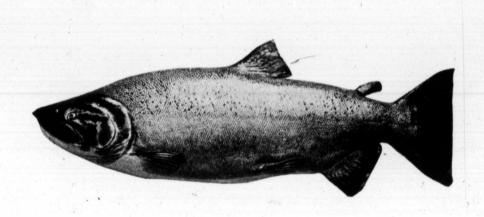
Skeena.

This at one time used to be a veritable beehive, under the management of Rev. Mr. Duncan, a missionary sent out in the early days by the Church Misnery, a brickyard, a boys' home, a girls' home, an industrial school, and many sionary Society of London, England. He had a sawmill, a woollen mill, a canother means of keeping the Indians employed. Later on the Home Society

other means of keeping the Indians employed. Later on the Home Society sent out Bishop Ridley (the Bishop of Caledonia), to take charge and look after the Society's interests. This caused a strife between two factions, which arose, some siding with Duncan and others with the Bishop, which ended in Duncan leaving with his adherents for a new settlement



B. C. MAMMALS IN PROVINCIAL MUSEUM.



A 70-lb. Salmon, landed with Hook and Line (in Campbell River by Sir Richard Musgrave.)

5



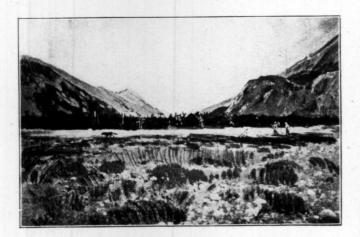
BRANDING CATTLE.



OLD MAN'S HOME, KAMLOOPS.



ROUNDING UP CATTLE,



HEAD OF SKAGWAY BAY.

some thirty miles above Fort Simpson, called New Metlakahtla. The boys' and girls' homes are still running, and the industrial school is doing good work.

Their houses, until lately, were all built in one style, a lofty two-story building, which, if divided up, would contain about eight or ten rooms, and each one has a nice little garden patch laid out in fruit trees and vegetables, which have been much neglected of late, but, nevertheless, gooseberries, raspberries, currants and strawberries thrive here wonderfully. The Church of England, built by Mr. Duncan, is a beautiful piece of work, and is the largest and most Anglican in appearance in the Province. The Indians are very musical, and have a brass band, and in almost every other house is an organ. The church organist is an Indian. Metlakahtla is situated on the great Tsimpsean Peninsula, inhabited by the once mighty Tsimpsean nation of Indians, of whom those at Metlakahtla and Fort Simpson are notable examples.

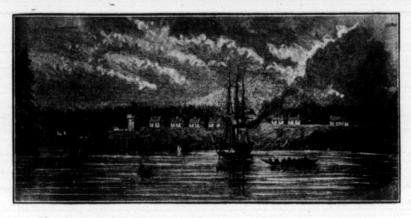
A few miles farther north, the chief of the Hudson's Bay Company's trading posts, is a populous Indian village, situated on an excellent harbour, which was once also an aspirant as a terminus of the C.P.R. by way of the Forks of the Skeena. Even here there was an incipient boom in town lots, looking in the direction of another railway. The Hudson's Bay Company have a large store here, where anything can be procured, from a needle to the latest pattern Winchester rifle. There is also a wharf, about a quarter of a mile long, and a warehouse at the extremity. The harbour here affords excel-

warehouse at the extremity. The harbour here affords excellent anchorage at any depth up to thirty fathoms, with good mud and sand bottom. The rise and fall of the tide is from eighteen to twenty feet, and on this account considerable of the shore is dry at low-water tide. The Metlakahtla Indians are first cousins to the Fort Simpsons, with whom they intermarry. The latter, however, are Methodists. They have a church, two school houses, a fire hall, two stories with a tower, a two-story drill hall, a sash and door factory, a shingle mill, worked by water power, a turning mill, worked by water power, a boys' home, a girls' home, also an excellent mission house, and a hospital. They have also an excellent brass band.

Bidding good-bye to Fort Simpson, we sail past the mouth of the Naas

Bidding good-bye to Fort Simpson, we sail past the mouth of the Naas River, where there are several canneries and imposing views, across Chatham Strait, around Cape Fox, into Dixon's entrance and into Alaska. On the way up we sail by Tongas Islands, the home of the Tongas Indians. In Tongas is where Mr. Duncan has established his celebrated mission. New Metlakahtla. On the

Mr. Duncan has established his celebrated mission, New Metlakahtla. On the way up we visit Sitka and Juneau, and circle around among numerous channels, and enter several noted glacier bays. This is the land of the midnight sun, and a great attraction to American tourists. However, for diversity of scenery, for beauty, and for interest, apart from icebergs and glaciers, it contains nothing which will outrival, or, some might even say, compare with the route just passed over, wholly in British Columbia waters and in Canadian territory. Here ends the journey and the homeward trip is made.



NANAIMO IN 1860.

MAMMALS OF BRITISH COLUMBIA.

THE following list was taken from the Bulletin of the Natural History Society of British Columbia, and was prepared by Mr. Fannin, Curator of the Provincial Museum, and is consequently authentic. No comprehensive check list of the mammals of North America has ever been published, and the following is the careful work of the best authority in British Columbia in this line.

From a sportsman's point of view this Province is decidedly an interesting field as well as a very rich and wide one possessing as it does many varieties of game and presenting by reason of its extent and rugged exterior those physical obstacles to success which are the real

stimuli to the true sportsman. Notwithstanding the somewhat stringent game laws which have existed there has been an indiscriminate and wasteful destruction of, especially, big game. Owing to wide extent of practically unorganized territory with sparse population and the number of Indians, who slaughter for the heads and hides, the law is difficult of enforcement.

One element of protection exists in the fact that the rugged and mountainous interior affords a retreat for game which only the most adventurous sportsman can hope at times to reach. Mining development will tend to dispersion, but it may be safely premised that it will be many, many years to come before prospector and miner, to whom no spot on earth may be said to be sacred or inaccessible, will have dislodged it.

CHECK LIST.

American Elk, "wapiti" (Cervus Canadensis)—At one time distributed over the southern portion of the mainland, now extinct there. Still tolerably abundant on Vancouver Island chiefly through the Interior, West Coast, Comox District and to the northward.

Woodland Cariboo (Ranifer caribou)—Through the interior of the mainland from the Columbia River to the northern limits of the Province. Abundant in many places throughout this range.

Moose. (Alce americanus.)—Confined almost entirely to the Arctic slope of the Province, Peace River and Cassiar.

Black-Tailed Deer. (Cariacus columbianus.)—West of the Cascades from Washington to Alaska, including all the larger islands except the Queen Charlotte group. Abundant.

Mule Deer. (C. macrotis.)—Mainland, east of and including the Cascade Mountains from Kootenay to Chilcotin, and ranging into the wooded portions of the Cariboo district. Very abundant.

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White-Tailed Deer. "Common Deer." (C. virginianus.))-Confined to the southern portion of the Province, east of the Cascades. Okanagan and Kootenay.

Antelone Goat. "White Goat." (Mazama montana.)—Found on nearly all the mountains of the mainland, its abundance centering along the summit of the Coast range. Very abundant.

Bighorn. "Mountain Sheep." (Ovis canadensis.)-The mountains of the mailand, except the Coast range, from Kootenay to Cassiar, Similkameen, Bridge River and Chilcotin. Abundant.

Flying Squirrel. (Sciuropteris oregonensis.)—The mainland at large. Nowhere common.

Richardson's Chickaree, "Squirrel." (Sciurus Hudsonius Rrichardsoni.) Interior of the mainland. Abundant.

Douglass' Chickaree. (S. Hudsonius Douglassi.)—Mainland west of the Cas-Common.

Vancouver Chickaree. (S. Hudsonius Vancouverensis.)-Vancouver Island.

Townsend's Chipmunk. (Tamias Townsendii.)-Vancouver Island, and the mainland west of the Cascades.

Columbia Chipmunk. (Tamias quadrivittatus affinis.)—The mainland east

of the Cascades. Parry's Marmot. (Spermophilus.)-Southern portion of the mainland east

of the Cascades. Hoary Marmot. (Arctomys caligatus.)-The mainland and Island. Abun-

Sewellel. "Showl't." (Aplodontia rufa.)—From the Hope Mountains

through the interior to the Rocky Mountains.

Beaver. (Castor fiber.)—At one time distributed throughout the greater portion of the Province, now fast disappearing, except in the unsettled districts, where it is still fairly abundant. Not uncommon on Vancouver Island.

Musk Rat. (Fiber zibethicus.)—Mainland east and west of Cascades. Tol-

erably common.
Western Porcupine. (Erethizon epixanthus.)—The mainland at large. Tolerably common.

Little Chief Hare. (Lagomys princeps.)-The mainland chiefly in the in-

terior. Abundant.
Northern Hare. (Lepus americanus.)—Interior of the mainland and northward to the boundaries of the Province. Abundant.

Western Varying Hare. (L. Americanus Washingtoni.)-West of the Cascades.

Oregon Gopher. (Thomomys talpoides Douglassi.)-Southern portion of

the mainland east of the Cascades.

Panther, "Puma," "Mountain Lion," "Cougar." (Felis concolor.)—This animal is said to range as far north as the 60th degree, but there is no record of its occurrence in British Columbia above the 52nd degree. It is very rare anywhere in the interior of the mainland. It is tolerably common west of the Cascades, but its centre of abundance seems to be on Vancouver Island, where it appears to hold its own notwithstanding the numbers killed annually.

Canada Lynx. (Lynx canadensis.)—The mainland at large. Abundant in northern portions of the Province. Rare on the coast.

Red Cat. "Wild Cat." (L. fasciatus.)—The mainland west of the Cascades.

Tolerably common. Gray Wolf. (Canis occidentalis.)—The Province at large. Common along the coast and some portions of Vancouver Island. A black variety of this animal is also found both on the island and mainland.

Cayote. "Prairie Wolf." (C. latrans.)—Open country east of the Cascades.

Tolerably common. Red Fox. (Vulpes fulvus.)—With its colour phases, "Black," Silver Gray," and "Cross." The mainland east of the Cascades and ranging northward to the boundaries of the Province. Nowhere abundant.

Black Bear. (Ursus americanus.)—Common along the coast and throughout the wooded districts of the mainland, Vancouver and Queen Charlotte Islands.

Grizzly Bear. (Ursus horribilis.)—Confined to the mainland, where it ranges sparingly over its entire length and breadth. It is probably more abundant on the north-west coast than anywhere in the interior

dant on the north-west coast than anywhere in the interior.

Raccoon. (Procyon lotor.)—The Province west of the Cascades, including

Vancouver Island and most of the larger islands. Abundant.

Land Otter. (Lutra canadensis.)—Vancouver Island and the mainland. Chiefly coastwise.

Skunk. (Mephitis.)—The mainland at large. Common.

Little Striped Skunk. (Spilogale phenax latifrons.)—The mainland west of the Cascades. Very abundant on the coast.

Mink. (Lutreola vison.)—Vancouver Island and the mainland. Abundant. Weasel. (Putorius erminea)—Mainland at large. Tolerably common.

California Bat. (Vespertilio nitidus.)—Vancouver Island and the coast of the mainland.

Martin. (Mustela caurina.)—The Province at large including Vancouver and some of the larger islands.

Fisher. (Mustela pennantii.)—Found throughout the greater portion of the mainland.

Wolverine. (Gulo luscus.)—Irregular through the interior of the mainland. Also along the northern coast and Vancouver Island.

Sea Otter, (Enhydris lutris.)-West coast of Vancouver and Queen Char-

lotte Islands.

Fur Seal. (Callorhinus ursinus.)—Ranges along the Pacific Coast into the Behring Sea and Northern Pacific Ocean, in the islands of which it has its breeding places or rookeries.

Hair Seal. (Phoea vitulena.)—Common in all the waters of the coast. Of

little commercial value.

Sea Lion. (Eumetopias Stelleri.)—Found commonly in the northern waters

within the Arctic Circle.

English rabbits and hares have been introduced, but do not apparently thrive. So far they give no evidence of multiplying with that rapidity which followed their transplanting in the Australasian colonies, or indeed of multiplying at all.

NOTE.—It is not claimed that the foregoing is by any means complete as regards the smaller mammals, concerning which there is probably much yet to be known.



HUNTING BIG HORN ON ASHNOLA MOUNTAINS.

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BIRDS OF BRITISH COLUMBIA.

To the ordinary lay reader, apart from those varieties which afford sport as game, a check list of birds will be rather uninteresting, more especially as the scientific nomenclature must be a conspicuous feature. It is however, inserted for the purpose of reference for those who may desire to consult it. It is practically a complete list, revised and corrected to date. The list is reproduced from the one prepared by Mr. Fannin, the Curator of the Provincial Museum, and published by the Government. Biologically, of course,

the animals of B.C. differ from the same varieties in other parts of the world in the measure that local conditions have affected their development, and the differentiation in many irstances is marked. Speaking generally, it may be said that things are on a larger scale on the western than on the eastern slope of North America—higher mountains, larger trees, bigger animals. Compared with similar latitudes, the environments, perhaps, are more favourable to growth.

With reference particularly to birds, though it may be questioned to what extent plumage is affected by local conditions, the distinction is noted that the forms are larger and darker than in the east. The humidity of climate and the density of forest no doubt account for the fact. One special feature may be noted, and the circumstances referred to are quite consistent, and that is the absence of singing birds. There are comparatively few native songsters. An effort is being made to introduce foreign varieties, and as the country is opened up and cultivated conditions will become more favourable. Few forms of bird life are to be met with in the deep woods, these being mainly found in the open stretches on the Coast and throughout the Interior.

As might be anticipated from the irregular and deeply indented sea-coast and the extent of streams and lakes throughout the Province, there are numerous water-fowls. There are no native pheasants, but the one variety introduced from

Pheasants, China (Phasianus torquatus) has thriven and is quite abundant in the southern end of Vancouver Island. They have, however, many enemies besides man, the worst of which is the owl. During the latter part of 1896 and early in the present year owls were unusually abundant, having probably been driven from the north by the early severe cold.

GREBES.

Western Grebe. (Æchmophorus occidentalis.)—An abundant resident throughout the Province. Breeds round the lakes of the interior of the Mainland. A winter resident along the coast.

Holbæll's Grebe, "Red-necked Grebe." (Colymbus holbællii.)—The Province at large. A winter resident along the coast.

Horned Grebe. (C. auritus.)—A winter resident on the coast. Breeds in the north.

American Eared Grebe. (C. nigricollis californicus.)—An abundant resi-

dent. Winters on the coast. Breeds in the interior.

Pied-billed Grebe. (Podilymbus podiceps.)—A resident. Breeds both on the Mainland and Island.

LOONS.

Loon, "Great Northern Diver." (Urinator imber.)—The Province at large. An abundant resident.

Black-throated Loon. (U. Arcticus.)-Not common.

Pacific Loon. (U. pacificus.)—The coast of the Mainland and Island.

Red-throated Loon. (U. lumme.)—Rare.

AUKS, MURRES, AND PUFFINS, ETC.

Tufted Puffin. (Lunda cirrhata.)—Tolerably common along the coast. Breeds on the islands of the Gulf.

Cassin's Auklet. (Ptychorampus aleuticus.)—West coast of Vancouver Island.

Ancient Murrelet. (Synthliboramphus antiquus.)—One specimen taken at Cape Beale.

Marbled Murrelet. (Brachyramphus marmoratus.)—An abundant resident along the coast. Breeds.

Pigeon Guillemot. (Cepphus columba.)—An abundant resident from Race Rocks to Alaska.

California Murre. (Uria troile californica.)—The same distribution as last species, but not nearly so abundant.

GULLS AND TERNS.

Ivory Gull. (Gavia alba.)—One specimen taken at Dease Lake.

Glacous-winged Gull. (Larus glaucescens.)—An abundant resident. Breeds on the islands.

Western Gull. (L. occidentalis.)—A resident. Very abundant on the coast during winter months. Breeds in the interior and probably also on the coast.

American Herring Gull. (L. argentatus smithsonianus.)—An abundant resident. Breeds on the coast and interior of the Mainland.

California Gull. (L. californicus.)—An abundant resident. Breeds in the interior.

Ring-billed Gull. (L. delawarensis.)—A winter resident on the coast. Breeds in the interior to the northward.

Short-billed Gull, "Mew gull." (L. brachyrhynchus.)—A winter resident on the coast.

Heermann's Gull. (L. heermanni.)-Not common. Breeds.

Bonaparte's Gull. (L. philadelphia.)—Distributed throughout the length and breadth of the Province, and an abundant resident. Summers in the interior.

Arctic Tern. (Sterna paradisæa.)—Only recorded from Dease Lake.

American Black Tern. (Hydrochelidon nigra surinamensis.)—Taken at

Burrard Inlet and Shuswap Lake.

ALBATROSSES.

Black-footed Albatross. (Diomedea nigripes.)—From coast of California to Alaska. There is no record of this bird on the B. C. coast.

Short-tailed Albatross. (D. albatrus.)—Tolerably common on both coasts of Vancouver Island.

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PETRELS.

Pacific Fulmar. (Fulmarus glacialis glupischa.)—Taken at Chemainus.

Slender-billed Shearwater. (Puffinus tenuirostris.)—One specimen taken

off Albert Head

Forked-tail Petrel. (Oceanodroma furcata.)—A winter resident along both coasts of Vancouver Island.

Leach's Petrel. (O. leucorhoa.)—Confined to the west coast of Vancouver Island.

CORMORANTS.

White-crested Cormorant. (Phalacrocorax dilophus cincinatus.)—From Race Rocks to Alaska, all along the coast. Tolerably common.

Violet-green Cormorant. (P. pelagicus robustus.)—An abundant resident.

PELICANS.

American White Pelican. (Pelecanus erythrorhynchos.)—Not common. Said to breed in the Chilcotin country.

California Brown Pelican. (P. californicus.)-Not common.

GROUSE.

The grouse family is well represented and is widely distributed.

Canadian Ruffed Grouse. (Bonasa umbellus togata.)—East of and including Cascades, abundant; Gray Ruffed (Umbelloides), Rocky Mountain District; Oregon Ruffed Grouse* (B. umbellicus sabini), abundant west of Cascades).

"Blue Grouse," Sooty Grouse (Dendragapus obscurus fuliginosus), abundant west of the Cascades; Richardson's Grouse (Richardsonii), abundant east of Cascades.

Franklin's Grouse, "Fool Hen." (D. franklinii.)—Abundant resident throughout wooded interior.

Willow Ptarmigan (Lagopus lagopus), Dease Lake; Rock Ptarmigan (L. rupestris), summits most of the mountains, abundant; White-tailed Ptarmigan (L. leucurus), summits mountains Mainland, except Coast Range.

Columbia Sharp-tailed Grouse, "Prairie Chicken." (Pediocætes phasianellus columbianus.)—Abundant east of the Cascades.

Mountain Partridge, "Quail." (Oreortyx pictus).—Common on Vancouver Island, introduced from California; California Partridge (C. californica), on Vancouver Island, also from California.

The Sage Grouse (Centrocercus urophasianus) has been taken at Osoyoos Lake, but considered accidental.

DUCKS.

Of these birds there are numerous representatives, about twenty-six species being noted.

American Merganser (Merganser Americanus) generally distributed but not common; red-breasted (M. serrator) and hooded (Lophodytes cucullatus) both abundant residents.

^{*}This Grouse is locally known as "Willow Grouse."

River Ducks-Mallard (Anos boschas), widely distributed and abundant; blue-winged teal (A. discors) rare; cinnamon (A. cynanoptera) rare; green winged (A. carolinensis, very abundant; gadwall, "gray duck" (A. strepera), rare; American widgeon "bald pate" (A. Americana); shoveller "broadbill" (Spatula clypeata), abundant Mainland east of Cascades; pintail, "sprigtail" (Dafila acuta), abundant; wood-duck (Aix sponsa), summer resident, not common; redhead "pochard" (Aythya Americana), not common; canvas-back (A. Vallisneria), nowhere abundant; American scaup duck "blue bill" (A. marila nearctica), abundant resident; lesser scaup duck (A. affinis) not common. Ring-necked duck (A. collaris), not common; American golden-eye (Glaucionetta clangula Americana), abundant; Barrrow's golden-eye (G. islandica), abundant; buffle-head "butter ball" (Charitonetta Albeola), very abundant; Old Squaw "long-tailed duck" (Clangula hyemalis), abundant resident on the coast; harlequin duck (H. histrionicus,) breeds abundantly on the coast; American scoter (Oidemia Americana), rare; white-winged scoter (O. deglandi), abundant resident; surf scoter, (O. perspicillata), abundant resident of coast waters; ruddy duck (Erismatura rubida), common in interior.

GEESE.

Lesser Snow Goose (Chen hyperborea)—A winter resident on the coast. Tolerably abundant.

Ross's Snow Goose (Chen rossii)-Occurrence rare.

American White-fronted Goose (Anser albifrons gambeli)-An abundant resident. Breeds both on the Island and Mainland.

Canada Goose (B. canadensis)-A very abundant resident. Breeds through-

out the interior of the Mainland.

Hutchin's Goose (B. canadensis hutchinsii)-A resident. Tolerably abundant on the coast.

White-cheeked Goose (B. canadensis occidentalis)—Taken at Chilliwhack. Cackling Goose (B. canadensis minima)—A winter resident along the coast. Black Brant (B. nigricans)—An abundant winter resident along the coasts of Island and Mainland. Breeds in the far north.

SWANS.

Whistling Swan (Orlor columbianus)-A winter resident in the southern portions of the Province, and very abundant in summer in some portions of the Mainland interior.

Trumpeter Swan (O. buccinator)-Seen in Cassiar, where it appears to be not uncommon.

HERONS, IBISES, ETC.

White-faced Glossy Ibis (Plegadis guarauna)—Only two specimens taken in the Province.

BITTERNS.

American Bittern "Stakedriver" (Botaurus lentiginosus)—Common throughout the Province. Breeds east and west of Cascades.

Great Blue Heron (Ardea herodias)—Abundant throughout the Province. Snowy Heron (A. candidissima)—Rare.

CRANES, RAILS, ETC.

Little Brown Crane (Grus canadensis)—B.C. at large, especially in the interior of the Mainland.

Sandhill Crane (G. mexicana)—B.C. at large. Tolerably abundant.

Virginia Rail (Rallus virginianus)-Mainland and Island. Not common.

Carolina Rail "Sora" (Porzana carolina)-Mainland and Island. Common east of Cascades. Breeds.

American Coote (Fulica-Americana)—An abundant resident.

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PHALAROPES.

Red Phalarope (Crymophilus fulicarius)—Chilliwhack and Burrard Inlet. Northern Phalarope (Phalaropus lobatus)-Abundant along the coast. Wilson's Phalarope (P. tricolour)-Taken at Chilliwhack.

SNIPES, SANDPIPERS, ETC.

Wilson's Snipe (Gallinago delicata)-Island and Mainland. Tolerably abundant. Resident. Breeds in the interior of Mainland.

Long-billed Dowitcher "Red-breasted snipe" (Macrorhamphus scolopaceus)

-Tolerably abundant. Island and Mainland. Breeds in the interior.

Knot "Robin Snipe" (Tringa canutus)—Abundant during migrations, along the coast.

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Pectoral Sandpiper (T. maculata)—Not common. Baird's Sandpiper (T. bairdii)—Chilliwhack. Least Sandpiper (T. minutilla)—Abundant along the coast during fall and spring migrations.

Red-backed Sandpiper (T. alpina pacifica)—A very abundant resident on the coast.

Semipalmated Sandpiper (Ereunetes pusillus)—East of Cascades.

Western Sandpiper (E. occidentalis)-An abundant resident Sanderling (Calidris arenaria)—Taken at Fort Simpson.

Marbled Godwit (Limosa fedoa)-The whole of British Columbia. Breeds chiefly east of Cascades.

Greater Yellow legs (Totanus melanoleucus)-An abundant resident along the coast during winter.

Yellow-legs (T. flavipes)-Tolerably common.

Solitary Sandpiper (T. solitarius)-Found throughout the Province. Nowhere common.

Cinnamon Solitary Sandpiper (T. solitarius cinnamomeus)-Summer resident in the interior.

Wandering Tatler (Heteractitis incanus)—The Province at large. tolerably common.

Buff-breasted Sandpiper (Tryngites subroficollis)—Tolerably common. Resident.

Spotted Sandpiper (Actitis macularia)—The Province at large. Nowhere common.

Long-billed Curlew (Numenius longirostris)—Breeds at Okanagan, Similkameen.

Hudsonian Curlew (N. hudsonicus)—Taken at Fort Simpson and Cadboro Bay.

PLOVERS.

Black-bellied Plover (Charadrius squatarola)-Abundant, during migrations, around Victoria.

American Golden Plover (C. dominicus)-A common summer resident throughout the Province.

Killdeer Plover (Ægialitis vocifera)-Occurs throughout the Province. Semipalmated Plover (Æ. semipalmata)—Not common.

SURF BIRDS AND TURNSTONES.

Surf Bird (Aphriza virgata)—The coast line of the Province.
Turnstone (Arenaria interpres)—The coast line.

Black Turnstone (A. melanocephala)—The coast line. Tolerably common. Breeds.

THE OYSTER CATCHERS.

Black Oyster-catcher (Hæmatopus bachmani)—An abundant resident along the coast.

PIGEONS.

Band-tailed Pigeon (Columba fasciata)—Irregularly through the southern portions of the Province. Summer resident. Tolerably common.

Mourning Dove (Zenaidura macoura)—Mainland and Island. Nowhere

AMERICAN VULTURES.

California Vulture (Pseudogryphus californianus)-Probably accidental

Turkey Vulture (Cathartes aura)—Distributed throughout the Province, but nowhere common.

FALCONS, HAWKS, EAGLES, ETC.

Marsh Hawk (Circus hudsonius)—Abundant chiefly on the Mainland east and west of the Cascades.

Sharp-shinned Hawk (Aipiter velox)-Abundant, chiefly west of the Cas-

Cooper's Hawk (A. cooperi)—Rare.

Western Goshawk (A. atricapillus striatulus)-Tolerably common throughout Province, especially west of the Cascades.

Western Red-tailed Hawk (Buteo borealis calurus)—Very abundant. East and west of the Cascades.

Red-breasted Hawk (B. lineatus elegans)-Not very common.

Swainson's Hawk (B. swainsoni)—Island and Mainland.

American Rough-legged Hawk (Archibuteo lagopus sancti-johannis)—
Taken at Burrard Inlet and at Chilliwhack. Rare.

Golden Eagle (Aquila chryaetos)—The whole of British Columbia, but chiefly east of the Cascades.

Bald Eagle (Haliæetus leucocephalus)-The Province at large. A resident.

The most abundant bird of prey we have, especially along the coast.

Prairie Falcon (Falco Mexicanus)—Taken at Chilliwhack.

Duck Hawk (F. peregrinus anatum)-Tolerably common east and west of the Cascades.

Peale's Falcon (F. peregrinus pealei)—Not common.
Pigeon Hawk (F. columbarius)—Common east and west of the Cascades. Black Merlin (F. columbarius suckleyi)-A common summer resident along the coast.

Richardson's Merlin (F. richardsonii)-Not common.

American Sparrow Hawk (F. sparverius)-Distributed throughout the Pro-

vince. Very abundant. Breeds.

American Osprey "Fish Hawk" (Pandion haliaetus carolinensis)—An abundant summer resident throughout the Province. Breeds.

OWLS.

American Long-eared Owl (Asio wilsonianus)-Rare.

Short-eared Owl (A. accipitrinus)—Abundant, Island and Mainland. Great Gray Owl (Scotiaptex cinereum)—Rare. Saw-whet Owl (Nyctala acadica)—Not common.

Kennicott's Screech Owl (Megascops asio kennicottii)-An abundant resident throughout the Province.

Western Horned Owl (Bubo virginianus subarcticus)—Abundant resident throughout the Province.

Dusky Horned Owl (B. virginianus saturatus)-Abundant west of the Cas-

Snowy Owl (Nyctea nyctea)-Resident northern portions of the Province. American Hawk Owl (Surnia ulula caparoch)—A resident east of Cascades. Breeds valley of the Similkameen.

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Burrowing Owl (Speotyto cunicularia hypogæa)—East of Cascades. Not common.

Pygmy Owl (Glaucidium gnoma)-Common throughout the Province.

CUCKOOS.

California Cuckoo (Coccyzus americanus occidentalis)-Rare summer residents.

THE KINGFISHERS.

Belted Kingfisher (Ceryle Alcyon)—An abundant resident.

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WOODPECKERS.

Northern Hairy Woodpecker (Dryobates villosus leucomelas)-Eastern Cascades and Rocky Mountains. Common resident.

Harris's Woodpecker (D. villosus harrisii)-West of Cascades. A common resident.

Gairdner's Woodpecker (D. pubescens gairdnerii)-A common resident west of Cascades.

Batchelder's Woodpecker (D. pubescens oreœcus)-Very common throughout the interior.

White-headed Woodpecker (Xenopicus albolarvatus)—Cascade Mountains. Arctic Three-toed Woodpecker (Picoides arcticus)-East of and including the Cascades. Resident.

Alpine Three-toed Woodpecker (P. americanus dorsalis)-Mountains east of Cascades. North to Cassiar.

Red-naped Sapsucker (Sphyrapicus varius nuchalis)-Common east of the

Red-breasted Sapsucker (S. ruber)—East and west of Cascades. Common.

Williamson's Sapsucker (S. thyroideus)—Taken at Similkameen. Pileated Woodpecker (Ceophlœus pileatus)—Common.
Lewis's Woodpecker (Melanerpes torquatus)—East and west of Cascades.
Flicker "Higholder" (Colaptes auratus)—Vancouver Island and Mainland.

Very rare.

Red-shafted Flicker (Colaptes cafer)—East of Cascades. Common. Northwestern Flicker (C. cafer saturatior)-West of Cascades.

GOATSUCKERS.

Nighthawk (Chordeiles virginianus)-East of Cascades. Summer resident. Western Nighthawk (C. virginianus henryi)-West of Cascades. A summer resident.

Black Swift (Cypseloides niger)—A migrant. Vaux's Swift (Chætura vauxii)-East and west of Cascades, not on Vancouver Island.

HUMMINGBIRDS.

Black-chinned Hummingbird (Trochilus Alexandri)-Mainland; both slopes of the Cascades.

Rufous Hummingbird (T. rufus)-West of Cascades. An abundant summer resident.

Allen's Hummingbird (T. Alleni)-Eastern Cascade and Rocky Mountains. Calliope Hummingbird (T. calliope)—East and west of Cascades.

TYRANT FLYCATCHERS.

Kingbird (T. tyrannus)—East and west of Cascades. Gray Kingbird (T. dominicensis)—One specimen taken at Cape Beale. Arkansas Kingbird (T. verticalis)—East and west of Cascades, chiefly Mainland.

Say's Phœbe (Sayornis saya)—Ditto. Olive-sided Flycatcher (Contopus borealis)—Ditto. Western Wood Pewee (C. richardsonii)—Ditto. Western Flycatcher (Empidonax difficilis)—Ditto.

Trail's Flycatcher (E. pusillus trailii)-New Westminster, Mt. Lehman, and

Hammond's Flycatcher (E. hammondi)-Chiefly on the Mainland, east and west of the Cascades. Summer resident.

Wright's Flycatcher (E. Wrightii)—Taken at Chilliwhack. Summer resi-

LARKS.

Pallid Horned Lark (Otocoris alpestris leucolæma)—In and east of Cascades. Streaked Horned Lark (O. alpestris strigata)-West of Cascades. Nowhere

Dusky Horned Lark (O. alpestris merrillii)-Chiefly east of Cascades.

CROWS, JAYS, MAGPIES, ETC.

American Magpie (P. pica hudsonica)—An abundant resident. Breeds east of Cascades.

Steller's Jay (Cyanocitta stelleri)—In abundant resident. Breeds on Island and Mainland.

Black-headed Jay (C. stelleri annictens)—East of Cascade and Rocky

Mountain districts.
Oregon Jay "Whiskey Jack," "Lingson's Bay Bird" (Perisoreus obscurus)—

Northern Raven (Corvus corax principalis)-A resident throughout the Province.

Northwest Crow (C. caurinus)—Chiefly west of Cascades. Very abundant on coast. Resident.

Clarke's Nutcracker "Clarke's crow" (Picicorvus columbianus)-A common resident east of Cascades. West, but rarely, Vancouver Island.

BLACKBIRDS, ORIOLES, ETC.

Cowbird (Molothrus ater)—Similkameen. Yellow-headed Blackbird (X. xanthocephalus)—A rare summer resident. On Mainland, chiefly east of Cascades. Red-winged Blackbird (Agelaius phæniceus)—Chiefly west of Cascades.

Breeds on Vancouver Island. Common. Western Meadowlark (Sturnella magna neglecta)-East and west of Cascades. Abundant. Winters on Vancouver Island.

Bullock's Oriole (Icterus bullocki)—East of Cascades only. A rare summer resident.

Brewer's Blackbird (Scolecophagus cyanocephalus)-East and west of Cas-Breeds.

FINCHES, SPARROWS, ETC.

Western Evening Grosbeak (Coccothraustes vespertinus montanus)—East

of Cascades, straggling west to Vancouver Island.

American Pine Grosbeak (Pinicola enucleator canadensis)—East and west of Cascades, except Vancouver Island.

California Purple Finch (Carpodacus purpureus californicus)-An abundant summer resident, chiefly west of Cascades. Breeds.

Cassin's Purple Finch (C. cassini)—East and west of Cascades. Tolerably

American Crossbill (Loxia curvirostra minor)-An abundant resident. White-winged Crossbill (L. leucoptera)-Mainland and Island.

Gray-crowned Leucosticte (Leucosticte tephrocotis)-Rocky Mountain district.

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Hepburn's Leucosticte "Gray-crowned Finch" (Tephrocotis littoralis)— From the coast to the Rocky Mountains.

Redpoll (Acanthis linaria)—The Province at large.

American Goldfinch (Spinus tristis)-Chiefly Mainland. Both slopes of the Cascades and Rocky Mountain districts.

Pine Siskin, "Pine Linnet" (S. pinus)-The Province at large. An abund-

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Snowflake (Plectrophenax nivalis)—An abundant resident.

Lapland Longspur (Calcarius lapponicus)—The Province at large. where common.

Macown's Longspur (Rhynchophanes macownii)-Chilliwack.

Vesper Sparrow (Poocætes gramineus)-East of Cascades. Abundant sum-

Western Vesper Sparrow, "Bay-winged Bunting." (P. gramineus confinis)

-Chiefly west of Cascades. Vancouver Island.

Sandwich Sparrow (Ammodramus sandwichensis)-An abundant summer resident west of Cascades.

Western Savana Sparrow (A. sandwichensis alaudinus)-Summer resident on the coast.

Intermediate Sparrow (Zonotrichia intermedia)-Very common east of Cas-

Gambel's Sparrow (Z. gambeli)—West of Cascades, especially on the coast. Golden-crowned Sparrow (Z. coronata)—An abundant summer resident. Western Tree Sparrow (Spizella monticola ochracea)—Chilliwack.

Western Chipping Sparrow (S. socialis arizonæ)-An abundant summer

resident east and west of Cascades.

Brewer's Sparrow (S. breweri)-Eastern Cascades and Rocky Mountain districts

Slate-Coloured Junco (Junco hyemalis)—Chilliwack. Oregon Junco, "Snow-bird." (J. hyemalis oregonus)—An abundant resident west of the Cascades.

Rocky Mountain Junco (J. hyemalis shufeldti)—East of the Cascades.

Rusty Song Sparrow (Melospiza fasciata guttata)-An abundant resident, Vancouver Island. chiefly coast.

Sooty Song Sparrow (M. fasciata rufina)—An abundant resident, coast of Mainland.

Lincoln's Sparrow (M. lincolni)—East and west of Cascades.

Forbush's Finch (M. lincolni striata)—A doubtful species. Townsend's Sparrow (Passerella iliaca unalaschcensis)-West of the Cas-

Common summer resident on Vancouver Island.

Spurred Towhee (Pipilo maculatus megalonyx)—East of Cascades.

Oregon Towhee (P. maculatus oregonus)—Abundant west of the Cascades. Black-headed Grosbeak (Habia melanocephala)-Summer resident east and west of Cascades.

Lazuli Bunting (Passerina amœna)—Abundant summer resident, chiefly east

of Cascades.

Louisiana Tanager (Piranga ludoviciana)—An abundant summer resident. Breeds on the Island and Mainland.

SWALLOWS.

Purple Martin (Progne subis)-A common summer resident, chiefly west of Cascades.

Cliff Swallow (Petrochelidon lunifrons)—East of the Cascades, where in

some localities it is very abundant. Barn Swallow (Chelidon erythrogaster)-Abundant summer resident

throughout the Province. White-bellied Swallow (Tachycineta bicolor)—Province at large. Abundant. Violet-green Swallow (T. thalassina)—Abundant summer resident through-

out the Province.

Rough-winged Swallow ((Stelgidopteryx serripennis)-Common all over the Province.

WAXWINGS.

Bohemian Waxwing (Ampelis garrulus)—Chiefly east of Cascades and Rocky Mountain districts.

Cedar Bird (A. cedrorum)—A common summer resident.

SHRIKES.

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Northern Shrike, "Butcherbird" (Lanius borealis)—Province at large. No-

White-rumped Shrike (L. ludovicianus excubitorides)—Chilliwack and Vancouver Island.

VIREOS.

Red-eyed Vireo (Vireo olivaceus)—East of the Cascades and at Chilliwack. Warbling Vireo (V. gilvus)—East and west of Cascades. Common summer resident.

Western Warbling Vireo (V. gilvus swainsoni)—Coast to the Rocky Mountains.

Cassin's Vireo (V. solitarius cassinii)—East and west of Cascades only. Plumbeous Vireo (V. solitarius plumbeus)—Chilliwack.

WOOD WARBLERS.

All the warblers are summer residents.

Orange-crowned Warbler (Helminthophila celata)—East and west of Cascades.

Lutescent Warbler (H. celata lutescens)—Chiefly west of the Cascades. Abundant.

Yellow Warbler (Dendroica æstiva)—East and west of Cascades. Abundant. Myrtle Warbler (D. coronata)—Abundant, chiefly west of the Cascades. Audubon's Warbler (D. auduboni)—Very abundant over the Province. Black-throated Gray Warbler (D. nigrescens)—Not common.

Townsend's Warbler (D. townsendi)—East and west of Cascades. Not

Hermit Warbler, "Western Warbler" (D. occidentalis)—Chiefly west of Casades.

Grinnell's Water-thrush (Seiurus noveboracensis notabilis)—Taken at Duck's.

Macgillivray's Warbler (Geothlypis macgillivrayi)—Throughout the greater portion of the Province: Breeds on Vancouver Island.

Western Yellow-throat (G. trichas occidentalis)—Throughout the Province. Pileolated Warbler (Sylvania pusilla pileolata)—Chiefly west of the Cascades. American Redstart (Setophaga ruticilla)—Southern portions of the Province and interior as far as Barkerville. Nowhere common.

WAGTAILS AND PIPITS.

American Pipit (Anthus pensilvanicus)--East and west of Cascades. Abundant.

DIPPERS.

American Dipper, "Water Ouzel" (Cinclus mexicanus)—Mountain streams in the Province.

WRENS.

Catbird (Galeoscoptes carolinensis)—Common east and west of Cascades. Summer resident.

Rock Wren (Salpinctes obsoletus)—Rare on the coast. Common east of the Cascades.

Vigor's Wren (Thryothorus bewickii spilurus)—A summer resident, chiefly west of the Cascades. A fine songster.

Parkman's Wren (Troglodytes aëdon parkmanii)—Summer resident east and west of the Cascades.

Western Winter Wren (T. hiemalis pacificus)-Chiefly on the coast, Abundant.

Tule Wren (Cistothorus palustris paludicola)—East of the Cascades. Abundant.

CREEPERS.

California Creeper (Certhia familiaris occidentalis)-East and west of the Cascades. NUTHATCHES AND TITS.

Slender-billed Nuthatch (Sitta carolinensis aculeata)—Common east of Cascades

Red-breasted Nuthatch (S. canadensis)—Common east and west of Cascades. Pygmy Nuthatch (S. pygmæa)—East of Cascades.

Mountain Chickadee (Parus gambeli)-Wooded hills east of Cascades, and Rocky Mountain district.

Oregon Chickadee (P. atricapillus occidentalis)—Common west of Cascades. Long-tailed Chickadee (P. atricapillus septentrionalis)-Common on the wooded hills east of Cascades.

Chestnut-backed Chickadee (P. rufescens)—Common west of Cascades.

WARBLERS, KINGLETS.

Western Golden-crowned Kinglet (Regulus satrapa olivaceus)-Abundant Western Cascade district. Ruby-crowned Kinglet (R. calendula)—Ditto.

THRUSHES, SOLITAIRES, AND BLUEBIRDS.

Townsend's Solitaire (Myadestes townsendii)-A rare bird, east and west of Cascades.

Willow Thrush (Turdus fuscescens salicicohas)—Common east of Cascades. Summer resident.

Russet-backed Thrush (T. ustulatus)-A common summer resident west of Cascades, as far north as Dease Lake, Cassiar.

Dwarf Hermit Thrush (T. aonalaschkæ)—West of Cascades, chiefly coast-

Western Robin (Merula migratoria propinqua)-Abundant throughout the Province.

Varied Thrush, "Swamp Robin" (Hesperocichla nævia)-Common west of Cascades.

Western Bluebird (Sialia mexicana)—Common summer resident east and west of Cascades.

Mountain Bluebird (S. arctica)-A summer resident east of Cascades and Rocky Mountain districts, west occasionally.

ADDITIONS TO THE LIST OF 1891.

Horned Puffin (Fratercula cornicutata)-Q. C. I. Pacific Kittiwake (Rissa tridactyla)-Q. C. I. Common Tern (Sterna hirunda)-Saanich.

Black-vented Shearwater (Puffinus gavia)—Albert Head. Dark-bødied Shearwater (P. griseus)—Q. C. I.

Emperor Goose (Philacte canagica)—Chemainus.

Gray Falcon (Falco rusticolo)—Comox. MacFarland's Screech Owl (Megascops asio aikeni)—Mainland south.

Arctic Horned Owl (Bubo virginianus arcticus)-Victoria.

California Pygmy Owl (Glaucidium gnoma californicus)-Mainland coast. Alaskan Three-toed Woodpecker (Picoides americanus alascensis)-Northern Mainland.

Rocky Mountain Jay (Perisoreus canadensis capitalis)—Interior Mainland. Pinon Jay (Cyanocephalus cyanocephalus)—Interior Mainland. Sonoran Red-wing Blackbird (Agelaceus phœniceus sonoriensis)—Chilli-

wack.

Haris's Sparrow (Zonotrichia querula)—Victoria.
Western Lark Sparrow (Chondestes grammaceus strigatus)—Sicamous.
Bank Swallow (Clivicola riparia)—East of Cascades.
Anthony's Vireo (Vireo huttoni obscurus)—Victoria.
Calaveras Warbler (Helminthophila ruficapilla gutturalis).
Magnolia Warbler (Dendroica maculosa)—Field.
Wilson's Warbler (Sylvania pusilla)—Field.
Rocky Mountain Creeper (Certhia familiaris montana)—Nelson.
Columbia Chickadee (Parus hudsonicus columbianus)—Nelson.
Olive-backed Thrush (Turdus ustalalus swainsonii)—Nelson.



CPEN CUT ON THE CONSOLIDATED ALBERNI GOLD MINE.

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FOREST WEALTH.

ATURALLY in the consideration of the economic products of British Columbia comes the timber wealth. Apart from minerals it represents the most important and most readily available results. British Columbia may now be said to possess the greatest compact area of merchantable timber on the North American Continent, and if it had not been for the great forest fires that have raged in the interior in the years gone by, during which a very large portion of the surface has been denuded of its forest, the available supply would have been much greater than it is. This was an exigency, which, in the unsettled state of the country, could hardly have been provided against, if at all. However, as the coast possesses the major portion of the choice timber and that which is most accessible, the ravages of fire have not had, by reason of the dense growth and the humidity of the climate, any appreciable effect on that source of supply.

As far north as Alaska the coast is heavily timbered, the forest line following the indents and river valleys and fringing the mountain sides. Logging operations so far have extended to Knight's Inlet, a point of the coast of the mainland opposite the north end of Vancouver Island. Here the Douglas fir, the most important and widely dispersed of the valuable trees, disappears altogether, and the cypress, or yellow cedar, takes its place. North of this, cedar, hemlock and spruce are the principal timber trees. It will be of interest to know that Douglas fir (Pseudo-tsuga Douglassi) was named after David Douglas, a noted

botanist who explored New Caledonia in the early twenties of this century. It is a very widely distributed tree, being found from the coast to the summit of the Rocky Mountains and as far east as Calgary and as far north as Fort McLeod. On the coast it attains immense proportions, is very high and clear of imperfections, sometimes towering three hundred feet in the air and having a base circumference of from thirty to fifty feet. The best averages, however, are one hundred and fifty feet clear of limbs and five to six feet in diameter. This is the staple timber of commerce, often classed by the trade as Oregon pine. It has about the same specific gravity as oak, with great strength, and has a wide range of usefulness, being especially adapted for construction work. It is scientifically described as standing midway between the spruce and the balsam, and in the opinion of Prof. Macoun, the Dominion naturalist, is a valuable pulp-making tree.

Perhaps the next two most important representatives of our forest wealth

are the red cedar (Thuya gigantea) and the yellow cedar (Thuya excelsa). The former is found all over the Province, but reaches its greatest development on the coast, where it out-girths all others. In addition to its commercial value for shingles and finishing purposes, it is the friend of the settler, inasmuch as out of its straight-grained logs he can build his house, make his furniture and fence his farm, and that with the use of the most primitive of tools only—an axe, a saw, and a froe. It is especially valuable, however, for interior finishing, being rich in colouring and taking on a beautiful polish. For this purpose it is finding an extended market in the east of Canada, and no doubt its merits will soon find appreciation far beyond these limits. Important as the red cedar is, the yellow cedar, though much more limited in area and quantity, is still more important,

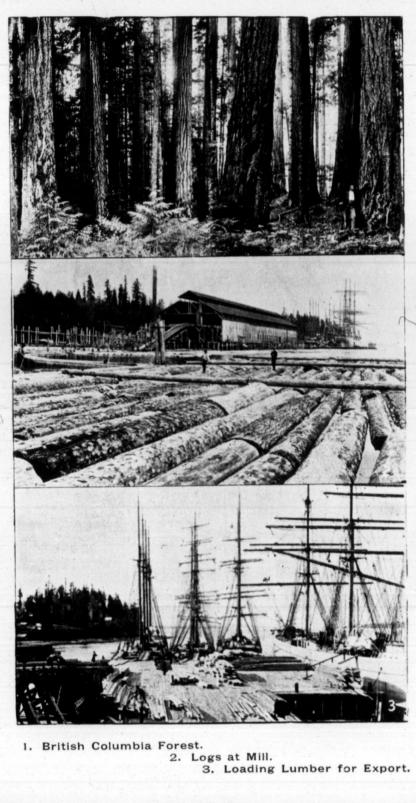
and I was going to say useful. It is very strong, comparing with the Douglas fir in this respect, is wonderfully durable, finishes to perfection, and grows to great dimensions. Lying farther north, it will not be probably as soon in demand as the more ubiquitous red variety, but is already occupying attention. During the past year an extensive timber limit was disposed of in England, and a company has undertaken its manufacture. The cypress, which is found in great quantities in the interior of Vancouver Island, and on Mount Benson, near Nanaimo, comes within 1,200 feet of the sea. Towards the end of the island on Queen Charlotte Islands, and on the north coast of the Mainland, it is found lower down and is very plentiful.

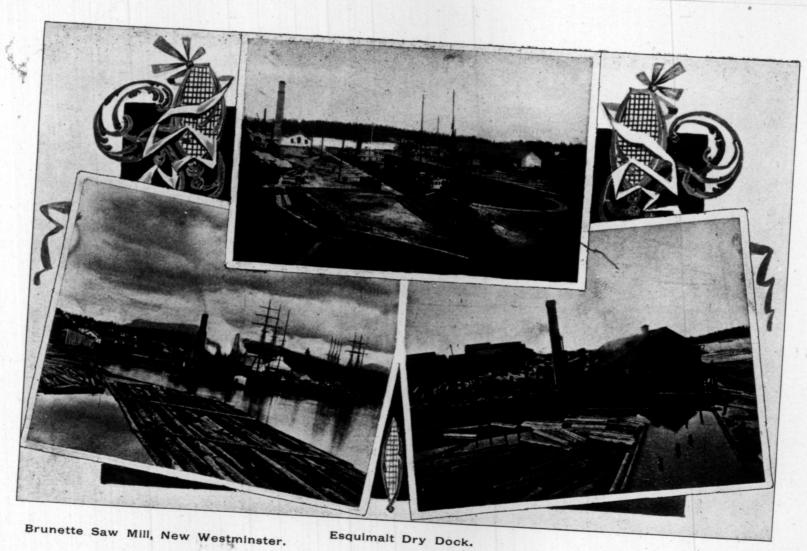
It is out of the cedar that the Hydah Indians build their celebrated war canoes, some of which have an eight-foot beam, are sixty feet long and can stem the heaviest seas of the coast waters.

Coming next in usefulness—and, economically considered, this may be taken exception to, as there are many who will class it as the most useful of all our timbers—is the white spruce (Picea Sitchensis). Its habitat is principally low, swampy and delta lands, usually interspersing the forest of fir and other trees, but in no place is it found in very large or compact bodies. From its comparative scarcity and the many uses to which it may be put, it is commercially more valuable than the Douglas fir, to which it is first cousin. It attains a circumference almost equal to the latter, but does not grow so tall or so clear of branches. It is utilized largely for making doors, finishing, salmon boxes, barrels, fruit cases, and many other similar purposes, being, as it is, the best adapted for these uses of all the native timbers. It is par excellence, too, the wood for pulp manufacture, which some day or other will be one of the most important industries of the Province, and concerning which more may be said at a later date. It increases in quantity as you go northward.

Hemlock (Tsuga mertensiana) is a common timber, and up the coast is found in considerable quantities. It is a useful tree, and answers about the same purposes as the Douglas fir. For that reason it will not be in general demand until the latter has become to some extent exhausted. White Pine (P. monticola) for cabinet purposes and general utility is very valuable, but is limited in quantity. Balsam (A. grandis) is widely distributed, being found principally in river valleys, but is commercially of little value, except for pulp. With the exception of the yew (Taxus brevifolia) and tamarack, of which there are several varieties, principally (L. occidentalis), the foregoing are the representatives of the family of coniferous trees.

Of deciduous trees, the large leaf maple (Acer Macrophyllum), vine maple





Esquimalt Dry Dock.

Sayward Mills, Victo

(Acer circinatum), alder (Alnus rubra), crab apple (Pirus rhvularis), oak (Quercus Garryana), two varieties of poplar or cottonwood (Populus balsamifera) and (trichocarpa), aspen poplar (Populus tremuloides), arbutus (Arbutus Menziesii), birch (Betula occidentalis), willow and juniper are the principal. The maple, alder and arbutus make first-class cabinet woods, though they are not abundant enough to be extensively used for this purpose. They also make popular finishing woods. Poplar, or, as it is more commonly called, cottonwood, has been principally used in the past for the manufacture of "Excelsior," but its greatest use will be in paper-making. The aspen poplar is common in Vancouver Island and the northern interior of the Province. It is also a good paper-maker. The oak is mainly confined to the southern end of Vancouver Island. It is a stunted, gnarled species. of little use, but very picturesque. Crab apple is plentiful in swampy places around ponds, beaver meadows and along river banks. The hard woods are usually found in bottom lands, and indicate fruitfulness of the soil. There is no part of British Columbia where the timber supply is not sufficient for local demands.

The principal timber limits and the great bulk of the timber are located on: Vancouver Island, running up the valleys of the Cowichan, Chemainus, Nanaimo, Englishman's, Little Qualicum, Big Qualicum, Comox, Oyster, Campbell, Salmon, Adams, and Nimkish Rivers, and French and Black Creeks, and along other streams and tributaries of the foregoing rivers, and in the Alberni Valley; in Westminster District—along the Fraser and Pitt Rivers, on Burrard Inlet, in South Vancouver, and on Howe Sound; the principal inlets of the coast as far as Knight's Inlet; and on the islands in the Gulf of Georgia—notably Cracow, Valdez and Harwick. North of Knight's Inlet, as already stated, comes the cypress and considerable spruce that will yet be largely utilized in commerce.

One feature of the forests of the Coast is their density. As high as 500,000 feet of lumber have been taken from a single acre, which seems almost incredible to a lumberman of the east, where 20,000 is considered not a bad average.

There are over eighty sawmills in the Province, big and small, with a daily capacity of about 2,000,000 feet, mainly on the coast, but this limit has never been reached, the annual cut running between 50,000,000 and 100,000,000 feet. Various estimates have been made of the amount of timber in sight. These range between forty billion and one hundred billion feet a grees that is

tween forty billion and one hundred billion feet, a guess that is

Timber Limits. only practicable as showing the possible limits of supply as ex
tremely wide. The acreage of timber under lease is about 1,175
square miles, and the total area of forest and woodland is put down by the Dominion statistician as 285,554 square miles, but this must not be taken as all of
commercial value, as much of this is covered with small trees, suitable only for a

For some time the lumber industry of the Province has suffered a severe depression, but at the present time the indications are favourable to a revival.

local supply of fuel and lumber.

The future of the lumber industry is very great for British Columbia, and when foreign demand fully revives, and the Nicaraguan Canal has been completed, it cannot fail to receive an immense impetus. As it stands at present the Province will be the last resort of the lumberman on this continent, and those who own timber limits will reap rich harvests. Perhaps not the least remunerative will be the by-products, and particularly that of pulp.

The following list of trees belonging to the Province has been taken from the Report of the British Columbia Board of Trade, Victoria. The distribution and economic use and value of the principal of these have been referred to in the foregoing:-

* BOTANICAL NAME.	ENGLISH NAME.	BOTANICAL NAME.	ENGLISH NAME.
" subalpina	Western white fir. Mountain balsam. Large-leaved maple. Vine Maple. Red alder. Arbutus. Western birch. Canoe birch. Western dogwood. Red cedar.	" Murrayana " ponderosa Pirus rivularis Populus balsamifera " monilifera " triehocarpa Prunus emarginata " mollis Pseudotsuga Dougl'si Quercus Garryana	Yellow pine. Western crab-apple. Balsam poplar. Cottonwood, Aspen. Cottonwood. Cherry. " Douglas fir. Western white oak. Lance-leaved willow
Picea alba	White spruce. West'n black spruce. Black spruce. West'n white spruce. White-bark pine.	Taxus brevifolia Thuya gigantea ' excelsa Tsuga Mertensiana .	Western yew. Giant cedar. Yellow cypress or cedar.

Economically, the value of the forests of British Columbia could be greatly enhanced by diversification. There is such a wide area unsuitable for any other growth than trees and grass that there is almost illimitable opportunity for the seeding and planting of trees on the summit of hills and the sides of hills and

mountains, introducing nearly all the deciduous trees of the Free temperate zone. The climate is favourable to tree growth, and Growth. the experience of the Dominion Experimental Farm goes to show that the range of successfully acclimatized trees and shrubs is very wide indeed. When we consider the statement of Mr. E. D. N. Southworth, Chief of the Forestry Department in Ontario, that the annual growth in that Province—theoretically, of course—is fifty times the annual consumption, we can at least imperfectly imagine the tremendous future possibilities of a coast line so extended and deeply indented, to say nothing of the vast interior. Mr. Southworth's estimate, which, as already stated, is a theoretical one, or, rather, is based upon mathematical conditions of growth, is endorsed by Sir Henry Joly, of Quebec, a reputable authority on the subject.

Of course, practically, the increment of forest growth is subject to conditions of check, which are obvious, and materially modify actual results. Industrial conditions have so altered of late, and are so rapidly changing, that this possible annual growth is of the greatest importance. The increasing demand for wooden ware, manufactured from various products of wood, and the variety of uses to which wood is being put, places a premium on every stick to be grown for all time to come. The value of the younger trees in the manufacture of pulp out of which so many things are made, gives a value to our forests they never before possessed. It will be possible hereafter to regard forestry as a branch of agriculture, and to speak of the wood crop, to reap which it will not be necessary to

wait a lifetime.

The subject of forestry, as an economic science, is one to which very little attention has been paid in this Province, and there is little to be said so far as a special knowledge of the conditions that exist, or of the possibility of development is concerned, except in so far as the experience of other countries may apply.

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abo Ho It is one that will yet demand the most serious consideration on the part of the authorities. Not only is the conservation of the forests a matter of very great importance, because the timber is an asset of great value peculiarly subject to depreciation and waste, but of perhaps even greater importance is the utilization of the timber supply economically and advantageously in an industrial way. There is annually a very large waste going on by forest fires, in clearing land and in other ways, and in view of the many uses to which wood and products of wood are now being put, it is a matter of some concern to determine if methods could not be adopted both to minimize waste and turn it to useful account. The manufacture of wood pulp, of indurated ware, of cabinet woods, of turpentine, of varnish, of tannin, of cordwood, of second rate structural material, of charcoal and of other

Beconomic Considerations. by-products, ments, are all matters worthy of attention. It is not improbable that a careful study of the economics of forestry would develop a system in connection with tree growth and forest clearing that would ultimately equalize supply and demand and render the absolute destruction of wood as at present unnecessary. It is difficult to realize the value of forests until they are gone, and until some cheap structural material shall have been obtained to wholly take the place of wood and fulfill all its uses which does not appear likely to be obtainable, the demand must continue to increase, and British Columbia is of all countries naturally most favourably situated to supply it. As a speculation nothing in the way of national enterprise can equal the desirability of husbanding the natural resource of timber, because it must inevitably grow into inestimable value. If in Canada, with a population of 5,000,000, the present annual cut of timber is a subject for anxiety as to the future, what consideration will attach to it when the population has grown to 25,000,000?

A careful estimate of the aggregate cost of the mills in operation places the amount at \$1,500,000. This does not include all the capital invested necessary to carry on the industry, which would increase the amount to \$2,000,000. The investment in timber limits is additional to this, Sawmills in British Columbia cost on an average \$700 per 1.000 feet of daily capacity, ten hours' running. Of the eighty-five mills constructed not all are in operation, and the greater number are

of limited capacity.

Although the conditions are hardly ripe for it yet, one of the most promising industries in store for British Columbia is that of the manufacture of wood pulp, and when we consider the opinion of Prof. Macoun that Douglas fir, as well as spruce, is a good pulp tree, the possibilities of the industry, in a Province where Douglas fir is the dominant and most widely distributed conifer, are obvious. A paper mill was started and ran for some time at Alberni, but under conditions not favourable to success, and although it met with failure reorganization on a better and successful business basis, is confidently anticipated. Incidentally, it may be pointed out that the exports of pulp wood of Canada since 1890 have been:—

1891\$188,99	8 1894 392,262
1892 219,45	3 1895\$468,359
1893 386,09	1896

The pulp industry is rapidly increasing in Canada and a great many mills are engaged in it. The export of pulp during the past six years has been:—

1890\$168,180	1894\$547,217
1891	1895 590,874
1892 355,303	1896 675,777
1803 455.803	

The British demand for wood pulp is largely on the increase. The imports for 1895, for example, were of the value of £1,574,400(297,098 tons), an increase of £150,000 over 1894.

The United Kingdom imported in 1895 unprinted paper to the value of £2,046,106, and straw boards, mill boards and wood pulp boards to the value of £548,254. The exports of paper from the United States were of the value of about £500,000 sterling. At present Great Britain looks chiefly to Germany, Holland, Sweden and Belgium for her imported unprinted paper.

DOMINION TIMBER REGULATIONS.

A LL licenses to cut timber are disposed of by public competition. Parties tendering are to state sum per square mile which they will pay over and above ground rent and royalty, and cheque to accompany tender. The highest bonus will be accepted. The length of any berth is not to exceed three times the breadth thereof.

The licensee to pay a ground rent of five (\$5.00) dollars per square mile, except for lands situated west of Eagle Pass, British Columbia, in which case it will be five (5c.) cents an acre. Within one month after obtaining a timber berth the licensee is to pay a year's rental in advance, and if not then paid, the said rental shall bear interest at six (6) per cent. per annum until paid. The licensee is to pay a royalty of five (5) per cent. on sales, or on the value of lumber in the log. If on the latter, it will be calculated on the average price of lumber for the three months previous to payment of dues. Timber from the berth must be manufactured at the sawmill of the licensee. The royalty on lumber, etc., made from burnt timber is two and one-half (2½) per cent.

On the first day of May of each year licensee shall send a sworn detailed statement to proper officer, appointed for that purpose, of the number of pieces of timber, lumber, etc., and the correct measurement of same, according to Scribner's Log Rule, cut in the previous twelve months. All shortages, or discrepancies, between amount of the sales and the said statement are to be accounted for to the Minister of the Interior, and the licensee shall pay five (5) per cent. on the value of the deficiency, said value to be based on average price of lumber for the previous six months. Licensees are to furnish each year a ground sketch of exact locality of berth, and within one year from date of such notification from Interior Department, to have and keep in operation a sawmill capable of cutting one thousand (1,000) feet, board measure, in twenty-four (24) hours, for every two and one-half (2½) square miles of area licensed, or shall establish such other manufactory of wood goods acceptable to the Minister of the Interior. The licensee cannot assign or transfer his berth without the consent of the Interior Department.

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The licensee has no claim to renewal of license except by an Order-in-

In unsurveyed land the party to whom a license is promised shall, before the issue of license, and before any timber is cut, make a survey by a duly qualified Dominion Land Surveyor, and he shall be liable for dues on any timber cut subsequent to ten (10) days from the date of the award of berth to him.

Dues not paid at maturity to bear interest at six (6) per cent., and cut timber on berth may be seized and sold to satisfy same.

All cut timber is liable for Crown dues wherever found or in whatever condition.

The licensee has no right to cut timber of less diameter than ten (10) inches, except for roads and to facilitate taking out merchantable timber, and shall have no right to interfere with "Land Settlements," but may within sixty (60) days after notice of such, remove all timber over ten (10) inches in diameter.

This license shall not prevent individual homestead settlers holding free permits from cutting and removing building timber, fence rails, firewood, as such permit may set forth (and the Government may grant such permits).

Licensee may take from every tree cut down all the timber fit for use and manufacture the same, and is to prevent unnecessary destruction of timber from men or fires; to make stated returns of all lumber and its value, sold in any

shape; to pay five (5) per cent. on returns of sales, or on amount Conditions of of lumber in log, unless from burnt timber, which will be two and one-half (2½) per cent. (all in addition to ground rent); License. to keep correct books, subject to inspection of collector of dues; and to the right of the Crown to deal in minerals, etc., in timber berth, and to make roads for transportation of such, paying licensee for all timber thus used; and to forfeiture for infraction of any one of these conditions.

The license cannot be transferred without the consent of the Minister of the

Permits to cut timber, subject to dues hereafter specified, are granted by public competition, except to actual settlers, who can cut timber for his own use without competition.

Cordwood of dry or fallen timber, over 7 inches diameter, cut by set-Building logs of oak, elm, ash, maple, 12 in. at butt end......11/2c. per lin. ft. Shingles 40c. per 1,000 Square timber and saw logs of pine, cedar, spruce, tamarac and other Piles1½c. per lin. ft.

All other products ten (10) per cent. ad valorem.

Dues on burnt timber are five (5) per cent. on sales and fifty (50) cents per M. in lieu of rent.

A fee of twenty-five (25) cents is charged for each permit.

The Minister of Interior will instruct issuers of permits as to quantity of grant and dues to be deposited.

Additional dues may be levied for surveying, etc.

The pains and penalties of the Dominion Land Act apply to a breach of foregoing rules.

Trees are to be cut without waste, and the refuse piled together.

Timber permits on school lands may be granted, provided they do not impair the value of the land. Persons exempted from dues are, miners, prospectors, travellers, scientists or explorers.

Homesteaders may obtain permit to cut 1,800 lineal feet building timber not over 12 in. at the butt end, 400 roof poles, 2,000 poplar fence rails, 30 co-ds dry wood, burnt or fallen timber for fuel or fencing up to 7 in. diameter inclusive.

Homesteaders in possession of farms having timber or wood lots will 10t

An order-in-council was passed 3rd of January, 1896, stating that the dues on timber sold in the Province of British Columbia and exported to Manitoba and the North-West Territories will be 5% royalty on the sales and that the dues on lumber otherwise exported from the Province will be at the same rate less a rebate of 40 cents per M.

CROWN LANDS.

THE Crown Lands are surveyed into quadrilateral townships, containing thirtysix sections of one mile square in each, by lines running north and south, crossed by others running east and west. These sections being in turn

divided into quarter-sections of 160 acres each.

Unoccupied and unreserved Crown Lands are open to pre-emption for agricultural purposes only throughout the entire Province. Any person being the head of a family, a widow or single man over the age of 18 years, and a British subject (or, if an alien, upon making a declaration of intention to become a British subject), may become a pre-emptor. Any incorporated company may become a pre-emptor by special permission of the Lieutenant-Governor in Council. To the northward and eastward of the Cascade or Coast Range of mountains the size of a pre-emption claim may be 320 acres; in the remainder of the Province it is limited to 160 acres. The procedure to be Pre-emption. followed in the acquiring of a pre-emption record is set forth at length in the "Land Act," and is made as simple as possible. The pre-emptor is entitled to a Crown Grant to his land upon paying \$1 per acre therefor and obtaining a certificate of improvement, the requirements for this purpose being: 1st, a continuous bona fide personal residence of the pre-emptor, or of his family, on the land recorded by him for the full period of two years after the record; 2nd, permanent improvements on the land to the value of \$2.50 per acre; 3rd, if the record be of unsurveyed land, a survey in accordance with the Act; and 4th, if the pre-emptor be an alien, his becoming a naturalized British subject.

Crown Dands for the purpose of sale and purchase are divided into three classes, and may be purchased in tracts not exceeding 640 acres upon compliance with the Act, under the following classification and prices: 1st class, agricultural and natural meadow lands, \$5 per acre; 2nd

class, lands cultivable with the aid of irrigation, \$2.50 per acre; 3rd class, moun-

tainous and rocky lands, \$1 per acre.

Timber lands are not open to purchase. Grants of land purchased must provide that in the event of any of the lands being divided into town lots, onefourth of all the blocks of land shall be re-conveyed to the Timber Lands.

Crown. A purchaser in order to become entitled to purchase a second tract must improve the lands already purchased by him to the extent of

\$5.00 per acre if first, \$2.50 per acre if second, and \$1.00 per acre if third-class land.

Leases of lands not exceeding 160 acres in extent may be obtained of meadow lands by holders of adjacent land for a period not exceeding five years at a rental of 10 cents per acre, and of lands for the opening or working of

quarries, or as sites for fishing stations, for a term of twenty-one years at a rental to be fixed by the Government. Lands held by the Crown within a city may be leased for any term not exceeding ten years; and agricultural lands which have been surveyed into lots of twenty acres or less may be leased to British subjects upon building conditions, and upon a stipulation that the lessee shall, at the end of the term, if he has complied with the lease, receive a Crown Grant of his leasehold lot.

The right to cut timber on Crown Lands may be obtained in several methods, the simplest of which is the taking out of an annual license, upon payment of \$10, entitling the holder to cut timber as a hand logger

crown Lands. upon Crown Lands, not being timber limits, without any reservation as to area. The timber cut under such license is subject to royalties to the Crown.

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A special license may be obtained, valid for one year, for \$50, entitling the holder to cut timber upon a specified tract, not exceeding 1,000 acres, subject to

the payment of royalties to the Crown.

Timber leases a to be put up for public competition for periods not exceeding twenty-one years, and may be granted to the tenderer who offers the highest cash bonus, in addition to an annual rental of 15 cents per acre and the payment of royalties. A rebate of 5 cents per acre on the rent may be obtained by erecting a saw mill appurtenant to the leasehold.

The royalties payable to the Crown amount to 50 cents per 1,000 feet board measure on all timber; 50 cents per cord on railway ties and mining props; 50

cents on every 200 running feet of piles, and 25 cents on every cord of wood.

There is reserved to the Crown a royalty of 5 cents per ton on all merchantable coal obtained from lands held under Crown Grants. This reservation of royalty does not apply to land held under earlier grants in which the coal was not either reserved to the Crown or made subject to a royalty.

THE LUMBER CUT.

S TATISTICS of the timber and lumber industry are not available prior to the year 1888, when the reports of the Inspector of Forestry began to be published. Since that time a very complete annual statement has been included in the report of the Chief Commissioner of Lands and Works. However, a careful estimate of the cut of timber in the Province, since the commencement of the industry, made from available data in various years gives the following result: To 1871, 250,000,000 feet; from 1871 to 1888, 595,000,000 feet; from 1888 to 1896 inclusive, 654,986,465 feet, or in the aggregate, 1,500,000,000 feet. Taking into consideration annual growth, and assuming that effective measures for a reasonable protection of the forests from the ravages of fire could be maintained, the timber supply, at the present rate of consumption, would remain perpetual, so that the conservation of forests becomes one of the most important subjects that can engage the attention of the legislators; but forest fires, the clearing of land, and the reckless deforesting for lumbering purposes, are having appreciable effects in reducing the supply. The following is a statistical statement of the lumbering industry since

YEAR.	No. MILLS.	DAILY CAPACITY. feet.	ACREAGE UNDER LEASE.	LUMBER CUT. feet.				
	7 /		, 1					
1888	25	769,000	135,063	31,868,384				
1889	30	1,089,000	179,224	43,852,138				
1890	41	1,343,000	225,526	79,177,055				
1891	57	1,796,000	273,428	83,108,335				
1892	57	1,752,000	386,122	64,186,820				
1893	60	1,785,000	496,956	60,587,360				
1894	66	1,786,000	524,573	64,498,227				
1895	77	1,815,000	495,346	112,884,640				
1896	77 85	1,903,000	496,746	112,957,106				

The value of the exports of lumber since Confederation is shown in the table of exports given elsewhere.

EXPORT OF LUMBER, 1896.

	Shipped from Vancouver.		SHIPPED FROM MOODYVILLE.		SHIPPED FROM NEW WESTMINSTER.			SHIIPPED FROM VANCOUVER ISLAND.				
DESTINATION.	Cargo, ft.	No. Vessels.	Value.	Cargo, ft.	No. Vessels.	Value.	Cargo, ft.	No. Vessels.	Value.	Cargo, ft.	No. Vessels.	Value.
Germany South America Great Britain South Africa Australia:	776,772 6,103,327 6,094,145 3,831,830	5	\$13,181 49,901 74,070 28,217	887,330	2	\$14,574				1,125,776	4	\$ 3,200
AdelaideFreemantle	1,310,386 2,347,747		10,567 16,174	1,120,000 987,802		10,000			, ,	865,954 692,307 849,269	I	6,842 5,999 7 092
Melbourne	714,283	1	5,537	767,566	I	*	1,260,547	2	*	841,546		7,337
Sydney	469,972	1	4,254	2,888,815		23.739				2,775,505	2	11,732
GibraltarValparaiso, f. o	1,797,000 2,875,719 1,461,012	3 4	19,316 26,964 11,604	1,496,988	2	6,965				753,086	I	6,068
Kobe, Japan China	1,056,074	2	7,118	7.89.42 9	10	71,838	972,050	I	\$ 7,687	5,188,818	7	53,521
	29,857,267	32	283,166	16,038,930	2 *	127,116	2,232,597	4	7,687	13,092,261	18	101,79
Exports for first 6 mos. 1897	22,334,369	20		9,090,052	6		1,018,000	2		9,202,417	8	

^{*} Particulars not received.

THE FISHERIES.

HE British Columbia Coast of the Pacific Ocean extending from the 49th parallel to Alaska is extensive and deeply indented. Vancouver Island and Queen Charlotte Islands, standing out seaward, are separated from the Mainland by numerous channels and thousands of islands grouped in minor archipelagos. Stretching inland are many long inlets, the whole configuration being irregular, but exceedingly picturesque, and rich in food fishes. From the time the Strait of Juan de Fuca is entered until the farthest point north is reached, with the exception of Queen Charlotte Sound, where the ocean swell is felt, and a few tide rips, it is one continuous, glassy reach of water, which offers no obstacles to navigation, and renders coasting delightfully easy and pleasant. The conditions on the whole are most favourable to conducting the fishing industry.

It is for the purpose of portraying the wealth of these waters, which, with the one notable exception of salmon canning, have been but faintly exploited, that this chapter is penned. From time prehistoric the Indians of the coast in their primitive way pursued the almost sole means of livelihood, fishing, and with a temperate clime and an abundant supply of this food at all seasons, existence was,

except in so far as tribal warfare endangered it, in no sense precarious.

Says Mr. Ashdown Green, a local authority in piscatorial science, "Unlike the Indians of the plains, whose lives depended on their exertions and who had to roam over a vast extent of country to obtain meat enough to put up for winter use, the fish-eating Indians could count securely upon their winter supplies coming to their very doors." Those on the Mainland coast had immense supplies of salmonidæ in their seasons, which for winter use they dried, smoked or otherwise preserved in unlimited quantities. Those on the western coast depended upon the halibut and cod, which, too, were without limit as to numbers and within easy reach. These were cut into strips and dried, and were edible to even more cultivated palates than those of the natives.

To take the fishes first in the order of their importance, we have the salmon, of which there are several varieties, enumerated as follows: Quinnat, Chinook or Tyee salmon (Oncorhynchus tschawytscha); silver salmon, or cohoe (O. Kisutch); sockeyes, or blue back salmon (O. Nerka); dog salmon (O. Keta); humpback (O. Gorbusca); cut-throat trout (Salmo mykiss); steelhead (S. Gairdneri); Dolly Varden trout (Salvelinus malma). All of these are abundant. The quinnat, the first

salmon to appear, is the largest, varying from ten to seventy-five pounds in weight. It is the most important of the salmonidæ family, and for table purposes is the most highly prized. For canning purposes the sockeye is Concerning the Salmon preferred, being more uniform in size and colour, running in immense shoals, which the spring salmon does not, and higher in colour. On the Columbia River the former is the most generally used for canning. In British Columbia the bulk of the fish used for canning is the sockeye, and it is during its run, usually in prodigious numbers at the height, that the pack is made up. As many as 2,000 boats are seen at the mouth of the Fraser at one time, and in big runs they will average from 100 to 500 fish each in a night. It is scarcely possible to estimate the number of these fish that go up the river. The cohoes are a less prized variety, but running later are utilized very often to make up a pack, if the run of sockeyes should not be sufficient. Mr. Green says that when caught in salt water the cohoe is infinitely superior to the sockeye as a table fish, though not so rich in flavour as the tyee salmon. The spring salmon is plentiful on the coast from November to April, the sockeyes make their appearance in July and run in July and August, and the cohoes in September. The dog salmon and humpback are not commercial varieties and are never used except by the Indians.

The run of salmon first begins in the northern waters, the fish entering the various inlets and rivers a little later in the season until the Fraser is reached. Canneries are situated on the Naas and Skeena Rivers, Gardner's Canal, Rivers and Knight's Inlet, Alert Bay, and other points on the coast, but the principal business is carried on in the Fraser, where some forty-two canneries are in operation, there being sixty-two in all, with others in course of construction. The industry began in 1876 with a pack of about 10,000 cases (forty-eight pounds to a case) and has steadily increased until in 1897 it has, it is estimated, reached over 1,000,000

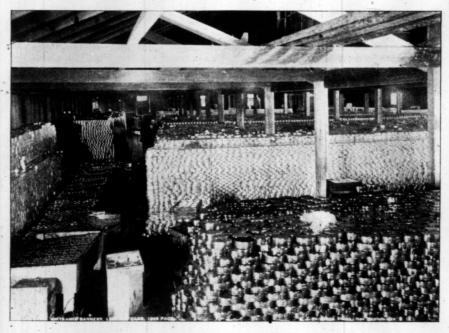
cases, valued at \$4,000,000. The principal market for the output is in England, though it finds its way to many other markets of the world. The commercial varieties of the salmon as a rule do not rise to the fly and therefore are not fished for sport, except that in certain times of the year they are trolled for in the bays near the cities of the coast. This fact gave rise to the fiction that for a time gained credence that the British Commissioners appointed in connection with the determination of the North-West Boundary between Canada and the United States gave up the States of Washington and Oregon as not worth contending for because the salmon in the Columbia River could not be tempted by the wiles of the sportsman. It was a piece of pleasant and effective sarcasm directed against the supineness of the British authorities in the matter, but nevertheless a fiction.

The trout which abound in nearly all the rivers and inland lakes of British Columbia, and the salt water as well, though differing locally as to size, colour and flavour, are said to be identical in species. These make up to the sportsman for the obstinacy of the salmon and attain in places to a size of thirty and forty pounds. They are not to be mistaken, however, for the "speckled trout," the charr, of which there are two varieties, but much less frequent and more limited in their habitat.

Concerning the habits of the salmon in British Columbia waters, there is a wide field for investigation and not much is confidently known. The whole subject has been one concerning which there has been much speculation and discussion. There have been only a few local students, whose opportunities, for want

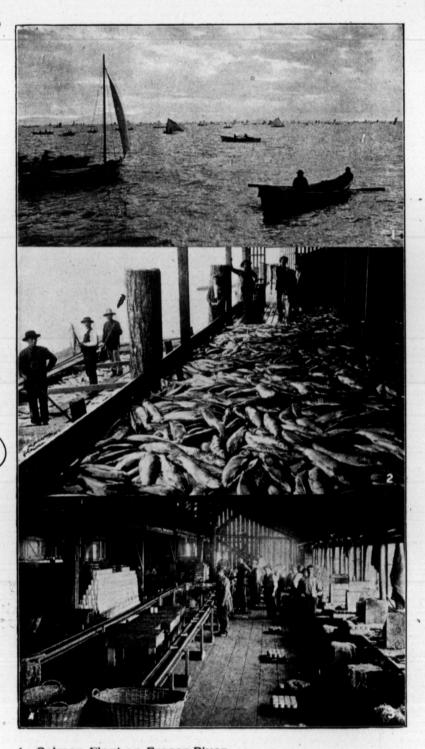


7,500 OOLACHANS IN A NET.



INTERIOR OF A SALMON CANNERY,

SHOWING SALMON CANS.



Salmon Fleet on Fraser River.
 Unloading Salmon at Cannery.
 Interior View of Cannery.

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of leisure in the pursuit of knowledge, have been limited, and the Dominion Government, under the special jurisdiction of which the fish are, has only begun through its officials to give scientific attention to the subject in question so far as

Habits of the Salmon. it relates to the West. The conditions of fish life and the habits of fish are materially different to those in the East of Canada, and a lack of the proper appreciation of these facts has given rise to much misconception on the part of the authorities at Ottawa, and the regulations governing the close season, the disposal of offal, the distribution of fry from the hatchery, etc., have resulted at times in much irritation on the part of those engaged in the fishing and canning industry, and discussion of a mutually incriminatory character. This to a very large degree has recently been overcome and official relations are more harmonious.

The facts as to the conditions governing and affecting spawning, the time of going to sea, the extent to which salmon return after spawning, the effects injurious or otherwise of dumping the offal of the canneries into the river, the economic results of the hatchery and the methods of incubation and disposal of the fry, the degree of protection necessary and the proper limits of a close season are not to be determined wholly by experience elsewhere, but by local observation and systematic investigation extending over a series of years. Of this there has been ample demonstration, but regarding the real facts nothing has been determined so definitely about any one of them as to justify an authoritative statement, and therefore I hesitate to volunteer information that might be accepted in a reasonable degree as reliable concerning really important economic considerations.

However, the regulations heretofore in force, although they have been regarded by the canners and in some measure by the fishermen, as unnecessarily restrictive—and experience seemed to favour their contentions—have in the main been wholesome in effect. In other words, whether really creditable with the results or not, there has been no apparent depletion of the enormous supply of fish. In fact, the supply seems to be on the increase and more uniform from year to year. The opposite has been the case in the Columbia River, where fish traps and other indiscriminate and destructive means of catching are employed. The

decrease for a time was very marked and the industry seemed in a fair way to extinction. There the peculiar anomaly exists of two States, each with its own fishery law, exercising what is a clashing of interests at times and occasionally serious frays between rival fishermen. On the Fraser River only nets are allowed; there are stringent regulations strictly enforced as to the size of the mesh, the duration of close season, fishing on Sunday, the length of the seines, the issuance of licenses, etc., etc., all of which have had without doubt a beneficial effect.

As to the economic results of the hatchery there was for some time a great deal of dispute. Canners as a rule attached but little value to it and held that the unnatural conditions of incubation and distribution of the fry could have but inappreciable results. A peculiar condition of things existed on the Fraser River, for which as yet no accepted explanation has been offered. There were periodical and uniformly varying degrees of runs of the salmon. Every fourth year witnessed a prodigious supply, the next a good but diminished run, the next a poor run and the next a scarcity. Although scientific experts are skeptical on this point experi-

Results of the Hatchery. ence extending over a number of years established the rule so firmly that canners were enabled to count, with a fair degree of certainty each year on the dimensions of the pack. If, therefore, the hatchery possessed any practical utility at all it was destined to alter this condition of affairs, and the test was looked forward to with a considerable degree of interest by both sides to the dispute. For a time it did appear as though the canners had the best of the contention, but the runs of recent years have demonstrated effectually that either the natural conditions have changed or the hatchery

has fulfilled its mission satisfactorily; for, despite the great increase in the number and efficiency of the canneries, the fish appear in apparently increasing numbers and without regard to the "off" and "on" variations—the alternate two years of plenty and scarcity. As a result opinions have altered in favour of the hatchery, and the usefulness and extent of its operations will be greatly increased.

Another bone of contention was the disposition of the offal. The law, in effect, was that it should not be dumped into the river, which of course necessitated, if carried out, that the waste should be taken to the salt water and deposited there. The law, however, was more respected in the breach than in the observance and was practically a dead letter. It may be readily understood that the heads, tails and entrails, at the height of the canning season, when from thirty to forty canneries, all within a few miles, were in full blast putting up many thousands of salmon every day, would constitute an enormous waste, and deposited in the river by the ton were calculated to give rise to much anxiety as to the

effect on the fish supply, not to speak of the health of the neighbourhood. The authorities at Ottawa shared what is a popular conception in the East and in the older countries, that offal is most injurious to the living fish and highl—detrimental to the industry if placed in their way. From a hygienic point of view it was considered most objectionable, as the offal deposited itself on the banks of the river and entered the sloughs everywhere, and it is alleged developed the germs of typhoid, which was prevalent for several seasons in the Fraser delta. It was decided as a consequence to enforce the law, and measures were taken, which were resisted, to do away with the nuisance. These proceedings forced the issue and brought the officials of the Fishery Department and the canner's sharply into conflict, both in a political and judicial way.

The canners objected on several grounds. They argued that the offal deposited in the river was not injurious either to the fish or to the health of the commuity, at least not in any appreciable degree, and even if it were so, it could not compare with the injury done by the thousands, or millions of fish, for that matter, that died each year after spawning and lay exposed, putrid and rotting, along the banks of every tributary and part of the river, against which no action could be taken; that the fresh offal thrown in the cool waters of the Fraser with rapid

The Canners' Case. current does not pollute it; that animal decomposition was not in any degree as dangerous as vegetable decomposition; that what typhoid existed contiguous to the canneries was the result of local hygienic conditions apart from the fishing industry, and that in and around the canneries sickness was rare; that the expense of removing the offal to sea was too great; that the duty of utilizing the offal or disposing of it to a great degree devolved on the Government as a quid pro quo on account of the revenue arising out of the fishing industry; and that the experience of years, extending over the entire history of fishing on the Fraser River did not warrant the assumption that the offal in any way affected the run of fish. Strange though it may appear, the cannerymen had a strong case, established by experience, and the result was that the regulations in regard to the offal were practically set aside.

Owing, however, to the number of canneries in operation and the enormous catch of the present year the accumulation of offal has created an unsanitary condition of affairs, to remedy which the Provincial Board of Health was obliged to intervene. As a matter of fact, originally, the Dominion authorities in assuming to regulate the disposal of offal on hygienic grounds undertook a responsibility which rests with local authorities acting under Provincial health laws. So far as protecting the fish is concerned, which is properly within the Federal jurisdiction, the experience of years has gone to show, judging by results, that the effect on the quantity or quality of the salmon entering the river, is inappreciable.

The only practical solution of the problem, however, is the utilization of the offal as a fertilizer, by mixing with the seaweed of the coast and composting with lime. This affords a cheap process, with abundance of material at hand. A cheap fertilizer within easy reach of the farmers and gardeners would be a great boon, as in many parts of the Fraser Valley, and along the coast, there is much need of it for the lighter and gravelly soils. To what extend the oil to be extracted from the salmon offal would be merchantable has not been demonstrated, but as to the

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with the seaweed and lime added, would represent between twelve and twenty thousand tons, not at all too great for the immediate needs of the Province. Much has been talked and written about these and other by-products of the industry, but as yet nothing has been done. It was announced that the Dominion Government intended experimenting for fertilizing purposes with the offal and seaweed. If successful, as anticipated by many, the results would materially enhance the economic value of the salmon.

The active canning season extends over a period of about six weeks, during which time operations are very brisk and a great many men and women are engaged. In 1895 over 11,000 persons were employed in the fishing boats and vessels. The employees consist largely of Indians and Chinese and licensed fishermen. The Indian women, or kloochmen, and the Chinese are engaged on the inside, while the "Siwashes," as the male Indians are familiarly termed, fish in boats. The fishermen, though required to be British subjects, are of all nationalities, including Indian, Japanese, Scandinavian, etc. Licenses are necessary, of

which a certain number are issued to and controlled by each cannery. For some years the number of licenses issued was limited, but as this proved to be practically a monopoly for those who were fortunate enough to obtain them, the limit was taken off and the only restrictions now imposed are those of being a British subject and obtaining a license. The salmon canning industry is one of the largest and most remarkable industries of the British Columbia coast. It has developed rapidly and has been on the whole remunerative.

A word here is necessary with respect to the reports circulated in Great Britain, which were proved to be the result of preconceived malice, reflecting very seriously upon the methods, and greatly to the detriment, of cannerymen. Whatever cause of complaint, if any, existed, it was outrageously overstated. It is possible that in some instances, as in the case of every industry, proper care is not exercised, but so far as local observation has gone, and visitors in great numbers are freely admitted to witness the operations of the canneries, nothing has ever been reported to justify complaints of the character referred to. On the

Misrepresentation: contrary, cleanliness and care are the rule of all well-conducted canning establishments. However, too great care cannot be exercised in the conduct of any industry in order to maintain the reputation of its products in the markets, and good will probably result from the temporary evil of such misrepresentation, inasmuch as the interests of the cannerymen themselves will demand a system of supervision which will obtain for their canned goods a standard of excellence unquestionable in the open markets of the world.

I HAVE dealt with the salmon, at present the most important economic food fish of the coast, somewhat in detail. The next in order is the halibut (Hippoglossus vulgaris), likely to become a rival of the salmon in commerce. It is the largest and most useful of a large family known as the Pleuronectidæ. It is in great abundance all along the coast of British Columbia, its principal habitat being around and to the north of Queen Charlotte Islands, where it attains to a size of over two hundred pounds and a length of five or six feet, and is caught in great quantities by deep-sea fishing. Not until recently has the halibut assumed any importance commercially, except for local consumption; but efforts have been made

with some success to supply the Eastern markets. A small steamer in good weather will take in a cargo of 20,000 to 60,000 pounds in a couple of days, and make the trip in ten days. Duration of the trips and success of the catch depend upon the weather. A supply of ice is taken with the steamer, and when she arrives back the fish are immediately packed in boxes with snow or broken ice, and shipped by a fast train to New York. This enterprise, so far, has been carried on with varying fortunes. Freight rates are necessarily high, and the market fluctuates with the supply from the Atlantic coast with which it comes in competition. Profits are uncertain under

such conditions, and so far the trade has not achieved a permanency, although it has assumed considerable proportions at intervals. Without doubt there is the basis for a trade of almost unlimited proportions, as the fish is highly prized as a table food, and the consumption in the United States alone is sufficient to warrant great expectations. Undoubtedly it could be cured so as to form an important staple along with dried cod and mackerel. So far sufficient capital has not been brought into requisition to place the export trade on a firm footing. For rapid transit to and from the fishing grounds two or more fast steamers are necessary, ample facilities of cold storage at both ends and along the line, independent agencies, and an adequate and regular supply. Commission dealers in New York and elsewhere charge ten and twelve per cent. commission for handling the fish, and the necessity of disposing of consignments on the spot causes frequent sacrifices; but with cold storage this would be avoided, and agencies independent of the eastern combine could handle the goods more advantageously.

There is, too, the competition of the American fishermen on the coast who

fish in Canadian waters, and ship from American ports, which give them a decided advantage over Canadian fishermen. This is a matter upon which repre-

sentations have been made to the Dominion Government, and it is hoped that measures will be taken to enforce international law Trade. in regard to the three-mile limit. There are no absolutely reliable statistics as to the catch of halibut, but it is stated that the export in 1895 by Canadian fishermen was 2,000,000 fbs., and an equal amount by Americans, or 4,000,000 fbs. in all. This, as a result of the trade in its incipiency, is most promising.

Belonging to the same family are a number of flounders, some of them very

abundant and good food fishes. The market is local.

Referring to deep-sea fishing, the skil (Anoplopoma fimbria) is perhaps one of the most delicious of table fish. It is found in great abundance off the coast of Queen Charlotte Islands, but is too delicate of fibre to stand shipment. This is often referred to as "black cod" commercially, and somewhat resembles the mackerel. I will quote what Mr. Ashdown Green, President of the Victoria Natural History Society, in a paper read in 1891, says regarding it. Speaking of their habitat on the west coast of Queen Charlotte Islands, where there were until recently several stations established for the purpose of curing them, he remarks: "The mode generally adopted was that of pickling the fish being too fat to dry "The mode generally adopted was that of pickling, the fish being too fat to dry and salt, and turning rancid when kept a short time. I am sorry to learn that

as a commercial venture this fishery has been abandoned; the labour and expense involved being disproportionate to the returns when compared with other fisheries. Opinion varies re-· Black Cod or "Skil." garding the quality of the fish on the table. Those brought to Victoria are dry and very inferior. I have never had an opportunity of tasting one from Queen Charlotte Islands, but I can well believe that they are excellent. As I remarked before, there is no comparison between fish of all kinds in Queen Charlotte Sound and those taken near Victoria. The skil undoubtedly ranks very high in quality when taken fresh and eaten, or after being properly cured; but ordinary methods of curing fail in preserving it for use and shipment. There is, it might be remarked, a wide field on this coast for the study of the methods of preservation of these and many other fish for market; one difficulty to be overcome is the super-abundance of oil as compared with eastern fish. Some experiments tried last year at Port Essington in a small way by bottling and canning, after special preparation, were said to have achieved excellent results. Whether an industry on these lines could be made to pay or find a market remains to be determined.

Another fish belonging to the salmonidae group, colachan (Thaleichthys pacificus), spelled in a variety of ways and also locally known as the "candle fish," should be of considerable economic value. It runs in enormous quantities up the rivers and inlets of the coast, coming into the Naas about the middle or latter part

of March, and reaching the Fraser about the middle of April, deteriorating somewhat in quality as it comes southward. This is a delicious pan fish and is greatly in favour in its season. It, Oolachan. however, like the skil, is too tender for carriage, and has, therefore, only a local market. It is about nine inches in length, and so plentiful at times when running

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as to be scooped up in bucketfuls. A good many are put up in pickle in small kits and cured like bloaters, but not much progress has been made in these directions, remarks applying similar to those in regard to the skil.

The Indians catch them in immense quantities and extract the "oolachan grease," which they use much as we do butter. Oolachan oil, properly refined, might become of commercial value, there being practically no limit to their numbers. Experiments have been made with oolachan by bottling and canning, it is said, with success. The oolachans, besides the Indians, have numerous enemies. The seal, sturgeon, salmon, and porpoise follow them in their run, and even bears and pigs gorge themselves on them when the opportunity offers. If they could be preserved as indicated for export so as to retain their flavour and body, they would undoubtedly demand a sale co-extensive with sardines.

The anchovy (Stalephorus ringens) is also abundant, of large size and excellent quality. At times they are seen in the harbour of Victoria in phenomenal numbers. Nothing had been done so far in utilizing this most valuable fish.

There are two varieties of smelts common in the markets (the Osmerus thaleichthys and the Hypomesus pretiosus), and are in brisk local demand.

There are no true soles in our waters, what is sold as such being the (Pleuronectes vetulus), a species of flounder. They are, however, a choice table article. It is a small fish seldom exceeding a pound in weight.

The herring (Clupea mirabilis), which Mr. Ashdown Green regards as equal in flavour to the English herring, though not so large in size, are also very abundant, and are consumed locally both fresh and as bloaters. A factory was established at Burrard Inlet some time ago to cure them and also for the extraction of oil, and the manufacture of fish guano, but was burnt down and not re-built, and nothing has since been undertaken in the same direction.

The capelin (Mallotus villosus) is common in Alaskan waters, so Mr. Green says, but only an occasional visitor to the British Columbia coast. It is sometimes exposed for sale.

Although plentiful in northern waters, the Gadidæ, of which there are several species, is not common farther south. Mr. Green says the common cod, (Gadus Macrocephalus), appears in several of our harbours to spawn, but is not more than sufficient for local demand. Its principal habitat is on banks of the northwest coast.

There are two other species of fish sold locally as cod, one the Ophiodon elongatus or "cultus cod," and the red rock cod (Sebastodes pinniger). The former is one of the best food fishes of the Pacific Coast waters and is in season almost the whole year round, generally hiding in eel grass or kelp. It takes a spoon or

other bait freely. The Indians secure this fish by sinking a wooden bait shaped like a shuttlecock at the end of their spear and releasing it at the bottom. The fish follows the shuttlecock to the surface and is speared. It spawns about the end of February, and ranges in weight from two to forty pounds. Another of the same family Hexagrammus decagrammus, the kelp trout of the market, seems to be in considerable demand, to judge by the quantity exposed for sale, but Mr. Green regards it as worthless. It is sometimes dried and smoked.

The A. pinniger belongs to the bass family (Scorpaenidae) of which there are several varieties,—Sebastodes ruberrimus, the red bass, A. pinniger and S. Melanops, or black bass. "As food fishes they are unsurpassed by any in our waters," says Mr. Green, "though rather expensive fish to buy, considering the amount of head and offal you have to pay for." These fishes are ovoviparous.

Another important fish, though not utilized to any large extent, is the sturgeon, the roe of which when salted forms caviar, and the bladders are manufactured into isinglass. The Pacific Coast sturgeon (Acipenser transmontanus) enters

The Sturgeon. the Fraser about the end of April, following up the oolachans and spawn, although little or nothing is known about the period. They are taken by spearing or by night-lights, baited with salmon, and very often they are caught in the nets of the salmon fishers. They grow to enormous sizes, some of them weighing from 700 to 900 pounds, and it is said that the largest caught weighed over 1,000 pounds, although it is not authenticated. There is a

small local demand for this fish, and a company was organized at New Westminster for the purpose of catching and exporting, which it did in a limited way, but as to the commercial results, little is known. Sturgeon have also been found in interior lakes. The most abundant skate is raja Cooperii. As a food fish it is not much in demand, probably on account of its repulsive appearance. It grows to a large size and sometimes is over six feet in length.

F ROM an economic point of view, the dog fish, of which two varieties exist, namely Squalus acanthias, the spike dog fish, and Geleorhinus galeus, the tope shark, though not a food fish, is one of the most valuable. They are found in abundance all up the coast to Alaska, and several factories have been established

for the reduction of oil from these fish, in which they are very rich. The liver contains a very superior oil, which for lubricating and machine purposes is of the very highest quality. A large amount of oil is also taken from the bodies which are steamed in large retorts. This oil is of inferior quality and not used for machines, but undoubtedly, if subjected to a proper refining process, would become a useful and cheap product. Both the liver oil and the body oil are largely used in the Province, and were formerly quite profitable as an industry, but latterly competition with Eastern oils has very materially reduced the profits.

In addition to the dog-fish there are several other oil-bearing fishes, the principal of which is the *Hydralagus collivei*, or "rat-fish." It is found in great abundance in places, and the oil procured from its liver is used for the very finest work in watches, gun locks, sewing machines, etc. It is a very prolific oil-bearer,

and should prove to be valuable as an industry.

The Cetorhinus maximus, or basking shark, is also plentiful in Queen Charlotte Sound during the summer months. It attains to a great size, is perfectly harmless, and so tame that while basking it may be touched by the hand. In England, 156 gallons of oil is the average yield of the liver, which alone is treated.

The foregoing are the principal of the economic food and other fishes of the British Columbia coast, although the complete list, taking the representatives

of the various families and their varieties, is a very long one.

In addition to these, whelks, cockles, clams and crabs are to be found in large quantities, both in winter and summer months, and are largely used locally and by Indian fishermen as bait. Dealing with the question of bait, Mr. Ashdown Green says:—

"The favourite bait with our fishermen is the octopus, common enough on our shores, but difficult to collect in sufficient quantities to fill the demand. Herrings at times may be taken by the ton, and when salted are the cheapest bait that can be procured. In fact, there is little else to be obtained in the winter; in the summer there is no difficulty in obtaining all that is wanted. Smelt, atherine, anchovy, and the different species of ditrema can then be taken in numbers. The sand launce (ammodytes personatus) is very plentiful, and if a dainty bait, and one

highly prized by the Dutch fishermen, be wished for, there is the river lamprey (lampetratridenata). These little fish ascend the river in thousands, and I do not know of a more curious sight than is to be seen in any of the cañons of a large stream during their migration upwards. Some few attach themselves to the sides of steamers and save themselves an immensity of trouble by doing so, having their passage free and meals also. But the bulk of them toil upwards, resting sometimes in the swifter parts of the river by holding on to a stone. Should the water become too rapid to stem by swimming, the lamprey holds on to the rocks at about the water-line, and during the momentary period when it is left dry manages to advance an inch or so by a succession of jumps, holding on whenever the water rises and there is no danger from the current."

So far the fishes of British Columbia have been treated from an economic point of view, but from a sportsman's standpoint the field is not a less interesting one. The whole interior of the Province, Island and Mainland, possesses a won-

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derful system of water communication, lakes and rivers. These as well as the lesser streams are abundantly stocked with fish, principally salmon or trout, the several varieties of which have already been enumerated. There are also white fish in the northern waters. While the best known and favourite resorts are on Vancouver Island, there is no locality where a fisherman may not prosecute with

Fishing For Sport.

Zest this time-honoured sport; and even on the sea coast during the salmon run with trolling line he will meet with gratifying success. The waters of Kootenay and Southern Yale are already becoming locally noted as fishing resorts, and when lines of communication are opened up, the rivers and lakes of the whole interior will attract numerous sportsmen, affording as they do fish of uncommon size and number. The scenery, too, everywhere is on a grand and picturesque scale, and all natural conditions are healthful and invigorating.

FISHERY REGULATIONS.

THE regulation and government of the fisheries in B.C., are at the present time and have been within the exclusive jurisdiction of the Dominion Government. Reference is subsequently made to a decision of the Supreme Court of Canada, which if upheld by the Judicial Committee of the Privy Council, will give the Province a large measure of control over the fisheries.

The regulations in force are as follows:

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I. Fishing by means of nets or any other fishing apparatus whatever for any kind of fish without licenses from the Minister of Marine and Fisheries is prohibited in any of the waters of the Province of British Columbia.

(This evidently was not intended to include the ordinary fishing with rod and line for sport, although that is the practical effect of the language of the section. Such a construction, however, has never been enforced.)

Indians may at any time, with the permission of the Inspector of Fisheries, catch fish for their own use only; but Indians may not spear, trap or pen fish in their spawning grounds, nor catch them during close season, or in any place specially reserved.

2. Nets for catching "quinnat" or spring salmon in the tidal waters of British Columbia shall only be used from the 1st day of March to the 15th day of September, inclusive, and the meshes of such net shall not be less than seven and three-fourths inches in extension measurement.

3. The meshes of nets for catching salmon other than quinnat or spring salmon in the tidal waters shall be not less than five and three-fourths inches in extension measurement, and shall only be used between the 1st day of July and the 25th day of August, inclusive, and between the 25th day of September and the 31st day of October, inclusive.

4. No salmon shall be taken in any of the waters of British Columbia from the 15th day of September to the 25th day of September, inclusive, nor from the 31st day of October to the last day of February following, inclusive.

5. No nets other than drift-nets shall be used for catching salmon of any kind, and such drift-nets shall only be used in tidal waters.

6. No nets of any kind shall be used for catching any kind of salmon in the inland lakes or in the fresh or non-tidal waters or rivers or streams. (Indians may, with the permission of the Inspector of Fisheries, use dipnets to catch for their own use.)

7. Drift-nets shall not be used so as to obstruct more than one-third of the width of any river or stream or any branch or channel thereof, and nets shall be kept apart at least 250 yards.

. No one shall fish for salmon from Saturday morning at 6 o'clock until the following Sunday afternoon at 6 o'clock. (Heavy penalties are imposed for

violation.)

10. Before any net or fishing boat or other fishing apparatus is used, the owner or person interested in such net, fishing boat or fishing apparatus shall cause a memorandum in writing, setting forth the name of the owner or person interested, the length of the net or boat, and the description and size of any fishing apparatus it is the intention to use, and the place where it is proposed to use the same, to be filed with the Inspector of Fisheries, and if no valid objection exists, the Inspector of Fisheries may, subject to such instructions as he may receive from time to time from the Minister of Marine and Fisheries, issue a fishery license for the same. (Violations subject to heavy penalties.)

11. All nets and fishing boats shall be numbered, and every boat shall have its number and the name of its owner painted on it in a conspicuous manner, and every net shall have the name of its owner or owners, as well as the numbers, legibly marked on buoys of wood or metal painted white, and floating on the water, attached to each end of the net, and such names and numbers shall be permanently kept on such nets and boats during the fishing season, and shall be so placed and kept as to be visible without taking up the net or nets, and any net or fishing boat used without such mark shall be liable to forfeiture.

12. Each bona fide fisherman, being an actual resident of British Columbia,

shall be entitled to obtain one license to fish for salmon.

13. Each firm, company or person actually engaged in the business of freezing and exporting fresh salmon shall be entitled to obtain not more than seven licenses.

14. Each firm, company or person actually engaged in the business of shipping or exporting fresh salmon on ice, not frozen or canned, shall be entitled to obtain not more than seven licenses.

15. Each firm company or other person actually engaged in dealing in salmon for home consumption shall be entitled to obtain not more than seven

licenses.

Each firm, company or person carrying on the business of salting, curing or smoking salmon for the domestic or foreign markets shall be entitled to obtain not more than seven licenses.

17. Each firm, company or person actually engaged in canning salmon for the domestic or foreign markets shall be entitled to obtain not more than twenty licenses.

18. The holder of every license shall at the end of each fishing season make

a true return of all fish caught under such license.

19. No license shall be granted to any company, firm or person unless each member of such firm or company or such person is a British subject, and such firm or company or person must be the actual owners or proprietors of the business, nets, boats and fishing gear for which the licenses are granted, and all salmon caught for the purpose of being frozen, canned, salted, cured or smoked shall be so frozen, canned, salted, cured or smoked in the Province of British Columbia.

20. No license shall be transferable under any circumstances, unless the written consent of the Minister of Marine and Fisheries has been first obtained.

21. All licenses granted under Sections 12, 13, 14, 15, 16, and 17 shall be called a "commercial" license, and no net to be used under any such "commercial" license shall exceed in length three hundred yards, and the fee for such "commercial" license shall be ten dollars (\$10).

22. Every settler or farmer actually residing on his lands or with his family, being a British subject, shall be entitled to obtain one license, by applying therefor to the Inspector of Fisheries, and under such license may fish in any of the waters of British Columbia, except in any prescribed limits, or during the close season. Such license shall be called a "domestic" license. No net to be used under any "domestic" license shall exceed three hundred yards in length. The suc and doll

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23. No person shall fish for, kill, buy or have in his possession in the Province of British Columbia any young of the salmon such as fry, parr, smolt, or grilse, under three pounds in weight, and if any such young are caught by accident in nets or other fishing apparatus, they shall be liberated alive at the cost and risk of the owner of such net or apparatus.

24. Holders of licenses for using nets to catch salmon trout and whitefish in the lakes in the Province of British Columbia may use gill-nets, such nets not to exceed one thousand yards in length, with the meshes not less than five inches extension measure. The fee for a license to catch salmon trout and whitefish shall be five dollars (\$5).

25. No one shall fish for, catch, buy, sell or possess in the Province of British Columbia any salmon trout or whitefish from the first day of October to the

30th day of November, both days inclusive.

26. No one shall fish for, catch, kill, buy, sell or possess any brook trout of any kind, or speckled trout, between the 15th day of October and the 15th day of March, both days inclusive. But Indians may at any time catch such trout for the purpose of providing food for themselves and their families, but for no other purpose.

27. No one shall at any time fish for, catch or kill brook or any kind of speckled trout by other means than angling with hook and line, and this restriction shall apply to Indians.

28. The use of firearms of any kind, explosive materials, spears of any description or torch or other lights to kill fish is prohibited in the Province of British Columbia.

The following provisions are contained in the Fisheries Act, C. 95, R. S.:—
Every dam, slide, or other obstruction across or in any stream where the Minister of Marine and Fisheries determines it to be necessary for the public interest that a fish-pass should exist, shall be provided by the owner or occupier with a durable and efficient fish-way, which shall be maintained in practical and effective condition, in whatever place and of whatever form and capacity will admit of the passage of fish through the same; and the place, form and capacity of the fish-way may be prescribed by any fishery officer by notice in writing

of the fish-way may be prescribed by any fishery officer by notice in writing.

Every one who violates the provisions of the foregoing section shall incur a penalty of four dollars for each day during which any such obstruction remains unprovided with a fish-way, after three days' notice in writing to the owner or occupier thereof.

Fish-ways shall be kept open and unobstructed, and shall be supplied with a sufficient quantity of water to fulfill the purposes of this enactment, during such times as are required by any fishery officer.

No person shall injure or obstruct any fish-way, or do anything to deter or hinder fish from entering and ascending or descending the same, or injure or obstruct any authorized barrier.

Sec. 14, ss. 2. Seines, nets, or other fishing apparatus shall not be set in such a manner or in such places as to obstruct the navigation with boats and vessels, and no boats or vessels shall be permitted to destroy or wantonly injure in any way any seines, nets or other fishing apparatus lawfully set.

No one shall catch, kill or molest fish when passing or attempting to pass through any fish-way or fish-pass, or in surmounting any obstacle or leap,—or shall use any invention to catch, kill or molest fish in the mill-dams, fish-ways, mill-heads and water courses appurtenant thereto.

Nets or other fishing apparatus shall not be so used as to impede or divert the course of fish in any small river.

Every one who throws overboard ballast, coal ashes, stone or other prejudicial or deleterious substances in any river, harbour or roadstead, or any water where fishing is carried on, or throws overboard or lets fall upon any fishing bank or ground, or leaves or deposits or causes to be thrown, left or deposited, upon

the shore, beach or bank of any water, or upon the beach between high and low water mark, inside of any tidal estuary, or within two hundred yards of the mouth of any salmon river, remains or offal of fish, or of marine animals, or leaves decayed of decaying fish in any net or other fishing apparatus, shall be liable, for each offence, to a penalty not exceeding one hundred dollars, or to imprisonment for a term not exceeding two months; Provided always that such remains or offal may be buried ashore, beyond high water mark, and at establishments situated inside of the mouths of rivers for carrying on deep-sea fisheries, the same may be dropped into perforated boxes or enclosures built upon the beach, or under stage-heads, in such manner as to prevent the same from being floated or drifted into the streams, or may be disposed of in such other manner as any fishery officer prescribes.

Lime, chemical substances or drugs, poisonous matter, dead or decaying fish, or any other deleterious substance, shall not be thrown into, or allowed to pass into, or be left or remain in any water frequented by any of the kinds of fish mentioned in this Act; and every one who throws or allows to drift into any stream frequented by fish, saw-dust or mill rubbish shall incur a penalty not exceeding one hundred dollars. (The Minister of Marine and Fisheries may exempt from the operation of this sub-section, wholly or partially, any stream or streams in respect to which he considers that its enforcement is not requisite in the pub-

lic interest.)

The tidal boundary for salmon net fishing within the estuary of the Fraser River to be from a line drawn from the mouth of Sumas River to a point due north across the above-named stream.

In the Naas River, from a line drawn across said river, at right angles from a place known as Rocky Point, on the right bank thereof, immediately above

Fishery Bay.

In the Cowichan River, at a line drawn from Cowichan Wharf due north.
In Wanuck River, Rivers Inlet, from a line drawn north-west from the Victoria Packing Co.'s wharf to the opposite shore.

In the discharge of his duties any fishery officer, or other person or persons accompanying him or authorized to such effect, may enter upon and pass through

or over private property without being liable for trespass.

Disputes between persons relative to fishing limits or claims to fishery stations, or relative to the position and use of nets and other fishing apparatus, shall be settled by the local fishery officer.

Gurry grounds may be designated and defined by any fishery officer.

The use of nets or other apparatus for the capture of salmon shall be confined to tidal waters, and any fishery officer may determine the length and place of each net or other apparatus used in any of the waters of Canada: Provided, that no one shall fish for or catch salmon with swing nets in any of the waters of Canada.

The Minister, or any fishery officer authorized to such effect, shall have power to define the tidal boundary of estuary fishing for the purposes of this Act; and every one who, without the special fishery lease or license above provided for, fishes for salmon above the actual limit so laid down, except with a rod and line, in the manner known as fly-surface-fishing, shall be liable to a penalty not exceeding one hundred dollars, and in default of payment to imprisonment for a term not exceeding two months.



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A QUESTION OF JURISDICTION.

I N the special case referred by the Governor-General-in-Council to the Supreme Court of Canada, and intituled "In the Matter of Jurisdiction over Provincial Fisheries," reported in Vol. 26, Supreme Court Can. Reports, 444, the Court held:—

(a.) That the beds of all waters, except the beds of public harbours vested in the Dominion at Confederation, belong to the respective Provinces in which they are situate, without any distinction between the various classes of waters:

(b.) The Dominion Parliament cannot authorize the giving by lease, license or otherwise, the right of fishing in non-navigable waters, nor in navigable waters the beds and banks of which are held by the Provinces. The legislative authority of the Dominion is confined to the regulation and conservation of sea-coast and inland fisheries under which it may require that no person shall fish in public waters without a license from the Department of Marine and Fisheries, may impose fees for such license and prohibit all fishing without it, and may prohibit particular classes, such as foreigners, unconditionally from fishing. The license as required will, however, be merely personally conferring qualification, and will give no exclusive right to fish in a particular locality.

HATCHERY-DISTRIBUTION OF FRY.

A HATCHERY was established in British Columbia and put into operation in 1885. Additional accommodation for hatching purposes is promised. Recently shipments of lobsters and oysters were made from the Atlantic and planted in British Columbia waters. The result of these shipments is yet unknown, and is looked forward to with interest, as, if the conditions are favourable, the extent of sea coast would materially augment the fishery wealth of the Province. The following is the record of the hatchery up to the present year:—

1885 1886 1887 1888	1,800,000 2,625,000 4,414,000 5,8 7,000	1889 1890 1891	4,419,000 6,640,000 3,603,800 6,000,000	1898 1894 1895 1896	5,764,000 7,800,000 6,390,000 10,393,000	
					65,655,800	0

VALUE OF BRITISH COLUMBIA FISHERIES' PRODUCTS.

* KINDS.	1895.	1896.	TOTAL VALUES FROM 1876 TO 1896 INCLUSIVE.
Salmon in cans	\$2,884,710 10	\$2,985,304 00	\$28,873,083 90
Salmon fresh and smoked	186,579 20	127,094 00	2,915,131 60
Salmon salted	31,480 00	24,130 00	699,326 00
Herring, all kinds	10,238 00	12,835 00	212,554 00
Trout	5,635 00	6,450 00	70,623 00
Sturgeon	18,750 00	19,025 00	240,650 30
Halibut	126,835 00	227,655 00	799,762 00
Oolachans	30,625 00	29,550 00	192,301 00
Oysters	8,000 00) (61,750 00
Clams	9,080 00	34,630 00 }	85,349 00
Crabs and Prawns	23,600 00	1)	199,920 00
Smelts	2,900 00	2,750 00	35,115 00
Skil	850 00		35,642 00
Tooshqua			72,157 00
Cod	14,100 00	15,060 00	103,991 00
Fur Seal skins	713,590 00	*556,770 00	7,300,299 00
Sea Otter skins	2,000 00	* 1,500 00	92,175 00
Assorted or mixed fish	22,395 00'	21,270 00	298,604 50
Fish Oils	54,000 00		1,164,718 00
Fish products	5,987 50	834 00	298,921 50
Fish for home consumption:.	250,000 00	250,000 00	2,160,612 50
	\$4,401,354 80	\$4,314,857 00	\$45,912,686 30

*Estimated.
| Nova Scotia ... \$144,430,042 00
| New Brunswick 68,959,055 00
| Prince Edward Island 24,270,550 00
| Quebec 44,557,272 00

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1876. 1877. 1878. 1879. 1880. 1881.

1882

VALUE OF EISHERIES' PRODUCT OF BRITISH COLUMBIA By years compared with Canada.

Fishery Output.	British Columbia.	CANADA.	Fishery Output.	British Columbia.	CANADA.
1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886	\$ 104,697 00 583,433 00 925,767 00 631,766 00 713,335 00 1,454,321 00 1,842,675 00 1,644,646 00 1,358,267 00 1,078,038 00 1,577,348 00 \$\$11,914,293 00	13,529,076 00 13,529,254 00 14,499,979 00 15,817,162 00 16,824,092 00 16,958,192 00 17,766;404 00 17,722,973 00	1888 1889 1890 1891 1893 1894	1,902,195 00 3,348,067 00 3,481,432 00 3,008,755 00 2,849,483 00 4,443,963 00 3,950,478 00 4,401,354 00 4,314,857 00	\$168,215,956 00 18,386,103 00 17,418,510 00 17,655,256 00 17,714,902 00 18,977,878 00 18,941,171 00 20,686,660 00 20,719,573 00 20,199,338 00 *20,500,000 00 *21,000,000 00

*Estimated

SCHEDULE OF CANNERIES, 1896.

	-		
Name of Cannery.	Owners or Agents.	Name of Cannery.	Owners or Agents.
SKEENA RIVER.		Pacific Coast	N H Rain
Carlisle	Carlisle Packing Co., Munn, Holland & Co.	Federation	Walter Morris.
Sandard	Victoria Canning Co. Ld.		
Inverness	Turner, Beeton & Co.	Star Windsor	Malcomb & Windsor. Costello & McMoren.
	Turner, Beeton & Co.	Fishermen's	S Hingholiffe
Windsor			J. A. Hume & Co.
North Pacific)	A.B.C. Co.	Sea Island	Munn & Co
British Amer-	H. Bell-Irving & Co.		Short & Squire.
ican)		Canadian Pac-	buore de balanci
Skeena Cann'ry	Cunningham & Son.	ific	Canadian Pacific Can. Co.
Royal Canadian	Royal Can. Packing Co.	Delta	
NAAS RIVER.		Harlock	Victoria Canning Co.,
Naas Harbour)	Federation Brand Can-	Holly	Ltd.
Mill Bay	ning Co.	Wellington	
RIVERS' INLET.		Terra Nova	
Brunswick	Brunswick Canning Co.	Atlas	Hobson & Co.
Good Hope	H. Bell-Irving & Co.	Richmond	J. H. Todd & Son.
Victoria)	(British Columbia Can-		Provincial Canning Co.
Rivers' Inlet.	ning Co., Ltd.	Anglo Americ'n	
Warnock	Victoria Can. Co., Ltd.	Brunswick	Brunswick Canning Co.
Lowe Inlet		Boutillier	Boutillier & Co.
	Cunningham & Rhude.	Phoenix)	
Alert Bay Can-		Britannia	
nery	S. A. Spenser.	Wadham's	H. Bell-Irving & Co.
Namu Harbour		Canoe Pass	H. Bell-Hving & Co.
Clarequet Can	Clarequet Fishing &	British Amer-	
nerv	Clayoquot Fishing & Trading Co.		
Nootka Cann'ry	West Coast Posting Co.	B.C. Cannery	
TOOLKA CAIRLY	West Coast Packing Co.	Industrial	
FRASER RIVER.	A. Ewen & Co.	Alliance	Coodmumber & Co
	McDonald Bros.	McPherson's	Goodmurphy & Co. McPherson, Hickey & Co.
Westminster		Fraser River	M Costello
' Commission	Tung.	Luser Mirel	La. Costello.
		and a second	

THE ANNUAL PACK (since the beginning of the industry),

YEAR.	CASES.	YEAR.	CASES.
1876. 1877. 1878. 1879. 1880. 1881. 1882. 1883. 1883. 1884. 1885. 1885.	67,387 113,601 61,093 61,849 117,276 225,061 196,292 141,242 108,517	1887. 1888. 1889. 1890. 1891. 1892. 1893. 1894. 1895. 1896.	204,083 181,040 414,294 409,464 314,893 228,470 590,229 494,371 566,395 601,370

THE SALMON PACK, 1897.

BELOW is given a list of the packs by the different Fraser River canneries and the aggregate of the pack of the Northern canneries this year. The Fraser pack, which is larger by a great deal than any previous year, is estimated at 840,000 cases, and that of the Northern canneries 200,000 cases. The returns, which are approximately correct, are as follows:—

WESTMINSTER CITY.			CASES.
	CASES.	London (formerly Lulu Island).	21,000
Cleeve Canning & Cold Storage	CASES.	Hume & Co. (English)	17,000
	20,000	Pacific Coast Packing Co. (Bain)	25,000
Ontario Packing Co. (Brennan's)	10,000	Colonial Canning Co	15,000
Boutillier & Co	10,000	Beaver (Todd & Sons)	20,000
Sinclair & Co	12,500	Canadian Pacific (Hennessy)	25,000
Western Fisheries Co	12,500	Fraser River Industrial Society	11,000
Westminster Packing Co. (Lam	12,300	Ewen & Co	39,000
Tung)	20,000	Deas Island Cannery	27,500
	20,000	Fishermen's (Hinchcliff)	21,000
NORTH ARM.		Victoria Packing Co	
Provincial Canning Co	9,000	Harlock	19,000
Alliance Packing Co	6,000	Delta	25,000
Terra Nova Cannery	15,000	Wellington	12,000
McPherson & Hickey	20,000	Anglo-British Can. Packing Co.	
Sea Island (Munn & Co.)	32,000	British Columbia	16,000
Dinsmore Island Packing Co	9,000	Phœnix	33,000
Richmond (Todd & Son)	18,000	Britannia	31,000
Welch & Co	12,000	Canoe Pass	20,000
SOUTH ARM AND CANOE	PASS.	Wadhams'	28,500
SOUTH ARM AND CANOL	I Abb.	British-American	20,000
Westham Island Packing Co.		Brunswick Canning Co. (Canoe	
(McDonald Bros.)	15,000	Pass)	25,000
Anglo-American Packing Co	18,000	Brunswick Canning Co. (Steves-	
Currie & McWilliams	22,000	ton)	22,000
Gulf of Georgia	50,000	Northern Canneries (no details	
Star (Costello)	22,000	at hand)	200,000
Light House (formerly Federa-			
tion)	25,000	Total, cases	,040,000

PACK BY DISTRICTS.

	Cases 1896.	Cases 1895.	Cases 1894.	Cases 1893.	Cases 1892.	Cases 1891.
Fraser River Rivers' Inlet Skeena River Naas River Lowe Inlet West Coast, V.I. Namu Harbour Alert Bay Gardiner's Inlet	356,984 107,468 100,140 14,649 10,395 5,107 3,987 2,840	400,368 58,579 67,797 19,550 8,681 3,320 3,000 5,100	363,967 39,351 61,151 19,587 8,315	457,797 38,659 59,683 15,190 8,724 3,700 6,476	80,215 15,126 89,780 25,434 8,161 	178,954 34,924 78,135 10,323 8,031
	601,570	566,395	494,371	590,229	228,470	314,893

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that in 16,929 2,884 i shares \$1,593, \$6,245, amoun with \$6

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Number of men employed and capital invested in Fishing Plant and Fur Sealing Industry of British Columbia and Dominion of Canada for the year 1895:—

		BRITISH C	CANADA.			
	Fis	SHERIES.	SEALING.		Chi abay	
Contraction of	No.	Value.	No.	Value.	No.	Value.
No. of fishermen in vessels boats boats boats.	365 119 2,600	\$217,410 00 106,050 00	1,642 12,478 61 217	\$389,200 00 21,700 00	9,804 61,530 1,221 34,268	\$2,318,290 00 1,014,057 00
" canoes	49 12 4	980,000 00 9,000 00 35,000 00	421	10,525 00		
Salteries Gill nets and seines Other material		4,000 00 296,700 00 15,850 00				1,713,190 00 4,208,311 00
		\$1,664,010 00		\$421,425 00		\$9,253,848 00

Total invested in B.C.....\$2,085,435 00

O

Since the year 1895, which is the last year giving official returns, the capital invested in British Columbia fisheries has increased one-third of the total amount. and the approximate value is now (1897) \$2,780,580.00.

PACIFIC COAST FISHERIES.

OR the purpose of comparison, the statistics of the whole Pacific Coast are given, as extracted from the reports of the United States Fishery Commission. Unfortunately, although the latest report was issued in 1895, it does not contain information subsequent to 1892. That year, however, may be taken as a fairly average one; and while in the United States the output has not materially increased since 1892, that of British Columbia has in a most important degree.

The enquiries of the United States Fisheries' Commission disclosed the fact that in 1892 the number of persons engaged in the fisheries of the Pacific States was 16,929; of whom 5,403 were in California, 4,332 in Oregon, 4,310 in Washington, and 2,884 in Alaska. The aggregate capital invested was found to be \$9,002,314. The shares of the different States were, \$2,526,746 for California; \$2,272,351 for Oregon; \$1,593,567 for Washington, and \$2,609,650 for Alaska. The value of the catch was \$6,245,192; a sum representing the products as landed by the fishermen. Of this amount California is credited with \$3,022,991; Oregon with \$872,405; Washington with \$931,568, and Alaska with \$1,418,228.

The extent of the industry of the Pacific Coast in 1892 is shown in the following figures, the numbers for British Columbia, Oregon, Washington and Alaska being separately given:

PLACE.	oyed.		Total	SALMON CANNED.		
	Pers Empl	Persons Employed. No. of Canneries.	Investment.	Cases.	Value.	
British Columbia	5,177 222	39 6 22	\$1,771,352 00 135,000 00 1,433,000 00	239,346 15,884 394,486	\$1,378,631 00 75,696 00 2,085,072 00	
Washington	851	13 15	889,750 00 1,560,900 00	238,758 468,970	1,163,590,00	

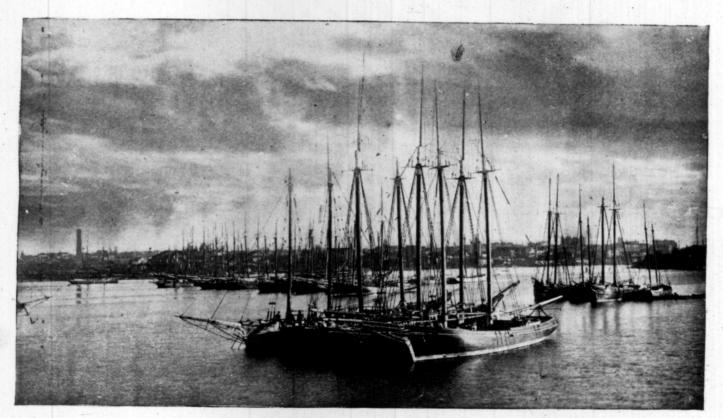
The extent of the pelagic fur seal and sea-otter fishery is shown in condensed form, for 1892, below:—

PLACE.	ssels.	nnage.	SEAL SKINS.		SEA OTTER SKINS.	
1	Ves	Ton	No.	Value.	No.	VALUE.
British Columbia . , San Francisco	66	4,456 1,308	46,362	\$602,706 00 167,526 00	14 227	\$ 34,950 00

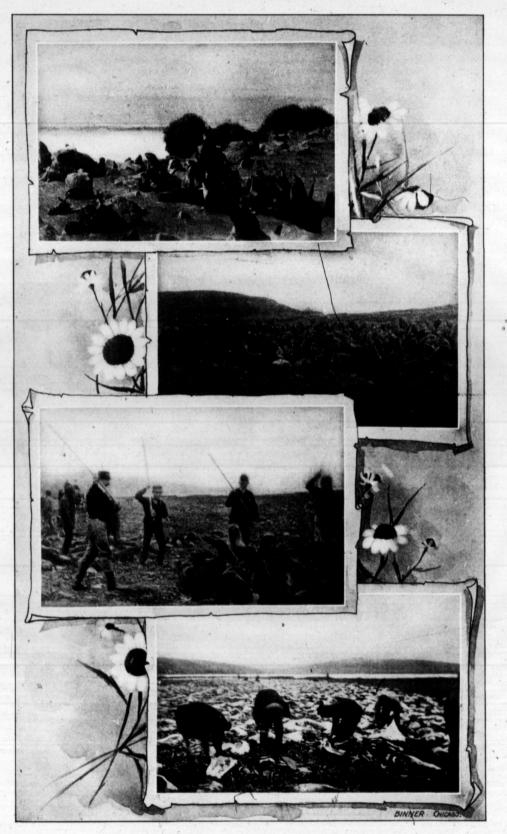
The extent of the whaling business carried on by vessels owned at San Francisco is as follows for the year 1892: Number of fishermen, 1,240; vessels, 36; tonnage, 8,983. Total value of catch, \$1,121,877.

The annual results of the salmon canning industry on the Columbia River from 1876 to 1893 are as follows:—

YEAR.	NUMBER OF CASES PACKED.	VALUE.
876	450,000	\$2,475,000 00
877	380,000	9 2,052,000 00
878	460,000	2,300,000 00
879	480,000	2,640,000 00
880	530,000	2,650,000 00
881	550,000	2,475,000 00
882	541,300	2,600,000 00
883	629,400	3,147,000 00
884	620,000	2,915,000 00
885	553,800	2,500,000 00
886	# 448,500	2,135,000 00
887	356,000	2,124,000 00
888		2,327,981 00
889	00	1,809,820 00
890	435,774	2,407,456 00
891	398,953	2,240,964 00
892	487,338	2,679,069 00
893	370,000	2,107,500 00
Total	8,373,427	\$43,585,790 00



SEALING FLEET.



A CHAPTER IN SEALING LIFE.

SEE "SEALING."

1883. 1884. 1885. 1886.

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THE ALASKA SALMON PACK FROM 1883 TO 1893 : L

YEAR.	Number of Cases.	YEAR.	Number of Cases.	YEAR.	Number of Cases.
1883	36,000 45,000 74,850 120,700	1887 1888 1889	190,200 298,000 675,000 641,449	1891 1892 1893	808,908 468,970 636,427

SEALING OPERATIONS.

THE industry of sealing has had many vicissitudes largely arising out of the international issues involved. For some years it was very lucrative, but latterly owing to the low prices of seal skins, and the complications and losses arising out of the Behring Sea question the industry has suffered severely. It is confined, so far as the Province is concerned principally to Victoria. The importance of the industry may be judged by the following particulars: There are sixty-five schooners of a net tonnage of 4,292 registered, valued at \$614,500. Eight hundred and seven whites and nine hundred and three Indians are employed. The annual cost of outfitting is about \$135,000, and some \$350,000 is paid in wages. The value of the skins has averaged \$750,000 per annum for the past three years, of which \$500,000 is the product of Behring Sea.

A CHAPTER IN SEALING LIFE.

The plate on page 264 entitled, "A Chapter in Sealing Life," is more complete and suggestive than anything that could be written about it. The views are from photographs taken by Mr. Maynard on Pribyloff Islands, the breeding grounds in Behring Sea of the seals. The first shows a herd of seals near the beach disporting themselves on the sand; in the second they are being driven in great numbers to the slaughter grounds; in the third the young seals are being clubbed to death; in the fourth view the seals are being skinned, and the skins are spread out in great numbers. This industry is carried on by the Alaska Commercial Company as an exclusive monopoly.

SEALING OPERATIONS IN BRITISH COLUMBIA SINCE 1890.

	1895.	1894.	1893.	1892.	1891.	1890.
Number Vessels	64 4,096 \$419,360 705 854 421 210 \$31.525 70,739 \$707,390	3,866 386,600 888 578 259 266 \$33,075 94,474 \$944,740	55 31743 \$384,200 847 432 204 256 \$30,700 68,231 \$843,984	\$66 4,456 \$513,000 961 571 250 281 \$28,100 46,362 \$602,706	\$1 3,378 \$418,606 716 336 \$57,900 \$2,995 \$794,925	\$248,25 \$248,25 67 25 10,82 54,85 \$510,51

SEALING CATCH.

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THE CATCH FOR THE PAST EIGHT YEARS HAS BEEN:

1889	35,310	1893	70,592
1890	43,325	1894	97,474
1891	52,365	1895	74,124
1892	49,743	1896	55,677

LIST OF THE CLAIMS FOR COMPENSATION IN RESPECT OF THE SEIZURES OF BRITISH VESSELS IN BEHRING SEA BY THE AUTHORITIES OF THE UNITED STATES,

YEAR.	VESSEL.	Amount Claimed.	Total.	YEAR.	VESSEL.	Amount Claimed.	Total.
1886	Carolena Thornton Onward Favourite Black Diamond W. P. Sayward Anna Beck Alfred Adams	\$38,089 25 42,163 04 45,570 10 6,202 00 10,687 00 \$47,984 96 54,309 08	\$142,711 39	1889	Juanita Pathfinder Black Diamond Lily Minnie Triumph Ariel Kate Wanderer	\$32,481 00 34,622 00 41,901 00 34.574 00 40,407 00 40,950 00 20,061 00 22,384 00	,
887	Oolphin	20,746 00 68,897 71 64,498 25 61,003 07 5,325 50	322,764 57	1890	Pathfinder, Henrietta Oscar and Hattie Winnifred Costs Sayw'd Case	\$21,404 10 11,365 00 6,633 05	\$286,277 6 3,700 6 39,402 62,847 \$857,702

Interest on above at the rate of 7 per cent. from dates mentioned in the particulars until payment.

THE BEHRING SEA QUESTION.

AS intimated in a former part of this book, the Behring Sea Question, which is intimately connected with the sealing interests, grew out of the old and historic subject of boundaries on the northwest coast of America, and is one of the branches of the diplomatic dispute originating prior to the Russian Treaty of 1825. The Oregon boundary, the San Juan difficulty, and the Alaskan Boundary Question are limbs of the same tree. It is not necessary here to discuss that phase of the subject. Like the Alaska boundary the Behring Sea difficulty is directly the outcome of

Historically, the origin of the present dispute lies in the possession of Alaska and the islands pertaining thereto by the Russians, and the subsequent transfer of this territory by Russia to the United States, the Government of which acquired all the inherent rights of property and domain of the former. The Pribyloff Islands in the southeast corner of the Behring Sea are the great breeding grounds of the fur seals, on the coast of North America, and consequently Behring Sea is a prolific hunting ground, and the principal seat of the sealing industry. As the Pribyloff Islands are exclusively the property of the United

States, that country leased to the North American Commercial Company the right to kill annually on these islands 100,000 seals. It is not probable that the United States Government of its own volition made the dispute, but the private commercial interests which this arrangement created undoubtedly suggested claims to rights in regard to the seals which the United States Government fathered and subsequently undertook to establish. Control of the breeding ground, if it were accompanied by control of the sea itself, would carry with

it a monopoly of the sealing industry. Hence, to secure this the A " Mare claim was set up that Behring Sea was a mare clausam, or closed Clausam." sea, although over a hundred miles wide and a part of the Pacific Ocean. This claim was based on a right arrogated by the Russians to exclusive jurisdiction,-which, by the way, was formally taken exception to by the United States Government itself, and was never recognized by any nation, much less Great Britain -on the plea of inheritance by purchase. Great Britain, in the first place, denied the existence of any such right on the ground that Behring Sea was part of the high seas, and also that, even if such right had previously existed on the part of Russia, that nation had by conventions with the United States and Great Britain in 1824 and 1825, respectively, renounced such claim. Canada through Great Britain disputed the claim in 1886 and from that time disputes and seizures were frequent. A list of these seizures and their dates is given subsequently. At one time the situation was somewhat strained, but the most serious result was the loss to the owners of British Columbia sealing vessels. Claims for compensation were made and the outcome was a Treaty of Arbitration,

negotiations towards which began in 1891—the modern and best mode of settling international difficulties. The Court of Arbitration which met in Paris in March, 1893, was composed of distinguished jurists and all parties to the dispute were ably represented by counsel, agents, commissioners and experts.

It would be quite impossible in limited space to indicate even meagrely the whole ground traversed. Briefly, the questions at issue submitted to the arbitrators included: (1) The extent of the exclusive jurisdiction of Russia in Behring Sea and the nature of rights exercised in regard to the seals; (2) The extent to which Great Britain recognized such jurisdiction and rights; (3) As to whether Behring Sea was included in the phrase "Pacific Ocean" as used in the Treaty of 1825, and what exclusive rights were exercised by Russia after the Treaty; (4) As to whether all the rights possessed by Russia passed unimpaired to the United States; (5) The right of property of the United States in the fur seals outside of the three-mile limit. Article VII. of the Treaty of Arbitration also provided, in a certain event, that the arbitrators should determine what concurrent regulations outside of the jurisdictional limits of the respective governments, were necessary for the proper protection of and preservation of the fur seal in or habitually resorting to the Behring Sea.

In the arguments of the United States counsel the claim to the exclusive jurisdiction over a portion of Behring Sea was practically abandoned, but an ingenious claim, presented with great force and ability, was set up, that as the breeding grounds of the fur seals were on the Pribyloff Islands the United States had exclusive property in the latter wherever found, and that their indiscriminate

killing was contra bonos mores. In other words, that the seals in a peculiar sense were domestic animals, bred on, and periodically frequenting, islands exclusively the property and within the jurisdiction, of the United States, and that if it were possible to brand or otherwise distinguish them with a property mark, that wherever found, no matter in what waters, they still remained the property of that nation. Pelagic sealing, which, as the origin of the word "pelagic" suggests, is killing seals in the open sea, it was strongly urged, should be prohibited as in the interests of seal life. In

view of the interests involved, and the peculiar position of the United States in relation to the sealing question generally, the subtle skill and delicate finesse exhibited by the advocates of that nation before the Paris Tribunal are worthy of all admiration; and, while all the points at issue were decided in favour of the British contention, the effect of their presentation of the case was evident in the regulations which formed a sort of codicil to the main Award. It is needless to say that the contra case was sustained with great ability as well; and the general issues submitted and previously referred to were definitely and forever set at

British Contentions Sustained. It was decided that Russia had not exclusive jurisdiction or rights beyond the ordinary limit of territorial waters; that Great Britain did not recognize or concede any such jurisdiction or rights; that Behring Sea was included in the phrase "Pacific Ocean" as used in the Treaty of 1825; that all rights of Russia passed to the United States at the time of the purchase of Alaska; that the United States had no property rights of

protection or property in the seals outside of the three-mile limit.

As already intimated the effect of the United States argument was evidenced in the regulations determined as necessary by the arbitrators. Under these pelagic sealing was forbidden to subjects of both nations within a zone of sixty miles around the Pribyloff Islands; a close season was declared between May 1st and August 1st, not only in Behring Sea but in the Pacific Ocean north of the 35th degree of north latitude, and east of the 180th degree of west longitude. Only sailing vessels are permitted to carry on sealing, using no nets, guns, or explosives, and operating under license. Although both governments claimed the Award as a victory, the subjects of each, who happened to be particularly interested in the sealing industry, were disappointed and accepted the finding with bad grace, and ever since there have been strong efforts made in the

behalf of both to have the regulations amended, in opposite directions. Article IX. provides that the regulations are to remain in force until wholly or in part abolished or amended by common consent; and that they are to be submitted every five years to a new examination in order to enable both governments to consider whether, in the light of past experience, there is occasion to make any modifications. In addition, the arbitrators made certain suggestions, the most important being that the two governments should come to an understanding to prohibit the killing of seals on land and sea for a period of from one to three years, and should enact regulations to carry out the findings of the arbitrators.

The liability of the United States Government was clear under the Award, and the arbitrators made a special finding on the facts agreed upon by the agents of both governments with reference to the seizure of British vessels in Behring Sea. Evidence was not gone into respecting the compensation due on account of individual sealing schooners, but, in the absence of an agreement between the two governments as to the compensation to be paid, provision was made for reference to a commission for that purpose. The two governments did come to an agreement whereby Canada on behalf of the owners of sealing schooners, agree to accept the sum of \$425,000 without prejudice to rights otherwise ascertainable; but the United States Senate refused to ratify the agreement entered into by the President; and a commission was appointed as provided for under the Award. The commission met in Victoria in the latter part of 1896 and voluminous evidence on the part of the sealers was heard. Just recently the commission resumed its sitting in Halifax for the purpose of argument by the counsel on behalf of their respective governments. A decision by the commissioners has not yet been reached.

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AGRICULTURE.

S President Cleveland would say, it is a condition, not a theory, that confronts the farmer of British Columbia to-day. The theory is that the soil is particularly fertile and the climate equable and mild, peculiarly adapted for perfect fruition. Both assumptions are quite correct. Conditions, however, somewhat modify the theory. Farming in B.C. has not been the success that might naturally have been anticipated under circumstances which appeared so favourable. I have been asked to write an article on the "present tendencies, needs, and possibilities" of agriculture in British Columbia. The farmer of Ontario, who I consider enjoys the very Eden of America, if indeed, such a spot in agriculture can be said to

Royal Road. farmer of Ontario, who I consider enjoys the very Eden of America, if, indeed, such a spot in agriculture can be said to exist on this or any other continent, has had his cup full of woes. California, of which the cornucopia might most appropriately be chosen as an emblem, has suffered much. In fact, the farmer everywhere * * * has had "a hard row to hoe," more particularly in the Golden West. Therefore, it is not with the intention of giving a "black eye" to the industry that the broad statement has been made with reference to farming in our Province.

Ten years ago, although agriculture was but slightly developed here, the highest hopes of success were held out. On the face of it the conditions were most favourable—comparatively limited area of agricultural lands; protection by tariff and freight rates from outside competition; generous, even extraordinary, yield of all kinds of crops; freedom from blights, parasitic diseases and the like; sure crops, and a demand for farm products, which brought high prices and imports per annum amounting to between \$1,500,000 and \$2,000,000 in the aggregate. The drawbacks were those, of course, incident to a new country—imperfect communication, immature methods, the difficulty and expense (in our case pecu-

liarly so) of bringing the accessible land into cultivation, and all the rest of it. On the whole, however, the advantages were clearly in favour of the farmer who could reach the market. For a time he prospered, or should have prospered, like a green bay tree. Just about the time referred to good farm lands began to be at a premium. Knowledge of the

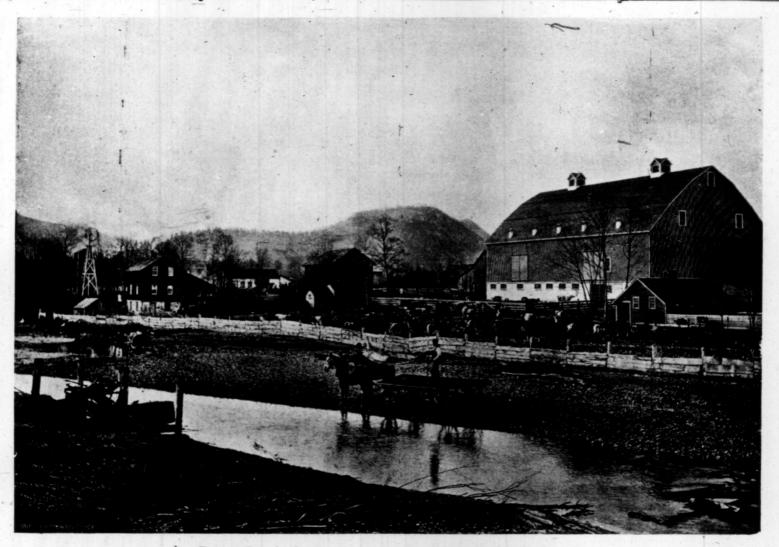
This article was written for and appeared in the Christmas Edition of the London (Ont.) Farmers' Advocate, 1896, at the request of the Editor.

conditions referred to above impressed most people that farming some day would become the most prosperous of industries, and it was thought, and with good show of reason, that when the varied resources of the Province began to develop—mining, timber, and fisheries—with the consequent inflow of population, the demand for farm products would place those fortunate enough to have land quite on the "velvet."

It is scarcely possible to imagine a more fortuitous combination of circumstances or better opportunities for success. With, as I have frequently known it, fresh eggs in the winter time 75 cents and \$1 per dozen, good butter 35 cents to 50 cents per pound, eastern apples \$6 and \$7 a barrel, meats and all other provisions on a similar scale, and a splendid climate and fruitful soil, faith in the future seemed to be well founded. It is the unexpected that usually happens. The first drawback was that farm lands became "real estate." Every available piece of land was either bought up or pre-empted—not for the purpose of farming, but to hold for a rise in prices. All of us, more or less, had the making of from one to a dozen "good" farms. The farmers themselves rapidly grew rich, or, at least, fancied themselves growing rich, and speculation was rife. There was little production, but much activity in buying and selling. Values went up until land that never saw an axe or a plow was held at from \$50 to \$75 an acre, and the more favourably situated, \$100 to \$150, and, in some instances, \$200.

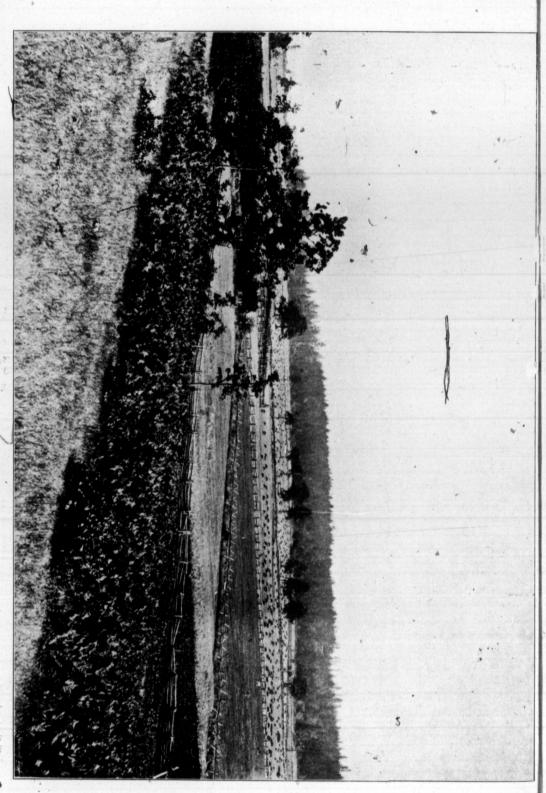
Where it had residence prospects (suburban property) it was not On a Real unusual to ask \$300, \$500, and even \$1,000 an acre. We lived Estate Basis. gloriously in a fool's paradise. I speak with due humility, as well as respect for those who luxuriated in it, because only lack of means, perhaps, prevented me from "plunging" like the rest. It did not occur to us until too late that farm land can only have a value determinable by the earning power of its products, and that no land for ordinary purposes could earn a dividend on such a capital investment for fully improved lands, not to speak of virgin acres that required as much more to put them into cultivation. However, we are all wise after the event. Lands suitable for farming were held unimproved; speculation led to mortgaging; arrears of payment and taxes began to pile up; a worldwide depression set in, accentuated by the crises in Australia and the United States: over-production in the States of the Pacific Coast (California, Oregon, and Washington) sent down the prices of produce and created serious competition; with cultivation came the pests which are general in the east to worry and hamper the producer; floods came and wasted the fields in the Fraser Valley; several bad seasons followed each other in succession-these and other things quite unexpected, and most of them unusual, contributed to the disappointment we all feel in not having had our ardent anticipations even partially realized.

I may be wigged well for doing so, but as I see no good reason for not telling the truth, I have to state that the farmer in British Columbia has struck rock bottom. After a vigorous descent, however, he has reached sure footing and can fearlessly begin to ascend again. He has learned much and has disabused his mind of many fallacies which were current a few years ago. He has found out that there is no royal road to fortune, except by pursuing farming as a business on a business basis. By the work of the Fruit-Growers' Association, the influence of the Dominion Experimental Farm, the educative effect of farmers' meetings, and the dissemination of agricultural intelligence by means of the several Departments of Agriculture and other agencies, considerable development



From Report Dept. Agriculture, 1897. Eden Bank Creamery and Buildings, Chilliwhack.





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has taken place on right lines and knowledge greatly increased. Farming is really on a better basis than ever it was, because the difficulties in the way of getting along are understood and the necessities of the situation more fully appreciated. It is understood now that better and more improved methods of sowing, reaping, and selling are required, and that eternal vigilance and industry are the price to be paid for success.

Present tendencies, therefore, are in the direction of systematic effort rather than the slip-shod and happy-go-lucky ways that prevailed in the past, which have been described by one writer as "playing at farming," and by another as "scratching the earth in places" instead of cultivating it. Tendencies are, to be more definite, in the direction of smaller holdings, proper clearing and drainage of land, better care of orchards, co-operation for dairying purposes, improved methods of marketing, and generally an attempt to supply the home market in butter, eggs, poultry, fruit, meats, and the like, and in a way to attract the buyer.

For years, for instance, it was common to see British Columbia fruit displayed in large, uncouth boxes made out of split cedar, filled in with all sizes, kinds, and varieties. When placed along side of the neatly packed and uniform packages from Oregon and California it had only one effect, and that was to make customers for the imported article. Latterly, too, much has been done in the way of improving dairying. Three or four creameries with excellent demands for their products, have been established. There is a decided improvement in fruit-growing in every particular, and this promising industry will yet assume large proportions. Much remains to be done; everything, in fact; but a start has been made.

As to the needs of agriculture in the Province, that opens a wide field which cannot satisfactorily be traversed in one article. Local conditions, too, vary so much that no particular remarks will apply to the whole. On the lower Mainland, for instance, dyking and draining is a problem for solution; while in the upper Mainland irrigation is a prominent need. All along the coast the cost of clearing and the necessity for fertilizing wooded lands when cleared are worthy of every attention. Everywhere roads giving easy access to railway or steamboat communication are required. Cheaper lands and cheaper money are desirable objects. Railways giving communication with the mining districts are of the greatest importance; and so on. The list is a large one. For easy classification I should enumerate them as follows:—

I should advocate a form of government, or corporate assistance, whereby settlers would be enabled to buy lands in blocks of ten to fifty acres in extent at reasonable rates, being permitted to pay for them in twenty-five annual instalments, interest at four per cent.; all improvements in the way of drainage, fencing,

roads, etc., to be chargeable to the land. This is not a Utopian scheme. Its feasibility has been demonstrated in West Prussia, in Great Britain, and in a modified form in New Zealand. It is a perfectly business-like and practical proposition. The only mat-

ter to be looked after is that the settler or farmer shall invest enough of his own money to tie him to the land. When a man has to buy land in British Columbia at its full price for cash, bring it into cultivation, and live on it until his holding becomes reproductive, he must either have a lot of capital or go deeply into debt, which means failure to begin with.

This includes direct communication by rail with the mining districts of British Columbia, Yale and Kootenay, and with Northern B.C., too, when that

A railway by way of Hope, with a direct line through Westminster District south of the Fraser, and the ranching district of Yale through to Crow's Nest Pass, would make the whole of the farming regions tributary to the mines and afford a profitable market. This road, however built, should be so safeguarded as to rates that our farmers could ship their products cheaply to the interior and send their fruits to the North-West, which is their natural and ought to be their most profitable outlet.

Another need is the conservancy of the Fraser Valley from floods. That is essentially an engineering problem, and belongs largely to the Dominion Government. However it is attempted, it should be on a comprehensive plan, and in my opinion should be undertaken as part of the railway scheme referred to in the foregoing. From 150,000 to 200,000 acres of the best land in America is affected by the periodic overflow and high water, which might be converted into a valley as famous for its fruits

as the Annapolis.

Of even greater importance is the problem of irrigation in the interior, where large areas could be made to blossom like the rose. Reference has been made to Utah. There the Mormon colony was planted by the master mind of Brigham Young, right in the heart of arid America. Whateyer we may think of the system of theology he established, he certainly promoted the greatest and most successful colonizing enterprise the world

the greatest and most successful colonizing enterprise the world-has ever known. * * * What irrigation and industry have done in Utah can be done in the interior of British Columbia. The three great principles which governed the Utah colony were that no man should own more land than he could cultivate, that he should not speculate, and that he should not go into debt. They were part of his religion, and no doubt the conscience clauses have accounted for the phenomenal success of Brigham Young's experiment.

Co-operation in dairying, fruit-marketing, road-making, and in other directions in which a farmer's isolation is his weakness, is required. I do not mean to say that farmers should become Grangers or Patrons, for in the present state of society the fewer societies the better; but that they should co-operate for business purposes. This is especially a need of British Columbia at the present time.

As I have already intimated, our farmers, all along the Coast districts especially, require a knowledge and appreciation of the economy of fertilization. A cheap and readily available manure is one of the great requisites to success. I do not now refer to the bottom or prairie lands, which are abundantly fertile, by careful cropping for some time, but to that characteristic and predominant brownish, gravelly soil of which our wooded land is composed.

Fertilizing. It is largely destitute of potash and lime—two essential elements. I have advocated strongly the utilization of the fish offal, some 6,000 tons of which are annually dumped into the waters out of which the salmon are taken, to the detriment of the fishing industry. There are millions of tons of kelp and other seawed on our coast for the gathering. This, mixed with the offal and composted with lime, would furnish a "dirt cheap" and invaluable fertilizer, available to all. * * *

Lastly, I shall refer to the desirability of cheap money. I mean a low rate of interest. Interest charges are eating our farmers up. The Government can borrow money at three per cent.; the farmers in British Columbia are paying from eight to twelve per cent., and nearly every farm has a mortgage. The disproportion is too great. The system of agricultural credit banks is what is needed. They are growing rapidly on the Continent, and in Great Britain have had remarkable expansion. Those who want to know all about them should read Wolff's "People's Banks." The principle is that any number of reputable persons may organize as a credit bank, the capital of which is the joint credit of the members, each person being jointly liable with his fellows for all the debts of the

bank. It then borrows a small capital at say four per cent. and lends out at say five per cent., and also invites deposits, paying the same rate of interest. The borrower has to furnish two sureties and the object for which he wants the money has to be approved by the

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directors. Both they and the sureties watch the borrower to see that the money is used for the purpose specified, and all it in if it is being improperly used. If the money is spent for anything instable, insurance is effected to further secure the loan. It is designed especially to those who need only modest sums—\$25 to \$50 or \$80. Farmers and others who borrow large amounts can usually arrange for the same by mortgage or through established banks of discount. The agricultural credit bank does a business that ordinary banks do not usually touch. As it succeeds in a small way its operations can be extended. It also offers all the advantages of a savings bank or a co-operative bank to those who wish to invest their small savings from time to time in a way to earn four or five per cent. interest without risk.

I have always been sanguine of the future of farming in British Columbia, and never more than at the present time; notwithstanding the reverses of the past few years. The conditions are not less favourable than ever. The opening up of the mines of themselves will afford an outlet for all kinds of farm produce at paying prices. Our farmers will not have a monopoly of this, but will work under healthy competition. When the lands revert from the hands of the speculators into the hands of users; when the terms of payment and the rate of interest will enable a settler to pay and yet live; when the farmers have easy communication to markets, and the lands now lying idle are brought into cultivation by

tion to markets, and the lands now lying idle are brought into cultivation by means of clearing of land by machinery; when mixed farming The Outlook becomes general and special attention is devoted to the growing for Farming. of fruits best adapted to the market and for industrial purposes, to the growing of hops, flax, sugar beets, tobacco, and other special products for which the Province is adapted; when the surplus of products (especially fruits) becomes so great as to force the farmer to seek a market in other lands; when industrial products can be manufactured cheaply enough to compete with those of England in the markets of China and India and Australia; when, in short, the Province becomes fully developed and its resources are utilized to their greatest extent, the position of agriculture among other industries will be pre-eminent, and what now occupies a very secondary place in the Provincial economy will be established as the basis of our wealth and possess a permanency which cannot be shared by any of the other natural resources of the future of which we now speak so hopefully.

DREDGING ENTERPRISE.

ANNUALLY, at uncertain periods, ranging from the beginning of April to the end of August, the Fraser River is in freshet. The date on which the maximum height is reached is as uncertain as is the height itself. Thus in 1876 there occurred the highest freshet then on record, reaching its maximum height about the beginning of July. In 1882 this record was surpassed by thirteen inches at Mission, and the height was considered phenomenal. In 1894, to the astonishment of all, a freshet occurred on the 6th of June, which exceeded that of 1882 by some two and a half feet at Mission, while in 1896 one almost equalling that of 1882 reached its greatest height on the 16th of July.

The rising of this river is due to the large quantities of snow that fall on the various mountain ranges of British Columbia during winter, melting as the warmer weather of spring and summer sets in. The river in this condition while flowing through the narrow valleys and canyons of the mountains, though rising

often as much as sixty and eighty feet above its normal height, causes little or no agricultural damage till as it enters the wider valley of the Lower Fraser, in the district of Westminster, at a much lower level here, the result is very different. In this district are found large and detached areas of low, flat land, which, in this condition of the Fraser, become flooded, and, though the soil deposited by these freshets enriches the land flooded, the immediate effect is to destroy all agricultural efforts of the year.

Many areas subject to the flooding are, for the present, at least, not worth reclaiming owing to the high cost of the work, compared to their value, such, for instance, as some of the numerous islands of the river and of a few narrow

strips on its banks.

There are, however, several large areas of land which can be reclaimed with advantage for a comparatively small sum per acre. Some of these are already reclaimed, others are in process of reclamation, and the day is probably not distant when the remainder will be taken in hand.

Leaving out the large Indian reserve of Maria Island, the first important area of flooded land is the flats of Agassiz. They lie on the north bank of the river and consist of about 5,500 acres. The northern half of the area is practically

dyked by the embankment of the C.P.R., which runs through Agassiz, leaving necessary only the insertion of a flood-gate in a stream running through the bank to the Fraser to complete the reclamation. Previous to 1894 there had been a gate in this stream, but during the freshet of that year it had washed out. The reclamation of the balance of the Agassiz flats is not at present under consideration, but when taken in hand will be effected by a dyke of small average sectional area.

Continuing down stream on the south bank of the river are the flats of Chilliwack, consisting of about 22,000 acres. Excepting certain low stretches, most of these are only subject to overflow in high freshets. The flats of Chilli-

wack lend themselves admirably to dyking in sections.

A small portion of Chilliwack is in process of reclamation by private enterprise, but no scheme is as yet in contemplation for the balance. Nor can one be very successfully devised till the question of controlling the channel of the Fraser has been settled. This the Dominion Government has in contemplation. A party of engineers is engaged in making the

necessary preliminary examinations.

The lower flats of the Chilliwack Municipality, known as Lower Sumas, have had under consideration for some time past a dyking scheme in conjunction with Upper Sumas, a tract of low land separated from the former by a lake of the same name, which in its normal condition is a shallow stretch of water of about 9,000 acres in extent, fed chiefly by the Vedder and Upper Sumas Rivers, and discharging into the Fraser by a channel supposed to be a continuation of the Sumas, and known also by that name. The two Sumases contain about 20,000 acres of flooded land, and from time to time various schemes have been devised for their reclamation. Latterly the question has been left in the hands of commissioners appointed under the Act by the settlers, and through their instrumentality a very complete study of the question has been made, resulting in the opinion that the most effective and apparently only practical way of accomplishing the task would be to run a dyke from the east side of Mt. Chilliwack—a hill standing on the banks of the Fraser—up the western side of the Atchelitz—a small stream running across the flats—to a point on high ground; also a dyke from

the west end of the same hill along the Fraser to Miller's Hill, on the banks of the Fraser; and a dyke from the west end of that hill to Mt. Sumas, a mountain of considerable size, which is at the river end of a chain of hills separating the Sumas flats from the Matsqui. This would necessitate a large gate being built in the River Sumas, and, inasmuch as it would be impossible to handle by pumping the accumulation of water in the

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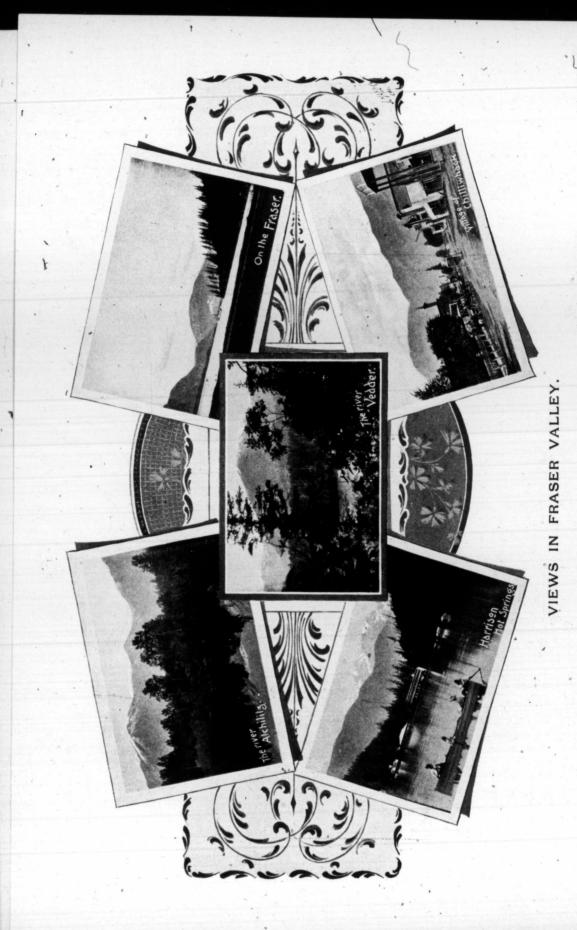
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lake supplied by the Vedder and Sumas Rivers combined, it was proposed to divert the waters of the former at a point where this river emerges from the mountains into the channel of the Luk-a-kuk, which originally had probably been one of the many channels through which the Vedder at some past period flowed. It was assumed that a large portion of the remaining A Serious Problem. waters enturing the lake and spreading over its area would evaporate, and it was intended to pump the balance. This, so far as the reclamation of the Sumas lands was concerned, would have worked admirably, but the turning of the Vedder into the Luk-a-kuk is a serious problem affecting other interests, and when these, as well as the high cost of the undertaking, were considered, as compared with the value of the land reclaimed, it became for the present imprac-

Lying on the north side of the river is the large island of Nicomen, containing about 5.600 acres. This island is separated from the Mainland by a channel of the Fraser known as Nicomen Slough. It, too, at present remains unreclaimed, owing to the cost of reclamation being high compared with the value

of the land.

Following after Nicomen, on the same side of the river, are the flats of Dewdney. These containing about 5,300 acres, are, like Agassiz, divided into two districts by the embankment of the C.P.R. That north of the line, which includes Hatzic Prairie, was reclaimed in the year 1893 by using the C.P.R. embankment as a dyke and inserting a flood-gate where it crosses Hatzic Slough. It was intended to utilize Hatzic Lake as an evaporating reservoir, and pump the balance during high water. In 1894 the flood-gate gave way, and the damage has not yet been repaired. The southern portion is not yet reclaimed and has no scheme in contemplation.

The flats of Matsqui, consisting of about 10,000 acres, lie a little further down stream on the opposite or south side of the river, and are protected by a dyke running from Mt. Sumas to Mt. Lehman, on the Fraser. This dyke was

built as far back as 1880; it proved effective during the year 1882, Matsqui but has been unsatisfactory since. In each of the two main sloughs no fewer than four different sets of gates have been built. Three of these have been destroyed in succession. The fourth, which is designed on a novel plan compared to any hitherto made in the Province, has not yet been sufficiently tested to prove its efficiency.

The next large area of flooded land is the flats on the east and west of the River Pitt, a large tributary of the Fraser entering it from the north. Progressing up the Pitt are the dyked meadows of Maple Ridge; they lie on the east of the river and contain about 8,600 acres. The embankment was ineffective in 1894 and is now being raised and strengthened.

To the north of Maple Ridge and separated from it by the Lillooet lie two areas of meadows dyked under commissioners. These small tracts consist of 2,500 acres and are separated by the North Lillooet. Their embankments suffered very seriously during the freshet of 1894 and have since been completely repaired.

On the west of the Pitt are the two areas of Coquitlam separated from each other by De Boville Slough and containing 3,600 acres, and north of these is the

little area known as the Wilson, consisting of only 400 acres and Coquitlam. protected by an embankment put up by private enterprise. Unfortunately during the freshet of last year the gates of the Wilson, through some unforeseen cause gave way, and have not, up to the present, been replaced.

The dykes of the meadows average ten feet in height, and have been erected by means of dredgers with material taken from inner ditches, which latter are now used for drainage purposes. Ample protection has been made for the discharge of this water by means of flood-gates, and each section has been provided with a pumping station which acts during high water when the gates are closed.

The dykes on the Fraser, like those of other large rivers, are exposed to great risks. Up to the present they have in many respects proved unsatisfactory, but the Government is contemplating taking over the entire management, when the most approved method of protection will be adopted, and the greatest care taken to keep the works in a state of efficiency.

The cost of the erection of the protection works executed by commissioners has been met by loans raised under Government guarantee, and the land is subject to a small annual assessment to cover interest and sinking fund. These loans are about to be bought'in by the Government, when the burden on the land will be still further reduced.

Apart from the flats subject to overflow by freshets, a large quantity of the delta is subject to tidal inundation. Reclamation works on this have been

going on since the year 1890 and most of it is now protected. Here the risks are small compared to the freshet dykes, and the difficulty of maintenance is easily overcome. All these lands are admirably suited to agricultural purposes, and in spite of the assessment for dykes and the necessity of drainage, are with greater ease and less cost made productive than the bush covered high lands.

KOOTENAY RECLAMATION SCHEME.

THE lands held by the Alberta & British Columbia Exploration Co., Ltd., of London, England, of which Mr. George Alexander, of Calgary, Alta., is manager in British Columbia, for the purpose of reclamation, are known on the official map as lands B, West Kootenay, and comprise that portion of the valley of the lower Kootenay River lying between the International Boundary at Rykert on the south and the lower or southern end of Kootenay Lake on the north, a distance in a direct line of some eighteen miles, or twenty-eight miles by river, with a varying width of from three to five miles.

Unfortunately for the purposes of cultivation, the banks of the river are not of sufficient height to always retain the volume of flood water during the

spring freshets as a result, during the period of extreme flood in Causes of May and June, reached every six or eight years, the river over-Flooding. flows its banks, or in ordinary years backing up in the sloughs

, with the same result—of converting the entire valley into a temporary lake.

This large tract contains an area of some 45,000 square acres of land, unsurpassed in richness and fertility by any land in the Province. And in addition to its being the only available land for agricultural purposes in West Kootenay, is directly tributary to the now established mining centres of Rossland, Nelson, Pilot Bay, Ainsworth, Kaslo and Sandon, with their constantly increasing demand for the natural productions of this district.

This area of 45,000 acres is sub-divided by natural topographical features

into five sections, varying in extent from 8,000 to 10,000 acres each.

The work of reclamation by the Alberta & British Columbia Exploration Company has been in progress since the summer of '92, and the first section of 8,000 acres is now practically reclaimed, divided into eighty-acre blocks, and ready for settlement. The agricultural and pastoral lands form fully eighty-five per cent. of the entire area, and consist of open meadow, which will be thoroughly drained by a complete system of arterial and lateral drains, with well constructed roads, giving access to any portion of the property. There is at present water comnunication by daily steamers plying on the river between Bonner's Ferry in Idaho and a connection with the Great Northern Railway in United States territory and the lake ports on Kootenay Lake, with the prospect in the immediate future of the construction of the C.P.R. through the Crow's Nest Pass, giving direct railway connection east and west from the centre of this property; so that the facilities for access and egress are all that could be desired.

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summers are most pleasant, and with sufficient rainfall to dispense with irrigation. The winters are clear and comparatively mild, the thermometer rarely marking below zero at any time, and the snowfall moderate, averaging only from two to three feet. Situated at an altitude of 1,750 feet above the sea, the air is refreshing in the summer and bracing and exhilarating in the winter months.

With the advent of the Crow's Nest Pass Railway, coal will be plentiful and cheap, and in the meantime, and, if necessary, for many years to come the side-hills furnish the best of fir and other timber suitable for firewood.

The Company has established a "Home Farm" of some 1,380 acres upon the property reclaimed, upon which a most comfortable and commodious farmhouse has been built, with large barns, cattle sheds and outhouses. The farm is well-stocked with draught horses and dairy and beef cattle, and all the necessary and improved agricultural implements for successful farming. And the result of the first year's trial, although in a great degree experimental as to what fruits, vegetables, etc., were best adapted to the district, has been most gratifying and satisfactory, establishing beyond any doubt the exceptional fertility and productiveness of the soil

It is the intention of the Company to continue their system of reclamation to the remaining sections ahead of any future demand such as will naturally arise for these lands, and in the meantime place upon the market the property already reclaimed on the easiest possible terms for intending purchasers, and also showing in a tangible form by the work done on their farm, the possibilities and special adaptability of the land for mixed or general farming.

G. A. KEEFER.

MUNICIPAL ENTERPRISE.

THE dyking which has been undertaken in the Province, outside the schemes under the auspices of the Government, has been done by several of the municipalities in New Westminster District. The principal of these are in Delta, Richmond, and Surrey.

The Delta lands are affected by the tidal waters of Boundary Bay and those of the Fraser River. Several years ago a dyke was constructed commencing at the south-easterly corner near the Semiahmoo trail, extending southward to the mouth of Big Slough. Here a dam was built with sluice-gates, and a dyke, six feet high, rounded off at the top, with twenty-six foot base, built along Boundary Bay westward for four and one-half miles to the highlands near Point Roberts by means of a dredge. A lateral drain was made, extending due eastward from Lot 177 to the south-east corner of Lot 34, on Boundary Bay. The total cost of this

belta System. section of dyke, which protects the adjoining land from the tidal waters of Boundary Bay, was about \$30,000. Another section has been more recently built, extending from the high lands above Crescent Island to the Fraser River, following the south bank of the Fraser past Ladner's Landing to a point on Canoe Pass, where a small section of private dyke intervenes, after which the municipal system is continued from near the mouth of Canoe Pass

to English Bluff. The cost of this section will amount in the aggregate to probably \$60,000 when finished, the two sections referred to practically completing the protection of Delta Municipality from tidal and high waters.

Lulu Island is almost completely surrounded by dykes, partly hand built and partly the work of dredgers. The latter begins near the mouth of Nelson Slough, on the North Arm of the Fraser River, extending to the corner of the Government reserve, in the vicinity of New Westminster City, and crosses the

Richmond Municipality.

Island at that point with an open cut to the opposite corner, and from there is continued down to the corner of Lot 27, opposite Tilbury Island, a distance in all of seventeen miles, which, including a dam and a drainage ditch, cost in the neighbourhood of \$52,500. The other portions of Lulu Island, as well as Sea Island, were dyked by hand work, done principally by Chinamen. Westham Island, which is included in the Delta Municipality, and is one of the most fertile spots in the New Westminster District, is also entirely surrounded by hand dykes.

In Surrey Municipality there is what is known as the Serpentine Flats on Mud Bay, which are drained by the Nicomekl and Serpentine Rivers, the watershed of which includes an area of over 10,000 acres of very fertile land. Surrey Municipality undertook to protect this by building a dam across the mouth of the Nicomekl at the point where the Semiahmoo waggon road crosses. This, however, proved ineffectual, being carried away by the high water. Two methods of reclamation are presented by the special conditions of this locality. One is the erection of a dam with flood-gates at the mouth of the Nicomekl River, and the

diversion of the Serpentine into the Nicomekl at a point where they converge, or by straightening, by means of dredging, the Nicomekl River and deepening it for some distance towards the source, and constructing a dam at the mouth of the Serpentine River provided with flood-gates. The latter method would, make the Nicomekl navigable for small boats as far as Clover Valley, and possibly farther, whereby scows could be towed up the river and be loaded with produce on the banks. The excavations from the bed of the river, being thrown up on both sides, would be sufficient to afford protection of the land from the tidal waters.

The other small portion of land subject to reclamation, not already referred to, is that of Langley Prairie, where, by dyking in a small way, an area of 2,000 acres will be protected thoroughly against the waters of the Fraser River.

THE growing of hops in British Columbia, especially in the coast districts, has passed the experimental stage. Indeed, so far as that is concerned, it has never been in the experimental stage. The experience in Washington and Oregon, which, in most respects, are similar to British Columbia and possess to a large degree identical conditions, has shown that the country as a whole is essentially well adapted for this industry. In the States in question hop growing

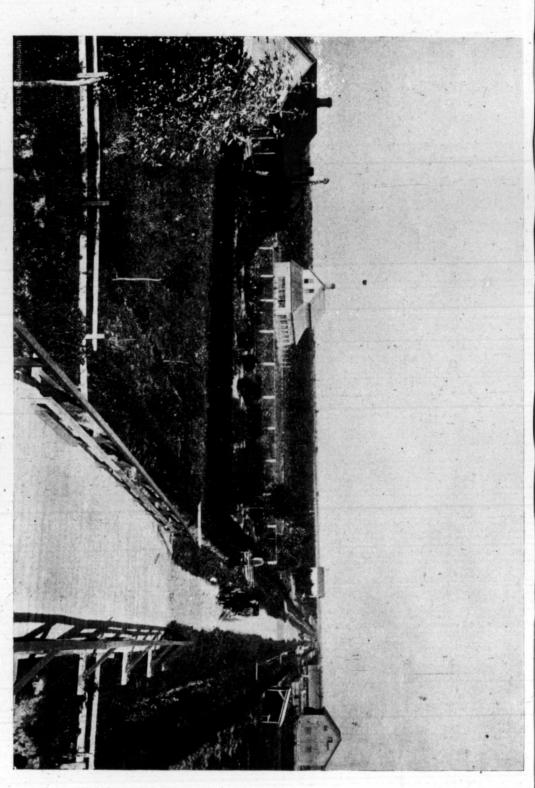
was carried on extensively, for some years very profitably, but latterly the low prices ruling in England, which is the market for the greater part of the Pacific Coast product, have materially interfered with its success. The introduction, too, of insect pests and diseases has had its effect. Hops grow in British Columbia on almost any character of land. The luxuriance of the plant as an ornament proves its general adaptability, and in good, well cultivated and well drained land it invariably grows well and yields largely. The industry several years ago received considerable impetus, and was engaged in by a number of persons in various sections of the coast districts, notably Saanich on Vancouver Island, Chilliwack, Agassiz and Squamish, and other points on the Mainland. The experience of the last few years, however, has somewhat dampened the ardour of those who engaged in it, and many have retired from



From Report Dept. Agriculture, 1897. View on Mr. R. H. Breed's Farm, North Saanich.

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> Opposing Views

this Provinc nected with crease of po this demand fed, and they who are as a will naturally of leading or the business. This was due largely to artificial rather than natural causes, including the low prices referred to. It may not be amiss to state that the hop industry is one in which expert knowledge and experience are required, not only in the preparation of the soil and cultivation of the plants, but in the varieties grown and in the process of curing and marketing. Hops would no doubt prove a remunerative crop if exploited by men with a practical knowledge of their cultivation and the full requirements of the market. In the Agricultural Report of 1897 it is pointed out that it is essential to know the varieties most used by English manufacturers; and the suggestion is a valuable one.

With regard to flax growing, this has been recommended by several persons, notably Mr. H. T. Thrift, of Surrey, who has been engaged in a series of experiments with a view to testing the adaptability of the soil and climate for the production of flax, both as an article of feed for cattle and for industrial purposes. Mr. Thrift says that flax has been grown in Westminster District for several years with most gratifying results, the quality of the fibre being equal to the best produced elsewhere. Samples have been exhibited at various local exhibitions.

There are thousands of acres of land in the district, suitable for its production. The industry, however, has heretofore been confined to a series of experiments. The fibre produced is long, fine and peculiarly silken, and yielding from two to three tons per acre. The price usually paid in Eastern Canada is \$12 to \$14 per ton, including the seed.

Mr. Thrift regards the conditions of development in this Province as peculiarly favourable to this industry on account of the demand, which is rapidly on the increase, for products such as ropes, twine, fishing gear, grain and ore sacks, etc., and which is likely to reach very large proportions, especially on account of the growth of the fishing and mining industries. In addition to local requirements, on account of the facilities possessed for shipping the prepared fibre to Europe, to the linen manufacturing centres of Great Britain and the Continent. the cultivation of flax for that purpose ought to prove a profitable branch of husbandry. The value of flax compared with other crops, as an economic product he considers as consisting in the amount of labour involved in its production, and is one in which settlers with large families might profitably engage by utilizing their own help to assist in its cultivation, harvesting and the afterprocesses necessary for its preparation for the market. Mr. Thrift points out many other advantages in connection with the carrying on of this industry, which constitute it; in his opinion, as peculiarly applicable to the dominant conditions obtaining on this Coast, included in which is the manufacture of linseed oil and oil cake. Its cultivation on a large scale would naturally lead to the construction of flax mills, thus adding an additional industry to the list of manufactures in the Province. Through his representations, largely, the Department of Agriculture has distributed seed among a number of farmers in various districts for the purpose of experiment.

That flax does well in British Columbia has been proved beyond doubt by several years' test, and among others by the manager of the Experimental Farm at Agassiz, whose experience and views on this subject are of value. However, the opinion is expressed by some practical men that for practical reasons the industry is not one which is likely to be engaged in to any large extent in this Province, either in the way of the manufacture of oil or fibre. One view expressed is that the area of land available for crops is much too limited and too

costly to warrant it being undertaken on a scale necessary to insure its success. The fact is pointed out that a large amount of agricultural products has been and is being imported into this Province for the purpose of supplying local demands, and in districts connected with mines, if the development reasonably anticipated is realized, the increase of population consequent upon mining activity must necessarily increase this demand. The people engaged in other than agricultural pursuits must be fed, and they can be more advantageously supplied by farmers in the Province, who are as a rule well-posted on the requirements of the market. The farmers will naturally, therefore, extend on lines in which they are already engaged instead of leading out into untried fields, which, as a rule, they are very reluctant to do,

as witness the efforts and expense for years put forth to establish beet root sugar

factories, both in Eastern Canada and the United States.

It is argued that if in the older and well-settled countries where there is a surplus of produce, these extraordinary industries, such as flax and the growing of the sugar beet, are difficult to establish, the chances are still greater against success in this Province, where conditions are new and local demand for other products very much greater. The solution of the problem, in any event, would seem to lie along the line of natural demand. British Columbia is, of course, favourably situated for shipping by sea and in regard to the important and growing industries of mining and fishing, etc., in which twine products are largely used; and, if, in the future, the demand for flax and the area necessary to produce it can be found sufficient and the industry made profitable, under such conditions, no doubt efforts will be turned in that direction. It is difficult, therefore, while natural conditions may be ever so favourable, to come to any definite conclusion as to the outlook, which must be determined by experiment and the character of industrial expansion in the future.

Reference has been made to forestry, which, in a comprehensive sense, is included in the field of agriculture. The opinion was expressed that forestry in this Province, owing to the natural conditions of growth, could be greatly di-

versified by the introduction of economic woods and fruit and nut Forestry. growing trees. The experience of the Dominion Experimental Farm

at Agassiz has shown that this is quite possible. From the reports of that institution it is seen that English, American and Japanese walnuts; American, Spanish and Japanese chestnuts, hickory, butternut, ash, elm, maple, and, in fact, all eastern timber and nut trees, do very well if planted where they can be given a little attention. Mr. Sharp says that a large number of the most valuable forest and nut trees have been planted and are growing on the mountain sides where they received no attention whatever, and many of them are making very fair progress. He points out, however, that they are planted in open spots here and there among the fir, maple and birch, where exists as well a luxuriant annual growth of ferns. Under such circumstances it will be a few years before they become very conspicuous, but at present they are well-established and doing fairly well on land that could scarcely be used for any other purpose. The conditions, for obvious reasons, were not made too favourable, as in that case the results would not be fairly indicative of what the country generally is capable. The success of these experiments goes to show that rocky places, hill and mountain sides which constitute at present very large waste space, the usefulness of which mainly consists in scenic effects, could be utilized for the propagation of large and economic forests. If to the cultivation of forest trees were added the experiments which the writer has on other occasions advocated of seeding down waste places with clover, and many of our natural grasses, which, on account of the humid climate, grow luxuriantly in almost any place where soil of any character exists, the area of pasturage would be tremendously increased, while the danger from forest fires now so great would to that extent be minimized. Prof. Macoun has pointed out that if the land adjoining the railway lines through the Province were seeded down in the way recommended so that the grass roots

would give strength and cohesion to the soil, mud and rock slides, Seeding which are so frequent, would be largely avoided; and if in addition to this the vicinity of trails leading in various directions and particularly to the mining camps, were similarly treated, pasturage would be created for the feeding of cattle driven in and out and for pack trains, etc. It is undoubtedly true also that in this way many of the barren stretches of land along the coast could be utilized for sheep raising, affording a supply of mutton for local markets. This, of course, is a subject which has not yet attracted attention, and necessarily would have to be carried out by a somewhat slow process; but the area could from time to time be materially increased until large sections now use-

less might be made profitable.

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PRICES OF PRODUCE.

R EGARDING the price of products, it is very difficult to arrive at what is an average price, which would apply over any considerable area of the Province or any period of time. The marketing of local produce has not yet been systematized in the same way as that of outside." produce. The supply is much more irregular and the facilities for reaching market are comparatively less adequate and perfect. There is, also, the difference between the prices received in a retail way and in job lots at a river bank. Either one given by itself without explanation would be misleading. Then again the prices received by individual ranchers in Cariboo,

Lillooet, East Kootenay and the southern part of Yale, if given Not a Guide: without reference to the conditions governing sale would lead to extraordinary misapprehension. In these places farmers are much isolated. There is only a local demand, and a limited demand their farms being far apart. at that, yet prices are very high compared with quotations at the Coast, because little is grown and the demand is limited as well. It would, therefore, for practical purposes, afford but little information to give the prices paid at many interior points, and they are not referred to. What has been considered of much more value are the average prices at New Westminster, where the only regular and successful market has up to the present been established, and they will serve as a fairly good guide to those obtaining farm produce on the Lower Mainland and Coast generally. At Vancouver, Victoria and Nanaimo, although there are market houses at the former two, most of the farmers' produce is retailed by grocers and other dealers, and the prices paid to the farmers are not easily obtained.

Quotations at New Westminster are:—

Butter—summer, 171/2c./, winter, 221/2c. to 25c. per tb. Eggs—summer, 16c.; winter, 35c. Poultry—Spring chickens, \$3 per dozen; hens, \$4.50 per dozen; young ducks, \$4.50; ducks, \$5.50; turkeys, 17½c. per tb.; geese, \$1 apiece.

Beef-fall, 5½c. per fb.; summer, 7c. to 7½c.; mutton, 7c. to 8c.; lamb, 8c.;

veal, 6c. to 8c. (7c being an average); pork, 5c. to 7c.

Potatoes-fall, \$12 to \$14 per ton; mangolds, \$7; carrots and turnips, \$8, onions, \$1.25 to \$1.50 per 100 lbs.; parsnips, 1c. to 11/2c. per lb.; cabbages, 1/2c. to ic. per fb.

Apples-\$1 to \$1.25 per box of 40 fbs.; pears, \$1; cherries and small fruits

very much and are from 5c. to 8c. per tb.

Taking Ladner's Landing as the point most central in relation to the four cities of the Coast, the following is a fair average of the prices of oats, hay, wheat, potatoes and carrots for the years 1895-96: Oats, \$18 per ton; hay, \$8; wheat, \$22; potatoes, \$8; carrots, \$6.

Milk is supplied by dairymen at from 8c. to 10c. per quart.

For three or four years, owing to competition from Washington. Oregon and California, where prices were very low and the markets in the state of chronic congestion, prices in British Columbia have ruled correspondingly,

Outside but during the latter part of 1896 and the present year a very Competition. great improvement has taken place and produce is in demand.

This is owing to a general improvement in the business situation, and to a large

extent, the mining activity, as a factor in business, is responsible for it.

In the past and at the present time-although conditions are altering favourably—the great majority of agricultural products, particularly the manufactured varieties, such as butter, cheese, bacon, etc., are imported. Fruit in very large quantities earlier in the season is imported from California and Oregon. Grapes, peaches, and apricots all come from there and formerly apples, plums and cherries as well, though the latter have greatly decreased on account of the increasing supply of home products.

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GENERAL CONDITIONS.

I T is impossible, within the limitations of a work, which aims to describe the Province as a whole, to make detailed reference to the localities in which agriculture is carried on, giving local adaptabilities, special products, areas of arable land, crop yields, and the thousand and one particulars which go to make up the complete information desired by intending settlers. Those who are anxious to obtain all these accurately and authentically set forth are recommended to consult the report of the Department of Agriculture, Victoria, B.C. in which an admirable compilation of all available data is contained.

In a general way the agricultural districts may be referred to as the Fraser Valley, Westminster District, in which there are about 350,000 acres of arable land 150,000 acres being alluvial deposit; the southwestern portion of Vancouver Island, which is comparatively well settled and contains some excellent land; and the Okanagan District, in which there are numerous fertile valleys, comprising in all about 500,000 acres suitable for general agricultural purposes. In

Agricultural the latter, in addition to the areas referred to there are still larger Districts. areas of pastoral land suitable, and used, for grazing only. The three foregoing districts have been referred to first, because they are distinctly agricultural and are the localities in which the principal farming settlements are to be found. There are, however, extensive tracts of open country in the North and South Thompson River Valleys, in the Nicola Valleys, in the Similkameen, in Lillooet, Cariboo, and East Kootenay, in which, though principally pastoral and requiring irrigation for crops, are to be found at intervals good farms, or, as they are usually designated, "ranches," and these detached areas constitute in the aggregate many thousands of acres, which either do produce, or are capable of producing, any crops within the possibilities of the temperate zone—cereals, fruits and vegetables. And, added to these, the capabilities of which, with intelligent and intensive methods of farming, are very great, are still more extensive, though remoter, tracts to be found in the Columbia Valley, East Kootenay; in the Canoe River Valley opening the way to the northern interior from Kootenay; in the

Outlying Areas. Chilcotin country, including the Nechaco and Blackwater Valleys; on the northern end of Vancouver Island and on the islands and coast of the Mainland, which with increased facilities of communication and the demand created by the almost certain immense development about to take place and the consequent rapid augmentation of population, will provide homes for thousands of settlers. As yet these lands are mainly in the hands of the Government, and until communication is afforded and development takes place they are not recommended for settlement, because, without facilities for reaching a market, farming life in isolated communities presents many obvious obstacles to success. Although suitable land in the already settled districts has been all taken up and is in the hands of private parties, farms partially improved, or in favourable localities, may be obtained from \$10 to \$50 an acre, according to situation and

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character of land, improvement, etc., and it may be remarked here that a small farm of from forty to one hundred acres in extent is sufficient in British Columbia

for the average farmer. A good many farms in good localities may now be obtained, and the average price for 100 to 160 acres, with from ten to twenty-five acres cleared, and buildings is from \$15 to \$20 an acre on easy terms. However, it is difficult to give exact prices, which, as has already been stated, range all the way from \$10 to \$50 per acre. Farms with excellent possibilities may be obtained for the latter figure. In most cases, however, a settler who has improved farming in view, may count on having a good deal of extra fencing, clearing, underdraining and building to do after he has acquired any land, in order to obtain the best results. Many of the farms have young

orchards, but here, too, improvements of varieties and further planting will be desirable. Plenty of good water and good timber are almost always available. It is difficult to give a fairly honest and average description of the conditions of agriculture in British Columbia. In the first place, farming is in a somewhat primitive condition as yet, and to understand why it is so, one must really know the history of the Province and have lived in it. Farming like mining, has suffered from lack of communication and very little incentive to progress can

exist without an easy market. In the majority of instances it was not incompared with most places. Numbers of persons who came to the Coast without a very definite purpose in view—to take chances in mining, speculation or anything else that might happen to turn up in the absence of any other occupation to employ their energies, took up land, and, figuratively speaking, sat down on it waiting for prospective development to make it valuable. It is easy to imagine how, under such circumstances, a general condition of farming on tentative principles came about. A few applied themselves intelligently and industriously to the task, and demonstrated locally the wider possibilities; but the rule was otherwise. On the better lands in favourable localities, by the growing of hay, fruits, etc., many were enabled, owing to local demand, to live comfortably and even grow prosperous without too great exertion. With the coming of railways, however, and the competition of outside produce, conditions have altered, and that, with the introduction of insect pests, and the depressed times, has, to

Changed Conditions. Use a favourite Western expression, made farming on former lines a more "difficult proposition." As a result, many have become dissatisfied, especially as mining offers peculiar temptations, or have encumbered themselves with liabilities, and are willing to sell out at prices which a few years ago would have been rejected with scorn. At least, many are willing to part with a portion of their usually too large estates. In other words, farming is finding its level in British Columbia as elsewhere as a business, which requires the same careful attention and intelligent application as other businesses. As a further and necessary explanation, it may be added that throughout the interior the settlers, as a rule, engaged in cattle raising as the easiest and readiest means of utilizing their land. There has always existed a good market in the Coast cities for beef; and cattle can be driven long distances to a market or point for shipment. The life, too, of a cattle rancher is not without its attractions and is rarely arduous. It being necessary under such circumstances to have plenty of pasturage, farms were, as a consequence, taken up on a large scale, and

with a view to utilizing the ranges on the side hills, covered with bunch-grass.

The favourite location was a river bottom or valley, which once secured, commanded the hillsides and commons, and these even if not leased or purchased, were often deliberately fenced in and occupied. In this way, the pastoral and agricultural lands have been secured in large allotments and the settlers are far apart, unfortunately surrounding the question of further settlement with peculiar difficulties. In the Okanagan Valleys, however, many of the landholders are cutting up their holdings, seeing the inutility under changed conditions of endeavouring to retain unproductive property and the wisdom of parting with portions to others who will improve them and add value to what remains in their own hands. There is generally a growing inclination in a simi-

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lar direction, among landholders in British Columbia, but a great deal still requires to be done before the possibilities of settlement are achieved.

Climate is, of course, a factor which always affects the agricultural conditions of any country—is, in fact, in itself one of the main factors. Elsewhere, this subject has been dealt with fully. As will have been seen there are several distinct climatic zones in the Province, and the treatment of agriculture must be divided on corresponding lines. On the coast, where the direct effect of the

ocean is felt there are: A decidedly humid atmosphere, a good deal of rain during the winter months, no extremes of heat and cold, a long growing season, cool nights, and profuse vegetation. It is scarcely necessary to explain the general effect of such conditions—tree growth is generally greatly stimulated; roots and vegetables flourish; the softer grains, such as oats and barley, yield largely and grow to great perfection; grasses are abundant; fruits, such as pears, cherries and plums and all small fruits, are practically indigenous to the soil and yield enormously; flowers, especially roses, and all the good old-fashioned varieties, are profuse bloomers; and shrubbery is dense. It is a country of great growth, and where fertile soil deposits exist no better results can be obtained anywhere. Unfortunately, the beneficial effect of the climate in contributing such favourable conditions is accompanied by corresponding disadvantages in the creation of dense forests and thick and heavy undergrowth, in encouraging the growth of weeds, and in the propagation of insect pests and plant diseases once they have found a foothold. Under average conditions, to clear a farm for cultivation requires much more labour than it does keep it in a clean and healthy condition. Eternal vigilance is the price of immunity from weeds, second growth and insect pests. On the other hand, intensive farming gives wonderful results. It is no country for a lazy or indifferent farmer.

Adverting to insect pests and plant diseases, these have been of recent importation, coming with nursery and fruit shipments from the East and South. Previous to that the farmers enjoyed peculiar freedom from insect enemies, blight or disease. Once here, however, they made rapid progress. In their eradication and prevention the Board of Horticulture has done good work, and as a matter of fact industry and proper treatment are all that are necessary as preventives.

Owing to the character of the Coast climate already referred to there are other crops, which do not do so well, and as a general rule do not pay to raise. These are: Wheat, which though yielding heavily and producing a fine-looking kernel is too soft for milling purposes, and in limited quantities is mainly valuable for feeding chickens; fruit and vegetables requiring plenty of heat and sunshine

The Coast Considered.

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Experience.

In Ontario in matters of detail does not apply in British Columbia, and many of their methods and theories in practice demand rapidly, and in this exists the greatest drawback. Young orchards, if not carefully watched, over-fruit and exhaust themselves before maturity is reached.

In the interior of the Province, which is characterized as the Dry Belt, conditions are somewhat reversed. The Pacific Ocean still exercises its beneficent

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influences, but the atmosphere is stripped of its excessive moisture by the intervening mountains. In summer there is greater heat, more sunshine, and in winter greater degree of cold, with much drier and clearer atmosphere. Given good soil and facilities for irrigation, where necessary, and the conditions for production are perfect, and, within the capabilities of the temperate zone, there are no limits to what may be grown. In this zone are found all that the Coast produces and those other crops referred to for which the environments seaward are not favourable. It must be understood, however, that local modifications are important factors, and conditions are not by any means uniform. Irrigation, for instance, is not everywhere required; local winds in exposed

Conditions Not Uniform.

Diaces the sudden barometrical dips render orcharding precarious. Exceptions to any general statement of conditions are numerous, and an adequate knowledge of individual localities is only obtained by experience. Stating what may be regarded as applicable in the average: Wheat ripens and mills well. In many places peaches, grapes, water melons and tomatoes mature fully and are prolific in yield and excellent in quality. Apples, if we except such localities as have been referred to, do remarkably well with careful treatment. It would be difficult to find more beautiful or better specimens in any country than those exhibited at fall fairs from the interior districts. They are so good, indeed, as to give a probably exaggerated impression of the extent and character of fruit-growing generally in the Province. All other fruits, subject to similar exceptions, do equally well in the interior. These remarks are based on preliminary experience only, because, so far, fruit-growing, as well as general farming, is only in its initial stage. This is largely true of the whole of the Province. Many orchards have been planted out and are bearing, some of them quite old; but the care, or rather lack of care, exercised in their cultivation, and the pro-

russery stock, afford but little indication of what would have been possible under ordinary skillful management. Strangers to this Province, who have for a long time heard of its fruit-growing capabilities, would undoubtedly be surprised that more has not been accomplished under conditions so favourable; but the truth is that the industry began wrong, and has practically to be re-created in order to obtain desired results. The selection of proper varieties in due proportion, the preparation of the soil, the husbanding of the trees afterwards, the picking, and, what is equally important, the marketing of the fruit, are all features of the industry requiring attention and each is essential to ultimate success.

Hop and flax growing are referred to elsewhere. Tobacco does well. It has been tried in the Okanagan district with good success and an official report on the quality of the leaf grown speaks highly of it. Sugar beet, from experiments made, would undoubtedly succeed. The yield of all roots is exceptionally large, and some specimens tested for saccharine qualities were favourably reported upon.

Apiculture has only been tried in a limited way, but with suf-

Special Products. ficient success to demonstrate that as the cultivated area extends, bee-keeping is well within the limits of practical and profitable husbandry.

There is a diversity of soils in the Province, as there is of climate, and any, even a limited area of land, is apt to exhibit many variations. This is, indeed, so true, that it is difficult to describe with any degree of accuracy what are predominate soils and what are not; sub-soils vary quite as much as surface soils. This diversity is, of course, due to the action of water and glaciers, and a series of physical disturbances the conspicuous evidences of the force of which we see in the entire Cordilleran region, and the explanation is found in the study of its geology. The most prevalent and what may be regarded as the characteristic soil, is a brownish sandy and gravelly loam with gravelly sub-soil. This fre-

quently gives place to clay loam. clay, coarse gravel and granitic wash. The sub-soils seem to have no definite relation to the top-soil, ranging from sand and gravel to heavy clay and not infrequently an agglomerate, often very hard. The brown soil is largely characteristic of heavily timbered and up lands. The river bottoms and valleys are usually made up of alluvial deposits, known as "black muck," very fertile when drained.

The land skirting the foot-hills and mountains is principally granitic wash. Of the forest land the best is what is known as "alder bottom," upon which alder, maple, willow and some cedar grow. The heavily forested land is not the richest soil, as in the case of Eastern Provinces, where heavy timber is indicative of fertility. The conifers return little in the way of leaf mould to the soil, and the thin layer of vegetable deposit is usually burned off in clearing. Such land is deficient in humus, but when brought into cultivation and fertilized grows surprisingly good crops of vegetables and fruit. The atmosphere, which is a humid one, contributes greatly to plant growth and grasses and, especially leguminous plants, which assimilate nitrogen by bacterial processes from the air, do remarkably well. Clovers, which grow luxuriantly, play a most economic part in such land. Experiments have shown that hill and mountain sides are capable of cultivation to an extent that will ultimately greatly increase the area of arable lands.

Underdraining is one of the essentials of most of the land under cultivation, and the best results need not be anticipated where it is neglected. As previously pointed out, irrigation in the interior is one of the problems to be dealt with. In many places the facilities are excellent, and, in individual instances, have been successful, though particularly for fruit care is necessary as to the time for irrigation and the quantity of water to be brought on the land. For considerable areas, however, there are not only engineering but other difficulties in the way of inaugurating a comprehensive system. In some cases the question of water rights is involved; in others the height of the land above the water level or distance from a source of supply places the accomplishment out of reach of individual enterprise, while the large allotments of lands and the distance between settlers render co-operative efforts unavailing even if the inclination existed, which in too many cases is absent. The remedy seems to be in the sub-division of lands into smaller holdings, and the union of effort on the basis of the betterment sys-

Draining and Irrigation.

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Each, so as to render winter-feeding with ensilage or stored hay practicable, and, if necessary, ranging in common, an increased beef supply and generally better results would follow. More settlers with fewer stock, each, would be infinitely better for the Province than few settlers and large bands of cattle, as at present. Closely associated with the subject of cattle raising is that of cold storage. It is stated on good authority that there is sufficient beef in prime condition standing on the ranges in November of each year to supply the Province until the following June, by which time the pastures would have time to renew themselves. With no market except the regular consumption of the cities, cattle have either to be held over and fed at a large expense, or allowed to winter on the ranges, subject to much loss and depreciation. With public cold storage at one or two points on the railway, to which cattle could be driven and slaughtered, Smaller Holdings there would be a tremendous saving to the farmer as well as to the

Desirable. Province. Farmers by such a system could also draw on ware-house receipts and realize on a portion of their stock early in the season. The economy of such a system is too obvious to require further comment. It is one, too, that is bound to force an appreciation of its merits on the attention of those whose interests are involved.

The raising of horses in the interior has been carried on to an extreme, and of the large bands many have become wild and constitute one of the greatest nuisances there are in the way of animal pests. Horses of that class, owing to their rapid multiplication on the ranges, are a drug on the market. Reports from all quarters state that the supply exceeds the demand. Recently, however, since the Klondyke excitement began, a new demand has been created, and hundreds of animals have been shipped north for the purpose of packing in goods and miners' outfits. First-class stock, however, has never been too plentiful. Sheep-raising has had some attention, but so far has not proved remunerative. There are several reasons for this. In the absence of woollen mills there is a limited market for wool. In the interior the raising of sheep is discouraged by ranchers engaged in cattle-raising, as the sheep destroy the pasturage by too close cropping and injure the grass roots with their sharp trot-



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rather favourable than otherwise to sheep-raising, but its success depends upon improved methods and better breeds. With respect to sheep-farming on the Island of Vancouver and adjacent islands, a very great improvement has been effected in the breeds, largely owing to the efforts of the Flock Masters' Association by the importation of thoroughbred rams. One discouraging feature, so far as this industry is concerned, has been the low price of Washington and Oregon mutton, which forms the chief source of supply, though this has been perhaps less harmful than the panthers.

Poultry and pigs, in small farming, are probably the most promising of live stock, but notwithstanding the general demand for dressed poultry, eggs, pork, bacon and hams and the high average price, these have not been raised largely or with any degree of system. The situation affords a curious anomaly, inasmuch as while there has been more than sufficient fresh pork to supply the market there have not been enough hogs raised to make a packing establishment pay. A noticeable improvement has been observed of late, and the prospects are quite in favour of a much greater share of attention being paid to this class of farming and its ultimate success.

Cattle raising naturally should occupy a greater relative importance than it does in the scale of agricultural productions, but it, too, has languished. Reference has already been made to the condition in the Upper Country, where the industry is controlled by the larger cattle companies and stock ranchers, who

cattle Raising.

are able to supply the markets regularly and in large quantities, to the disadvantage of the smaller men, who by the inexorable laws of commerce are at their mercy. In the Lower Country, the supply being too limited for marketing in sufficient quantities at all seasons, the dealers buy almost wholly from wholesale sources, a condition that obtains as a law in commerce; hence the farmers, though near to the centres of demand, have difficulty in disposing of their animals. This was true for a long time in regard to butter, eggs, fruit and vegetables until local produce became sufficient to form a regular supply for dealers; but that condition of affairs is rapidly disappearing, and imported produce is becoming relatively less, except for products out of season or those not raised in the Province. A similar result will follow in regard to the meat supply. The establishment of a local farmers' market is contributing to that end; and not the least important factor is the demand created by mining activity.

Dairying, which is an important adjunct of cattle raising, until recently was in a very unsatisfactory condition, and relatively but little "ranch" butter found the market, and much of it was of indifferent character. A great improvement has taken place within the last two or three years. The revival of the industry

pairying. In the East, and the efforts of several Departments of Agriculture, Dominion and Provincial, have acted as a strong stimulus to the farmers, and the creamery question has been taken up with great zeal and energy, and as a result about half a dozen creameries are in operation and the local output has been greatly increased. British Columbia possesses every element to constitute a great dairying Province, the products of which should include cheese and condensed milk. There are extensive areas of pasture lands in the interior, while increased cultivation in the Lower Country will give the necessary feeding ground. With a plentiful supply of good water and luxuriant and nutritious grasses there is every required facility added. It may be remarked in passing that the bunch-

grass ranges of the interior have been overpastured by stock, and are being exhausted in many places. A knowledge of the nature of bunchgrass will readily suggest the reason for this, and unless steps are taken to allow the ranges to renew themselves the result will be a serious one.

The incidental obstacles and drawbacks of insect pests and plant diseases have been referred to. There are also noxious weeds in plenty and of animal pests there are in the outlying districts wolves, panthers, coyotes, and wild horses.

Blue jays and robins are complained of by orchardists, and owls sometimes infest the poultry yard. In the interior irrigation is a problem; and on the Lower Mainland dyking and draining are important considerations. The difficulty and expense of clearing land have not been overlooked. Indeed, the more heavily timbered lands cannot be economically dealt with for farming purposes, until mechanical means can be devised to reduce the labour involved and cheapen the cost. The expense, which varies from \$150 to \$300 an acre, is a burden on the land, which under the most extensive farming, cannot return interest on the investment. The financial problem is one which affects the farmer in British Columbia as elsewhere. He has had, and still has, his share of troubles. The wider problems and depressing trade influences which extend over the whole of the continent affect him, too, though in a lesser degree. Leaving out, however, the financial aspect, which is certainly improving generally, the local circumstances affecting his welfare will be and are being overcome by patient, persistent and intelligent effort, without which no avenue of industry can be smoothed, and, comparing all his prospective advantages with

Compensating his present disadvantages, the outlook is more promising in agri-Advantages. , culture here than in perhaps any other Province of the Dominion. The very physical obstacles to be overcome, considered in connection with the comparatively limited area of farming lands, will when overcome constitute a positive advantage to the tiller of the soil. A rapidly growing population and the enormous expansion of industry bound to ensue as a consequence of the development of immense natural resources, together with a contiguous great future market in the northwestern and northern territories of Canada and a remarkable vantage ground on the sea-board, will yet create a demand, local, interprovincial and foreign, that will tax the agriculturist to his utmost to supply. Having contrasted all his advantages fairly with his disadvantages, it is not an over-sanguine view, taking into account his remarkable situation and the balance in his favour. conditional upon the application of scientific, practical and business methods, to predict for the farmer of this Province a great and prosperous future.

Readers may perhaps be inclined to regard some of the incidental criticisms in the foregoing as too severe and as a reflection on the methods of the farming community as a whole; but those who understand the situation from local experience and observation will, it is confidently assumed, generally subscribe to this chapter, and farmers themselves will appreciate honest criticism

Looking forward. and a candid statement of facts rather than flattering encomiums that are rarely sincere. Much that has been stated is intended to apply to a past rather than a present condition of affairs. The Province is entering on a new agricultural era, and a large number of farmers are making earnest and diligent efforts, under many difficulties, to re-create the industry on a sound, economic and healthy basis. Progress so far is not measured by many or conspicuous mile-posts, but looking back over ten years a decided advance has been made, and in ten years hence the change will have been marvellous. The time may reasonably be anticipated when the adjacent forests will be cleared away, the valleys fertile with waving grain, the hill-sides vine-clad, and the landscape dotted with farm houses nestling among orchards and clusters of home-born trees and shrubbery, with long vistas of hedge lines and roadways to guide the eye—a pleasing picture to which the mountain background of native grandeur and the reflection of summer skies will impart a rare charm of scenic beauty and an air of pastoral and picturesque repose.

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LEGISLATION AFFECTING AGRICULTURE.

AGOOD deal of attention has been paid to the subject of agriculture from a statutory point of view, and the interests of the farming community have been carefully looked after, the legislation affecting them being developed, as in the case of other interests, as their requirements were made apparent from time to time.

The provisions for the regulation of the Department of Agriculture and for defining the powers and duties of the Minister of Agriculture and other officers of the Department will be found in the "Department of Agriculture Act." The Act also contains provision for the appointment of a Statistician, and for the collecting, abstracting and tabulating of statistics and information of public interest; a general report being presented to the Minister at the close of every year. All

Agricultural persons engaged in agricultural, horticultural, and pastoral purpepartment. suits, and the officers of all societies dealing with these and allied
subjects, are required to supply to the Statistician, in reply to his official enquiries,
details, statistics and information regarding the matters within their cognizance
to which such enquiries relate.

Provision is made for the interchange between the Federal Authorities and the Provincial Department of information and statistics relating to the subjects above mentioned.

For the prevention of the running at large of certain animals and the prevention of injury by and to domestic animals, the Animals Act contains provisions restricting the running at large of certain animals, and provisions to prevent injury by dogs, and for the arrest and sale of animals unlawfully at large. It is

also enacted that in any action brought to recover damages for injury caused by animals of a domestic nature it shall not be necessary to prove that the owner of the animal knew or had the means of knowledge that the animal causing the injury was of a vicious or mischievous nature or accustomed to do acts causing injury.

These and cognate subjects are dealt with in a series of Acts to which only the briefest reference is here possible.

In regard to dairying, provision is made by the Dairymen's Association Act for the formation (a) of a Provincial Dairymen's Association having for its object the general advancement of dairying throughout the Province; (b) the local Dairying Associations known as cheese and butter associations for the purpose

of carrying on the business of manufacturing cheese and butter and certain objects incidental thereto, or which may profitably be combined therewith; and (c) the establishment of creameries on the co-operative system, which, when so established, may, on complying with the requirements in the Act contained, obtain Government aid by way of loans to the extent of a sum equal to one-half the actual cost of creamery buildings, plants and fixtures, such loan to bear interest at the rate of five per cent. and to be re-payable in three installments, the first at the expiration of two years and the remaining installments yearly, so that the whole loan be paid with interest within four years.

By the Milk Fraud Act, 1895, careful provision is made for the prevention

of the adulteration of milk and the furnishing of adulterated or deteriorated milk

to dairies and creameries.

In regard to cattle, the Cattle Farming Act makes provision whereby the owners of cattle may entrust them to a farmer under registered agreement for the purpose of securing their care and increase, the effect of the registered agreement being to protect the entrusted cattle from all claims against and liabilities of the farmer to whom they are entrusted. The cattle lien Act confers upon

agisters of cattle and animals and keepers of livery stables a lien upon cattle and effects left with them for the value or price of any food, care, attendance or accommodation furnished such cattle and animals. The Cattle Act contains elaborate provisions for the protection and marking of cattle. Regarding the establishment of registries for and the mode of registration of brands and marks upon cattle; provides penalties for contravention of the Act; provides a mode of transfer of the brands and marks; for the inspection of hides (it being provided that no slaughter of cattle shall take place except at a definite and recognized place of slaughter); and also provides for a record for cattle shipped from east of the Cascades into the remaining portions of the Province, so as to guard against the stealing of cattle; and by the Breeding Stock Act and Cattle Ranges Act and the Act respecting island pasturage, provision is made for the protection and preservation of cattle ranges and for their being rendered available on an equitable basis for the use of Provincial settlers.

For the prevention and eradication of disease among cattle the Contagious Diseases (Animals) Act contains provision for the appointment of Inspectors for the inspection of cattle and for the quarantining, and wherever necessary the destruction of cattle infected with disease, the provisions of the Act being in an especial degree for the prevention and eradication of tuberculosis and pleuro pneumonia in cattle, and to guard against the transmission of disease by the use

of milk.

Associations and societies in respect of the following classes of subjects: (a), Agricultural and Horticultural; (b), Benevolent and Friendly; (c), Co-operative; (d), Industrial and Provident; and (e), Investment and Loan, may be

formed under the provisions of the Act relating to each of these subjects respectively. Space does not permit detailed reference to these statutes, but it may be said that the Provincial legislation in this behalf has been in an especial degree comprehensive and well considered, and has in operation afforded the most satisfactory results.

In view of the fact that there exist throughout the Province large tracts of land which can be rendered available for cultivation by the undertaking and construction of adequate dyking and drainage Acts, careful and extended provision

Drainage.
Dyking etc.

Is made by the Drainage, Dyking and Irrigation Act for the appointment of Commissioners and their investment with powers to undertake and carry out works of the above character, and by the Fencing Act and the Line Fences and Boundary Water Courses Act provision is made for the delineation of the boundaries of land, the maintenance of proper fencing and the adjustment of disputes between adjoining land owners.

For the provisions relating to the pre-emption of land, etc., see "Crown

Lands" in the chapter on "Forestry."

At the last session of the Legislative Assembly of British Columbia an Act was passed providing for the establishment of Farmers' Institutes, which may be organized by petition to the Minister of Agriculture, signed by fifteen persons resident in any district in which it is proposed to organize.

The objects of these Institutions are the encouragement and improvement of agriculture, horticulture, arboriculture, manufactures, and the other useful arts. The annual fee to each member is fifty cents, which the Government supplements as follows: To each Institute whose membership can be shown to amount to fifteen to one hundred, a sum of fifty cents for each paid-up member, and twenty-five cents for each paid-up member over one hundred, the grant being made conditional, upon all the provisions of the Act being complied with.

Provision is also made for the organization of Divisional Institutes in each of the three divisions referred to, and also of a Central Farmers' Institute for the

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ach the whole of the Province, and also for the amalgamation of the Fruit Growers' Association, or any existing agricultural association, with the Central Farmers' Institute, for the purpose of carrying on the work of both in conjunction, if deemed desirable. Authority is taken under the Act by the Lieutenant-Governor-in-Council, to frame Rules and Regulations, which define in greater detail, the work of the Institutes and the system under which they may operate. In connection with this Act, which is largely based on Acts in Ontario and Manitoba, an important departure has been made as follows:—

Upon application to the Minister ten or more residents and bona fide farmers may engage in and carry on, on a co-operative basis, any of the following, viz: (a) a Farmers' Exchange for buying and selling farm produce; (b) a cheese factory; (c) a creamery; (d) a fruit canning, preserving or evaporating factory; (e) a mutual credit association for the purpose of receiving deposits and loaning money to its members; (f) or, in any other enterprise that may be approved by the Lieutenant-Governor-in-Council as coming among the objects and within the meaning of the Act, and such applicants are constituted Provisional

Directors under the Act for managing the affairs of the Association until the first annual election of officers, and possess all the powers of an incorporated company under the "Companies Act," Part I. "The Companies Act, 1862," (Imperial), to hold property, to sue and be sued, make by-laws, and do all things necessary and purtenant to the carrying on of any business for the mutual benefit and profit of the members subscribing and holding stock: Provided, among other things: (a) That a notice of incorporation containing the names of such applicants be published in the "British Columbia Gazette," for which a fee of ten dollars shall be charged; (b) That no subscriber may hold or hereafter acquire more than one-tenth of the stock allotted by the Association; (c) That twenty-five per cent. of the capital stock be subscribed at the time of making application.

One important feature of legislation is the Act providing for the creation of a Board of Horticulture, which has very comprehensive powers with respect to the inspection of orchards, imported nursery stock and fruits. The Board is composed of three members, one representing the Island of

Inspection, Quarantine, Etc.

Of Agriculture, and the Minister of Agriculture, and the Minister of Agriculture, acting ex officio. The Board has been in existence for several years and the members have been very active in the performance of their duties of inspection and quarantine, and their efforts both in an educative and preventive way have been largely successful.

In respect to the Dominion regulations for this Province relating to the inspection of stock entering Canada which are contained in an Order-in-Council promulgated on the 25th of January, 1897, they are too elaborate to be given here. Suffice it to say, complete regulations exist governing all classes of stock entering the Province and are capable of very rigorous enforcement.

Under the Canadian Customs tariff, the following free goods are admitted: "Wearing apparel, household furniture, books, implements and tools of trade, occupation or employment, musical instruments, domestic sewing machines, live stock, carts and other vehicles and agricultural implements in use by the settler for at least six months before his removal to Canada, not to include machinery or articles imported for any use in any manufacturing establishment or for sale; also books, pictures, family plate or furniture, personal effects and heirlooms left by bequest: provided that any dutiable article entered as settlers' effects may not be so entered unless brought with the settler on his first arrival, and shall not be sold or otherwise disposed of without payment of duty until twelve months' actual use in Canada: Provided, also, that under regulations to be made by the Controller of Customs, live stock, when imported into Manitoba or the North-West Territories by intending settlers, shall be free until otherwise ordered by the Governor-in-Council."

The following is the authorized number of live stock allowed to be imported under the conditions of the excerpt above quoted:

Horses, one to every ten acres, sixteen in all allowed; cattle the same; sheep, one to each acre; 160 in all allowed; swine the same.

LAND CLAUSES CONSOLIDATION ACT.

BY an ordinance known as the "Vancouver Island Lands Clauses Consolidation Act, 1863," taking effect on the 25th of February, 1863, the English Lands Clauses Consolidation Act, 1845, was applied to the former colony of Vancouver Island, with necessary adaptations to render its provisions applicable to local institutions and circumstances. This ordinance was consolidated as Chap. 65 of the Consolidated Acts, 1888, and remained in force in Vancouver Island until the passing of the Lands Clauses Consolidation Act, 1897. This latter Act applies to the whole Province, and contains the provisions of the

English Act of 1845, with the necessary adaptations introduced Complete in the ordinance above referred to, and with such further amend-Procedure. ments as are necessary to insure the proper working of the Act under the local conditions as at present existing. The Act contains a complete procedure relative to the acquisition of lands required for undertakings or works of a public nature, as well by agreement as by the exercise of statutory powers of eminent domain, and its provisions are, by the Water Clauses Consolidation Act, 1897, expressly made applicable to the procedure upon the exercise of

any of the powers relating to the acquirement of lands and property thereby conferred upon municipalities and incorporated companies.

The "Crown Franchises Regulation Act, 1897," makes provision for determining the rights to charters, franchises and offices held from the Crown. Pro-

ceedings under the Act may be instituted by the Attorney-General, or by the Attorney-General with the leave of the Supreme Court, on behalf of any person desirous of bringing proceedings under the Act, termed a "Relator."

In any action brought under the Act, the Supreme Court may adjudge:

(a.) That any defendant be ousted and excluded from any office by him usurped, intruded into, or unlawfully held, and that such defendant deliver up to the person, and within the time appointed by the Court, all property, books, documents, papers, and effects, in his possession, custody, or power belonging, relating, or appertaining to the said office; and that such office vest in the person by law entitled thereto, or that the procedure by law provided for the vesting of such office be followed to ascertain the person lawfully entitled thereto:

(b.) That any person or persons be restrained from doing and exercising acts as and the powers of a corporation without being legally incorporated:

c. That any corporation has, by any act done or omitted, surrendered or forfeited its corporate rights, privileges, or franchises, and that such corporation be dissolved and wound up under the Statutes regulating the winding up of corporations; or that any corporation be restrained from contravening or offending against its Act of Incorporation, or against any Act or Acts under the provisions of which it has been incorporated; or against any Act or law for the time being in force in this Province: or

(d.) That any corporation has surrendered and forfeited its powers, privileges, and franchises through non-user during the full term of three years.

The Companies Clauses Act, 1897, relates to the constitution and management of joint stock companies empowered to carry out undertakings of a public nature, and embodies the provisions of the English Companies Clauses Consolidation Act, 1845, an Act apparently in force in this Province so far as applicable by virtue of

the Statute respecting the application of English law. On the Companies' second reading of the Act, during the last session of the Legis-Clauses. lature, it was stated that the Act was brought forward with special reference to the provisions of the Water Clauses Act, 1897; and in this lastmentioned Act it is provided that any company desiring to avail itself of the powers and privileges thereby conferred and created must be specially incorporated so as to be exclusively governed by the Companies Clauses Act.

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WATER CLAUSES CONSOLIDATION ACT.

THIS is an Act passed during the session of 1897, confirming to and declaring to be vested in the Crown all unrecorded and unappropriated water and water power in the Province, and making provision for the acquirement and regulation of water rights for the following classes of objects, namely, ordinary,

Water Rights for Various Purposes.

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domestic and agricultural purposes; mining, including milling, concentrating and smelting; the establishing of water works systems by municipalities; the supplying of water to municipalities and unincorporated localities by companies; and the appli-

cation of water power to electrical, industrial and manufacturing purposes by power companies. It repeals the provisions relating to the acquirement of water rights of the Mineral Act, 1896, the Placer Mining Act, 1891, and the (Crown) Land Act.

The first part of the Act, after declaring the rights of the Crown, provides that no right to the permanent diversion or exclusive use of water can be obtained by prescription, and that the Lieutenant-Governor in Council may promulgate general rules and orders fixing and providing for the collection of rents, tolls and royalties for the use of water; these are to be fixed for a period of three years, and to be thereafter subject to triennial adjustment.

Then follow parts 2, 3 and 4 of the Act respectively, making provision for:
(a) The acquisition of water by record for domestic, agricultural and mining purposes;

(b) The supplying of water by water works systems to cities, towns and incorporated localities; and,

(c) The acquisition of water for electrical, industrial or manufacturing pur-

The principle of the Act is to render the water and water powers of the Province available to the fullest extent in aid of Provincial development; to limit the amount of water held under any record to an amount actually necessary for the carrying out of the object for which the record is obtained; to give priority where necessary to applications for the obtaining of water for domestic and

agricultural purposes; and to provide means whereby water records can be adjusted so as to prevent any water or water power being locked up, and prevented from being applied to a beneficial purpose. To review the procedure provided in respect of the obtaining and regulation of each of the classes of rights above referred to would require a great amount of space, and would involve more reference to detail than is expedient in a work like the present.

In order to obtain water records for electrical, industrial or manufacturing purposes, a company must incorporate pursuant to the provisions of the Act relating to specially incorporated companies; and before commencing its works must obtain from the Lieutenant-Governor-in-Council a certificate setting forth that the proposed undertaking of the company has been approved. These power companies are (except as to the procedure to secure incorporation) governed by the "Companies Clauses Act, 1897."

Part V. of the Act contains procedure for the expropriation and acquisition of land in aid of the exercise by municipalities or companies of privileges and powers acquired under the Act. It guards against an oppressive exercise of a power to expropriate: and provides that such power shall be carried out under the provisions of the Lands Clauses Consolidation Act, 1897.

In part VI. of the Act will be found general provisions regulating the holding and user of water privileges under the Act; empowering the Lieutenant-General
Provisions.

Scale of fees to be payable in respect of proceedings under the Act; empowering the Lieutenanteral rules and orders under the Act; to promulgate genmissioner; to regulate and adjust fees, tolls and charges to be levied and collected by power companies; and to establish a scale of fees to be payable in respect of proceedings under the Act. The Act comes into force on the 1st of June, 1897.

AGRICULTURAL ASSOCIATIONS IN BRITISH COLUMBIA.

NAME.	Address.	PRESIDENT.	SECRETARY.
B. C. Agricultural Associ tion	Victoria	G. L. Milne, M.D T. J. Trapp	A. J. Dallain. Arthur Malins.
North and South Saanic	h Saanich	H. Simpson, Turgoose p.o.	
sociation Nanaimo District Agricu tural Society Wellington District Agricu	Duncan	George Panell	C II Hadman Dunan
tural Society Islands' Agricultural an Fruit Growers' Associ	Wellington	Sandwick p.o.	John Mundell, Sandwick
Delta Agricultural Society Chilliwack Agricultural S	al Mission City Delta	J. R. Wren W. H. Ladner, Ladner p.o.	A. De R. Taylor, Ladner.
cietySurrey Agricultural Societ Richmond Agricultural S ciety	y. Surrey	L. W. Paisley J. C. Murphy, Clover Valley Duncan Rowan	S H Shannon Cloverdate
Langley-Glenwood Agricu tural Society	Langley	S. C. Baumgartner	
Kamloops Agricultural A	Mission	H. W. Raymer, Kelowna	
sociation	Kamloops	James Mellors	The state of the s
ciety Inland Agricultural Associ	a-	P. Ellison, Vernou T. G. Earl, Lytton	A. Postill, Vernon.
B.C. Horticultural Societ and Fruit Growers' A	y s-{	T. G. Earl, Lytton	T. R. Pearson, New West
sociationB.C. Fruit Exchange Societ Lower Fraser Fruit Union Fraser Valley Fruit Union	y New Westminster	T. G. Earl, Lytton (E. Hutcherson, Ladner's Landing. W. J. Moggridge, Hazelmere G. W. Henry, Hatzic	T. R. Pearson, New West [minster. A. Malins, N.Westminster
Growing and Shippin	g		Mission City.
Victoria District Fruit Grov	V-	A. S. Vedder, Chilliwack J. C. Metcalfe, Port Haney	
V.I. Flockmasters' Associa	a-	J. Lamberton	
B. C. Dairymen's Associa	a-	Westholme W. H. Ladner, Ladner	T. A. Wood, Quamichan. G. H. Hadwen, Duncan.
Cowichan Creamery Association.	Duncan	W. P. Jaynes W. H. Ladner, Ladner's p.o	A. R. Wilson, Westholme

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COMPARATIVE STATEMENT OF AGRICULTURAL IMPORTS.

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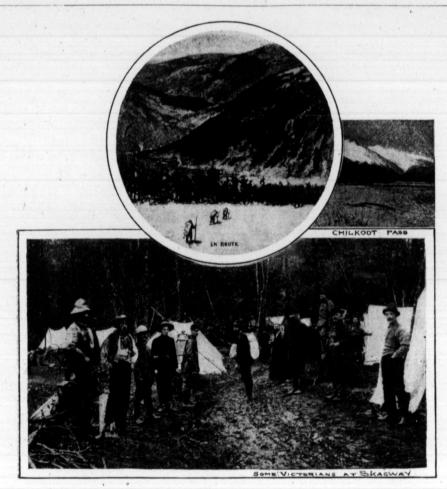
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*	30th June, 1894.	30th June, 1895.	30th June, 1896.
	Value.	Value.	Value.
Live Stock	\$238,041 00	\$159,573 00	\$282,401 00
Meats, etc	482,824 00	495,671 00	445,706 00
Breadstuffs, and products of	651,206 00	650,664 00	642,099 00
ruit and Vegetables	198,786 00	169,309 00	187,267 00
rees and Shrubs	10,729 00	3,187 00	3,158 00
oils	16,748 00	11,742 00	22,011 00
Dairy Products	659,843 00	513,767 00	579,221 00
Miscellaneous	164,177 00	157,386 00	200,435 00
Total	\$2,422,354 00	\$2,161,299 00	\$2,362,298 00



GAME RROTECTION ACT OF BRITISH COLUMBIA, 1895-96-97.

For ready reference and convenience the following is a synopsis of the Game and Fish Protection Acts, compiled to date.

Birds living on noxious insects Bittern Blackbird, English. Caribou Chaffinch. *Deer under 12 months. *Deer (buck). *Deer (doe). Duck (wild of all kinds). Elk (bull) wapiti. Elk (cow) Flk (fawn) Fool-hen or Franklin's grouse	Unlawful to Shoot or Destroy during Close Seasons shown below.		Unlawful to buy, sell or	Unlawful to kill or take.
	East of the Cascades, (Inclusive.)	West of the Cascades. (Inclusive.)	expose for sale.	
	At any time Ist March to 31st August At any time Ist January to 31st July At any time Ist January to 31st July Ist March to 31st August Ist January to 31st July At any time At any time Ith November to 31st August Ith November to 31st August	Ist January to gist July Ist March to gist August Ist January to gist July At any time Not mentioned 2nd January to goth Sept	During close season Before 1st October	More than five in one season Hunt with dogs. Kill for hides alone. More than ten in one season More than 250 in one season. More than two in one season
Gull Hare. Heron Land Otter Linnet. Marten Meadow Lark Moose (bull). Moose (cow). Mountain Goat. Mountain Sheep(ewe or lamb) Mountain Sheep (ram).	At any time. At any time. At any time. Ist January to 31st July. Ist March to 31st August. Ist April to 1st November. At any time. Ist April to 1st November. Ist April to 1st November. Ist January to 31st July. At any time. Ist January to 31st July. At any time. Ist January to 31st July.	At any time: Ist January to 31st July. Ist March to 31st August. Ist April to 1st November. At any time. Ist January to 20th August. Ist January to 31st July. At any time. Ist January to 31st July. At At any time.	At any time Before 1st October During close season Before 1st October Before 1st October Before 1st October	More than two in one season of heads prohibited for 5 y'rs More than 3 in one season. Sal East of Cascades for 2 year

	MAINLAND.	VANCOUVER ISLAND.		
Pheasant (cock)	At any time	2nd January to 30th Sept At any time	At any time.	On the Mainland.
	EAST OF CASCADES.	WEST OF CASCADES.		
Quail (all species)	At any time	31st January to 20th August. At any timedens bet. 1st June and 1st Sept At any time		
Trout (see below, No. 14) Wapiti (bull) Wapiti (cow) (Elk) Eggs of protected birds	1st January to 31st July At any time	At any time		More than two in one season. At any time.

NOTE.-IT IS UNLAWFUL-

- (1.) To enter land enclosed by fence, water or natural boundary, for hunting purposes, after notification, or if sign is exposed stating "Hunting or shooting on these lands forbidden under British Columbia Game Laws." Section 25 of 1895.
 - (2.) For non-residents to shoot without a license. Sections 19 and 20 of 1895.
- (3.) For Indians, not residents of this Province, to kill game at any time of the year. Section 6 of 1896.
- (4.) To export, and to transport for export by railway, steamship or express, in the raw state, game birds of every kind, and also all animals protected by the Act except bear, beaver, marten and land otter. Section 7 of 1895 and 3 of 1896.
- (5.) To use traps, nets, snares, gins, or baited lines to catch game birds. Section 10 of 1895.
- (6.) To expose for sale any deer without its head on. Section 8 of 1896.
- (7.) To use batteries, swivel-guns or sunken punts in non-tidal waters to take wild ducks or geese. Section 23 of 1895.
- (8.) To use any traps, snares, gins, or other contrivances for beaver, marten or land otter during close season. Section 11 of 1896.
- (9.) To shoot any wild fowl in Victoria Harbour. Section 5 of 1895.
- (10.) For unlicensed non-residents to trap or kill bear or beaver for their pelts. Section 32 of 1895.
- (11.) To kill any game bird between one hour after sunset and one hour before sunrise. Section 4 of 1896.
- (12.) To kill game birds or animals imported for acclimatization purposes. Section 9 of 1895,
- (13.) To sell heads of mountain sheep for five years. Section 6 of 1897.
- (14.) To take trout by any other device than hook and line. No salmon roe to be used as bait. Section 12 of 1895.
- * Farmers may kill deer depasturing fields. 1895, 23, 16.
- * Free miner has right to kill game for his own use. 1896, chap. 34, sec. 13.

PROVINCIAL POLICE DEPARTMENT,

VICTORIA, B. C., June 1st, 1897.

F. S. HUSSEY,
Superintendent.

Prairie Chicken At any time. You mentioned for a years from 17th April 1896.

ENTOMOLOGY.

BRITISH COLUMBIA being wonderfully rich and varied in its flora is consistently profuse in its fauna, and is therefore a grand field for the entomologist. Thousands of species representing all of the different orders, are to be found within its boundaries, each succeeding year bringing to light new species, and occasionally new genera, though a very few of the lepidopterous insects to be collected in British Columbia are identical with those found in Great Britain, amongst them being Vanessa antiopa, Pyrameis atalanta New Genera. and cardui of the Rhopalocera (butterflies), and Scoliopteryx libatrix. Thyatira derasa, Hibernia defoliaria and Arctia caja of the Heterocera (moths); nearly all the species of lepidoptera to be obtained in British Columbia are indigenous and characteristic of the Pacific Coast fauna—the beautiful Melitaea taylori is peculiar to the lowlands of Vancouver Island, and Chionobas gigas also occur there in its home amongst the mountain peaks. Possibly the geographical formation of the Province, combined with its varied climate, is the main cause for so diverse a fauna existing, for as each plant has its own special habitat, so each of the larvæ of the various insects requires its own particular food-plant, and is to a large extent dependent on this for its own limits of distribution; hence it is that on Vancouver Island where the oak (Q. Garryana) flourishes is found Ellopia somniaria and on the mountains of the Mainland Parnassius smintheus, and other butterflies occur, the handsome Parnassius Elodius flies on Mount Finlayson and the surrounding peaks. The caterpillars of both feed on species of sedum. British Columbia is so favourably known as a good hunting ground for collectors of all kinds of natural history objects that visitors are continually arriving from all parts of the world for the sole purpose of capturing the rarities indigenous to it, both in the valleys and in the mountains, for one must climb high into the latter to procure chinobas gigas and must penetrate the lux-

While the number of species of the butterflies occurring in the British Isles is but sixty-five, in British Columbia there are about 150. The moths are, comparatively speaking, in the same ratio. The beetles have been probably studied more than any other order and many treasures have been secured. In Queen Charlotte Islands the Rev. J. H. Keen has discovered many new species, several of which are named after him, as Haida Keeni, Platycerus Keeni, etc. Among the greatest varieties are Cychrus tuberculotus, Liparocephalus brevipenuis, Agyrtes longulus, corymbites spectabilis, and singularis.

uriant forests in the valleys to obtain others. Among the rarities to be found in

the interior are various species of the handsome genus argynnis, as Nevadaensis,

curynome. Leto, chitone, chariclea and Frigga.

On Vancouver Island the Rev. G. W. Taylor has made extensive collections in all orders including beetles. A complete list of his *Hymenoptera* has appeared in the "Canadian Entomologist." Energetic collectors are also Mr. W. H. Danby, of Victoria, and Mr. C. de B. Green, of Osoyoos, in the Okanagan Valley.

Danby, of Victoria, and Mr. C. de B. Green, of Osoyoos, in the Okanagan Valley.

The immense increase during the past ten years in the number of insects which feed upon vegetation, popularly known as "injurious insects," or insect pests, has proved a fertile source of damage and expense, especially to fruit growers, and here, as in other fruit producing countries, the science of economic entomology has been called upon to assist in checking their ravages.

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Homopterous insects, nearly all of which are more or less injurious to plant life, have been notably numerous and active. The increase of their favourite plant foods, due to the extensive planting of fruit trees, combined with the favourable conditions furnished by our long, dry summers for their propagation, especially in the case of the various

Aphides or plant-lice, is largely responsible for this condition of affairs.

Most of these "injurious insects" are of imported origin, and the natural checks upon their increase, in the insect world were not imported with them, hence again the economy of nature was disturbed. Frequent reference is made by "old timers" to the days when fruit trees flourishd in the Province without insects to plague or bother them, while at the present, surviving fruit trees of "early days" planting usually are found to furnish homes and food for countless numbers of bark-lice (mytilaspis pomorum), woolly aphides (schizoneura lanigera), and green aphides (aphis mali), from which newer orchards become infested

Spraying has become generally resorted to by commercial fruit growers to hold these and other pests in check, and the number of what are termed beneficial insects, being predaceous, or parasitical upon, the injurious forms are also becoming more abundant, and in future there is a reasonable prospect of a more

even balancing of the respective numbers of both classes. Of the predaceous forma, we now have in Diptera, the Syrphida, or Insects. syrphus flies, in Neuroptera, the Chrysopæ, lace-winged or goldeneyed flies, and in Coleoptera the Coccinellidæ, or lady-birds, all well represented, and proving of valuable assistance to fruit growers and agriculturists.

Tent caterpillars and all larvæ of Lepidoptera are subject to the attacks of members of the Ichneumonidæ.

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The success attending the importation and distribution of beneficial insects of the Coccinellidæ family in the States to the south of the Province, indicates a useful field for operation in the same line to the advantage of our fruit growers.

In practical entomology much good work has been done by the officers of the Provincial Department of Agriculture. Mr. J. R. Anderson, Deputy Minister, and Mr. R. M. Palmer, Inspector of Fruit Pests, have taken an active part in protecting the fruit growers of the Province from the attacks of many pests of the orchard. Their thorough work in preventing the introduction of the codling moth has been of great benefit to the Province. The plum aphis, nop aphis, and other pests have been fully described in the annual reports of the Department with instructions for applying the proper remedies. The San José scale, the most per-

New Pests. nicious enemy of fruit trees, has twice been detected in the Province, having been brought in on imported fruit trees, but has been promptly eradicated when discovered. The apple fruit miner, a new fruit enemy, the caterpillar of a small growth, which during 1896 did a great deal of harm, has been successfully reared to maturity by Mr. E. A. Carew-Gibson, of the Department of Agriculture. Owing to the profuse manner in which insects are produced in the charming climate of British Columbia some species occasionally occur in vast numbers and are the cause of wide-spread devastation. The oaks are occasionally defoliated by the larvæ of Ellopia somniaria. The California tent caterpillar in like manner sometimes strips the wild roses and other shrubs of their foliage, and pines and spruces are much injured by the caterpillars of Neophnia Menapia, a pretty black and white butterfly, and of Halisidota sobrina, respectively. As is usually the case, however, in other parts of the world, as soon as any insect appears in undue numbers it is suddenly brought down again to its normal occurrence by parasites. They are also subject to diseases of fungous or bacterial origin.

NATIVE FLOWERING PLANTS OF BRITISH COLUMBIA.

T is not claimed that the following list of the wild flowers, shrubs and trees of British Columbia is at all a complete one, but it is believed that it includes most of the species of common interest likely to be collected near the larger centres of population both near the moist sea-coast and in the dry and mountainous interior.

The latter district contains a large proportion of species, especially of the alpine forms, well-known in Eastern Canada and even in Europe, whilst the former, or coast region, is inhabited by a flora which includes a larger proportion of species found in the cooler parts of Oregon and California, and a few that are also inhabitants of Asia. The alpine forms on the Mainland and the Islands closely resemble each other. Fuller information can be obtained by consulting Prof. Macoun's Catalogue of Canadian Plants, published in Montreal, especially concerning the grasses, sedges and other large and interesting families.

Anemone multifida (Poir)-V.I.

Anemone Oregana (Gray), Wood anemone-Throughout British Columbia to Vancouver Island.

Anemone occidentalis (Watson). Western anemone-Mountains of Southern British Columbia and Rocky Mountains.

Aquilegia formosa (Fisch), Columbine-Throughout the Province and Queen Charlotte Islands.

Aquilegia flavescens (Watson), Yellow-flowered Columbine-Rockies, Kootenaie Pass, Selkirks.

Clematis ligustifolia (Nuttall), Virgin's Bower-Spence's Bridge, Lytton, Kam-

loops, in the dry country. Clematis douglasi (Hooker), Douglas's clematis—West side of Rockies, etc. Delphinium Menziesii, D.C., Larkspur-Common near Victoria, Cypress Hills and Wood Mountain on Mainland.

Delphinium scopulorum (Gray), Rocky Mountain Larkspur—Rocky Mountains. Delphinium variegatum (Torr & Gray), Variegated Larkspur—Yale, Spence's Bridge.

Caltha leptosepala (D.C.), Marsh Marigold—Cariboo Mountains, Selkirks, Coast Range, etc.

Ranunculus aquatilis (Linn), White water-crowfoot-Common near Victoria, Spence's Bridge, etc. Ranunculus multifidus (Pursh), Yellow water-crowfoot-Common everywhere in

stagnant pools and ditches. Ranunculus occidentalis (Nuttall), the Western crowfoot-Mostly confined to the

West Coast. Ranunculus Eschscholtzii (Schlecht), Mountain crow-foot-Near the region of

perpetual snow, Rocky and Selkirk Mountains. Trollius laxus (Salisb), Spreading globe-flower—Higher summits of the Rockies and Selkirk Mountains.

Trautvettria grandis-Cowichan River. Trautvetteria palmata (Fisch & Mey), Var. occidentalis (Gray), False bugbane (worthy of a better popular name)—Base of Mount Finlayson, V.I.

Berberis repens (Lindl.), Rocky Mountain Grape—Vancouver Island and dry slopes on Mainland.

Berberis aquifolium, Oregon Grape-Common on Vancouver Island, also at Yale and Shuswap Lake.

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Achlys triphylla (D.C.), Western May Apple, "Deer-foot Grass"-Common on Vancouver Island.

Nuphar polysepalum, Englem. Western Water-Lily-Common near Victoria, at Shawnigan Lake and on Mainland between McLeod's River and the Fraser, Queen Charlotte Islands.

Nuphar advena (Ait.), Common Yellow Water-Lily-Columbia Valley, Mainland of British Columbia.

Dicentra formosa (D.C.), Dutchman's Breeches— mmon over the south of Vancouver Island. Port Moody on the Mainland.

Nasturtium palustre (D.C.), Marsh Cress-Vancouver Island and valley of the Fraser.

Nasturtium curvisiliqua (Nutt)-Common near Victoria and near New Westminster and Yale.

Cardamine oligosperma (Nutt). Bitter Cress-Common around Victoria. Cardamine angulata (Hook)—Around Victoria and New Westminster.

Capsella divaricata (Walp). Shepherd's Purse-Spence's Bridge.

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Viola palustris (Linn), Marsh Violet-Generally distributed in wet swamps. Flowers pale lilac

Viola blanda (Willd), White Violet, and var. renifolia—In cedar swamps. Flowers

Viola palmata (Linn), Common Blue Violet; var. cucullata (Gray)—Generally distributed.

Viola canina (Linn), Dog Violet: var. longipes (Nutt)-Vancouver Island south, Columbia River Valley, etc.

Viola glabella (Nuttall), Western Yellow Violet-Rich moist woods Vancouver Island and Mainland.

Viola sarmentosa, Yellow Violet—Vancouver Island. Fraser River, Selkirks. Silene antirrhina (Linn.), Sleepy Catch-fly—Vancouver Island and Mainland, on rocks and sandy soil,

Silene Menziesii (Hook)—Vancouver Island and Mainland. Lychnis apetala (Linn), Cockle—Summits of Rockies and Selkirk Mountains. Lychnis elata (Watson)—Kootenaie Pass.

Arenaria verna (Linn); Var. hirta (Watson)—On dry rocks near Victoria; also

on summits of the Rocky Mountains, at Stuart Lake Mountain, etc. Arenaria laterifolia (Linn), Broad-leaved Sandwort-On swampy ground every-

where Arenaria peploides (Linn), Seaside Sandwort; Var. oblongifolia-Straits of Fuca

and Georgia, Queen Charlotte Islands, etc. Stellaria nitens (Nutt), Chickweed Star-wort-Vancouver Island.

Stellaria umbellata (Turez)—On the Rocky Mountains. Stellaria crispa (Cham. & Schlecht)-Victoria, Vancouver Island and Selkirk Range.

Cerastium arvense (Linn). Meadow Chickweed-Vancouver Island and Mainland. Sagina occidentalis (Watson), Pearl-wort—On rocks near the sea, Vancouver and Queen Charlotte Islands.

Buda marina (Dumort), Sand Spurry—Salt marshes along the coast and inland. Lewisia rediviva (Pursh)—Thompson River, Nicola Valley, etc.

Claytonia. Spring Beauty-About twelve species found in the Province.

Calandrinia Menziesii (Hook.)—Vancouver Island, on rocks.

Hypericum Scouleri (Hook.), St. John's Wort-Vancouver Island and Mainland in dry soils.

Sidalcea malvaeflora (Gray)-Near Victoria and on Mainland. Erodium cicutarium (Hook.)—Victoria.

Geranium Richardsoni (Fisch. & Mey), Cranesbill-Vancouver Island and Mainland.

Geranium incisum (Nutt.)—Rocky Mountains, Nicola Valley, Spence's Bridge.

Limnanthes Macounii (Trellase)—Margins of pools near Victoria.

Oxalis oregana (Nutt.) Wood Sorrel—Woods on Lower Fraser. Flowers pinkish. Ceanothus velutinus (Douglas). New Jersey Tea-Horne Lake, Vancouver Island, above Preston Bar and at Stuart Lake.

Ceanothus sanguineus (Pursh.)-Mainland, coast to Stuart Lake. Slimy.

- Rhamnus Purshiana (D.C.), Buckthorn, "Cascara Sagrada"-Damp thickets in Vancouver Island and Mainland.
- Acer macrophyllum (Pursh.), Broad-leaved Maple -Common on Vancouver
- Island and in the lower valley of the Fraser River. Acer circinatum (Pursh.), Vine Maple—Has the same distribution as the last
- Acer glabrum (Torrey)-Valleys near springs, west side of Rocky Mountains to Vancouver Island.
- Rhus diversiloba (Torr & Gray). Poison Oak-Dry open places on the Mainland. Rhus Toxicodendron (Linn)-Mainland at Yale, etc.
- Lupinus littoralis (Dougl.), Lupin, "Chinook Licorice"-Southern coasts. Root edible.
- Lupinus microcarpus (Sims)-Near Victoria.
- Lupinus Nootkatensis (Donn.)-Vancouver and Queen Charlotte Islands, Port Moody, etc.
- Trifolium microcephalum (Pursh.), Small-flowered Clover-Close to shore, Vancouver Island.
- Trifolium megacephalum (Nutt.), Great-headed Clover-Mountains of Southern British Columbia.
- Trifolium involucratum (Willd)-Vancouver Island.
- Astragalus lentiginosus (Dougl.), Milk-vetch-Mainland.
- Vicia Americana (Muhl.), Vetch-Mainland.
- Vicia gigantea (Hook.), Giant Vetch-Vancouver and Queen Charlotte Islands, And twelve other species.
- Lathyrus maritimus (Bigel.), Everlasting Pea-Coast of B.C. Lathyrus Nuttallii (Watson), Nuttall's Pea-Common in thickets, Vancouver Islands and Mainland.

- Hosackia parviflora (Benth)—Victoria.
 Prunus Pennsylvanica (Linn), Bird Cherry—Mainland.
 Prunus Virginiana (Linn), Choke Cherry—Valley of the Fraser.
 Prunus de missa (Walp.), Wild Cherry—Mainland of British Columbia.
- Prunus emarginata (Walp.), Cherry; and var. mollis (Brewer)—Vancouver Island and Mainland.
- Nuttallia cerasiformis (Torr and Gray), Oso Berry-Vancouver Island and Main-
- Spiræa Douglasii (Hook), Spiræa; and var. Menziesii (Hook), Hardhack-Common along the West Coast.
- Spiræa betulifolia (Pallas), Birch-leaved Spiræa-Northern British Columbia and summits of Selkirks.
- Spiræa aruncus (Linn), Goat's Beard—Queen Charlotte Islands and Mainland.
- Physocarpus opulifolia (Maxim), Nine Bark; var. mollis (Brewer and Watson)— Vancouver Island and Mainland.
- Rubus Nutkanus (Mocino), White flowering Raspberry or Thimbleberry-Vancouver and Queen Charlotte Islands and Mainland.
- Rubus Arcticus (Linn). Arctic Raspberry-Northern British Columbia.
- Rubus pedatus (Smith), Creeping Raspberry-On mountains of Mainland
- Rubus triflorus (Richards), Dewberry—Mainland north. Rubus strigosus (Michx.), Red Raspberry—Mainland. Rubus spectabilis (Pursh), Salmon Berry—Along the coasts of islands and Main-
- Rubus leucodermis (Dougl.) Raspberry—Islands and Mainland.
- Rubus ursinus (Cham & Schlecht), Blackberry—Islands and Mainland in Columbia River Valley.
- Rubus nivalis (Dougl.)—On snowy ridges of Rocky Mountains. Purshia tridentala (D.C.), Chapparal—Osoyoos Lake, Kootenaie, etc.

- Geum macrophyllum (Willd), Large-leaved Avens—Island and Mainland. Geum rivale (Linn), Purple Avens—Mainland. Fragaria Virginiana (Duchesne), Wild Strawberry—Mainland from the east to the Coast Range.

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Fragaria Chilensis (Duchesne), Western Strawberry-On shores of islands and Mainland, and found in the interior to the west of the Coast Range. Scouleri (Hook)-Queen Charlotte Islands.

Potentilla arguta (Pursh), Cinque-Foil-Mainland to the south.

Potentilla gracilis (Dougl.)—Islands and Mainland.

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Poterium Sitchense (Watson), Burnet-Vancouver and Queen Charlotte Islands, Mainland.

Rosa pisocarpa (Gray)—Abundant on Vancouver Island and Mainland. Rosa Nutkana (Presl.), Nootka Rose—Queen Charlotte and Vancouver Islands and North-West.

Rosa blanda (Aitk.), Early Wild Rose—British Columbia Mainland. Pirus sambucifolia (Cham & Schlecht), Western Mountain Ash—Vancouver and Queen Charlotte Islands.

Pirus rivularis (Douglas), Oregon Crab-apple-Vancouver and Queen Charlotte Islands, Lower Fraser River Valley.

Cratægus Douglasii (Lindl.), White Thorn—Vancouver Island and Mainland. Cratægus rivularis (Nutt.)—Near Victoria and in southern parts of Mainland. Amelanchier alnifolia (Nuttall), June Berry, Service Tree—Vancouver and Queen Charlotte Islands and Mainland.

Saxifraga oppositifolia (Linn), Saxifragle-Northern British Columbia and summits of higher mountain ranges.

Saxifraga occidentalis (Watson)—Mounts Finlayson and Arrowsmith, Vancouver Island, Rocky Mountains, Yale and Lytton.
Saxifraga cæspitosa (Linn); Saxifraga adscendens (Linn); Saxifraga rivularis (Linn); Saxifraga nivalis (Linn); Saxifraga cernua (Linn); Saxifraga punctata (Linn)—On the summits of the higher mountain ranges.

Saxifraga bronchialis (Linn); Saxifraga azoides (Linn)-Mainland of British Columbia.

Saxifraga sileniflora (Sternb.)—Abundant on rocks near Victoria and in the Queen Charlotte Islands.

Saxifraga ranuncifolia (Hook)-Near Yale and in the Rocky Mountains.

Saxifraga Virginiensis (Michx.), Spring Saxifrage-Dry gravelly soil on margins

Saxifraga integrifolia (Hook)—Abundant on Vancouver Island.

Saxifraga leucanthemifolia (Michx.); var. ferruginea (T. & G.)—Islands and Mainland.

Saxifraga Lyalli (Engler)—Rocky and Selkirk Mountains.

Saxifraga heterantha (Hook)—Mainland. Saxifraga foliosa (R. Br.)—Vancouver Island and Mainland. Boykinia occidentalis (T. & G.)—Near Victoria.

Tolmiea Menziesii (T. & G.)-Northern Islands and Mainland.

Tellima grandiflora (R. Br.)-Islands and Mainland.

Tellima parviflora (Hook)—Islands and Mainland. Tiarella unifoliata (Hook), False mitre-wort; Tiarella trifoliata (Linn)—Islands and Mainland.

Mitella pentandra (Hook), Mitre-wort-Mainland in mountain woods. Islands and Mainland.

Mitella trifida (Graham). Mitella caulescens (Nutt)—Mainland of British Columbia.

Mitella Breweri (Gray)-Mountains of Mainland.

Heuchera micrantha (Dougl.)—Alum Root; glabra (W. Ud.); cylindrica (Dougl.)

-Islands and Mainland. Chrysosplenium alternifolium (Linn), Golden Saxifrage-Mainland of British Columbia.

Parnassia palustris (Linn.), Grass of Parnassus—Rocky Mountains, etc. Parnassia parviflora (D.C.)—Columbia Valley on Mainland.

Parnassia fimbriata (Koenig)—Islands and Mainland. Philadelphus Lewisii (Pursh.), Mock Orange-Near Victoria, Fraser and Kootenaie Valleys.

Philadelphus Gordonianus (Lindl.)—Fraser River Valley.

Ribes Lobbii, Gooseberry-Vancouver Island.

Ribes divaricatum (Dougl.), Gooseberry-Vancouver Island and Mainland. Berry edible; dark purple.

Ribes oxyacanthoides (Linn). Gooseberry. Berry small, purple—Vancouver Island, Mainland.

Ribes lacustre (Poir), and varieties, Swamp Gooseberry, currant-like—Mainland, Berry small, light red, acid.

Ribes rubrum (Linn), Red Currant-Northern Mainland. Ribes laxiflorum (Pursh.), Small Red Currant-Mainland.

Ribes bracteosum (Dougl.), Black Currant-Vancouver Island and Mainland. Ribes Hudsonianum (Richards), Black Currant, berry smooth, dark—Northern

Mainland.

Ribes cereum (Dougl.), Currant, berry reddish, sweetish-Mainland.

Ribes viscosissimum (Pursh.), Currant, berry black—Cascade and Selkirk Moun-

Ribes sanguineum (Pursh.), Berry blackish, bitter-Vancouver Island and Mainland.

Sedum stenopetalum (Pursh.), Stone-crop-Vancouver Island and Mainland on Rocky slopes.

Sedum spathulifolium (Hook.)-Abundant on Vancouver and Queen Charlotte Islands

Sedum Rhodiola (D.C.), Rose Root-Queen Charlotte Islands and Northern Mainland.

Sedum oreganum (Nutt.)-Horne Lake and Mountains of Vancouver Island. Drosera rotundifolia (Linn), Round-leaved Sun dew-Vancouver and Queen Charlotte Islands, Mainland.

Drosera Anglica (Hudson)-Horne Lake, Vancouver Island and Mainland. Myriophyllum spicatum (Linn). Water Milfoil-Mainland.

Hippuris vulgaris (Linn), Mare's Tail-Generally distributed.

Epilobium angustifolium (Linn), Fire-weed-Generally distributed.

Epilobium luteum (Pursh.), Yellow Willow Herb-Selkirks and Northern British Columbia.

Epilobium alpinum (Linn), Alpine Willow Herb-Higher summits of the Mainland.

Enothera biennis (Linn), Common Evening Primrose, and varieties: Vancouver Island and Mainland.

(Enothera strigulosa (Torr and Gray)—Near Victoria, Vancouver Island. Godetia amœna (Lilja), Godetia-Vancouver Island and Mainland.

Godetia epilobioides (Watson)—Vancouver Island. Clarkia pulchella (Pursh), Clarkia—Mainland. Circæa alpina (Linn), Enchanter's Nightshade—In damp, shady woods.

Circæa Pacifica (Asch. & Mag.)-Mountain ranges on Mainland.

Megarhiza Oregona (Torr), Big Root, Wild Cucumber-Islands of Gulf of Georgia. Opuntia fragilis (Haw), Prickly Pear, "Cactus"—Shores of Gulf of Georgia, common on dry rocks on some of the islands.

Sanicula Menziesii (H. & A.), Black Snake Root; Vancouver Island. Sanicula arctopoides (H. & A.)—Queen Charlotte and Vancouver Islands.

Cicuta virosa (Linn), Musquash poison; var. maculata (C. & R.)-Islands and Mainland.

Osmorrhiza nuda (Torrey), Sweet Cicely-Vancouver Island and Mainland. Œnanthe sarmentosa (Presl.)-Vancouver Island and Mainland. Succulent stems, eaten by Indians like celery.

Angelica Dawsoni (Watson), Angelica—Passes in the Rocky Mountains.

Archangelica Gmelini (D.C.), Archangelica-Vancouver and Queen Charlotte Islands.

Peucedanum utriculatum (Nutt.) Hog's Fennel-Vancouver Island and Mainland. Roots eaten by Indians.

Heracleum lanatum (Michx.), Cow Parsnip-Northern British Columbia. The petioles are chewed by Indians.

Daucus pusillus Michx.); var. microphyllus (T. & G..), Wild Carrot-Islands of British Columbia.

Aralia nudicaulis (Linn), Ginseng, Wild Sarsaparilla-Mainland of British Columbia.

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Fatsia horrida (Benth. & Hook.), Devil's Club—Islands and Mainland. Cornus Nuttallii (Audubon), Large Dogwood—Islands and Mainland. Gornus Canadensis (Linn). Dwarf Cornel, Bunch Berry—Vancouver and Queen Charlotte Islands and Mainland.

Cornus pubescens (Nutt.)-Vancouver Island and Mainland. Sambucus racemosa (Linn), Red-berried Elder—Islands and Mainland.
Sambucus glauca (Nutt.)—Vancouver Island Mainland.
Sambucus melanocarpa (Gray)—Columbia River Valley and Selkirks.
Viburnum pauciflorum (Pylaie), Arrow Wood—Northern parts of the Mainland.

Linnæa borealis (Gronov.), Twin Flower-Islands and Mainland. Symphoricarpos mollis (Nutt.). Snow-berry-Islands and Mainland.

Symphoricarpos racemosus (Michx.), var. pauciflorus (Robbins)-Same habitat as the last.

Lonicera ciliosa (Poir), Honeysuckle-Islands and Mainland. Lonicera hispidula (Douglas)—Vancouver Island.

Lonicera involucrata (Banks)—Islands and Coast Range of B.C.

Lonicera cærulea (Linn), Mountain Honeysuckle-Higher ranges of mountains on Mainland

Galium triflorum (Michx.), Three-Flowered Galium-Islands and Mainland of B.C. Sweet scented when drying like the European "Woodruff."

Galium Boreale (Linn), Northern Bed-straw—Northern Mainland.
Valeriana sylvatica (Banks), Valerian—Mountains of Mainland.
Valeriana capitata (W. Ud.)—Mainland of B.C.
Valerianella congesta (D.C.)—Islands.
Valerianella macrocarpa (T. & G.) and Valerianella samolifolia (Hoesk)—Vancouver Island.

Grindelia squarrosa (Dunal)—Mainland. Grindelia integrifolia (D.C.)—Vancouver and Queen Charlotte Islands. Solidago multiradiata, Golden Rod—Columbia Valley and Selkirk Range. Solidago confertiflora (D. C.)—Islands and Mainland. Solidago lepida (D. C.)—Islands.

Solidago elongata (Nutt.)—Islands and Mainland.

Solidago Canadensis (Linn), Common Golden Rod-Generally distributed.

Aster conspicuus (Lindl), Aster—Islands and Mainland. Aster Douglasii (Lindl.)—Islands and Mainland. Aster falcatus (Lindl)—Rocky and Selkirk Ranges. Aster occidentalis (Nutt.)—Vancouver and Mainland. Aster peregrinus (Pursh)-Vancouver Island.

Aster foliaceus (Lindl.)-Vancouver and Queen Charlotte Islands and parts of Mainland.

Erigeron filifolius (Nutt)—Mainland.

Erigeron compositus (Pursh) and varieties-Mainland.

Erigeron salsuginosus (Gray)—Queen Charlotte Islands and Alpine summits of mountain ranges on Mainland.

Erigeron Philadelphicus (L.)—Islands and Mainland. Antennaria racemosa (Hook.), Everlasting—Alpine woods on Mainland.

Antennaria Carpathica (R. Br.)—Alpine summits of mountain ranges. Gnaphalium Sprengelii (Hook. & Arn.), Everlasting. Gnaphalium palustre (Nutt.)—Islands and Mainland. Gnaphalium purpureum (Linn.)--Vancouver Island. Adenocaulon bicolor (Hook.)—Generally distributed.

Franseria bipinnatifida (Nutt.).

Franseria Chamissonis (Less.)—Shores of B.C. Balsamorhiza sagittata (Nutt).—Mainland on dry grassy slopes. Balsamorhiza deltoidea (Nutt.)—Islands.

Helianthus annuus (Linn), Sun Flower—Dry interior of B.C. Psilocarpus Oreganus (Nutt.), var.—Vancouver Island, Madia Nuttalli (Gray), Tar Weed—Woods, Island, and Mainland. Helianthella Douglasii (T. & G.)—Mainland of B.C. Eriophyllum cæspitosum (Dougl)—Islands and Mainland.

Gaillardia aristata (Pursh)-Interior of Mainland.

Achillæa Millefolium (Linn) Yarrow-Generally distributed.

Matricaria discoidea (D. C.), Wild Chamomile—Islands and Mainland.

Tanacetum Huronense (Nutt.), Tansy-Coast of B.C.

Artemisia dracunculoides (Pursh). Wormwood—Spence's Bridge, Chilcotin, etc. Artemisia Canadensis (Michx.)—Sea beaches, lake shores, and river banks.

Artemisia tridentata (Nutt.)—On arid soil in the interior of B.C. Luina hypoleusca (Benth.)—Barclay Sound, Cascade Mountains.

Petasites palmata (Gray). Sweet Colt's Foot—Vancouver Island and Mainland. Petasites sagittata (Gray)—Mainland of B.C., in swamps, etc. Arnica cordifolia (Hook.), Arnica.

Arnica latifolia (Bonyard).

Arnica foliosa (Nott.)-Mountain regions of B.C.

Ainica Chamissonis (Less.).

Arnica amplexicaulis (Nutt.)—Queen Charlotte Islands and Mainland.

Crocidium multicaule (Hook.)-Near Victoria.

Senecio aureus (Linn.), Groundset and varieties-Mainland.

Cnicus undulatus (Gray), Western Prairie Thistle-Kootenay Valley, Spence's Bridge.

Cnicus edulis (Gray), Thistle-Island and southern parts of Mainland.

Hieraceum umbellatum (Linn), Hawkweed—Mainland of B.C. Hieraceum Scouleri (Hook.)—Vancouver Island and Mainland.

Taraxacum officinale (Weber), Dandelion; var. alpinum (Koch)-Mainland of B.C.; and var. glaucessens (Koch); var. lividum (Koch)—Vancouver Island and Mainland.

Prenanthes alata (Gray), Rattlesnake Root-Queen Charlotte Islands and Main-

Lobelia Kalmii (Linn), Kalm's Lobelia-Near sources of Columbia River. Specularia perfoliata (A. D. C.), Venus' Looking-glass—Islands and Mainland. Campanula lasiocarpa (Cham.), Bell-Flower—Cariboo Mountains and Northern

Campanula Scheuchzeri (Vill.), var. heterodoxa (Gray)—Queen Charlotte Islands,

Campanula rotundifolia (Linn), Blue-Bell, Hare-Bell-Kootenay Valley, etc., and var. Alaskana (Gray)—Queen Charlotte Islands and Vancouver Island. Campanula Scouleri (Hook.)—Southern parts of Vancouver Island and Mainland.

Heterocodon rariflorum (Nutt.)—Vancouver Island. Vaccinium uliginoseum (Linn.), Bog Blueberry; var. micronatum (Herder)—Mt. Arrowsmith, Vancouver Island.

Vaccinium cæspitosum (Michx.), Dwarf Bilberry; var. cuneifolium (Nutt.)—Near Victoria.

Vaccinium myrtillus (Linn), Whortleberry, Bilberry; var. microphyllum (Hook.)— Alpine woods on Mainland.

Vaccinium myrtilloides (Gray); var. membranaceum (Dougl.), and var. rigidum (Hook.)—Damp Alpine woods on Mainland.

Vaccinium ovalifolium (Smith), Blue Huckleberry-Vancouver and Queen Char-

lotte Islands, and Mainland. Berries large and edible.
Vaccinium parvifolium (Smith), Red Huckleberry-Same distribution as last. Berries pale red; edible.

Vaccinium ovatum (Pursh)-Southern parts of B.C. Berries dark purple, with-

Vaccinium vitis Idæa (Linn), Mountain Cranberry—Islands and Mainland. Oxyococcus vulgaris (Pursh), Cranberry—Vancouver and Queen Charlotte Islands, and Mainland, in sphagnous swamps.

Chiogenes hispidula (T. & G.), Creeping Snowberry-Rocky Mountains; sources of Columbia.

Arbutus Menziesii (Pursh), Madroña-Coasts of Vancouver Island and Southern Mainland.

Arctostaphylos alpina (Spreng), Bearberry, Kinnikinnick-Generally distributed. Arctostaphylos tomentosa (Dougl.)-Southern parts of the Province.

Gaultheria ovatifolia (Gray), Aromatic Wintergreen-Cascade Range and Mt. Arrowsmith, V. I. Fruit scarlet, aromatic.

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Apocynui eve Gaultheria Shallon (Pursh), Salal—Vancouver and Queen Charlotte Islands and western parts of Mainland. Fruit purple, becoming black.

Cassandra calyculata (Don.), Leather Leaf—Northern B. C. in bogs and swamps.

Cassiope Metrotran (D. C.), Cassiope—Northern coasts.

Cassiope Mertensiana (Pallas)—Upper wooded slopes Mainland mountains.

Andromeda polifolia (Linn)-Peat bogs and swamps.

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Bryanthus empetriformis (Gray), False Heather-Vancouver Island (Nootka), Rocky Mountains.

Bryanthus Grahamii (Hook.)—Mainland mountains.

Bryanthus glanduliflorus (Gray)—Summits of Rocky and Selkirk Mountains. Kalmia glauca (Ait.), American Laurel, and var. microphylla (Hook.)—Queen Charlotte Islands and mountains of Northern B.C.

Ledum latifolium (Ait.), Labrador Tea-Peat bogs and marshes.

Ledum glandulosum (Nutt.)—High plateau near Nicola, at 5.000 feet. Rhododendron Kamschaticum (Pall.). Rose Bay—Banks Island, etc., Northern B.C.

Rhododendron albiflorum (Hooper), Mountain Rhododendron-Rocky and Selkirk Mountains, Cariboo, etc.

Rhododendron Californicum (Hook,)-Mountains between Hope and the Skagit River

Menziesia glabella (Gray)—Alpine woods.

Menziesia ferruginea (Smith)-Vancouver and Queen Charlotte Islands, and higher woods on Mainland.

Cladothamnus pyrolæflorus (Bong.)-Woods on Islands and Mainland.

Pyrola minor (Linn), Wintergreen-Agassiz, Observatory Inlet, Rocky Moun-

Pyrola secunda (Linn)-Woods on Islands and Mainland.

Pyrola chlorantha (Swartz)—Northern B.C.

Pyrola elliptica (Nutt.)—Damp woods in the Selkirk Range.

Pyrola rotundifolia (Linn), Round-leaved Wintergreen, and varieties-Generally distributed.

Pyrola picta (Smith)—Nootka and Victoria, V.I., and at Yale. Pyrola aphylla (Smith)-Somenos and Mt. Finlayson, V.I.

Moneses uniflora (Salisb.), One-flowered Wintergreen-In shady and mossy woods.

Chimaphila umbellata (Nutt.), Prince's Pine-Dry woods, Islands and Mainland. Chimaphilia virgata (Torr. & Gray)-Islands and Mainland.

Monotropa uniflora (Linn), Indian Pipe-Damp woods, Islands and Mainland. Montropa Hypopitys (Linn.), Pine Sap—Queen Charlotte and Vancouver Islands. Montropa fimbriata (Gray)—Little Qualicum, Mts. Mark and Arrowsmith, V.I. Armeria vulgaris (W. Ud.), Thrift, Sea Pink—Seashores everywhere,

Primula Mistassinica (Michx.), Primrose-Rocky Mountains.

Primula farinosa (Linn.), Bird's Eye Primrose-Rocky Mountains. Often producing thirty flowers in a capitate cluster.

Androsace occidentalis (Pursh).

Androsace septentrionalis (Linn.)—Mainland.

Douglasia nivalis (Lindl.)—Sources of the Columbia at an elevation of 12.000 feet. Dodecatheon Hendersoni (Gray), American Cowslip—Victoria, Yale, etc. Dodecatheon Jeffreyi (Moore)—Kanaka Bar, Fraser River.

Dodocatheon frigidum (Cham. & Schlecht)-Mt. Arrowsmith at an altitude of 5,700 feet; also near Victoria.

Trientalis Europæa (Linn), Star-Flower; var. arctica (Ledeb)-Cariboo and Selkirk Mountains, Mt. Finlayson, V.I. Var. latifolia (Torr)-Near Victoria and Comox, etc.

Centunculus minimus (Linn)—Kamloops and near Alberni, V.I.

Steironema ciliatum (Raf.), Loosestrife-Abundant near small ponds.

Glaux maritima (Linn), Sea Milkwort-Salt marshes in the interior of B.C. and along the coast.

Apocynum androsæmifolium (Linn.), Spreading Dogbane—Borders of thickets everywhere, Kootenay, Donald, etc; var. incanum (D.C.), Fraser Valley.

Apocynum cannabinum (Linn.), Indian Hemp; var. hypericifolium (Gray)-In grassy thickets. Its bark yields a fine and tough bark-fibre (Gray).

Asclepias speciosa (Torr.), Milkweed-Shuswap and Thompson River.

Gentiana Amarella (Linn.), Gentian; var. acuta (Hook.)—Vancouver and Queen Charlotte Islands and Mainland generally.

Gentiana propinqua (Richards)—Alpine swamps in Rocky Mountains. Gentiana Douglasiana (Bong.)—Queen Charlotte Islands, Cassiar, and Northern B.C.

Gentiana glauca (Pall)-Alpine ranges on Mainland.

Gentiana platypetala (Griesb)—Queen Charlotte Islands and Northern B. C. Gentiana sceptrum (Griesb.)—Vancouver Island and mountains of Southern B.C. Menyanthes trifoliata (Linn.), Buckbean-Swamps near Victoria,

Menyanthes Crista-galli (Menzies)-Queen Charlotte Islands and Northern B.C.

Phlox Douglasii (Hook.), Phlox—Rocky Mountains and Kootenay Valley.
Phlox longifolia (Nutt.)—Southern British Columbia.
Phlox linearifolia (Gray)—Eastern parts of the Mainland.

Collomia linearis (Nutt.), and C. gracilis (Dougl.)-Vancouver Island and Mainland.

Gilia liniflora (Benth); var. pharnaceoides (Gray)-Kamloops, etc.

Gilia tenella (Benth.). G. squarrosa (H. & A.).

G. capitata (Dougl.).

G. inconspicua (Dougl.)—Dry slopes near Victoria and Southern B.C.

Gilia aggregata (Spreng.)-Near the Similkameen River. Flowers large and showy, usually scarlet.

Polemonium confertum (Gray), Greek Valerian-Passes in Rocky Mountains. P. micranthum (Benth.)-Victoria, V.I., Boston Bar, etc.

Hydrophyllum capitatum (Dougl.), Water-Leaf—Rocky to Cascade Mountains. H. Virginicum (Linn.)—In rich woods at Goldstream, V.I., Mainland. Nemophila parviflora (Dougl.), Nemophila. Nemophila Menziesii (Hook.)—Near Victoria. Flowering in early spring.

Phacelia circinata (Jacq.)-Rocky and Selkirk Mountains.

Phacelia sericea (Gray); Franklinii (Gray)-Rocky Mountains.

Phacelia Menziesii (Torr.)—Nicola and Thompson River Valley. Spence's Bridge, Lytton, etc.

Cynoglossum grande (Dougl.), Houndstongue—Thick woods in Southern B.C. Echinospermum floribundum (Lehm.), stickseed-Spence's Bridge and Northern

Echinospermum deflexum (Lehm.)-Rocky Mountains.

Kıynitsia Californica (D. C.);

K. Chorisiana (D. C.)

K. Scouleri (Gray)-Near Victoria. Amsinckia intermedia Fisch. & Meyer;

A. lycopsoides (Lehm.); var. bracteosa (Gray)—Coast of Vancouver Island. Myosotis verna (Nutt), Forget-Me-Not; var. macrosperma (Chapm.)—A small form near Victoria, V.I., and near Câche Creek.

Lithospermum pilosum (Nutt.), Gromwell—Spence's Bridge, etc

Lithospermum angustifolium (Michx.)—Nicola, Lytton, Câche Creek, etc.

Cuscuta salina (Engelm.). Dodder—Saline marshes on coast.
Nicotiana attenuata (Torr.). Tobacco—On sand hills from Lytton to above Spence's Bridge, along the Thompson River; viscid and stinking; used by Indians (Gray).

Collinsia grandiflora (Dougl.), and var. pusilla (Gray) Common on grassy and gravelly hillsides in early spring near Victoria.

Collinsia parviflora (Dougl)-Rocky Mountains, Southern Vancouver Island. Pentstemon Menziesii (Hook.), Bean, Tongue—Rocky Mountains; and var. Scouleri (Gray)—Rocky and Cascade Mountains, North V. I., etc.

Pentstemon confertus (Dougl.)-Columbia River, Crow's Nest Pass, etc.

Pentstemon venustus (Dougl.);

P. diffusus (Dougl.)—Higher mountains, Vancouver Island and Mainland.

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Mimulus Lewisii (Pursh), Rose-coloured Monkey-flower-Wet ground near springs on Mainland at high altitudes.

Mimulus luteus (Linn.), Yellow Monkey-flower-Islands and Mainland generally. Mimulus alsinoides (Benth.), Small Monkey-flower-Vancouver Island and Mainland.

Mimulus moschatus (Dougl.), Musk-plant-Vancouver Island.

Gratiola ebracteata (Benth.), Hedge Hysop-Ditches and wet places near Victoria. Veronica Anagallis (Linn.), Water Speedwell;

Veronica Americana (Schwein);

Veronica scutellata, Marsh Speedwell—Brooks and swamps, Islands and Mainland, Castilleia miniata (Dougl.), Painted Cup—Vancouver Island and Mainland, Castilleia parviflora (Bong.)—Islands and Mainland.
Castilleia pallida (Kunth)—Rocky Mountains.

Castilleia breviflora (Gray)—Arrow Lake, Osoyoos Lake.

Orthocarpus bracteosus (Benth.); Orthocarpus attenuatus (Gray) Orthocarpus castilleioides (Benth.);

Orthocarpus pusillus (Benth.)—Vancouver Island.
Orthocarpus luteus (Nutt.)—Chilcotin River and Rocky Mountains.

Pedicularis Grændlandica (Retz), Lousewort;

Pedicularis racemosa (Dougl.)—Mainland of B.C. Pedicularis bracteosa (Benth.)—Cariboo, Câche Creek, Rocky and Selkirk Mountains.

Pedicularis Langsdorffii (Fisch.); var. lana (Gray)—Mountains of Northern B.C. Rhinanthus Crista-galli (Linn.), Yellow Rattle—Vancouver and Queen Charlotte Islands; Rocky Mountains.

Melampyrum Americanum (Michx.), Cow-Wheat—Coast Range.

Aphyllon uniflorum (Gray), Cancer Root-Abundant near Victoria, Kootenay Val-

Aphyllon fasciculatum (Gray)—Nicola and Spence's Bridge. Aphyllon comosum (Gray)—Coast near Victoria.

Aphyllon Ludovicianum (Gray)—Vancouver Island, Okanagan Lake. Boschniakia Hookeri (Walp.)—Mts. Finlayson and Benson, V.I.

Utricularia vulgaris (Linn), Bladder Wort-Ditches and slow streams on Islands and Mainland.

Utricularia intermedia (Hayne)—Selkirk Mountains.

Pinguicula vulgaris (Linn.), Butter Wort-Wet places, Milbank Sound. Coast Range, Columbia Valley, etc.

Verbena hastata (Linn.), Vervain-Spillimacheen, B.C.

Verbena bracteosa (Mchx.)—Spence's Bridge and Kamloops.

Teucrium occidentale (Gray)—Spence's Bridge.

Mentha Canadensis (Linn), Canada Mint—Wet places along streams Lycopus Virginicus (Linn), Bugle Weed, and—Lycopus sinuatus (E. U.)—Wet woods.

Micromeria Douglasii (Benth.), Yerba Buena-Shady woods, Vancouver Island. Monardo fistulosa (Linn.), Oswego Tea; var. mollis (Benth.)—Rocky Mountains; Spence's Bridge.

Scutellaria angustifolia (Pursh.), Skull-cap-Victoria, V.I., in moist ground; also near the sources of the Columbia River.

Physostegia parviflora (Nuttall), False Dragon Head-Shuswap Lake, Thompson River.

Brunella vulgaris (Linn.), Self-Heal—Islands and Mainland. Stachys palustris (Linn.), Wound-Wort—Wet ground everywhere. Stachys ciliata (Dougl.)—Islands and Mainland in south of B.C.

Plantago macrocarpa (Cham. & Sehl)—Alberni and Qualicum, V.I. Plantago maritima (Linn.)—Gulf of Georgia, etc. Plantago major (Linn.)—Kootenay.

Abronia latifolia (Esch.), and-Abronia umbellata (Lam.)—Growing in sand along the seashore.

Atriplex Alaskensis (Watson)—Orache. Atriplex zosteræfolia (Watson)—Sea coast. Atriplex patula (Linn.); var. littoralis (Gray)—Sea coast.

Chenopodium hybridum (L.), Maple-Leaved Goose-foot—Islands and Mainland. Chenopodium rubrum (L.)—Islands and Mainland; Kamloops. Chenopodium Fremonti (Watson)—Kamloops.

Salicornia ambigua (Michx.), Glass-Wort-Muddy flats along the seashore.

Suæda depressa (Watson), Sea-Blite—Spence's Bridge. Oxyria digyna (Campdera), Mountain Sorrel—Sub-Alpine.

Polygonum amphibium (Linn.), Knot-Weed—Fresh water ponds. Polygonum paronychia (Cham. & Schl.)—Sandy cliffs near Victoria. Polygonum minimum (Watson)—Griffin Lake.

Rumex paucifolius (Nutt.), Sorrel—Kootenay Pass, Telegraph Trail.
Asarum caudatum (Lindl.), Wild Ginger—Islands and Mainland.
Elægnus argentea (Nutt.), Silver-berry—Spence's Bridge, Rocky Mountains.
Shepherdia Canadensis (Nutt.), Soopolalla—Islands and Mainland.
Arceuthobium Americanum (Nutt.), Mistletoe—Growing on Pinus contorta, Van-

couver Island and Mainland.

Arceuthobium robustum (Engelm.)—Growing on Pinus ponderosa, Kootenay Valley

Comandra livida (Richards), Bastard Toad-Flax; and—Comandra pallida (A. D. C.)—Mainland of B.C. Euphorbia glyptosperma (Engelm.), Spurge—Thompson River.

Urtica Lyallii (Watson), Western Nettle-Old Indian villages on Islands and Mainland.

Urtica holosericea (Nutt)-Nicola, Okanagan, etc.

Myrica Gale (Linn.), Sweet Gale or Bog Myrtle—Along lakes; common on Vancouver Island and the Mainland, especially to the north.

Alnus rhombifolia (Nutt.)—Mainland.

Alnus rubra (Bong.)—Islands and Mainland. Alnus incana (Willd.), Common Alder; var. virescens (Watson)—Higher slopes of Rocky and Selkirk Mountains.

Betula glandulosa (Michx.), Dwarf Birch—Vancouver Island and Mainland. Betula occidentalis (Hooker), Western Birch—Common on Mainland, in the Valley of the Columbia, to the Selkirk's summit.

Betula papyrifera, Canoe Birch—Mainland, generally distributed. Corylus rostrata (Ait.), Beaked Hazel—Southern parts of Vancouver Island and

Mainland, Sicamous and Shuswap.

Quercus Garryana (Dougl.), or Jacobi—South-eastern part of Vancouver Island.

Populus trichocarpa (T. & G.), Cottonwood—Columbia Valley; Selkirk Mountains; Lower Fraser Valley.

Populus tremuloides (Michx.), Aspen—Northern forests. Salix balsamifera (Barratt), Balsam Willow—Nechaco River.

Salix Barrattiana (Hook.)—Alpine swamps of the Rocky Mountains.

Salix candida (Wild.), Hoary Willow—Peat bogs, Northern B.C.
Salix cordata (Muhl.), Heart-leaved Willow—Islands and Mainland generally.
Salix desertorum (Rich.), Prairie Willow—Columbia Valley, Cache Creek, and on Mainland.

Salix flavesceus (Nutt.), and var. Scouleriana (Bebb.)-Common, Islands and Mainland; var. villosa (And.)—Selkirk Range to Fort McLeod.

Salix herbacea (Linn)., Herb-like Willow-Summits of Rocky and Selkirk Ranges.

Salix lasiandra (Benth.), and var. lancifolia (Bebb.)—Islands and Mainland. Salix longifolia (Muhl.), Long-leaved Willow; and var. argyrophylla (And.)— River bottoms Northern B.C

Salix myrtilloides (Linn.), Myrtle Willow-Mainland, in peat and other bogs.

Salix prolixa (And.)—Near Victoria, V.I.; Spence's Bridge.

Salix reticulata (L.); var. nivalis (And.)-Summits of Rocky and Selkirk Moun-

Salix rostrata (Rich.), Livid Willow—The most common species from the Coast Range eastward.

Salix sessilifolia (Nutt.)—Fraser River Valley. Salix sitchensis (Sanson), and var. angustofolia—New Westminster, Quesnelle, North Kootenay, Rocky Mountains, etc.

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Salix speciosa (H. & A.)—Mountains of British Columbia.
Salix commutata (Bebb.)—Gold Range, B.C.
Salix vestita (Pursh.)—At high altitudes in the Rocky and Selkirk Mountains.

Salix conjuncta (Bebb.)—Rocky Mountains, Selkirk and Gold Ranges. Salix macrocarpa (Nutt.)—Near Victoria, V.I.

Empetrum nigrum (L.), Black Crow-berry-Queen Charlotte Islands and Northern B.C

Abies amabilis (Forbes), White Fir; Vancouver Island and Mainland.

Abies grandis (Lindl.), Western White Fir—Confined to the vicinity of the Coast;
Balsam Fir.

Abies subalpina (Engelm.), Mountain Balsam—Rocky and Selkirk Mountains. Juniperus occidentalis (Hook.), Western Juniper, "Red Cedar"-Islands and Mainland.

Juniperus sabina (Linn.), Creeping Juniper; var. procumbens (Ph.)-Kicking Horse Lake, Rocky Mountains.

Juniperus communis (Linn.), and var. alpina (Linn.)—Vancouver Island and Rocky Mountains.

Larix Americana. Tamarach-Rocky Mountains.

Larix Lyallii (Partat), Black Larch. Larix occidentalis (Nutt.), Western Tamarach—Rocky Mountains, Selkirk and Gold Ranges.

Picea alba (Link), White Spruce-Rocky Mountains.

Picea Engelmanni (Engelm.), Engelmann's Spruce-Throughout interior of B.C.

Picea nigra (L.), Black Spruce—Northern B.C. Picea Sitchensis (Carr), Western Spruce—Coast of B.C.

Pinus albicaulis (Engelm.), White-barked Pine-Generally distributed on high

Pinus contorta (Dougl.), Scrub Pine-Everywhere on the Coast.

Pinus flexitis (James), Rocky Mountain Pine-Southern Rocky Mountains. Pinus monticola (Dougl.), Western White Pine-Plentiful southern interior. Pinus Murrayana (Balf), Black Pine-Characteristic tree of interior plateau.

Pinus ponderosa (Dougl.); var. Scopulorum (Engelm.)—Central and southern dry region.

Pseudotsuga Douglasii (Carr), Douglas Fir—Generally Distributed; greatest perfection on Coast.

Taxus brevifolia (Nutt.), Western Yew-Vancouver Island and South-Western Mainland.

Thuya excelsa (Bong.), Yellow Cypress—North-Western Coast and on Vancouver Island.

Thuya gigantea (Nutt.), Western White Cedar—Southern B.C. and Coast generally.

Tsuga Mertensiana, Western Hemlock-Southern B.C. and Coast generally. Tsuga Pattoniana (Engélm.), Hemlock-On Fraser River; Yale.

Calypso borealis (Salish.), Calypso,—Generally distributed; abundant in shady woods.

Corallorhiza innata (R.Br.) Coral Root.—At high altitudes, Vancouver Island and Mainland.

Corallorhiza Mertensiana (Boug.)-In rich shady woods, Vancouver and Queen Charlotte Islands and Mainland. Common near Victoria in July.

Corallorhiza multiflora (Nutt.)—In woods, Vancouver Island and Mainland, flowering in May

Corallorhiza striata (Linn.)-Vancouver Island and Mainland.

Cypripedium Montanum (Dougl.) Lady's Slipper.—Southern parts of Vancouver Island, Columbia Valley, Okanagan Lake, etc.

Epipactis gigantea (Dougl.)-Osoyoos Lake, Mainland of B.C.

Goodyera Menziesii (Linol.)-Rich woods throughout Vancouver and Queen Charlotte Islands. In Selkirk and Rocky Mountain ranges.

Goodyera repens (R. B.)—Cool mossy woods.

Habenaria bracteata (R.Br.)-Columbia Valley, B.C., also southern parts of Vancouver Island.

Habenaria dilatata (Gray)-Common in the Rocky Mountains, in swamps,

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Habenaria elegans (Boland)—Southern parts of Vancouver Island.

Habenaria gracilis (Watson)-Vancouver and Queen Chorlotte Islands.

Habenaria leucostachys (Watson)-In swamps, Vancouver and Queen Charlotte Islands and Mainland of B.C.

Habenaria Unalaschensis (Watson)-Rocky Mountains and Southern Vancouver Island, on gravelly soil.

Habenaria Hyperborea (R. Br.)-Rocky Mountains and Selkirk Ranges, Ouesnelle, etc.

Listera convallarioides (Nutt.), Twayblade-Mountains of Vancouver Island and Mainland.

Listera cordata (R.Br.)—Common in mountain woods, Vancouver Island and Mainland.

Orchis rotundifolia (Pursh.)-McLeod's Lake, etc. Spiranthes Romanzoffiana (Cham.), Ladies' Tresses.

Iris tenax (Dougl.)—A doubtful resident, but found near Puget Sound by Douglas.

Sisyrinchium Californicum, Blue eved Grass, etc. Shores of Shawnigan and other lakes on Vancouver Island; flower small, yellow.

Sisyrinchium grandiflorum (Dougl.)—Common in early spring near Victoria; flower large, purple.

Sisyrinchium mucronatum (Michx.)-Generally distributed throughout the Province; flower small, purple; later than the last.

Allium acuminatum (Hook.), Wild onion, garlic.—Common near Victoria, as are also the next three species.

Allium Geyeri (Watson). Allium Nevii (Watson).

Allium reticulatum (Fras.). A. stellatum, (Fras.).

A. tricoccum (Ait.)—Are found at considerable heights above sea-level on the Mainland.

Allium Vancouverense (Macoun)-Mount Arrowsmith, V.I.

Brodiaea Douglasii (Watson); Brodiaea grandiflora (Smith); Brodiaea lactea (Watson).—All three reported from the neighbourhood of Victoria and the south of Vancouver Island.

Calochortus elegans (Pursh.), var. nanus, (Wood)-Rocky Mountains.

Calochortus macrocarpus (Dougl.)-Lytton, Kamloops, Kootenai Valley, etc.

Camassia Leichtlinii (Watson), Camass.

Camassia esculenta (Lindl.)—Both found on the southern islands of B.C.

Climtonia uniflora (Kunth), Clintonia-Cool, shady woods, Vancouver Island and Mainland.

Erythronium albiflorum (Hook.), Dog's Tooth Violet-Abundant throughout the southern part of Vancouver Island. Locally known as "Lent Lily.

Erythronium Smithii (Hook.)—A pink variety rarer than the last. Found at Alberni, Comox, Cowichan and Sooke: all on Vancouver Island.

Erythronium giganteum (Hook.)—Flowers large, bright yellow. Coast Range and Harrison Lake, B.C.

Erythronium minus (Morren.)—Bright yellow, usually one flowered. At high altitudes, Vancouver Island and Mainland of B.C.

Fritillaria Kamtschatcensis (Ker), Fritillary-Generally distributed along the seacoast to the far north.

Fritillaria lanceolata (Pursh.), and var. floribunda-Southern B.C.

Fritillaria pudica (Spreng.)-Mountain slopes. Lytton and Spence's Bridge.

Lilium Columbianum, (Hanson)-Common on dry soil in southern Vancouver Island.

Lilium Philadelphicum (Linn.)-Columbia Valley, B.C.

Maianthemum bifolium (D.C.), Lily of the Valley; var. dilatatum (Wood)—Common in low woods from Victoria to Port Simpson and the Queen Charlotte Islands. Apparently confined to the west coast.

Prosartes Hookeri (Torr.)-Mainland of B.C.

Prosartes Menziesii (Don.)-Nootka Sound, Vancouver Island.

Prosartes Oregana (Watson)-Near Victoria, New Westminster, Coast Range, etc.

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Cryptogra in m Smilacina racemosa (Desf.), False Solomon's Seal-Near Victoria, Somenos, etc. Smilacina sessilifolia (Nutt.)—Southern Vancouver Island, Fraser Valley, etc. Smilacina stellata (Desf.)-Rocky Mountains and Columbia Valley.

Stenanthium occidentale (Gray)-Mountains of Vancouver Island and Mainland

of B.C Streptopus amplexifolius (D.C.), Twisted Stalk-Wet thickets, generally distributed.

Streptopus roseus (Michx.)—Rocky Mountains, Selkirks, Cariboo, etc.

Tofieldia glutinosa (Willd.), False Asphodel—Cold bogs and borders of mountain lakes and rivers. Islands and Mainland of B.C.

Tofieldia occidentalis (Watson)-Selkirk Range and Queen Charlotte Islands. Trillium ovatum (Pursh.), Three-leaved Nightshade-Rich woods in southern

parts of Vancouver Island and Mainland of B.C.

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Veratrum viride (Ait.), False Hellebore—Generally distributed on mountains slopes and river valleys from southern B.C. to Queen Charlotte Islands and the Stikine coutnry.

Zygadenus elegans (Pursh.), Zygadene--Columbia River Valley. Donald.

Zygadenus venenosus (Watson), Poison Camass-Common in southern parts of

Vancouver Island and through the Selkirk and Rocky Mountains. Lysichiton Kamtschatcense (Schott), Skunk Cabbage—Common on the islands of B.C. up to the far north. Also on the Mainland in the Selkirk Range.

LIST OF FERNS OF BRITISH COLUMBIA.

Adiantum pedatum (L.), Maidenhair Fern-In rich damp woods, pretty generally distributed.

Var. rangeferinum (Burgess)—Base of Mount Finlayson, near Victoria.

Aspidium aculeatum (Swartz)-Port Simpson, P.C.

Var. Braunii (Doell.) Nootka, V.I., and sources of Columbia River. Aspidium Filix mas (Swartz), Male Fern—Selkirk Range. Aspidium Lonchitis (Swartz)—Rocky, Selkirks and Gold Mountains.

Aspidium munitum (Kaulf)-An evergreen species; common on the islands including the Queen Charlotte group, also on western Mainland.

Aspidium Oreopteris (Swartz)-Wet ground on mountain slopes. Selkirk Range and Port Simpson.

Aspidium rigidum (Swartz)—Growing in tufts amongst rocks on Mount Finlayson, near Victoria.

Aspidium spinulosum (Swartz)—Partially evergreen. Generally distributed. Var. intermedium (D. C. Eaton)—Same range as last.

Var. dilatatum (Hook.)-General. In places this forms almost the whole undergrowth

Asplenium Filix-foemina (Bernh.) Lady Fern-Generally distributed. Growing in moist places.

Asplenium Trichomanes (L.), Maidenhair Spleenwort-Crevices of rocks Vancouver Island, west coast of Queen Charlotte Islands, also in Coast Range, Selkirks and Rocky Mountains.

Asplenium viride (Huds.), Green Spleenwort-Moist shady crevices of rocks in various parts of B.C., Port Simpson, Queen Charlotte Islands, Rocky Mountains, etc.

Cheilanthes gracillima (Eaton), Lip Fern-Southern Vancouver Island, Harrison Lake, Spence's Bridge, in fissures of dry rocks.

Cheilanthes lanuginosa (Nutt.)—In matted masses on exposed rocks, North

Thompson River, Ashcroft, Banff, etc.
Cryptogramme acrostichoides (R. Br.), Rock Brake, Paisley Fern—On bare hills in many localities on Vancouver Island and Mainland.

Cystopteris fragilis (Bern.), Bladder Fern—Universally distributed, growing on shady rocks and in rich woods. Very variable.

Gymnogramme triangularis (Kaulf), Gold Fern—Crevices of rocks near Victoria.

Lomaria spicant (Desv.)—Abundant along the coast in rich cool woods reaching as far as the Queen Charlotte Islands.

Onoclea Struthiopteris (Hoffm.)—A tall species found in the valleys of the Fraser River, in the Gold Range, etc.

Pallæa atropurpurea (Link.), Cliff Brake--Crevices of rocks in Rocky Mountains, Kootenaie, District, Nicola and Kamloops.

Pallæa densa (Hook.)-A rock species growing in exposed places above Yale within the Cascades Mountains, Sicamous, B.C., and Mt. Finlayson near

Pellæa gracilis (Hook.)-Kicking Horse Lake, Mt. Stephen, Kootenaie District, etc.

Phegopteris alpestris (Mett.)—Cascade, Selkirk and Gold Ranges, B.C.

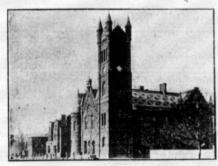
Phegopteris, Dryopteris (Fee), Oak Fern-Rocky Mountains, southern Vancouver Island, Queen Charlotte Islands and Port Simpson.

Polypodium falcatum (Kellogy)—Common along the coast of Southern B.C.
Polypodium Scouleri (H. & —On exposed rocks close to the sea west and north coast of Vancouver Island.
Polypodium vulgare (L.) and valties—Common in B.C.
Pteris aquilina (L.), Brake; valt anuginosa (Boug.)—A common fern on Vancouver Island and the Mainland of B.C.
Woodsia obtusa (Torr)—Abrigst loose rocks at Port Simpson and west side Phegopteris polypodioides, (Fee)—Sources of Colmbia River, Port Simpson.

of Rocky Mountains at sources of the Columbia.

Woodsia copulina (D. C. Eaton)—Growing in dense masses on rocks and in their crevices, chiefly in shade. Mt. Finlayson, V.I., along the Thompson and Fraser Rivers from Yale to Sicamous, etc.

Woodsia Oregana (D. C. Eaton)-Fraser and Thompson Rivers, Kamloops, etc. Woodwardia radicans (Smith)—Texada Island, Straits of Georgia. in moist places



ST. ANDREW'S PRESBYTERIAN CHURCH, VICTORIA.



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MINES AND MINING.

N dealing with the general conditions of mining in British Columbia, the question has often arisen in the minds of outsiders as to how it was that a Province so long known to the world as a mineral country, so much and so continuously talked about, and one that, in fact, sprang to life on account of auriferous wealth, discovered so many years ago, has in the past proved such a source of disappointment to those who looked for development on a large scale. It is true that in the early period of the history of the Province much gold was taken out. In fact, its placer diggings proved to be very rich, but they were, so far as gold could be produced by primitive appliances, soon exhausted, and, despite all expectations, the output after the first few years continued to steadily

despite all expectations, the output after the first few years continued to steadily decline, with no compensating development of new fields, or progress in lode mining, until very many began to question if, after all, their faith in mines was not largely founded upon myth. Writers and speakers since the first had declaimed on the immense possibilities of the mineral resources until it became a monotonous strain; new finds and new ventures cropped up with unvarying regularity, and a great deal of local capital from time to time was invested in the various schemes; but all without returns. Hope was oft deferred. Foreign capital, that jewel of great price, cluded an efforts to entice it into assisting the most favourable propositions. The few ventures in which it embarked in a preliminary way were doomed to misfortune. So on it went, year after year, the close of each seeing bright hopes for the next, which were never realized. The public grew skeptical.

The writer remembers, not longer than eight years ago, that the opinion was expressed by many not incompetent to form one on such subjects, that British Columbia was a doubtful field for mining, and that even where local deposits of value existed conditions rendered exploitation extremely unfavourable. No quartz mines up to that time had been worked, hence nothing had been demonstrated; and without demonstration no number of "indications" could furnish proof to experienced mining men and capitalists. Much was heard at that time about "broken formations" and "refractory ores," which in public esteem rendered the rich surface exposures extremely unsafe as a criterion by which to determine what might lie underneath. There was no doubt of the extensive coal measures which existed, but the value of these was restricted by a limited demand. Analyses had demonstrated the quality of iron ores, and examination of lodes had placed their magnitude beyond question. Here, again, lack of access to markets and the conditions of labour forbade the possibility of blast furnaces in the near future; so that even in the matter of coal and iron, where, with the contiguity of

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wood, the natural conditions were perfect, there was the absence of other and necessary conditions. In the meantime other countries—Australasia, the United States, and South Africa—were going ahead and attracting capital by the millions. It seemed as though British Columbia's time would never come.

The explanation of this unsatisfactory state of affairs, which, as has been stated, did not fail to excite comment, may be given in three words—LACK OF COMMUNICATION. No one who has not lived in British Columbia, and especially who has not travelled in the interior, can properly appreciate what

that means. It is a country of enormous distances and of rugged exterior. Without developed resources to start with, it was next to impossible to induce capitalists to build railways at unusual cost and under unusual difficulties. On the other hand, the resources could not be developed without railways to assist. The situation was a perplex-

ing one and the obstacles many and difficult to overcome.

The C. P. R. as a through line furnished an avenue of traffic only—a way of getting in and out of the Province. Strangely enough, it uncovered no mineral veins of any promise throughout its entire length. It did not connect itself with those wonderful chains of interior lakes, which are great natural highways. It required, therefore, not only a main line, but branch lines to reach these waterways, and independent lines from the South as well; but even after the arterial system was established, a smaller network had yet to be accomplished. The mines which lie up steep mountain sides and in other comparatively inaccessible and impassable places had to be reached by trails, and tramways and roads, and short lines of railway. Prospectors must have communication with the base of supply; afterwards miners must be able to haul in machinery; then the ore must come out and be transported at a rate cheap enough to

produce a profit, the sine qua non of all mining operations. Little by little, after the construction of the main line of the C.P.R., all this was brought about, at least to a degree which has rendered development in its present stage possible. It appeared slow to those who were in a hurry to get rich, and to those who desired to see long cherished hopes realized before they died; but, in reality, in the face of the many difficulties to encounter, it has been wonderfully quick work. It is, indeed, astonishing that so much has been accomplished in so short a time. The C. P. R., it must be borne in mind, was completed within the past decade. Much has been 'done, but in respect to communication the Province has but entered upon the threshold of the possibilities that have been afforded thereby, and through its efforts in the past has only demonstrated the needs of the future in rendering available the opportunities which so wide and richly endowed mineral areas suggest.

It was fortunate, and, in fact, this gives the key-note to the great activity in mining matters in Kootenay at the present time, that the lodes discovered on Toad Mountain, in the Slocan District, and at Rossland, were so rich in character that at the outset shipments of ore could be made at such an enormous cost, owing to the lack of facilities of transport, and at the same time return a handsome profit. Ore that brought from \$50 to \$200 a ton at the smelter, and was known to exist in large and well-defined lodes, at once solved the problem of communication and set at rest the future of a country so rich. Capital hesitated no longer.

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*EARLY HISTORY OF MINING.

HOW recent the knowledge of our mineral wealth is may be judged from the fact that Robt. Greenhow, in 1844, wrote as follows: "Oregon, indeed, contains land in small detached portions which may afford to the industrious cultivator the means of subsistence, and, also, perhaps, in time, of procuring some foreign luxuries; but it produces no precious metals, no opium, no cotton, no rice, no sugar, no coffee; nor is it like India, inhabited by a numerous population,

who may easily be forced to labour for the benefit of the few. With regard to commerce, it offers no great advantages, present or immediately prospective. It contains no harbour in which articles of merchandise from other countries will probably at any future period, be deposited for re-exportation; while the extreme irregularity of its surface, and the obstruction to the navigation of its rivers, the removal of which is hopeless, forbid all expectation that the productions of China, or any other country bordering on the Pacific, will ever be transported across Oregon to the Atlantic regions of the continent."

Oregon as it was then known and the Oregon about which the above was written included all that vast region of the coast from the Columbia River to Alaska, or more widely speaking, what now constitutes Oregon, Washington and British Columbia, exclusive of the New Caledonia territory. Greenhow was arguing in connection with what was then a live subject of dispute between Great Britain and the United States, viz.: the Oregon boundary question, and was pointing out that from material considerations the possession of this vast country would be of no particular advantage to either country, and, except for political reasons, was not worth striving for; but, apart from that, he was an exceedingly well-informed man of his day and wrote conscientiously. How far he was mistaken on every count, it is not necessary to indicate here. In no one statement was he more mistaken than that there were "no precious metals."

It is true that the celebrated David Douglas, the botanist, unfortunate as he was gifted, in the early twenties discovered the well-known Blue Bell mine on Kootenay Lake, now the main base of supplies for the Pilot Bay smelter, but that was an accidental circumstance that told the few little and the world nothing.

Just how, when and where gold was first discovered in British Columbia is not easy to state with precision, notwithstanding the many accounts we have of it.

The early discoveries of gold in small quantities range between the years 1850 and 1857. In 1850 specimens came from Vancouver Island and Queen Char-

^{*}The above, from the pen of the author, appeared in the Christmas number of the "B.C. Mining Record," December, 1895, and in succeeding issues.

lotte Islands. An incipient mining boom took place at Queen Charlotte Islands in 1851 and 1852. Dr. Dawson says that from one little pocket or seam of gold

Discoveries at Queen Charlotte Islands.

In Gold Harbour, Moresby Island, between \$20,000 and \$75,000 were taken, or were reported to have been taken. It is also stated by others that more was lost in the harbour in the operation of mining than was recovered. However much or little, the

"find" ended there. About the same time Indians from up the Skeena River brought pieces of gold to the Hudson's Bay Company's fort, but the several expe-

ditions to find it in place met with failure.

In the Interior gold was found in the Natchez pass and Similkameen as early as 1852, and in 1854, Colville Indians were known to have had nuggets in their possession. It is stated in Bancroft that Chief Trader McLean procured gold dust from Indians near Kamloops in 1852. Various authorities place the first finds at various places. However, between 1855 and 1857 discoveries were made on the Thompson, on the Fraser, on the Columbia and at Colville, and the news of these discoveries, together with the despatches of Governor Douglas soon attracted attention to British Columbia as a possible gold field. Exploiting for gold was stimulated by the California excitement, and the discovery of any new field was sure to produce a rush. Several parties prospected and worked on the Fraser and Thompson Rivers in 1857 with good success, and the news caused the Fraser River excitement, many of the participants in which are still living.

It is an old story now of how the people from San Francisco rushed into Victoria by the thousands and set up their tents; of how they rushed up the Fraser River, often crossing the Gulf of Georgia in open boats; how others came up the tableland of the interior; how they crossed the Isthmus of Panama, and rounded the Cape; how they entered from Whatcom and plodded wearily overland from

Eastern Canada. Victoria became a city in a day, and the Mainland solitude was converted into a Crown Colony in a year. The vicissitudes and hardships of the eager throng as they pushed their way up the turbulent Fraser with facilities of transport limited, provisions dear as gold itself, an unknown region to penetrate, and each a stranger among a strange crowd of adventurers, constitute a chapter of history in itself somewhat foreign to the history of mining development. We have to do with results rather than incidents.

COAL, still the predominant wealth producer in minerals in this Province, was known to exist at a much earlier period than was gold. It was discovered at Fort Rupert in 1835 and was used in small quantities. The Indians are credited with making its existence known to the whites, the circumstance being ascribed to an accident. Some development work was done at Fort Rupert by the Hudson's Bay Company, but the mines there were abanoned in 1851 for those at Nanaimo, which were discovered in a manner somewhat similar to those at Fort Rupert. The Indians had observed a blacksmith using coal and had informed him that there was plenty of such black stone at Nanaimo, which, upon investigation, proved to be true. The work of mining was begun in 1851, and has never been discontinued.

Coal is said to have been found at Burrard Inlet in an outcropping on the

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shore, and H.M.S. "Plumper" obtained enough of it there to steam the ship to Nanaimo. No subsequent indications have been reported. Borings in the vicinity have proved unsuccessful in revealing a paying deposit. The coal beds of Queen Charlotte, now attracting some attention, were discovered as far back as 1852, and anthracite was known to exist.

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The finding of coal at Departure Bay by the late Hon. Robert Dunsmuir and its subsequent development by him into the great industry it is at present, and the fortune it brought with it, are too well-known to require detailed mention here. From 3,000 tons in 1852 the output has gradually risen to 1,000,000 tons (in round numbers) per annum.

UP to 1858 nothing but preliminary work had been done, and little was known of the mineral resources of the Province except those revealed by the fragmentary discoveries of Indians and officials of the Hudson's Bay Company. It was in 1858 that gold mining really began, and from that period dates the history of mining in this Province. The increase in the production of gold was rapid, and from \$705,000, which is a rough estimate of the output in 1858, it rose in 1868 to \$3,913,563. This latter amount came largely, if not altogether from the Fraser River and its tributaries. In following the somewhat irregular and uncertain course of mining in British Columbia, we find that there

were series of excitements, all followed by "rushes" to new camps, and that interest in mining was proportionately stimulated, each of these being marked by an increase in the mining output for the time being. Thus we have a decline from 1862 to 1870, then an increase, then a decrease to 1873, then a jump in 1875 to \$2,474,000, since which there has been a decline until the present mining activity began, which, roughly stated, was five years ago. The effect of the activity of the last four or five years was not shown until last year for the reason that it was mainly directed to development of quartz veins. From this time onward we may expect to see the output steadily increasing.

Coming back to the years 1858-9, during which time the work of mining was mainly confined to the Fraser River as far as Yale, we find that the same restless spirit which actuated miners in Australia and California was present here, and that daring prospectors had penetrated far into the interior. In 1861, after labourious and hazardous journeyings, Williams and Lightning Creeks, Cariboo, two of the most noted gold producers of British Columbia, were discovered, and in this and the following years most of the other rich creeks in Cariboo became known. Then began that rush which is the most notable event in the history of British Columbia and one which has had the most lasting effect in determining its future. The finds were very rich and the lucky prospectors who became owners of claims amassed large sums of money in a very short space of time. These discoveries caused a second immigration from the outside world, which continued to grow until the year 1864. It will be remembered that the first immigration to Victoria, in 1858, from California, estimated at between 23,000 and 30,000 persons, was followed by almost as rapid an emigration, owing to the disappointment experienced by the greater number in not finding the gold equal to their expectations.

The second period of inflation was the result of letters from miners and

others to papers in Great Britain, Eastern Canada, the United States, Australia and elsewhere, principal among which is a rather remarkable series of letters to the London "Times." One of the direct results of accounts published in outside papers, was the celebrated overland party which came from Eastern Canada in 1862. A number of persons now living in British Columbia formed a part of that party, and their trials and tribulations in making the long and weary journey will ever remain an interesting chapter in our annals.

Up to 1866 the principal operations were confined to Cariboo, but there were, in the meantime, several lesser excitements, notably the discovery of rich placer deposits on Wild Horse Creek in the Kootenay district, in the extreme southeastern part of the Province. Then the Leech River excitement in 1864, in the southern part of Vancouver Island. And again the Big Bend excitement of 1865. The deposits of the last named place were found to be rich, but the inaccessibility of the region, the total lack of facilities for bringing in provisions, and the great hardships consequent upon prospecting and mining in this district, proved too great for continued success, and the excitement quickly subsided. It is quite probable, however, that the Big Bend country will soon again excite the interest of miners and prove a rich field for them.

Shortly after the discovery of Cariboo gold mines, the restless prospector began pushing his investigations further north, and in 1869 the Omineca country was reached, where an excitement of not inconsiderable dimensions took place and numbers rushed in. These mines were fairly remunerative for a time, and have been more or less operated ever since, but in 1872 the rich northern mines of the Cassiar District at the head waters of the Dease, were brought to light, and the second most notable mining epoch was effected. Out of this district some five or six millions of dollars in gold were taken. True to his instinct, after the first richness of the Cassiar creeks was exhausted, the prospector pushed further and further forth, until finally in 1880 gold was found in paying quantities in the tributaries of the Yukon. Ever since that time, this district, which Cassiar and the extends further north than the extreme limit of the Province, to Yukon. the land of the midnight sun, has been the field for miners and prospectors, and though not meeting with the returns with which they were rewarded in the Fraser River, and Lightning, Williams and other creeks in Cariboo, the returns have, nevertheless, been sufficient to attract them year after year. the present time (Dec., 1895) the Yukon is a prospectively rich country, and during the last year or two, many adventurers have gone in, and the success of their efforts has been such as to attract the attention of the Government of Canada, the field being considered of sufficient value and importance to justify its borders being protected by detachments of the North-West Mounted Police. Great hopes are entertained of this most northerly mining district, and when easy communication by rail or otherwise is established, it is anticipated that results not second to Cariboo itself will be achieved. [Which is proving more than frue, as the present excitement is the result of even greater finds than those of the early Cariboo days.—ED.]

In 1885, Granite Creek, a tributary of the Similkameen, afforded evidences of rich placers, and a small "rush" occurred, and although not so rich as was supposed at first, it has ever since occupied the attention of prospectors, and during the past two years has experienced very considerable exploitation.

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The period between 1858 and 1885 may be now regarded as an historical one, the events relating to which and the development being those associated with placer deposits, and the machinery being such as is employed in the primitive cradling of the rocker and the more antiquated modes of hydraulicing. Since then attention has been directed to quartz mining, in which, if we except the somewhat notable quartz excitement of Cariboo by which a number of worthy citizens of the Province lost money, nothing heretofore has been done, and without means of communication nothing indeed was possible. The latter period is one to which we will devote more particular attention in future articles. It may be called the railway era of British Columbia. The extensions of railways and the branch lines in the various mining districts in the southern portion of Kootenay has made possible the development of which we hear so much to-day, and which promises in the near future to give us rank with the great mining countries of the world.

As to the earlier period referred to a great deal is given in Bancroft's History of British Columbia, more particularly with reference to the excitement of Cariboo. Dawson, from whose pages much of the foregoing has been condensed, says that the details there collected may be consulted with advantage, and have been frequently referred to in connection with localities mentioned in later pages of his report. It must be added, however, that many of the statements quoted by Bancroft must be accepted with caution, having been derived often from newspapers of the time and other sources not always trustworthy, but which it has naturally been impossible for the compiler to check, and many of which call for an intimate knowledge of the country to properly correlate.

Dawson, in the report referred to, in concluding his historical summary of events up to the time when it was written, says:—

"While it may now be safely affirmed that gold is very generally distributed over the entire area of the Province of British Columbia, so much so that there is scarcely a stream of any importance in which at least 'colours' of gold may not be found, the enumeration of the principal discoveries of mining districts shows very clearly that most of these are situated along the systems of mountains and high plateaus which comprise the Purcell, Selkirk, Colorado and Cariboo ranges, and the north-west continuation lying to the south-west of the Rocky Mountain range, properly so called and parallel in direction with it. Of all the gold producing districts that of Cariboo has proved the richest and most continually productive."

We have thus hastily glanced over a comparatively speaking wide stretch of history, the details connected with which are of extreme interest, but which must be dealt with by sections to be fully appreciated.

There has been much disappointment in the expectations formed by pioneers in mining in British Columbia, there have been many financial reverses for those who have risked their money on mining ventures, and hope has been time and again deferred. Year after year for many years, the people were invited to bright anticipations for the "next year." Few lost hope, however, and the faith in our future,

long clung to, sometimes almost in despair, is, we are glad to say, to-day stronger than ever. It has been strengthened by results which are coming at last, and it may be safely stated that the long looked for day of great things is speedily on the way.

MINING IN VANCOUVER ISLAND.

OLD was first discovered in Vancouver Island in the year 1850, or some time prior to its existence being known on the Mainland. The late Mr. Pemberton in his book, "Vancouver Island and British Columbia," says he broke off, almost at random, pieces of gold-bearing rock in various piaces "within a walk of Victoria." He referred to the year 1852, the same that the Hudson's Bay Company dispatched the "Una" to Queen Charlotte Islands, where anchoring in Mitchell Harbour a small vein of very rich quartz was exploited. Mr. Pemberton says that the heaviest specimens received from there weighed from fourteen to sixteen ounces.

Macfie in his book says that the first appearance of gold in Vancouver Island that excited notice was found in 1863 in a district about fourteen miles from Victoria, now known as "Goldstream." Here, he says, the precious metal was extracted from quartz rock, there being no placer "diggings." "In a short time," the account goes on, "the auriferous ground was staked out and ten com-

panies were formed to work it, which they did with varied success. The Parmeter Company, in order to test thoroughly the rock they had blasted, sent half a ton to San Francisco to be crushed and assayed. A bar of amalgamated silver and gold was the result, giving an average of \$25 to the ton. * * * Other quartz mining companies engaged in the same neighbourhood, though invariably finding fair prospects, have not been so successful as the Parmeter; but the chief obstacle to progress, as in relation to other resources, has been the want of adequate capital."

Dr. Brown, who was among the first to explore the interior of the Island of Vancouver, and who made a somewhat celebrated journey across, sent the news of the discovery of gold in one of the forks of the Sooke River, and his

Dr. Brown's letter contained the following: "The discovery which I have to communicate is the finding of gold on the banks of one of the forks of the Sooke River, about twelve miles from the sea, in a straight line, and in a locality never hitherto reached by white men, in all probability never even by natives. I forward an eighth of an ounce, or thereabouts, of the coarse scale gold washed out of twelve pans of dirt, in many places twenty feet above the river, and with no tools but a shovel and a pan. The lowest prospect obtained was three cents to the pan; the highest \$1 to the pan. The diggings extend for twenty-five miles, and would give employment to more than 4,000 men." Mr. Foley, a member of Dr. Brown's expedition, before a committee of Victoria gentlemen, explained at some length the character of the country and the nature of the deposits. He had prospected till in ascending Leech River he had advanced twenty-two miles from Sooke Harbour. "As he ascended," Macfie says, "the quality of the gold grew coarser, yielding twenty-five cents to the pan. The prospects became richer and the gold got coarser as he travelled along the North Fork of the Leech River." Nuggets as high as \$70 in value were found, and as high as \$35 a day was earned.

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It was estimated that \$30,000 was taken out of the Leech River in little more than a month after the excitement began.

The discoveries referred to drew hundreds if not thousands of people from Victoria to the district. There were to be seen men of all classes, some of whom are well-known citizens of Victoria, with their prospecting pans and outfits. The

Hon. D. W. Higgins, the present Speaker of the House, says that when the first California miners came to Victoria during the excitement of 1858 and later, they expressed it as their opinion that the mountains in the vicinity of Goldstream and Sooke were gold-bearing, and some panning out was done to verify this theory, but the results were not of such a character as to induce them to continue.

In Mr. Pemberton's book we find that in the appendix, describing a trip from Cowichan Harbour to Nitinat, dated November 12th, 1857, there are references to gold-bearing rocks and indications of mineral wealth.

On page 160 of the same book we find a chapter headed "Professor James Tennant on the rocks of Vancouver Island," in which it is reported (1852) that a number of specimens contain gold.

It will be seen, therefore, that the prospects of gold and minerals generally were well understood as regards Vancouver Island, and that its possibilities were suggested long before gold in Cariboo was known or thought of. The existence also of copper, iron, and various structural materials was noted in many parts of the Island and contiguous islands, and was referred to at length by the early writers of Vancouver Island.

Coming now to Alberni, the scene of the present mining development on the Island, little was known regarding its resources until quite recently. The existence of gold in China Creek has been known for about twenty-five years, and the

placer deposits were worked at intervals by Chinamen and others, and have been ever since. As is well known, these placers have been considered of sufficient value to induce hydraulicing companies to undertake their exploitation on a considerable scale, with what success time alone can tell.

The discovery of quartz ledges so far as known is quite recent, within the last two or three years, and it is interesting to note in this connection that the prospector, whose name is forgotten at the present moment, discovered Mineral Hill by following up one of the creeks. After reaching a certain point he discovered that the mineral indications were fewer, if they did not cease altogether. And so, speculating on the cause for this, he turned up Mineral Creek, which continued to show increasing signs of gold, and thus came upon Mineral Hill, where the largest quartz ledges have been found.

ALBERNI AND THE WEST COAST.

ITTLE has been done as yet in demonstrating the mineral wealth of Alberni, although for a time it was the scene of a good deal of activity in prospecting. The principal development has taken place on the Consolidated claims, Mineral Hill, where the Messrs. Dunsmuir expended considerable money. A brick of gold was extracted, but, not meeting with the expectations at first formed, these gentlemen relinquished operations. Development has been undertaken by the original shareholders of the mine, however, and, it is stated, with prospects of success.

Prospecting has been continued along Alberni Canal, on Barclay Sound, and up the West Coast, where a number of promising finds have been made, the ores generally carrying a large percentage of copper, and some gold. Many of these copper claims are situated on the seashore, and as such, owing to the increased demand for copper, will, if capable of development into mines, prove of exceptional value.

It may be here stated that the coasts of both Vancouver and the Mainland of British Columbia contain many valuable mineral deposits, including iron, quick-silver, and slate, marble and other building stones. These, with the indications of the existence of the precious metals, which recent discoveries convey, afford hopes of a future, all the conditions of which are favourable to industrial development on a large scale. The existence of great bodies of high quality of iron ore at several points, with abundance of coal, timber and structural materials, generally gives promise, when the other essential conditions are favourable, of blast furnaces, smelters, and those concomitants of industrial development which have added so much to the wealth of countries where similar resources exist in contiguity. Owing to the travel northward, the building up of the fisheries on the coast, the rage of prospecting and the general activity being displayed in opening up new districts, we may look very soon to the coast line being thoroughly explored and examined, and to a more definite knowledge of its capabilities being obtained.

Regarding Alberni, and to some extent, the west coast, the only official reports have been made by Mr. Sutton, in 1895, and by Mr. Carlyle, Provincial Mr. Carlyle's Mineralogist, in the spring of 1896. The former treated it geo-Report. logically and described the formations. From Mr. Carlyle's report the following excerpts are taken, and there is little to be added since the date of his Bulletin, the purport of which was that sufficient had not been accomplished to demonstrate the value of the claims visited. He says:—

"All mining or prospecting, except on the placers on China Creek, as seen by me, was in igneous rock, in most cases, I believe, in diorite or rock closely allied, rock nearly everywhere carrying more or less iron pyrites, that led some prospectors to report exposures of such rock as ledges of great width, and in many cases to call this fine grained or aphanitic rock, quartz, when, in fact little quartz was seen apart from the regular quartz veins to be described, although the feldspar that mostly constitutes this rock is very acidic or high in the percentage of silica. Prospectors find this country very difficult to explore on account of its being densely covered with heavy timber and thick underbrush, especially near the coast, so that it is only by pushing up along the streams that they have picked up the clues that have led to many of the locations now made. Where so little development work has been done, and so little of the ore really tested, it is next to impossible for any one to reach a safe conclusion as to the value and extent of the ore now exposed, and all interested in Alberni are awaiting the results to be determined by more underground work, the milling tests soon to be possible on the erection by Mr. James Dunsmuir of the prospecting stamp mill at the foot of Mineral Creek, and the first clean-up on the placers where hydraulicing is being inaugurated.

"The drift of these few remarks is to the effect that in this yet untried mining district there are needed much more work to ascertain the size and the character of the ore bodies, and also many careful mill tests, prosecuted with intelligence and experience, to decide not only the value of the ore but its treatment qualitites, and much can be done along these lines without an excessive outlay of capital, thorough experience indeed being almost more requisite than money.

"About a mile up the Saritas River, on the left bank, is a steep bluff of diorite, heavily covered with timber and underbrush, showing a considerable amount of rock more or less permeated with magnetite, iron and copper pyrites and pyrrhotite, which in places where a few shors had been put in showed in solid masses of basic sulphides. As to the extent of this deposit no definite idea can yet be formed until some work is done.

"On a small neck of land on the east side of Cappe Island, near a good sheltered anchorage, a shaft has been sunk fifty or sixty feet on a ledge of magnetite that carries more or less sulphides. This ledge out-crops irregularly along the shore, some parts very red or reddish-brown proving on fracture to be solid pyrites.

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"On Sechart Peninsula much prospecting has been done by Mr. Anderson, who has built good trails to different points, and has disclosed by stripping several large exposures of iron ore. The first claim visited was the Lord of the Isles, altitude about 950 feet, where three men were engaged uncovering a small exposure of magnetite that lies in what appears to be diorite and next to a very extensive area of limestone, that at the point of contact with the eruptive rock is completely crystallized into large coarse crystals. On the Crown Prince, 800 to 900 feet altitude, two miles from the wharf, or about three-quarters of a mile from the nearest salt water, a large steep face on the mountain side has been stripped, disclosing much magnetite iron ore, in places in large masses separated by country rock, but no new faces exposed by blasting were seen. Mr. Anderson allowed me to copy the following analyses made on samples of ores:—

"(a.) By E. H. Cook, Cleveland Iron Works, Middlesborough, England: Iron, 66.0 per cent.; manganese, .44 per cent.; lime, 4.00 per cent.; sulphur, .02 per cent.; phosphorus, .01 per cent.; silica, 2.00 per cent.
"(b.) By Dr. O. Worth, Pittsburg, Pa., U. S., October 19th, 1893: Iron,

"(b.) By Dr. O. Worth, Pittsburg, Pa., U. S., October 19th, 1893: Iron, 64.01 to 66.32 per cent.; sulphur, traces to .09 per cent.; phosphorus, .007 to .009 per cent.

"These analyses show a very small percentage of phosphorus, that would rank this ore as a fine Bessemer iron ore.

"Other deposits of iron ore have been stripped, but I had not time to inspect them. These iron deposits can be easily mined, and the ore brought down to a well sheltered deep-water harbour, but as yet no work has been done underground to test the continuity or extent of these ore masses. Along the trails exposures of syenite and felsite were seen, and limestone was abundant.

"The Sechart quicksilver claim, half a mile up Pot Hole Creek, which empties into the sea about a quarter of a mile from the wharf, has three tunnels and two shafts close to the creek in which it is reported native mercury was first found by hunters. The rock on the dump appears to be a diorite or a diabase, and some good specimens of the ore were found, which, on being broken, disclosed the cinnabar disposed along the extremely narrow invisible cracks, while decomposed rock was found carrying the metallic 'quick.'"

Along Alberni Canal a number of claims has been recorded, and some development work done on Coleman Creek, Granite Creek, China Creek and Mineral Creek. The principal claims are situated on the last two named. They include those owned by the Alberni Consolidated Mining Co. and the Golden Eagle, concerning which very good prospects are held out. Very good assays have been reported from all of these, and milling tests are awaited to determine more definitely the general value of

Two hydraulicing companies, the Duke of York and Cataract, have expended a good deal of money in developing placer claims on China Creek. It was from this creek that Chinamen for years obtained gold, and the gravel on both sides is said to carry it in every part. Operations have been suspended during the present year.

CARIBOO.

M. H. B. HOBSON, engaged in connection with Cariboo Hydraulicing enterprises, and who has a practical knowledge of the district, contributed an article to the San Francisco "Chronicle" on the 17th of January of this year on the subject of recent development on modern lines. After describing the early working of the placer deposits, he says:—

"Since then the district has had a fitful experience. For a time there was a spurt in quartz, but it developed as a stock-jobbing affair and went through the

usual experience of such movements. For thirty odd years Cariboo has consequently been regarded as a 'petered out' mining camp. The old-timers have been digging away in the old claims from which immense volumes of gold dust were taken in early days, uncovering, now and again, a spot of rich ground that had escaped notice before, and prospecting for lost leads on the various creeks heading from 'Old Baldy' or Mount Agnes.

"During the past three or four years, however—that is. since the new developments made in the Kootenay district—Cariboo has shared, in common with California, the attention of capitalists, and money for mining development in and around 'Old Baldy,' the scene of the gold supply of the Fraser valley, has been gradually flowing in. At present it is being diverted to the development of

the deep placers in the district and the washing out of the gold which has been released in times past from its native matrix in the rocks and is lodged in the beds of the living and dead rivers. Perhaps some day capital will branch out and attempt one of the most gigantic engineering feats of the ages—the piercing of 'Old Baldy'—in search of the veins of the precious metal now concealed from the miner's gaze by the forest growth and the dense lining of moss underlying it and covering the entire face of the country, excepting in such places as the miner has removed the placer deposits in his search for gold. Such veins are supposed to be ribboning the famous peak and to have yielded, through the elemental erosion of ages, the metal which enriched the gravel deposits.

"The new era of mining development in Cariboo is manifesting itself on all sides around the base of 'Old Baldy.' It was started five years ago under the direction of Sir William Van Horne, president of the Canadian Pacific Ry., with the view of developing mining properties that would serve as valuable feeders to the

railroad, besides paying a fair interest on whatever capital might be invested, opening up new territory for capital and industry, and thereby furnishing freight and passenger traffic for the road. The services of J. B. Hobson, a mining engineer of long experience in this State, having been associated with deep-gravel mining in the vicinity of Gold Run and Dutch Flat, were enlisted, and as a result extensive purchases and locations have been made, more particularly on the forks of the Quesnelle River and its tribu-

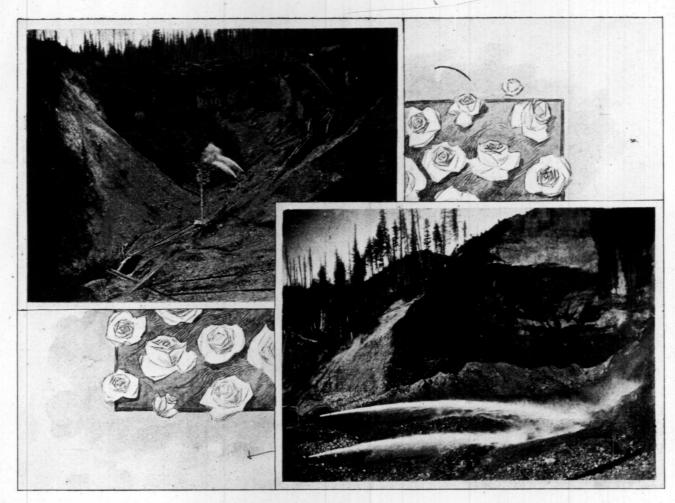
"The latter developments made in Cariboo indicate strongly the presence there of the same kind of auriferous dead rivers as mark the flanks of the Sierra in this State and extend into Southern Oregon, and to which have been applied the name of the Blue lead. The properties which Hobson secured on the Horse Fly and the South Fork of the Quesnelle for the syndicate he represented, composed largely of Canadian Pacific Railway officials, bear all the characteristics

Horsefly Hydraulic

Mine.

of the Blue lead of California so far as the operations already conducted show. Under Hobson's management something like \$600,000 has been spent in the development and equipment of the Horse Fly hydraulic mine and the Cariboo hydraulic mine, the

former being situated on Horse Fly Creek, four miles north of the discovery claim of James Moore and his associates in 1859, and the latter four miles east of the town of Quesnelle Forks. The operations in both properties have been on a gigantic scale, establishing beyond doubt the theory which possessed every one of the early prospectors in Cariboo that only with the use of unlimited capital was it possible to develop the wealth of the district.



HYDRAULICING IN CARIBOO.



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"Two thousand miners' inches of water was brought from Mussel Creek to the Horse Fly hydraulic mine, through twelve miles of ditch, six feet wide at the bottom, eleven feet at the top, and two and a half feet deep, and two and one-quarter miles of thirty inch steel pipe. The pipe line is laid on the plan of an inverted syphon, and carries this large body of water over three deep depressions.

"The giant has been introduced into these latter-day hydraulic operations in the Cariboo district, and volumes of water quite as large as any used in California in the best days of hydraulic mining here are being handled during the 'open season.' There is no anti-debris law in that Province to interfere with mining operations, nor are there any farming lands in danger of being flooded from the overflow of the rivers. The Fraser and all its tributaries flow in deep beds

between high banks or benches where the level or prairie country is traversed, and in narrow, rocky gorges where the mountain ranges are pierced. The navigable waters of the Fraser are too remote from the scene of mining operations to be affected by them, and the fierce floods of spring and summer scour the river channels and keep them at their normal depth. Hydraulic mining is, therefore, possible of the highest and most perfect development in the Cariboo district, with nothing to hinder or to interrupt it except the long and severe winters, during which the snowfall is measured by feet and the thermometer drops often below the freezing point of mercury and sometimes touches a record quite as low as what any Arctic explorer has experienced in the far North.

"Almost all of the 'pay dirt' in the placer deposits of Cariboo resembles the material contained in the Blue leads of California. It is a sticky, compact conglomeration of highly washed gravel, sand and clay, with which every placer miner is familiar, and from which when found he always hopes to reap that rich reward for which he is in search. In the Horse Fly hydraulic mine the dirt hitherto worked has been a free-washing gravel, but during last season it changed to a hard, compacted, cemented gravel that must be crushed before washing to win from it all the gold it contains. Since this change presented itself in the

face of the pit only a small portion of the gold contained in the gravel piped off has been recovered, chunks of the cemented gravel being found at the foot of the sluices, unaffected by the pipe or the grinding in transit in the sluices. A ten-stamp mill, with a capacity to crush from 100 to 120 tons per twenty-four hours, will be installed on the premises. Mr. Hobson estimates it will cost from \$1.50 to \$1.75 per ton to mine and mill the cement, which working tests show contains from \$4.82 to \$5.56 per cubic yard of gold. The mill will be operated during summer with water power and during winter with steam, as drifting can be carried on winter and summer alike.

"The vastness of the deep gravel deposits of the Cariboo district is shown in the pit of the Cariboo hydraulic mine. The company controls about three miles of the ancient river channel, which is a thousand feet wide between the rims, and the bank of auriferous gravel rises from 350 to 400 feet above the head of the sluices, while it is estimated that from 80 to 100 feet more pay

dirt lies between the present workings and the bedrock. The latter cannot be touched until the upper stratum is worked off.

This is the mine that yielded during the last season \$128,000 worth of gold at a total cost of \$85,000. An early setting in of winter is said to have deprived them of the means of taking out from \$50,000 to \$70,000 additional. There were four giants in operation last summer. Two more giants will be put in operation this year.

"How puny the efforts of the hydraulic miners of Cariboo of the sixties" were, when they worked with canvas hose and one-inch nozzle pipes, compared with the operations now going on in the district, is shown by the fact that the canal and reservoir capacity of this mining company amounts to 10,000 miners' inches of water delivered from the big nozzles of the largest giants manufactured, and there is nothing superior to its system of pipes, canals and reservoirs anywhere on the Coast.

"Everything has drifted into big companies in the way of mining in that district now. The Miocene Gravel Mining Company, of which R. H. Campbell is manager and whose claims cover four miles of the Horse Fly to the mouth

of Beaver Lake Creek, has a paid-up capital of \$500,000, and Campbell has just left San Francisco to begin operations for opening up the property systematically.

"The Harper claim on the same creek is owned by a San Francisco syndicate, and it is to be worked by a hydraulic elevator. About \$50,000 has already been spent there in the construction of a ditch and pipe line.

"Seven miles southeast of the town of Quesnelle Forks is carried on one of the most gigantic placer mining operations ever attempted on the Coast. It is at a point where the great Quesnelle Lake empties its overflow waters into the South Fork of the Quesnelle. There the Golden River Quesnelle Company, Limited, of London, is employing now about 400 white men and 100 Chinese in

Another Enterprise.

Another Enterprise.

Another Enterprise.

to hold back the waters of the great Quesnelle Lake, which is 100 miles long and from one to five miles wide, will be commenced. The overflow waters which it is intended to divert cover a space 300 feet wide, and are now at the lowest stage of the river—flowing eight to ten feet deep. As the water in the lake rises six or eight feet each season, it can easily be seen what a gigantic piece of work the company has undertaken.

"It is estimated that the dam will cost \$228,000, and probably \$350,000 or more will be expended before the company completes the work and gets ready to clean up the gold from the bottom of the South Fork River, eight miles of which it controls. It is expected that all of this will be worked out before the lake overflows the dam erected to hold it back.

"But the attack on the auriferous deposits of Horse Fly and Quesnelle Forks represents only one side of the base of 'Old Baldy,' the supposed source of Cariboo's golden wealth. On all of the creeks taking their rise in it—Keithley, Snowshoe, Cunningham, Harvey, Willow, William, Grouse, Antler, Goose, Lightning, and other water courses equally familiar to old-timers—new efforts on a corresponding to the course of the co

cariboo Gold Fields & Exploration Company, organized in London, with a capital of £1,000,000, have purchased nearly all the old claims on the famous William Creek at Barkerville, in the Cariboo district, and have expended several hundred thousand dollars in bringing up a bedrock drain tunnel to relieve the deep-gravel claims of the water that caused the former owners to quit work. A large ditch is being brought from Jack of Clubs Lake that is intended to deliver the water to the hydraulic elevator under a pressure or head of 900 feet.

"The old channel of Antler Creek, for which unremitting search has been made for over thirty-five years, is claimed to have been discovered at a remote point from the present stream, and extensive operations for working the dead river channel are being made. A Canadian company, with a capital of \$2,000,000, has taken up twenty miles or more of Lightning Creek from its junction with Cottonwood, intending to hydraulic it.

"A Seattle and New York company has been organized by Colonel Fishbeck, in which the Goulds are said to be represented, with a capital of \$5,000,000, to work twenty miles of the bed of the Quesnelle River. A French syndicate and a Montreal syndicate, the latter with a capital of \$2,500,000, \$500,000 of which is to go at once into reservoir and ditch construction, are also operating at Quesnelle River. These are only a few of the big companies with large capital that have recently entered this old-time and supposed to be 'petered out' mining district. Even the beds of the Fraser and the Quesnelle, which cannot be reached by pick, shovel or hydraulic monitor, are being attacked by dredgers in hopes of winning the golden contents of their sands. The Cariboo miner of thirty years ago looks on and marvels."

More recent developments in what may yet prove to be still the richest district in British Columbia, are described in the following, for the information contained in which the author is largely indebted to Mr. W. Carlyle, Provincial Mineralogist, who had, at the time of writing (October of this year), just returned

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thest tion icial med from an official visit to Cariboo, and who was kind enough to anticipate in his remarks some of the material of his forthcoming annual report. Cariboo, so far

as mining at present is concerned, is divided into two districts—Quest.elle and Barkerville. In the Quesnelle district work is being done on the ancient river channels. Here the Cariboo Hydraulicing Company has one of the finest mining propositions in the Province and has probably in hand one of the greatest hydraulicing enterprises ever undertaken in any mining country in the world, which is a large but justifiable claim. The company has a very extensive concession and in opening the mine has already obtained about \$400,000 from the upper sixty to eighty feet of gravel, which is 200 feet in depth. It is necessitating the expenditure of a very large amount of capital, but Mr. Hobson, the manager, who is a very capable and practical mining engineer of extensive experience, is doing splendid work. Under his directions \$600,000 has already been expended, water being conveyed by a ditch seventeen miles long. Next year it is proposed to construct a new ditch twelve miles long, which, with a dam across Moorehead Creek, will cost \$150,000.

At the mouth of Quesnelle Lake the Golden Rivers Quesnelle Company is building a dam to throw the river back into the lake for as long a time as possible, so as to exploit the bottom of the river, from which already a large amount of gold, by Chinamen and others, has been won. The company will expend about \$400,000 in this enterprise, which is a bold scheme, but well worth the trying.

On the Horsefly, the Horsefly Hydraulic Company has erected a ten-stamp mill to crush the layer of cemented gravel lying next to the bed-rock, referred to in Mr. Hobson's article in the foregoing, the bank of gravel, 100 feet high, being cemented too hard to hydraulic in the ordinary way. No results of the crushing are yet obtainable, and the merits of the proposition are yet to be determined. About \$300,000 has been expended in this enterprise, the water being brought by piping, ditching, etc., a distance of thirty miles.

On the Quesnelle at Harper's Bar the Horsefly Gold Mining Company has spent \$100,000 in putting in a steel pipe line for water and two hydraulic elevators but the lack of water has prevented any decided results being obtained as yet. Near by, Senator Campbell, of California, has been exploring the same ancient river channel exposed by the modern river at Harper's Bar, and has sunk a shaft 250 feet, 200 feet in gravel, without striking the gutter, or bed-rock, where rich gravel is expected.

Many other properties are lying idle, waiting for, and dependent for development on, the results of the enterprises referred to in the foregoing. No placer mining is carried on, except by Chinamen.

At Barkerville the old-time operations, which won so much wealth long ago have practically ceased. Only desultory placer mining is carried on in the old creeks. However, mining enterprise has taken a new direction on the line of modern methods. The Cariboo Gold Fields Co. has spent about

Barkerville
Division.

Barkerville
Signo,000 in ditches, pipe lines, sluices, and hydraulic elevators to work out their leases on Williams Creek below Barkerville. Mining will be begun next spring and success will greatly depend on the supply of water.

On Willow River, Mr. Laird, after sinking a shaft and driving a drift through the bed-rock to tap the lowest point of bed-rock on Willow River, is about ready to explore the gravels. In the neighbourhood of \$40,000 has been spent in this work, which is peculiar in character, but necessary owing to the composite and unworkable nature of the ground overlying the bed of the river.

On Slough Creek, also, a company is preparing to reach the bottom of the channel, 280 feet deep, in a similar way. If these companies succeed it will encourage the undertaking of a great deal of mining in the district, as only parts of the famous creeks therein could be worked in the early days.

There are many quartz ledges on which considerable work has been done, but with no results, no pay shutes having yet been found, although there is little

doubt that the gold discovered in the famous placers of the district had its source in these or some other quartz leads. The theory has been advanced that the great quantities of coarse gold found within limited areas of Origin of the creek and river beds were deposited there by the glaciers moving Gold. from the north, which had scraped off the rich surface exposures of quartz leads higher up and carried it with other debris filling up the bottoms On this assumption the "mother lode," a term used for its sugin its course. gestiveness rather than as strictly scientific, might be looked for on the mountain tops or sides, to prospect for which, however, the thick mossy covering presents serious difficulties. From an exclusively hydraulicing point of view there is sufficient to justify the opinion expressed by Dr. Dawson some years ago, that Cariboo would yet reinstate itself as a great wealth producing district and attract a population, dependent upon its mining and other resources, outrivalling that of its palmiest days, and with this advantage, that the industry, although of a less stimulated or excited character, will be on a more substartial and permanent basis.

LILLOOET.

ILLOOET has had its mining history as well as Cariboo, but has not heretofore been a large gold producer, although its creeks have, in a small way,
been worked on a paying basis almost from the first. Of late years they
have been principally exploited by Chinamen, whose returns, though uncertain,
have contributed their moiety annually to swell the total output. There have
been several hydraulic enterprises inaugurated, but for lack of capital or other
reasons did not materialize according to expectations. Very little placer mining
is now being carried on.

A new mining era for this district has apparently dawned in the way of lode mining, and during the present year considerable excitement arose out of the disRecent covery of promising quartz veins on Bridge River, on which a Discoveries. good deal of work will be done this winter. Some claims have been sold at good figures to outsiders, and not a little money has been turned in to claim owners.

What, however, gave the greatest zest to mining development in Lillooet has been the discovery last year of the Golden Cache mine, which has gained a more than local fame as one of unusually good indications and has netted to the discoverers and promoters very handsome returns in consequence of the rapid advance in price of the shares of the company formed to operate it. The mine is on Cayoosh Creek, situated on the face of a perpendicular cliff. The company has erected a ten-stamp mill and a three-rail tramway 2,800 feet long up to the mine, No mill returns are yet to hand, but it may be stated that \$400,000 worth of stock was purchased by Mr. Oldroyd, an English manufacturer, after he had examined the property. Between \$35,000 and \$40,000 has been expended on it, and a tunnel 100 feet long and several lesser tunnels which have been driven in several other

properties in the vicinity of the Golden Cache are being developed, but the character of the ore is quite distinct from that in the Golden Cache, which is free milling, with gold visible in milk white quartz, while the quartz in the other properties referred to contains sulphides and arsenical ores.

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WEST KOOTENAY.

In regard to the geological formations, and structure of the districts under discussion, we are indebted for information to the "Report on West Kootenay, of 1889," by Dr. Geo. M. Dawson, and the "Summary Reports" of 1894-95, by Mr. R. G. McConnell, of the Dominion Geological Survey.

It is of great interest, that in all of the geological series represented here, are veins or mineral deposits, especially of silver and silver-lead ores, and no longer are the prospectors limiting their researches to special formations or parts of these districts, but energetic prospecting is being done with successful results

all over this part of West Kootenay. For a long time these men refused to enter the granite areas, until finally the discovery by some less skeptical of the silver-lead, and the gold-and-silver or "dry ore" veins on the water-sheds of Springer and Lemon Creeks, east of Slocan Lake, and the success of the Poorman gold mine near Nelson, led to a rush of men into the granite regions with gratifying results.

The success of the rich Rossland mines has caused widespread prospecting of all the country in which occur the same geological formations, and following these up as far as Nelson, many locations have been made in the country drained by the tributary creeks of the Salmon River, and elsewhere in the area between Nelson and Rossland. In the Ainsworth District, on both sides of the lake, can be found men in search of mineral, and, in fact, there is now very little of West Kootenay that is not being over-run by them, and the wave of prospecting is extending throughout the Province, so thoroughly has interest and faith in her latent mineral resources been aroused.

There is no reason why mineral should not be found in all of these formations here present, or in any part of this region, unless it has so happened that the conditions have prevailed by which the mineral-bearing solutions have not had openings or fractures along which to ascend and deposit their burden of precious ores, either by filling up pre-existing cavities or by leaching into or impregnating the country rock with valuable minerals on one or both sides of the channel or crevice. The finding of rich veins of ore in either of the series, such as of silver-galena ore, points strongly to the fact that as depth is obtained in mining, the continuity of the pay-shutes is assured, the veins may be "in and out," as the miners term it, or have perfectly barren parts along the fissure, but more or less work will disclose other ore-shutes if this work is pushed ahead along this fracture in the rock, which has permitted the passage of ore-bearing solutions and the formation of ore-bodies along it elsewhere.—Mr. Carlyle's Report.

There is a very large area of granite which has been pushed up through the highly metamorphosed stratified rocks, altering them still more near the line of contact, but the boundaries and relations between these different series cannot well be given before the publication of the geological map. However, by means of extracts from the above mentioned reports, some idea may be given of the geology of each of the districts visited.

(A.) The Granites.—Dr. Geo. M. Dawson's "Report in Portion of West-Kootenay, 1889," says:—

"A large part of the West Kootenay District is occupied by granites and granitoid rocks, the main area of which (so far observed) includes the whole basin of the Lower Arrow Lake, and extends thence eastward nearly to Queen's Bay on Kootenay Lake. Besides this great granite area, there are several others of smaller dimensions, as indicated on the map, as well as numerous dykes and

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eruptions too small to be separately shewn. It is, in fact, probable that about one-half of the entire region here reported upon is occupied by granite and gran-

Formations. itoid rocks. The granites differ considerably in appearance and composition, and appear to be referable to at least two and probably to three distinct periods, though it is as yet impossible to define the respective areas of these. The granites which are supposed to be of the greatest age were found in some places underlying the lowest beds of the gneisses and mica-schists or Shuswap series. They appear to be closely attached to this stratified series, if not connected with it in origin, and in texture and composition, as seen in hand specimens, can often scarcely be distinguished from some of its homogeneous gneisses. They are generally rather fine-grained, and are believed to consist for the most part of muscovite-biotite granite, though much further investigation would be required before it can be asserted that this is their characteristic composition.

"The granites which, however, occupy by far the largest area, are of coarse texture, generally grey, passing to black in colour, and are characterized by black mica, with frequently much black hornblende. They may be described as a whole as hornblende granites, but occasionally pass into mica-syenite. In some localities they are not infrequently coarsely porphyritic with large twinned orthoclose feldspar crystals, while sphene is often present as an accessory mineral.

"These granites are evidently intrusive and of later date than the stratified rocks, which are altered at contacts."

Mr. McConnell, in the "Summary Report of 1894," further writes about the

eruptive rocks and granites:—
"The eruptive rocks of the district occupy wide areas and belong to several The oldest, as far as ascertained, consists of a series of basic dykes cutting the Shuswap group, but now in many instances so altered and foliated by pressure and other causes that they have the appearance of constituent beds. They occupy, in some localities, a considerable portion of the area assigned to the Shuswap series. They are older than the overlying formations.

Eruptive granite rocks, much younger than those referred to above, occupy the western part of the region, from about the north end of the Lower Arrow Lake south to Trail Creek and east to within a few miles of Kootenay Lake. They cover a continuous area of fully 2,000 square miles. Numerous bosses and dykes of granite and pegmatite also occur further to the east, along the borders

of Kootenay Lake.

The granites, where examined, are usually grayish in colour, and coarsegrained as a rule, and are often porphyritic. The principal constituents are feld-spar, quartz, biotite and hornblende. The granites cut all the formations from the Shuswap series up to the Slocan slates, and are consequently younger than any of the stratified rocks of the district. A series of eruptive rocks still younger than the granites, is represented by diorites and diabase and uralite porphyrites. These rocks occupy a considerable area in the Trail Creek country, and are important, as they hold the principal lodes of that district. It is possible that some of the porphyritic rocks, so abundant in the Toad Mountain region, may belong to the same group.

"In addition to the main areas of eruptive rocks, numerous dykes, some of them connected with the main areas, others much younger, as they cut through

everything, are met with in every part of the district.

(B.) "The stratified rocks bordering this granite area, are irregular, tilted at high angles, broken by numerous faults, and frequently overturned."

Dr. Dawson determined their thickness to be, taking a section at Ainsworth, 23,200 feet, and he believes the Shuswap series to be Archæan, while those series above this area, are evidently Palaeozic in age, and may yet be referred to various systems, including the Carboniferous, and extending downward to the Lower Cambrian. He also states that "the grey and greenish schistose rocks are essentially composed of altered volcanic materials, and their pres-

ent schistose character may probably be regarded as in the main Rock Series. due to the enormous pressure to which they have been subjected during the movements of the earth's crust, which resulted in the uplift of the mountains of the region, and the extrusion of the great masses of granite here everywh unconfo i.e., by gneisses bedded . limestor diabase and cale constru the disc waterwa Transpo Lake, /a for raily country longer t great d building sible, th been im parts ar the assis

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everywhere found. In these different stratified series no strong evidence of unconformability have been reported."

The series of stratified rocks may be quickly described in ascending order,

i.e., by beginning at the lowest series, the Shuswap.

(a.) The Shuswap, or lowest series, probably of Archaean age, consists of gneisses, mica-schists, calcareous gneisses or calc-schists, horneblendic schists, bedded diorites, crystalline limestones or marble, and nearly pure quartzites.

(b.) The Nisconlith series of dark calc-schist holding occasional bands of

limestone and green schists.

(c.) The Kaslo schists comprising a series of greenish, probably mostly diabase schists, interbedded with some slates or dark argillites, and limestones.

(d) The Slocan slates or a series of dark shales and slates with limestones

and calcareous quartzites.

Since the commencement of mining in this region, says Mr. Carlyle, the construction of new means of ingress and of transportation has quickly followed the discovery of ore-bearing districts, and the great material advantages of fine waterways have been utilized in gaining access to the many points where mining is now begun. West Kootenay is singularly favoured by reason

Transportation. of (a) the Columbia River and Arrow Lakes, (b) the Slocan Lake, and (c) Kootenay Lake and its arms, and of the comparatively easy passes for railways from one to another. Otherwise this very rugged and mountainous country would have presented great difficulties that would have retarded for a much longer time prospecting and mining, but now, however, none of the mines are any great distance from these highways, and readier access is being gained by the building of trails and waggon roads.

The Provincial Government has followed a plan of assisting, as far as possible, the building of roads and trails to the various new camps, and though it has been impossible to accede to all of the many requests for aid where so many new parts are being opened up by fresh discoveries in many different directions, still the assistance given has been valuable, and has aided materially in the opening up

of the country.

West Kootenay is now easily entered from two directions, and almost any part important can now be reached with despatch and comfort, an agreeable sur-

prise to all entering the country for the first time.

First—From the north, at Revelstoke, on the main transcontinental line of the Canadian Pacific Railway between Montreal, Winnipeg and Vancouver, on the Pacific Coast, a branch line runs down the Columbia River thirty-two miles to Arrowhead, at the north end of Upper Arrow Lake, whence (a) a small steamer runs up to the north-east arm of Evansport, the port of entrance, to the Lardeau and Trout Lake Districts; (b) the large stern-wheel steamers of the Columbia

and Kootenay Navigation Company run as far south as Trail, connecting at Nakusp with a branch line of the C.P.R. into the Slocan and at Robson with another branch of the same company into Nelson, along the Kootenay River, and at Trail with the Columbia &

Western to Rossland.

Second—From the south, from Spokane. Wash, where direct connections are made from the main trunk lines of the Great Northern and Northern Pacific Railways to all parts of the United States, the Spokane Falls and Northern Railway runs north to Northport, a few miles south of the boundary line, whence (a) this road, known as the Nelson and Fort Sheppard Road, follows up the east bank to Waneta and Sayward, in Canadian territory, and thence across to Nelson, connecting directly with the Kootenay Lake steamers at a point five miles east of Nelson, whence the road switch-backs into the town; (b) from Northport another branch, or the Red Mountain Railway, crossing the Columbia by large ferries, runs to Rossland; (c) while daily steamers run up the river to Trail, from which point again Rossland is reached, or the steamers taken for Robson, Kakusp and Arrowhead, as detailed above.

Third—(a) The Nakuso and Slocan Railway, operated by the C.P.R., runs daily from Nakuso on Arrow Lake into the Slocan as far as Sandon. (b) The trains of the Columbia and Kootenay Railway run daily between Robson and Nelson, connecting with boats on the Columbia River. (c) The Kaslo and Slocan Railway runs trains daily from Kaslo on the Kootenay Lake into the Slocan, af-

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ected f the here fording an outlet eastward from Sandon. (d) Several steamers ply on Slocan Lake stopping at Roseberrry, New Denver, Silverton, Brandon, Slocan City and other points. (e) Three commodious and rapid steamers, the "Kokanee," "Alberta" and "International," run daily each way between Kaslo and Nelson, stopping at Ainsworth, Pilot Bay smelter, Balfour or other points along this route when called for. Other smaller boats traverse the lake from the upper end down as far south as Bonner's Ferry, stopping, among other places, at the terminals of the trails into East Kootenay. Generally, if required, a small steamer can be engaged to go to any point on these waters.

On all these steamboat lines every endeavour is made to assist the prospectors, miners, etc., by willingly stopping at any point where signalled or requested to land or take on board men, pack animals, supplies, ores, etc., and this accommodation is simply invaluable. On the swift waters of the Columbia River, the very clever navigation exhibited there is admired by all travellers, as great skill and steady nerve are called for at several points along this river, especially in the season of low water, when these boats have to contend, in going up stream, with a powerful current which, in the late autumn and winter seasons, compels the use

of steel hawsers fastened to the bank or rocks and the steam capstan.

Large scows on the Columbia River line, which are fastened directly in front of the steamers, and capable of carrying eight loaded railway cars, are used between Arrowhead and Robson, on which loads of 370 tons of coke for the Nelson smelter, loaded from the cars at Arrowhead, have been brought down this fall, but if necessary loaded cars can be thus transported from the main line of the C.P.R. on to these branch lines running in at Nakusp and Robson.

As a direct result of the mining development, the need of greatly increased railway communication has become apparent, and capitalists have not been unmindful of their opportunities to promote lines in the directions

Projected
Rallway Lines.

mindful of their opportunities to promote lines in the directions in which natural routes and prospective traffic suggest as the most desirable. The demand for these railways is great, and the cussed as a policy of both Dominion and Provincial statescraft. Mr. Carlyle in his report remarks:—

These new lines, while having engineering difficulties to overcome, should open up a large area of the southern part of British Columbia now lying practically dormant, and make not only possible the development of resources now almost inaccessible and valueless, but known to exist, and the easy assembling at large smelting centres of the different classes of ores and fuels, but also the fostering of a large demand for agricultural produce, for which no better market can be found than in these mining centres.

Of the new lines projected there are:— (a) the Crow's-Nest Pass Railway, connecting with eastern lines, thence passing close by the deposits of coal in the Crow's-Nest Pass of large extent and fine coking qualities, through East Kootenay, with branch lines to the Kootenay River and along the west shore of Kootenay.

nay Lake to Nelson;

(b) A branch of the C.P.R. from Slocan City to a point on the Robson and Nelson line:

(c) The extension of the line from Arrowhead into the Lardeau and Trout Lake districts to the head of Kootenay Lake:

(d) The extension of the Columbia and Western R.R. from Trail, up the west bank of the Columbia to a point opposite Robson, and thence west into the mining districts of the southern part of Yale:

(e) A railroad from the Columbia River west, through the southern part of

the Province, to a point on the Pacific Coast.

From the foregoing it will be readily seen to what extent Nature, aided by the enterprise of combined labour and capital, has rendered available wealth which exists in lavish profusion. The conditions which exist, and as they will be improved by continued development, suggest an era of extraordinary activity within the area affected. The concentration of energy and capital in their various forms, it is needless to say, will attract a large population and create important urban centres. As a field, therefore, for exploitation for some years to come it and the Province as a whole will naturally afford opportunities which will be unequalled in any other part of the world.

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AINSWORTH MINING DIVISION.

N this, the pioneer mining district of West Kootenay, in which Dr. Dawson, in 1889, found mining being actively carried on; this industry for some time back has been quietly progressing, but not with that advance the success of the present mines and the mineral indications would seem to warrant. This is due to several facts, one of which is that many were attracted to the high-grade silver-lead veins of the Slocan, whose early prospectors of 1891-92 flocked in from the town of Ainsworth after Eli Carpenter and John Seaton, making their difficult way up Kaslo Creek, located the Payne claim September, 1891. Again, many good properties, Crown-granted, owned by men who can afford to wait, now lie dormant, like others that carried ore of such a grade that was in earlier days hardly profitable, but now, with cheaper rates and easier means of shipment, should pay well if developed. Disastrous forest fires destroyed several good mining plants on claims on which work had fairly started, but has not since been resumed, and again, many have had an unwarranted lack of faith in the probable permanence of these veins and ore bodies, especially of those in the limestones, which have been considered as merely "pockets" and local, but to one who has worked in silver ore-bodies in limestone, as in Colorado, this pocket theory is not so alarming a bug-bear, as the general experience is that when one ore-shute is found others are almost invariably discovered on prospecting further along the line of break, up and along which have come from greater depths, the ore-bearing solutions that have impregnated the country rock in favourable places and formed ore-shutes.

The fact that at Ainsworth (or Hot Springs), where most work has been done, good veins of very profitable ore are found in all the different geological horizons, and also that while many seem to be conformable to some extent to the stratification of these rocks, many cut through these formations, should strengthen one's belief in the probable persistence of these veins, and give greater confidence in beginning work on a good and liberal scale.

The tide of prospectors is spreading over this district, and from the territory at the north end of Kootenay Lake, along the Lardo and Duncan Rivers and their tributaries, and from Crawford and Hooker Creeks, and White Grouse Mountain, back from the east shores of the lake, came reports of locations of veins of high-grade ore, while at Ainsworth itself new properties are beng found and opened up. By the way, it will be seen that this district embraces a wide territory, and that in reality but a small part of it has become familiar to the prospector or explorer.

With large smelting plants in British Columbia, the demand will vastly increase for dry ores, or ore carrying a small or no percentage of lead to mix with the galena ores; and such dry ores as are found at Ainsworth will be in special demand and command favourable smelting rates when shipped in bulk, i. e., not sacked, and there will be yet shipped large quantities of low grade ore now not

All the formations of the series detailed in the foregoing are found in this district, and in each formation of this series have been discovered valuable ore-bearing veins and deposits, mostly of silver or silver-lead, but also of gold-silver ores.

ORES AND ORE-DEPOSITS.

In the immediate vicinity of Ainsworth, and at the Blue Bell mine on the other side of the lake, many of the veins or ore-deposits appear to be conformable in most part with the very marked stratification of the metamorphic rocks but many others cut across the formation, and in many cases the veins present the usual characteristics of the typical cavity-filled fissure vein, while in others, as at the Skyline and Number One, the deposits have been formed by the impregnation and replacement of the country rock by ore and quartz, and sometimes by calcite.

However, on none of the mines west of the lake has there been done more than a comparatively small amount of work by which to form positive opinions doubtful of the permanence of these ledges, and certainly not enough yet to condemn them as being likely soon to play out, for even if one shute should be exhausted, further work on this horizon, nearly always indicated by slicken-sided walls, a narrow seam of gouge or other evidences of a fault fissure, will, in very many cases, disclose other ore-shutes.

Ores.—There is a considerable variety in the different grades of ore, there being:—

(a.) Solid galena ores carry a good silver value, as the Little Phil, Black Diamond, Highland, Tariff, in which there is not enough zinc to bring the percentage above the smelter limit, or ten per cent. In some of the properties not now being worked, can be seen a large amount of blende that concentration would remove:

(b.) In the Number One, there is little galena or blende, but the chief and important sulphide is iron-pyrites, with white quartz and calcite, a very desirable

smelting ore:

(c.) The Skyline ore is again different, being a quartz and lime matrix, car-

rying silver compounds, but a very small amount of sulphides:

(d.) In some claims the sulphides, as galena, are not found solid, but disseminated, usually through quartz, and in the case of the Silver Glance and the Wakefield veins, with presence of gold:

(e.) From Crawford and Hooker Creeks, from samples seen and by report, the high silver-gold values are carried in tetrahedrite or grey copper in quartz with

galena

(f.) At the Blue Bell mine, these large low grade ore-bodies consist of a calcareous matrix, with a small percentage of galena, iron and copper pyrites and pyrrhotite.

COSTS, ETC.

Mining.—The cost of mining is small, i.e., for drifting or tunnelling \$6 to \$9 per foot; of sinking, \$10 to \$16 per foot.

(b.) Labour and supplies can be got at the best figures, or about the same

as in other parts of West Kootenay:

(c.) Transportation of course is immensely aided by the main water-way of the lake, and from nearly all parts waggon roads or aerial cable trams can be

built to the water front:

(d.) Smelter charges for the dry ores, i.e., with little or no lead, run from \$4 to \$7 per ton, the maximum price being on account of an occasional excess of zinc; for the purely lead ores \$12 per ton, with a freight charge on all classes of ore to smelter of \$8. Of the lead 90 per cent., and of the silver 95 per cent., are paid for at New York prices at time of settlement. For gold all paid for, if at least \$2 in value are present.

There are a number of properties in the hills above Ainsworth upon which large development has taken place and from which shipments have been made with good results. The principal of these are Number One, the Skyline, Neosho, Tariff, Highlander, Little Phil and the Canadian Pacific Mining and Milling Co.'s properties. Several concentrators have been erected. Speaking of Number One,

Mr. Carlyle says:-

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Bell, St ment, Capital "While some first-class ore is shipped direct, most of the product of the mine goes to the mill, the capacity of which is 18-20 tons per twenty-four hours, concentrating 8 to 1, yielding concentrates that average 295 to 300 ounces in silver, 4-8 per cent. lead, and usually less than 10 per cent. zinc. Experiments have shown that ore assaying 15 to 20 ounces silver per ton can be mined and concentrated with a good margin of profit. * * *

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sho, o.'s ne, "Cost of transportation of ore or concentrates in sacks, 160 lbs. each, to the lake landing at Ainsworth is \$3 per ton; from thence to the smelter in the United States, \$8 per ton, while smelting charges are \$6.50 for crude ores, and \$4 per ton for concentrates, with a zinc penalty of 50 cents per unit over the 10 per cent. limit."

And of the Skyline:—
"During the past year the ore has been shipped partly to the Pilot Bay and partly to the American smelters, and at a lower rate of transportation to the lakeside, by reason of the larger quantity of ore hauled, than for the Number One ore, although a mile farther up the road. The smelter returns from seventy-four lots, or over 2,000 tons in 1895-6, assayed from 35 to 149 ounces in silver, or an average of 54 ounces per ton, and less than five per cent. lead, and of the large amount shipped during 1896, the silver value varied from 51.5 to 74.5 ounces of silver per ton, or an average of 58 ounces per ton."

BLUE BELL MINE AND PILOT BAY SMELTER.

Neither the Blue Bell mine nor the Pilot Bay smelter was visited by Mr. Carlyle, as mining operations had been suspended, and the smelter was not in blast; however, the following information is given as it may prove of interest to many. In the Summary Report for 1805, p. 33, Mr. McConnell states:—

many. In the Summary Report for 1895, p. 33, Mr. McConnell states:—
"At Hendryx, the Blue Bell is in active operation. This mine is situated on a band of crystalline limestone interbedded with the Shuswap schists, which has been fractured in various directions. The ore, consisting mostly of low-grade galena and pyrrhotite with some blende, iron and copper pyrites, and their decomposition products, occurs either pure or disseminated through a calcareous and occasionally a silicious matrix.

"It occupies irregular chambers in the limestone, some of which are of huge dimensions. The ore body being worked at present, including some large horses of limestone, measures approximately 70 feet in width by 200 feet in length and 150 feet in height. Forty thousand tons of pure and concentrated ores have been shipped from this mine during the year, and prodigious quantities remain in sight."

PILOT BAY SMELTER.

This plant is located on a small peninsula on the same side (or the east) of Kootenay Lake as the mine, but about eight miles south. There are three main buildings, the roast house, smelter and con entrator, besides the smaller ones for offices, laboratories, workshops, etc., with a smelting capacity of about 100 tons per day.

The ore is brought down from the mine on large scows and then hoisted up on an incline plane to a point whence it can be taken to any point desired. Mr. Hendryx states (see Minister of Mines Report, 1895):—"Since commencing operations to the finish of the works, July 10th, 1894, to December 31st, 1895, the Kootenay Mining and Smelting Company has expended in cash for purchase of machinery, labour, ores, etc., a sum exceeding \$650,000. During the year 1895 the company has employed daily on the average 200 men, and has paid from their office on labour account, \$170,000; for supplies, \$85,622; for duties, \$70,000; for freight, \$92,500; for ores purchased, over \$150,000."

The above-described Blue Bell property consisting, in part, of the Blue Bell, Surprise, Black Hawk, and Silver King claims, and the smelter plant, equipment, etc., are the property of the Kootenay Mining & Smelting Co., Ltd. Capital stock, \$2,300,000; general manager, A. B. Hendryx, Pilot Bay, B.C.

Although the Pilot Bay smelter has been closed down, on account of internal business causes, it is understood that a re-organization has been effected and the smelter will resume operations almost immediately.

SOUTH FORK OF KASLO CREEK.

No examination was made of this part of the district, but mining work is now being done on several properties, such as those owned by the Gibson Mining Company, and others, on which it is reported veins of high grade silver-lead ore are being developed. On the Montezuma two tunnels are being driven, from the upper one of which a winze is being sunk on a vein of galena ore to the lower tunnel, 100 feet below and 270 feet long, in the face of which are said to be one and a-half feet of solid galena ore, assaying 120 to 140 ounces of silver per ton. On these properties during the present season work has continued.

CRAWFORD AND HOOKER CREEKS.

A trail now runs from Crawford Bay, on the east of Kootenay Lake, near Pilot Bay up Crawford Creek to the divide, and thence down the St. Mary's River to Fort Steele, in East Kootenay. Six miles from the lake a branch trail runs up Hooker Creek to the claims there located, and at the head of this creek, or ten or twelve miles from the lake, at an altitude of 4,500 feet above the lake, is the Commonwealth group, comprising the Commonwealth, Sultan and Republic, now bonded to the London and British Columbia Gold Fields Co., Ltd. A tunnel is now in 150 feet along a ledge, said to be four to sixteen feet wide, in which is quartz disseminated with galena, grey copper, silver sulphides and some gold. Little or nothing has been done on these properties during the present year.

NELSON MINING DIVISION.

THE Hall Mines Co. owns eighteen claims, of which nine, or 196.6 acres, are Crown-granted, and the remainder, or 312.8 acres, mineral locations. Not all these claims are on the silver-copper belt, but the Silver King, Kootenay Bonanza, American Flag. and Kooh-i-noor, or 56.9 acres, constitute the group upon while the Brittania, Eureka, Y.M.B., Daylight, Grand, Rose, Thistle, Shamrock, while the Brittania, Eureka, Y. M. B., Daylight, Grand, Rose, Thistle, Shamrock, Bid and Jessie are locations close by on the gold belt, in the same geological formation. The main group of four being old locations, or made in 1886-7, possess apex rights, and are located on Toad Mountain, five miles from Nelson, or eight and a-half miles by waggon road.

Owned by the Hall Mines Co., Limited, London, Eng. Capital, £300,000, of which 50,000 £1 shares are cumulative preference shares, one-half of which were issued when the company was formed, and 250,000 of £1 ordinary shares. Sir Joseph Trutch, K.C.M.G., chairman; A. E. Ashley, Leadenhall Building, London, E.C., secretary.

Canadian Officers: Gen. Manager, H. E. Croasdaile; Mine Superintendent, M. S. Davis; Smelter Superintendent, Mr. Hedley; Foreman, E. Kellog, Nelson, B.C.

Formation.—This copper-silver lode is situated in the greenish diabases that, in proximity to the vein, are generally massive, but also schistose, the planes

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To the Brothers, is Kootenay. I wards extend nected with cident with discussion, be initial stages unsatisfactory tention, whic shipping and effected, and acquire the period ment of the owhich is the capacity of a nection with to a depth of four miles los and is now desired.

The sming the mines the largest col and having a oberatory furnamatte is refine extraction of t first shipment,

of the schistose lamination being nearly vertical, and also nearly parallel with the trend of the ore zones that strike east and west, magnetic, and dip south 70 degrees. In the main workings of the big lode no distinct walls can be seen, but in the largest stope the highest grade ore had lower grade ore receding from it on either side, indicating that probably the ore-bearing solutions had permeated and impregnated the country rock on both sides of the channel or crevice up which they had risen. In several places could be seen where the solutions had evidently followed divergent crevices and formed local impregnations leading off from the main ore body. Several fault planes of different strike and pitch traverse the lode, but with, as yet apparent, a very small amount of dislocation.

As yet but one large ore-shute 200-225 feet long extending right to the surface, has been developed by the present workings, but smaller ones have been found, that on further exploitation, hardly yet begun, may expand to much larger dimensions.

This lode has been traced almost continuously throughout the length of the Silver King and Kootenay Bonanza claims, or nearly 3,000 feet, into the claims at either end, but th width of course varies greatly, from 1 or 2 feet up to the maximum, so far shown, of 50 feet.

Ore.—The ore may be graded into two classes: (a) into that carrying a high percentage of value-bearing sulphides, and (b) lower grade country rock impregrated with a much smaller amount. In the upper workings of the mine, down through a rich zinc zone in the shute, the ore consists of bornite, or "peacock copjer," with some tetrahedrite, also copper and iron pyrites, and a small amount of galena and blende.

THE HALL MINES.

To the discovery of the Hall Mine in 1888 on Toad Mountain, by the Hall Brothers, is probably due a great deal of the present activity in mining in West Kootenay. It gave an impetus to prospecting, which gradually at first and afterwards extended more rapidly to the whole of the district. The local history connected with the finding and development of this important mine, which is coincident with the history of Nelson itself, has recently been the subject of much discussion, but with that phase of the subject it is not necessary here to deal. The initial stages were marked by many vicissitudes, and development was slow and unsatisfactory. For some time there were partnership disputes and litigious contention, which greatly retarded operations, in addition to which the lack of shipping and treatment facilities was a drawback. Finally a settlement was effected, and a company formed in England with a large capital, sufficient to acquire the property, continue its development and erect a smelter for the treatment of the ore, all of which have been successfully carried out. The Silver King, which is the principal claim of the group associated with it, has now a productive capacity of 200 tons a day, and 150 men are employed by the company in connection with its works. Two main tunnels on the ore shute have been worked to a depth of over 500 feet below the surface. The long Hallidie tramway, fortyfour miles long and in two sections, is one of the most remarkable of its kind, and is now doing excellent work, easily handling the daily output.

THE SMELTER.

The smelter, which is part of the plant of the company owning and operating the mines and worked in connection with it, is now equipped with probably the largest copper blast furnaces in the world, being 44x144 inches at the tuyeres and having a capacity of from 200 to 250 tons per day. A refining plant of reverberatory furnaces has been added to the plant and is now in operation. The matte is refined to blister copper and sent to Swansea for final treatment and the extraction of the silver. Recently the local press record with justifiable pride, the first shipment, making a full train load of the output.

During the year 1897 the ore of the Silver King has developed into higher grade, and recently, also, the smelter company has declared its first dividend on preference stock. No authoritative returns are to hand as to the output of the present year.

WAGES AND COSTS OF MINING.

The number of men engaged at the mine was 160, but on completion of the buildings this was to be reduced to 120. For 10-hour shifts miners are paid \$3.00; topmen and rustlers, \$2.50; bosses, \$4.00 to \$4.50; blacksmiths, \$3.50 to \$4.00; engineers, \$100 per month

Cost of driving tunnels, \$9.00 to \$10.00 per foot; cost of breaking and delivering ore at upper terminal of aerial rope tramway, \$2.50 per ton; cost of transport of ore by tramway, including cost of rope, wear and tear, &c., 75 cents to \$1.

FUEL.

Both American and European coke are being used, and of the latter quite a

large quantity has been imported this fall.

(a.) The American coke, from Wilkington, Wash., contains, as nearly all similar coke made from the coal measures of the Cretaceous, a large amount of ash, or 18-19 per cent, and costs, delivered at the smelter, \$13.40 per ton.

(b.) The Welsh or Cardiff coke is being delivered at the smelter for \$15 per ton, and over 4,000 tons were in stock. In the furnace on an average 11 per cent. of this required.

(c.) 700-800 tons of Westphalian coke has been imported and landed at the smelter at a little less cost than Cardiff; these cokes having been sent out by sea to Vancouver.

Fluxes.—A very pure limestone, crystalline, is brought down on scows from 9 miles above Kaslo, on Kootenay Lake.

TRANSPORTATION AND SMELTING.

(a.) The C.P.R. has a spur up to the smelter, by which cars can be run to the main line that leads out to Robson, or to the wharf, where the steamers from the Kootenay Lake land:

(b.) The Nelson & Fort Sheppard R.R. is about one mile distant, to which will be built a waggon road, as by this railroad ore can now be shipped direct

from Rossland.

Custom Smelting.—This smelter has now entered the market at Rossland for the gold-copper ore that can be brought to this point. Also by means of the new furnace with removable crucibles, and especial flues to be erected for the condensation of lead fumes, it is intended to undertake the treatment of the silver-lead ores, and thus make this one of the smelting centres for Kootenay ores.

GOLD CLAIMS.

The Poorman group consists of six claims, in gold-bearing formation, the Poorman, Hardscrabble, White, Myemer, Hardup and Electron, of which the first is Crown-granted, the others mineral locations. Location on Eagle Creek, 6 miles westerly from Nelson, and about 2 miles south-east of the Kootenay River and the C.P.R.

The Poorman vein has the usual characteristics of quartz fissure veins in eruptive rock, being persistent, but very irregular in width, varying from a few inches to 5 and 6 feet of milky-white compact quartz, now holding a considerable amont of sulphides, or copper and iron pyrites, with, in parts, a little galena. In the upper workings the ore was found to be very free-milling, and several thousand dollars worth of magnificent gold-bearing quartz was taken from a part of the vein 5-6 feet wide, but now, as depth is attained, the ore has become less free-milling, and the value is going more into the sulphides that are saved by concen-

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tration. About \$100,000, it is reported by the owners, have been taken from the comparatively small area of vein so far worked, and now the average value of the ore saved by amalgamation, is from \$12 to \$14 per ton, while the concentrates assay from \$26 to \$30 per ton, with the proportion of concentration about 10 tons to I, so the total yield value of the ore is about \$16 per ton of ore mined.

The Poorman has passed into the hands of a strong company, and is being actively worked. It was purchas, it is understood, for \$100,000.

A stamp mill is erected at the mine. The costs of milling were not obtainable, but the ore is broken by contract for \$6 per ton, embracing, it was understood, the cost of drifting, upraising, etc. The concentrates have been shipped to the Hall Mines smelter at Nelson, with a freight and treatment charge of \$8 per ton, with 95 per cent. of the gold paid for.

Other quartz veins have been discovered and developed to a small extent, in this same granite area on the mountain slope, south of the Kootenay River, also in the formation in which is the Silver King lode. Much attention is now being paid to all such claims, and before long many of these will receive a thorough testing. As the water supply in the small creeks is precarious, and too small to keep mills running throughout the whole year, the Kootenay River will prove the best site for stamp mills, as there is abundant water power, although special allowance and provision will have to be made for the great difference between the high and low water stages of that river. The transport of the ore to the riverside presents no difficulties.

As this ore will, without doubt, in depth, carry a fair percentage of sulphides, which, in turn, will hold a part of the gold values, if such ores are shown to carry pay value in this metal, the question of treatment of these sulphide concentrates should be greatly simplified by the easy access to the smelters, where low smelting charges should be the rule, and the necessity of the erection of chlorination or cyanide works, although the amount of copper present may preclude the latter, may be thus obviated.

THE NORTH FORK OF THE SALMON RIVER.

This is a very promising district and has been widely prospected. Several townsites have been projected as the result of the activity, which, however, has not continued on the scale anticipated. During the present year little has been heard of the claims in this district, and not much development has been carried on. As yet only a few of the claims show signs of becoming mines.

on. As yet only a few of the claims show signs of becoming mines.

On Hall Creek further work on the Fern mine has disclosed a fine body of

rich quartz, and a tramway and stamp mill have been erected.

THE SLOCAN.

THE particulars following here are extracted from Mr. Carlyle's Report contained in Bulletin No. 3, on the Slocan, Nelson and Ainsworth Mining Divisions.

The Slocan, according to the number of its shipping mines and the amount and value of the ore sold, now ranks as the most productive mining district in the Province, and in point of importance is not surpassed by any other.

In an area of fifteen by twenty-five miles, there have been discovered many veins of high grade silver-lead ore, which are being developed with great vigour and success, and among the mining men is every feeling of confidence and hopefulness. Nearly fifty of these properties are shipping high grade ore that yields

very profitable returns, and a large number of other claims are being opened up.

So far but comparatively little imported capital has been expended here, as in the case of nearly every mine now estblished, sufficient money has been realized from ore extracted during development to pay for more extensive workings, new buildings, mills, trails, roads, and also dividends, but more or less papital will be required to properly open up many other claims on which the veins exist, but are not so easily accessible as those first discovered. But as most of these veins are found along the steep mountain sides and can be worked by tunnels, and the cost of mining is low, requiring little or no machinery, capital will be necessary mostly when tramways and concentrators are to be built, or in some cases for hoisting plants and pumps when tunnel sites may not be available.

Many of these mines are located near the summits of the high precipitous mountains at an elevation of 5,500 to 6,500 feet above sea level where erosion has cleared away nearly all debris from the veins, but lower down also on the mountain sides and in the valleys, are being found other veins or those discovered first much higher up, to the highest of which now run good trails or waggon roads or else wire rope tramways. The snow that lies deep on these summits during the winter is in nowise detrimental to mining operations, as most work is done after its fall, when the ore can be dragged down the smooth snow trails in rawhides in larger loads and at lower prices than are possible in the summer time, but the tracks of snowslides must be carefully avoided.

Many of the veins are small, varying from two or three inches in width to twenty to thirty inches of solid ore, but the high value of silver at present makes

this ore very profitable together with the low cost of breaking ground.

In the "Summary Report" of 1894-95, Mr. McConnell says: "The region between Slocan Lake and River and Kootenay Lake, particularly examined during the season (1895), is covered mainly by granite fringed on the north and east by a border of slates and schists, and is everywhere of a mountainous character. The granite mass, originally dome-shaped, has been carved by the drainage system of the region into bold, craggy mountains and mountain ranges, which culminate in a rugged mass of snow-clad peaks situated between the south end of Slocan Lake and Ainsworth, the highest summits of which approximate 9,000 feet in height above the sea. The principal streams of the district, including Lemon Creek, Ten-Mile Creek (Slocan Lake), the south fork of Kaslo Creek, Woodbury

Geological
Formation.

Creek, and Coffee Creek, radiate from this group and descend rapidly through deep, steep-sided valleys to the main waterways.

A second range of prominent peaks, scarcely inferior in height to the central group, occurs north of the Kaslo-Slocan Railway. The Whitewater, Lyell Creek, and other tributaries of Kaslo Creek, head in glaciers which descend

from this range.

"The principal geological boundary in the district between Slocan Lake and River and Kootenay Lake is the sinuous line separating the granite area from the bordering slates. Starting from Four-Mile Creek, on Slocan Lake (at Silveton), this line follows that stream in an easterly direction for ten miles, then bends to the north across the range separating Four-Mile Creek from Cody Creek, and following the latter stream in a northerly direction for a couple of miles. From Cody Creek the granite border runs almost directly cast of Twelve-Mile Creek; after crossing this creek the line becomes more irregular, as several spurs leave the granite area and penetrate for varying distances the group of mountains lying between Ten-Mile Creek and the south fork of Kaslo Creek. At the latter stream the granite recedes a couple of miles, then bends around a deep embayment of slates, and continues on in an easterly direction towards Kootenay Lake. Four miles from the lake (now in the Ainsworth Division) the line of junction turns abruptly southward, and continues in this direction until near Balfour, where it bends more to the west and crosses the outlet of Kootenay Lake, about four miles

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ates" sel but in so below its head. Inliers of slate in the granite occur at the head of Eight-Mile Creek (Slocan Lake), on Four-Mile Creek, and at other places, while bosses of granite, separated from the main area, break through the slates at Paddy's Peak, Reco Mountain, and north-east of New Denver.

"The upper series of stratified rocks, consisting mostly of dark, evenly bedded slates, with some limestones, is largely developed in the Slocan country, and is well shown along the Kaslo waggon road from Fifteen-Mile House westward, to a point a couple of miles west of Three Forks, where this series is cut off by an area of eruptive rocks. Southward the slates of this series strike into the great granite mass which occupies the central part of the district, and are all cut off, with the exception of a narrow strip which skirts the granite on the east, as far south as the west area of Kootenay Lake."

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I. The argentiferous galena, with zinc blend, and some grey-copper in a gangue or matrix of quartz and spathic iron. These veins cut across the stratified rocks, and through the dykes of eruptive rock, where, in many cases, there is a good body of ore, and they also occur in the granite area, and with even the limited amount of prospecting, some have been traced from 3000 to 4,000 feet along the strike, and one for nearly two miles. In the Slocan states it has not yet been proven that as the vein cuts through shales, slates, limestones or quartzites, that any one of the series has been more favourable to the formation of

ore Deposits.

ore Deposits.

the open fissure cavities and by impregnation of the country rock, and in the cavity-filled veins can be seen the banded structure described elsewhere, or the solid, usually big-cubed galena, shows lines of foliation parallel with the walls, but it is evident that further motion has occurred along some of these vein sures, after ore has been deposited.

Most of the veins are narrow, varying from two and three inches to fifteen and twenty inches in width, with occasional widenings to three or four feet of solid ore, and even much more, as seen in the Slocan Star and the Alamo-Idaho veins. The ore shutes are not persistent horizontally, as is characteristic of nearly all veins, but ore is often continuous for several hundred feet, and where it then pinches, a thin streak of oxides is the index usually followed in the search for more ore, which seldom fails to re-appear with more or less work. The mistake is made sometimes of following along a slip-wall or crevice that may cross the vein crevice at a flat angle, and thus lead the miner astray. Besides the solid ore, some veins have associated with them two, three or more feet of mixed ore, gangue and country rock, or a brecciated mass, which may be of such grade as to pay well for concentration; and already there are three concentrators, the Alamo, Slocan Star and Washington, doing very satisfactory work, and the Noble Five mill almost completed, with the erection of two, at least, contemplated this year, The product or concentrates is silver-bearing galena, but any value contained in the decomposed material that may enter the mill, will in all probability not be saved, likewise that in much of the grey copper, which apparently slimes bally and escapes.

The ore is shipped as "crude," or the solid or unaltered sulphides, or as "carbonates," i.e., the decomposed ore, consisting of oxides and carbonates of iron, lead and silver, the mass having a reddish-brown colour, with more or less yellow material; those carbonates with a soft, velvety feel, assaying highest in silver. All material about these veins should be carefully assayed before being relegated to the waste-dump, where good ore, unsuspected, has already been thrown, especially soft, iron-stained, decomposed rock or vein matter.

It might be well to be on the lookout for gold, remembering the good gold values found in the galena ores of the Monitor mine, which yield from \$2 to \$14 in gold per ton; one lot of twenty tons of crude ore assaying \$20 per ton

to \$14 in gold per ton; one lot of twenty tons of crude ore assaying \$20 per ton in gold, while the "carbonates" average \$13, the smelter paying for all gold above \$2, or one-tenth of an ounce. The "carbonates" seldom are as high grade in silver as the unaltered, or crude ore in the vein, but in some mines this class of ore is very valuable.

While most of the veins are not wide, the richness of their ores greatly compensates, as may be seen from the lead and silver values as per smelter returns from a few of the mines, as:—

	Ounces Silver per Ton.	Per Cent. Lead.
Slocan Star	 /. 80 to 95	70 to 75
Reco	 83 to 730	19 to 67
Good Enough	 167 to 507	15 to 67
Noble Five		30 to 75
Last Chance		35 to 78
Wonderful		70 to 76
Ruth		15 to 73
Monitor		32 to 57
Wellington	 125 to 328	10 to 55
Whitewater	 72 to 326	10 to 65
Dardanelles		15 to 55
Enterprise		18 to 30
Two Friends		38 to 52
Etc.,	Etc.,	Etc.

The other Slocan mines have ore of the same character and high grade. The lowest values in the above indicate the lowest smelter returns on ore that is classed as "carbonates." The average value of all the ore sold has been given above.

In most of these veins the zinc blende carries a small silver value, and is sorted or concentrated out of the ore, so that very little ore sent to the smelters has over 10 per cent. zinc limit. But in the Enterprise mine, on Ten-Mile Creek,

the best silver assays are said to be got from the zinc blende, which is more valuable than the galena. As is to be expected, small lots of very rich ore are mined, lots that will yield from 1,000 to 2,000 ounces per ton, but the average figures already given will indicate the importance of these veins that are now being mined in both the granite and stratified rocks of this district.

2. The veins of argentiferous tetrahedrite or grey copper and jamesonite

and silver compounds in a quartz gangue.

These veins can be seen in the granite exposure on the Best and Rambler mines, and in the stratified rocks on the London Hill property, from which very high-grade ore has been shipped.

3. The "dry ore" veins on Springer and Lemon Creeks, in the granite, with

a quartz gangue containing argenite, native silver, and gold.

These veins are now attracting much attention, as high assay returns have been secured as per smelter returns; sorted ore of this character from the Howard fraction yielding 163 to 206 ounces of silver per ton, and \$16 to \$26 per ton in gold.

The Chapleau recently received the smelter returns on four tons of sorted ore, from which 3.6 ounces of gold and 94.7 ounces of silver per ton were returned, netting to the owners \$102 per ton after deducting freight and treatment

charges

4. The gold-quartz veins in the southern part of the granite, such as those

reported to be on the Alpine group.

The values and characteristics of the last three mentioned classes of vein will be better known later on, as the work now begun yields results and information.

DESCRIPTION OF CLAIMS.

Mr. Carlyle groups the mines as follows, beginning at Sandon, on the south fork of Carpenter Creek, now the distributing and main shipping centre in the Slocan:—

(a.) The mines and claims on the mountain range south of the creek are the Slocan Star, Ruth, Wonderful, Canadian, and Adam's groups, Ivanhoe, Yakima, Alamo, Idaho, Cumberland, Queen Bess, Monitor, and adjacent claims:

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(b.) The mines and claims on the south slope of the mountain range running east and west, north of the creek, as Lucky Jim, Payne, Slocan Boy, R. E. Lee, Last Chance, Noble Five, American Boy, Reco, Good Enough, Blue, Bird, etc., with the claims in the basins on the north slope as Northern Belle, Dardanelles, Rambler, Best, Surprise, Antoine, Washington, etc.:

(c.) The mines and claims north of the K. & S. R. R., as the Whitewater, Wellington, London Hill, etc.:

(d.) The mines and claims on the creeks tributary to Slocan Lake:

(e.) Claims on Cariboo Creek and its tributaries:

It is not contemplated to give particulars of the various mines and claims, as being impracticable in the space available, but a brief description of the Siocan Star as the representative mine of the district is here inserted:-

SLOCAN STAR.

This property had not only paid a larger amount of dividends, or \$300,000 at the date of Mr. Carlyle's Report, than any other mine in British Columbia, apart from the coal and placer mines, but has proved itself to be the largest silver-lead mine so far developed in the Province. It was discovered October 17th, 1891, by one of the present owners, Mr. Bruce White, and others, who, following up Sandon Creek, discovered in the bed of this stream, a mile above its junction with the south fork of Carpenter Creek, the site of the town of Sandon, a vein thirteen feet wide, of quartz and spathic iron interspersed with galena, zinc blende, and angular pieces of the slate country rock. Prospecting to the west in a dense forest of heavy timber along the strike of the vein, at about 800 feet, a large exposure of the surface croppings of the large ore-shute was found, and here the Slocan Star claim has developed the ore-body to be described below.

Up to the present time this mine has paid \$400,000 in dividends. This group of claims, all Crown Granted or Crown Grants applied for, comprises the Slocan Star, Slocan King, Silversmith, La Plunta, Windsor, Shogo, Emma, and Jennie, of which the Slocan Star, Slocan King, and Silversmith, apex claims, are located along the trend of the vein for about 4,000 feet. It is owned by the Byron N. White Co.—President, Angus Smith, Milwaukee, Wis.; General

Manager, Byron N. White: Superintendent, Bruce White, Sandon. Capital stock

cf the company, 1,000,000 shares at 50 cents each.

Ore Body.—This vein cuts across the steep, heavily timbered mountain side and nearly at right angles to the well stratified slates, quartzites and silicious limestones of the Slocan slate series, with an east and west strike and a dip of 54° 10 the south. A large porphry dyke runs nearly parallel with the vein and in places in the mine is found in it, but evidently affected by this fissure.

It is doubtful if two well-defined walls can be traced in this mine, for while

the hanging or fissure wall is very distinct, the ore merges into the country rock towards the supposed foot-wall, but more time could not be spent in very careful observation. In the mining of this one large ore shute as has been opened up and exploited upon the Slocan Star, the ore body has been found to vary from a few feet to 25 feet in width of mixed but pay ore, and a large amount of ore has been mined from bodies 2 to 8 and 10 feet wide of solid galena.

Ore.-(a.) The first-class ore consists of the nearly pure galena, both fine and coarse-grained, carrying some grey copper and some blendel but not enough to pass the excess line, or 10 per cent of zinc. Average value, 95 ounces silver per ton. 72 to 75 per cent lead. This ore is sacked and shipped direct to the smelters. the smelters.

(b.) The concentrating ore consists of the mixed ore or the spathic iron quartz gangue with galena, with a little grey copper, and in all the ore there are evidently some of the silver sulphides. Average value of concentrates, 80 ounces silver per ton, 70 per cent lead.

The Slocan Star possesses the largest ore body in the Slocan, being from 25 to 30 feet wide, with ten feet of solid rich-bearing galena. The lowest tunnel,

No. 5, has struck the same ore shute 200 feet below the upper workings.

The ore is sent to the concentrator, which has a capacity of 150 tons of ore per day, or equal to the daily product of the mine, by tramway. About 100 men

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are employed. The concentrates are shipped to the United States smelters for final treatment.

Timber and water are abundant for mining purposes—the timber being of large size, and immediately at the mine, where the stopes are timbered up with heavy stulls and lagging.

A steep waggon road from Sandon climbs up past the mill to tunnel Nos. 3, 4; and 5, but all ore is sent down to the mill by the 3-rail gravity tramway, about 1,600 feet long, covered where necessary by snow-sheds, the concentrating ore being automatically dumped into the mill bins, the sacked first-class ore being loaded into ore waggons or sleighs, and drawn, also the concentrates, half a mile to the railroad at Sandon, at a cost of 80 cents per ton. Number of men employed, 83, of which 55 were in the mine, and 10 at the mill.

COST OF MINING.

Mining.—(a.) The cost of driving tunnels and drifts varies from \$3 to \$9 per foot in stratified rocks, and from \$7 to \$10 in the granite:

(b.) The cost of sinking shafts from \$12 to \$20, but so far little work of this kind has been done:

(c.) The cost of stoping was not ascertained:

(d.) For labour the average paid miners is \$3.50 for ten hours, or \$3 for 8 hours; timbermen; \$3.50 for 10 hours; shift bosses, \$4 to \$5 a day: blacksmiths, \$3.50 to \$4 per 10 hours; trammers and topmen, \$2.50 to \$3 for 10 hours:

(e.) For supplies, No. 1 giant powder costs about 18 to 22 cents a lb.; No. 2, \$9 per 50-lb. box; drill steel, 16 cents a lb.; candles, \$7.20 a 40-lb. box; cordwood, \$1.50 to \$2.50 at the mine; rough timber, \$11 to \$12.50 per M. The cost of food and other supplies is now very reasonable.

Transportation.—(a.) The cost of packing down ore on horses in the summer time varies from \$5 to \$8.50 per ton to railroad. In the winter time, by rawhiding, \$2.50 to \$3.50 per ton:

(b.) By waggons or sleighs, \$1 to \$2.50 per ton:

(c.) Cost of transportation from shipping centres to the smelters in the

United States, from Sandon, \$7.50; from Slocan City, \$11.

Treatment.—The treatment charges depend upon whether the ore is crude or "carbonates," and on the latter according to the percentage of lead. On the crude ore, or nearly pure galena, the smelter charges vary from \$15.50 to \$18 per ton; on the carbonates from \$9 to \$15 per ton; the \$9 rate being given in one case where the lead did not exceed 20 per cent.

The smelters pay for 95 per cent. of the silver and 90 per cent. of lead, assay

values, at the New York quotations at time of settlement.

For zinc, 50 cents is charged per unit-above 10 per cent. The duty on

lead in the ore entering the United States is 34 of a cent per tb.

The cost of trail-building in most parts is not high, as only in some of the deeper valleys and gulches is there much heavy timber, and if carefully supervised should average from \$80 to \$125 a mile for a good ordinary mountain trail, and if possible there should always be a down-grade to facilitate the transport of ore by "rawhiding."

The cost of the mountain waggon road varies from \$800 to \$1,200 a mile,

with a safe average of \$1,000 per mile, complete.

In the winter time temporary trails and roads are often easily made when the snow has fallen to some considerable depth.

SLOCAN LAKE.

This beautiful lake, lying in a deep valley between the valleys of the Arrow and Kootenay Lakes, is 23 miles long and about one mile wide, and in the valleys and on the ridges that trend away from it to the east, mines of very great promise are being rapidly opened up, and new finds of value are being made as prospecting is more thoroughly and widely carried on.

On the south slope of the range dividing the south fork of Carpenter Creek from Four-Mile Creek, on the north slope of which are a series of mines, from

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town of F means of pectors w importanc but the lo ores to si Bourjouis in 1890 wa Star and t his partne the Slocan Star to the Idaho and Alamo, are the Mountain Chief, California, Alpha Group, Reed and Robertson, Jenny Lind, Ottawa Group and Fisher Maiden, all of which were visited, except the first two, and south of the Four-Mile Creek are the Thompson Group, Vancouver Group, and the Hewitt claim.

Four-Mile Creek, for ten miles of its course, forms a dividing line between the Slocan slates and the granite, although small areas of each cross the river in

places.

TEN-MILE CREEK.

An excellent waggon road has been built from the landing eight miles up this creek, through a valley of fine timber, to the Enterprise mine, and thence trails pass over to Springer and Lemon Creeks and back to Slocan City, and also farther east to the head waters of Kokanee or Yuill Creek and the south fork of Kaslo Creek, where a great deal of prospecting has been done during the past season, with good results.

SPRINGER AND LEMON CREEKS.

From the rival towns of Slocan and Brandon at the foot of the lake, trails lead off to the country drained by Twelve-Mile, Springer and Lemon Creeks, and in this part of the district many locations have been made, some on galena veins, but many others on the "dry ore" veins and the gold-bearing quartz leads, all in the granite. Much prospecting was being done and considerable development work; but as many investors have recently been securing bonds and options on many locations, the past season has seen much greater activity.

TRAIL---EARLY HISTORY.

E ARLY in the sixties the placer mines on Wild Horse, Findlay and other creeks in East Kootenay having been discovered, resulting in the rush there of miners and the constant demand for supplies, as there was no means of communication between the coast and this district, except through the United States, with vexatious delays at the customs, Mr. E. Dewdney, now the Hon. the Lieutenant-Governor of British Columbia, was instructed to survey and construct a trail entirely within British territory, through the southern part of the Province,

Barly 1865 this trail, since known as the Dewdney Trail, was finished, and in its course it passed about one mile south of the present town of Rossland on its way down Trail Creek to the Columbia River. Hence a means of ingress was given to this region, and indications show that early prospectors were attracted to the iron-stained cappings that have now attained such importance and value, as a five-foot hole on the Le Roi and other openings testify, but the low-grade surface rock discouraged them, while the means of getting such ores to smelting centres seemed quite out of reach. However, in 1889, Joseph Bourjouis located the first claim, the Lily May, near the Dewdney Trail, which in 1890 was recorded by J. Bordau. In this year J. Bourjouis located the Centre Star and the War Eagle, while the Virginia and Idaho were staked by J. Morris, his partner. They also discovered the Le Roi, but, forbidden by law to stake-more

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than one claim on the same vein, this piece of ground became the property of Mr. E. S. Topping by his simply paying the expenses of recording.

In November, 1800, Mr. Topping met at Colville two Spokane attorneys, Mr. George Foster and Col. Wm. Redpath, showed them samples of Le Röi ore, and offered to sell one-half interest in the claim for \$30,000. These gentlemen became interested in this property, went to Mr. Oliver Durant, a gentleman of long mining experience in the West, in whose judgment they had had full confidence, and he, also impressed with the ore, finally secured a working bond on sixteen-thirtieths of the property for six months, with the proviso that during that time he should spend \$3,000 on the claim. Although he knew good mining men had condemned the ore deposits of this region as of altogther too low a grade, Mr. Durant came

up at once, examined the claim, taking from a shallow cut sixteen feet long across solid sulphides careful samples that returned as high as \$60 in gold, at the same time visiting the Enterprise, Centre Star, Idaho, Virginia, War Eagle, and Josie. Satisfied with the showings, E. J. Kellie was left in charge of the sinking of a shaft from which during the winter weekly samples were forwarded with great difficulty to Marcus, Wash., by trail down Trail Creek and the Columbia, samples that assayed from traces of gold up to \$472. In the spring of 1891, after many vicissitudes, ten tons of picked pure sulphide ore from the bottom of the thirty-five foot shaft, where the vein was fully nine feet wide, were packed out to the Columbia and shipped to the Colorado Smelting Works at Butte, when the excellent return of \$84.40 per ton was given as the value of the ore, or three ounces of silver per ton, 5.21 per cent. copper, and about four ounces of gold. The bond was then taken up, and in the course of time the remaining fourteen-thirtieths were sold by Mr. Topping to

For over a year Mr. Durant had charge of the work, contending with many obstacles, insisting on the continuance of development, as he pertinaciously believed in the ultimate conversion of this prospect into a valuable mine, but finally he decided to sell out his interest to the others, and with Mr. A. Tarbet bought

some of the present owners. The Le Roi Gold Mining Company was then formed

and about 70,000 shares of the treasury stock sold at a small figure.

the Centre Star and Idaho, upon which nearly 900 feet of work had been done at a cost of \$25,000, work that was the main support of this little camp. But the need of roads was pressing, no advance could possibly be made, and again through the efforts of Mr. Durant, a trail and then a road were build up the East Fork of Sheep Creek from Northport by the business people of that place, and Captain Fitzstubbs, Gold Commissioner for West Kootenay, ordering the construction of a road up Trail Creek from the Columbia, the conditions of the camp were at once made more favourable. With the coming of the financial crisis of 1893, Mr. Durant, whose unceasing and determined efforts had overcome many difficulties and disappointments, and demonstrated that the properties he had so faithfully worked at were good, was forced to suspend operations until 1895. when he resumed work on the Centre Star, now organized into a stock company.

In the winter of 1893-94, the Le Roi, that had shut down upon the expenditure of the proceeds from the sale of the treasury stock, was able to ship by sleighs over the Trail Creek road the ore that had accumulated upon the dump, and this netting a good profit, active mining operations were begun, and the fast increasing ore shipments, as detailed elsewhere, bringing handsome returns to

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those who pluckily stuck to this claim, the Le Roi was fairly launched upon its successful career as a rich dividend paying mine. In the meanwhile, Mr. J. A.

Finch and Mr. P. Clark had been attracted to the camp, Mr. Finch getting a bond on the War Eagle, which he relinquished after expending several thousands of dollars prospecting; after which Mr. Clark, who had thrown up his bond on the Josie, obtained one on the War Eagle. In the work hitherto done on this property, a large shute of low-grade pyrrhotite averaging \$14 to \$16 in gold to the ton, had been more or less explored, but on going farther west a few hundred feet, by trenching, the top of a splendid body of good ore, averaging two and a-quarter ounces in gold, nearly 100 feet long and eight to twelve feet wide, was uncovered, and this mine took its place among the best in the camp, paying shortly afterwards its first dividend, February 181, 1895, of \$32,500.

Another strong factor in the rapid progress of the camp is the connection with it of Mr. Heinze and Mr. D. C. Corbin, president of the Spokane Falls and Northern Railroad. Mr. Heinze, the head of a smelting works in Butte, Montana, sent in two men to go over the ground, with the result, after much negotiating, that he made a contract with the management of the Le Roi mine that they should supply him with 37,500 tons of ore on the dump, which he would pay for after the shipment and sampling of each lot, deducting \$11 per ton for freight and treatment

Railways

as a Factor.

charges; and also 37,500 tons on which the charges should be at the lowest rates obtainable in the open market. With this amount of ore contracted for, a land grant from the Provincial Government and a bonus of \$1 per ton smelted from the Dominion Government, Mr. Heinze erected the Trail Smelter and built the tramway from the smelter to the mine. Mr. Corbin, who has extended his road from Northport to Nelson, supplied also with a Provincial charter and land grant, has pushed his road up Sheep Creek from the south to Rossland. Thus constantly as the conditions improve whereby the cost of mining, shipping and treating the ore are materially lessened, does the limit decrease at which the ore ceases to be profitable, and much more of the lower grade ore now in sight is made available.

THE ORE DEPOSITS.

Mr. R. G. McConnell of the Geological Survey of Canada, after a short visit in 1894, reported* the country about Rossland to be "an area of eruptive rock, mostly diorite and uralite porphyrite, cut by many dykes," but as no complete geological survey has yet been made, nor any reported lithological study, only a very general description can now be attempted. The main mass of all the country rock is evidently diorite, although it presents many different gradations in composition and structure, varying from a fine-grained aphanitic rock with very little horn-blende at one extreme to nearly massive hornblende at the other, often showing mica and pyroxene. Much of it looks like a basic syenite, and samples have been taken for microscopical examination and later report, but the main point of interest is the fact that these ore bodies or veins traverse the diorite, although

Mr. McConnell's Report.

Cores from the hanging and foot walls of the Le Roi shute will be examined as well as samples from either side of the Centre Star ore shute so well defined in the cliff running up Centre Star going over this region the variations are seen to be very marked, in some places the rock being stratified as if of sedimentary origin, but in all probability a more or less altered eruptive. Porphyry dykes from one foot up to sixty and eighty feet wide traverse the country, many with a north and south strike, but with no apparent

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^{*}Summary reports of the Geological Survey of Canada for 1894 95.

dislocation of the veins which they cut through; indeed, at six such points of intersection the ore seemed to be concentrated, and even to follow along the dyke for some distance, but this must be made clear by further underground work. A careful geological survey will reveal very interesting facts relative to the formation of these ore deposits.

In this Rossland ore much prospect work has shown clearly that there is a large system of lines of fracture with an east by west and north-east by southwest trend, and a persistent northerly dip, along which more or less ore has concentrated, either as bodies of solid sulphides or sulphides scattered through the country rock. Some of these fissures can apparently be traced through several 1,500-foot claims, and along them are the large ore shutes now being mined or developed, the maximum width of pay ore so far being about 35 feet, and maximum length 310 feet. Many of these fissures have been or are now being prospected, and in many instances with surface indications of the most unfavourable character, the improvement has been very marked in the increase of the amount of ore and its value, and the great probability that more rich ore shutes will be found by following these fissures has made all such property valuable, and is deciding the commencement of extensive exploratory work. Again, large shutes of low-grade ore, mostly the coarse-grained magnetic iron pyrites or pyrrhotite, assaying from traces to \$6 to \$8 in gold, have been found and are being explored for better grade ore and so far with some success, but development, except on a few claims, has hardly yet begun and so far only the shutes that have been exposed at the surface are being worked, and it is yet impossible to foretell how much extensive underground mining will be rewarded.

The surface of these ore shutes is covered with the typical iron capping, or reddish brown sintery mass, and experience enables the prospector to distinguish between disintegrating sulphides, and barren diorite heavily iron stained by the oxidizing of the bisilicates or the iron pyrites nearly always present in this rock. Although it is difficult to prospect such rock which may be much iron stained but with no vein whatever in the vicinity, nearly all work is done along one wall, and the ore appears to follow along one wall, where the rock is not too full of fissures that disguise true conditions, but it is doubtful if more than one wall ever

Typical Iron Capping.

Treatly exists, although a parallelism of lines of fracture may for a short distance seem to prove the contrary. Wherever the ore is found to consist almost of pure sulphides, it will be found lying along and parallel to such a wall, after which ore is disseminated more or less through the inclosing rock, often following along small fissures that in some cases form small veins of good ore that run for a considerable distance away from the main deposit. In all the mines the ground is faulted, thus dislocating the ore deposits and stringers and complicating the search; but these slips will be better understood as work progresses, although much development work will have to be done by driving steadily ahead along the general course of the veins and crosscutting, for the good rule of following the ore is seldom possible for any distance by reason of these dislocations.

THE ORES.

The ores at Rossland, with the exceptional free-milling gold quartz of the O. K. mine, may be divided into three classes:—

(a.) Those large deposits of coarse-grained massive pyrrhotite, locally known

as the "iron ore," in which very little or no value in gold is carried.

(b.) The ore found in many claims on the south belt, as the Lily May, Homestake, Mayflower, Curlew, Gopher, R. E. Lee, etc., in which the sulphides are not pyrrhotite but iron pyrites and marcasite (white iron), with, in some of these mines, much arsenopyrite, and also zinc blende and even galena, in which case the silver value exceeds the gold, and the percentage of copper is very small or nothing.

(c.) The typical ore of the camp as sold by the Le Roi, War Eagle, Iron

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Homeare not of these case the cothing. e, Iron Mask or Josie, is divided into first-class and second-class. The first-class consists of nearly massive fine-grained pyrrhotite and copper pyrites, sometimes with a little magnetite, or mispickel, with more or less quartz and calcite. In this class of ore, as got from the lowest workings of the Le Roi, the amount of quartz is much higher, the smelter returns giving 41 to 52.8% silica, and 20.6 to 26.8% FeO., but this is proving the best ore in the mine, the average smelter returns being on 1,200 tons, 2.6 oz. of gold, 1.8 oz. of silver, and 2.5% of copper, or \$53.05* net, per ton, while some shipments went as high as 4.06 oz. in gold.

The second-class ore, and the bulk of the ore of the camp shipped will be

The second-class ore, and the bulk of the ore of the camp shipped will be most probably of this character and value, is a diorite with a comparatively small percentage of these sulphides, but the value is still very good; 1,800 tons of the Le Roi, second-class, yielding by smelter returns an average of 1.34 oz. of gold, 1.4 oz. of silver, and 1.6% copper, or \$27.97* net, per ton. Mr. Bellinger, of the Trail smelter, kindly gave the average analysis of this ore to be FeO. 22%, SiO2. 42.5%

CaO. 7%, MgO. 3%, Al2O3 18%; copper, 1.5%, S. 6%.

TREATMENT.

The destiny of the mining operations of this part of the Province will depend, to a very great extent, upon the means of transportation, and then upon the cost of metallurgical treatment, for a large amount of low-grade ore is promised, and the possibility of treating such ores at a low figure to leave a fair margin of profit must attract the best endeavours of the metallurgist. The ores containing a high percentage of sulphides will be very desirable, and should command the lowest smelting charges, but in all probability the great bulk of the Trail Creek ores will be of the mixed class, or diorite with a comparatively small proportion of sulphides, and hence a low percentage of copper, while again the amount of arsenic, abundant in some of the ore, will be an important element. This ore has now been shipped to many of the American smelters, such as at Tacoma and Everett. Washington, and Great Falls, West Helena, and Butte, Montana, and now much will be smelted at the new works at Trail, to be described. The erection of smelters at Rossland, in the immediate vicinity of the mines, is being seriously contemplated, but it is yet too early to make any definite statement. The cost of freight and treatment is now about \$10 to \$14 per ton, when 95 per cent. of the assay value of the gold and silver is paid for, and 1.3 is deducted from the percentage of copper present.

Of course the possibility of other processes being suitable to such ores is being tested, such as the cyanide and chlorination processes, and the results will be awaited with much interest as some such process may prove very successful, and all judgments should be deferred until the conclusive experiments have been

completed.

NOTE:—All the foregoing relating to Trail is taken from Mr. Carlyle's report. *Not deducting freight and treatment charges.

LE ROI MINE.

THE area of the Le Roi claim is about twenty-one acres, and is operated by the Le Roi Gold Mining Company, of Spokane: President, W. W. Turner; General Manager, George Turner, and capitalized for \$2,500,000 in 500,000 shares at \$5.00 each. The Company own the Le Roi, the Black Bear and the Ivanhoe, or seventy-two acres in all. On this claim the large surface exposure, six to fourteen feet wide, of the rusty-red iron-stained rock, or the typical iron cap, that

on fracture proved to be the covering of a large body of sulphides, mostly pyrrhotite, with some chalcopyrite, could be easily seen for 200 to 300 feet in a northeast by south-west direction, when at the west end of this ore shute the vein seems to branch into two or even three smaller veins that diverge.

The first shipment was made in 1893 of 700 tons. In the spring of 1895 a contract was made with the Trail smelter for the delivery of 75,000 tons of ore. Over 50,000 tons have been delivered under that contract. The Company paid its first dividend of \$25,000 in October, 1805, and has paid up to date over \$525,000. and is announced to pay \$50,000 a month hereafter. The main shaft has been sunk through a solid body of ore to a level of 600 feet, with extensive drifting and tunnelling. Enormous ore bodies have been opened in all the drifts. In the west drift on the 450-foot level the width of the ore body reached twenty-eight feet. the vein contracting at the 500-foot level, and again down to within twenty-five feet of the 600-foot level at the uniform width of seven feet, when it begins to expand, and on the 600-foot level the pay ore is twenty-two feet wide by actual measurement. Seven feet of it averaged \$80 per ton in gold and ten per cent. copper, and fifteen feet of it \$35. There are 200 men employed in and about the mine and 300 tons of ore are being raised every twenty-four hours. The pay-roll amounts to \$2,000 a month, transportation charges \$15,000 a month, treatment charges \$50,000 a month, and it is anticipated that the mine will ultimately produce over 1,000 tons of ore a day and give employment to 800 men. The owners of the Le Roi mine are building a smelter at Northport for the reduction of their own ores. This has given rise to an agitation for an export duty on ores in order to encourage the smelting of ores on the British Columbia side of the line, but what effect it will have it is impossible to say.

THE WAR EAGLE MINE.

Next to the Le Roi, the War Eagle is the largest mine in the district, and was recently sold to a Toronto Syndicate, of which Messrs. Gooderham and Blackstock are the principal shareholders, for \$700,000 cash. The claim was located in July, 1890, by two French-Canadian prospectors, and in the fall of 1894 it was bonded to Spokane parties for \$17,500 and a Company organized. Under new management the course of the tunnel was changed and a big ore shute struck ten feet wide in places, which made the mine famous at once, and early in 1895 a dividend of \$27,000 was declared. There have been 4,500 feet of tunnelling done on the mine, and since the property was first worked 30,000 tons have been shipped, returning \$900,000. Dividends to the amount of \$250,000 have been paid. There is said to be 75,000 tons of ore in sight. At the present time no shipments are being made, the management devoting itself to the work of development and blocking out ore, in which work about ninety men are employed.

THE TRAIL SMELTER.

The British Columbia Smelting and Refining Company own the smelter at Trail Creek, of which the President is F. A. Heinze, who also owns a smelter at Butte, Montana. On securing the large contracts for ore from the Le Roi mine Mr. Henize obtained the present excellent smelter site, on the bluff overlooking the Columbia, at the mouth of Trail Creek, where has sprung up the town of Trail. This smelter was erected with great rapidity in spite of inclement winter weather and great difficulty in securing supplies of building material and importing the plant and machinery; but although work was begun October 10th, 1895, the first furnace was fired up in February, 1896, and now five furnaces are in full operation, with further extensive and important additions being rapidly pushed to completion, additions that should greatly improve present conditions and treble the capacity of the works. Besides that with the Le Roi, contracts have been made with the War Eagle, Iron Mask and Crown Point. The smelter has a capacity of 400 tons per day, and the management contemplates extending the same in order to meet the demands of the district.

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SOUTH BELT.

On Lake Mountain, south of Rossland, and in the intervening valley, also on the east and south slopes of Deer Park Mountain, all of which, with Lookout Mountain farther east, may be known as the South Belt, the same system of east and west fissures obtain, and, with the comparatively little work done, the results are such as to encourage the much more extensive investigation of many of the claims. With the exception of the Crown Point and Deer Park, the ore bodies have not yet been found of large size, but the fissures are very persistent, and the the average ore is of, so far, fair value, the ore on most of these properties being different from the rest of the camp in that there is very little pyrrhotite, but much iron and arseno-pyrites, with some zinc blende and galena, while the silver value is higher than the gold. But pyrrhotite ore is also found, as will be detailed below. The construction of the tramway through the centre of this belt has reredered easy the shipment of ore, and already the Crown Point and Mayflower are shipping.

GENERAL CONDITIONS AND PROSPECTS.

R. CARLYLE, in discussing transportation and communication, says: "Four years ago only trails led into this part, the Dewdney trail having been built in 1865, but now a waggon road runs to Trail, and another down the fork of Sheep Creek to Northport, in the State of Washington, over which much ore has been and is shipped in heavy ore waggons, which return with much of the supplies for the town and the mines." Then, after referring to the lines of communication described elsewhere, including the C.P.R. and American railway lines travelling northward, adds "That the Red Mountain Railway, passing in close proximity to many of the leading mines, will connect at Spokane with the two trunk lines, the Northern Pacific Railroad and the Great Northern Railroad, whence is direct communication with all parts of the United States, as well as easy access to the smelters on Puget Sound, at Tacoma and Everett, to those at Helena and Great Falls, Mont., and to the smelters farther south in Colorado and at Kansas City. Hence the fast developing scheme of transportation will soon change the conditions of this district by giving cheaper and quicker egress for the production of the mines, or for the assembling at the most favourable points at the smelting or other reduction works, the different kinds and grades of ores, the fuels, fluxes and other supplies that should make possible the much cheaper handling and treatment of the various ores now known to exist in large quantities.

"Although much ore of high grade is being mined, large bodies of low grade, averaging \$4 to \$12 in gold, one to three ounces in silver, and up to three per cent. copper, are now exposed, and further necessary systematic and fearless development work must be done, which this widening range of transport facilities will aid most materially not only in handling the output of this one camp, but in collecting at the best points different classes of ores from the newer localities now being prospected, as well as the camps already established elsewhere in this part of the Province. The restriction to the more or less same class of ore, unless it be of a most favourable character, seldom got or maintained, is gener-

ally not at all conducive to the best smelting practice, and the localizing of the smelting industry of the Province at the most advantageous centres, where will be collected the different ores from different parts that are so necessary for the most economical treatment, one kind of ore helping to flux the others, will be greatly determined by the shipping facilities by waggon road, railroad or steamboat, that are now being supplied or projected. As the future of the mining business in Rossland and the surrounding districts will be largely dependent upon the cheapest treatment of the ores produced, and we can now announce the erection in the near future of very extensive smelting plants in the Province, communication assumes vital importation and it is almost promised that it will be rapidly extended as the ore because found to be persistent and profitable throughout more than a limited are

"The mountains in this Trail Creek region are for the most part rounded and covered with timber, not very high and not precipitous, so that a waggon road can usually be built anywhere without much difficulty, while a railroad can be put through any of the different valleys with switch-backs if needs be, so that nearly any mine will not be difficult of access. The supply of timber for fuel and mining purposes on most of the claims will soon be exhausted, but much can be brought in cheaply by the railroads when the need comes. The supply of water is also small, but so far adequate for mining purposes, and a large supply cannot be got less than six miles distant."

In his report to the Minister of Mines, Mr. Carlyle says:

"Perhaps the greatest factor that will determine the progress of mining and the realization of the wealth that undoubtedly is now locked up in these mountains, is the means of communication and transport. The ores must be carried to the metallurgical centres for treatment, and if the ore deposits now known to exist, and those that may yet be discovered, are to be made available and to become a most valuable part of our resources, trails, roads and railroads must be constructed to make possible the concentration of ores, fuels and supplies at the most favourable points; and if this part of the industry is to be retained in Canada, Canada must assist in boldly advancing these means of communication to make easily accessible the coal fields and the mines from which the different classes of ore can be obtained, that separately are difficult to treat, but brought together and intermixed, can be reduced at minimum smelter charges. Favoured by the trend of the mountains and valleys, American railroads are rapidly entering from the south to transport Kootenay ores to the American smelters; but, notwithstanding much greater difficulties of construction, Canadian roads must be energetically built, and, not only will more mines be opened up, but the large reduction works, with the large employment of capital and labour, will be mostly retained within this Province. The opening up of Kootenay during the last six or seven years has been rapid, but the most marked advance has followed the building of the various lines of connection already completed, as is seen, for one instance, in the rise of the new camp at Rossland; but more rapid advance is awaiting these better facilities, which it is safe to predict will be called on to carry a heavy tonnage. Several important lines are seeking aid to be built; lines that will open country that already is proving most promising as it is further prospected, and it is hoped that this aid will be granted, so as to permit the immediate commencement of these important undertakings. Not only is the bulk of this ore being shipped to the south, but the large proportion of he fast increasing demand for mine and mercantile supplies is being satisfied by the cities on the other side of the border, with the result that a great rival in their business affairs has followed the opening up of these good markets in British Columbia, greatly due to the fact that orders can now be more promptly filled and forwarded from this source, this advantage more than counterbalancing the customs duties that are imposed upon imports. Not only this, but much of the mining machinery manufactured in Eastern Canada, and now being extensively ordered, is being brought most of the way over American railroads to the point of entry, Northport. If our own centres of trade are to benefit by this growing business, strong efforts must be made to get these facilities for rapid and prompt delivery which, with customs dues, will more than give Canadian business concerns the are operate efforts to it into the series of the

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cerns the advantage, as the fact should be realized that new and large markets are opening up in British Columbia. American business men are making strong efforts to secure this trade, and the current once set in, it will be difficult to deflect it into that channel most beneficial to the commercial inerests of this country.

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"The concensus of opinion of many mining men who have studied the conditions and surface showings in this new camp at Rossland, is to the effect that few camps have ever shewn so many favourable indications that warrant the belief that on further extensive, systematic exploration other shutes of gold ore will be uncovered. Prospecting has disclosed these many parallel veins, varying in width, when exposed, from an inch to several feet, and it is believed that many more ore shutes will be found when these most promising surface indications are thoroughly exploited, for it is quite improbable that the large shutes of rich ore that have been shewn on the surface by denudation will be found to be the only ones.

"This district has now reached that stage when persistent, plucky development work, sustained by ample capital, must be done to prove up these many veins and surface showings, but a sufficient amount of working capital is demanded, (a) because much of the rock is very hard to mine, necessitating good machinery to make proper progress, (b) considerable or even extensive development work must be done in the search for more pay shutes, (c) while the more or less faulted nature of the ground, though not serious, will complicate this work. While the present mines were opened up with comparatively small capital by reason of the mines producing pay ore shortly after work was begun, or ore that was very profitable as soon as roads were built over which it could be sent to the smelters, still any enterprise that is now undertaken will require strong financial support, and already several powerful companies are at work."

To the above may be added that Rossland has now five or six well determined mines, and new ore shutes are being opened up, as systematic development progresses. There is little doubt that many of the other properties on which a little work has been done, with sufficient capital, will yet reach the stage of shipping mines; but a large amount of capital is required. The camp has decidedly made great progress during the present year, although the feverish activity of some months ago has subsided. Henceforth, as the speculative element has been eliminated, mining will proceed on the basis of its merits and sound business methods.

The construction by the C.P.R. of a line from Rossland to the Columbia River where cheap fuels will be easily obtainable and new smelting facilities afforded, will be of immense benefit.

THE BOUNDARY CREEK DISTRICT.

THE Boundary Creek portion of the Kettle River Mining Division of Yale, two years ago, meant a territory of about 150 square miles in extent, drained by a small stream which joins Kettle River from the north at Midway, where the river first crosses the International Boundary. To-day the term "Boundary" has lost its special significance by reason of the rapid extension of the area in which valuable minerals are found, to points far distant from the nucleus which first gave the district its reputation.

^{*}Furnished by S. S. Fowler, A.B., E.M., Nelson, for the Minister of Mines Report,

TOPOGRAPHY.

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The topography of the district, while it affords a considerable diversity, is not very different to that of all the great interior plateau of British Columbia. Whilst mountainous, its highest points seldom exceed 5.500 feet in altitude above the sea, and the greater number of its many well-rounded mountains do not exceed 5,000 feet—Kettle River, at the mouth of Boundary Creek, being about 1,800 feet above sea level. The ruggedness and nakedness of many parts of Kootenay are not at all in evidence, for these rounded hills are splendidly forested to their very summits, with a very great variety of coniferous trees. southern and western slopes are open and afford a prolific growth of bunch-grass, and along the valleys are many ranches which are specially adapted to diversified farming with the aid of irrigation.

GEOLOGY.

The geological features of this region are varied and interesting. Not having made a special study, and without assuming more than a general understanding of them, I may say that for several miles east of the North Fork there is an area of Archæan gneisses and siliceous and micaceous schists, which are the basal rocks. West of the North Fork we come into an extensive series of metamorphic schists, quartzites, crystalline limestones and some clay slates, all of which form a large part of the ridge lying between North Fork and Boundary Creek. This series is apparently repeated through a distance of three or four miles west of Boundary Creek, when these probably pre-Cambrian rocks are found to be overlain by Devonian or Devono-carboniferous limestones, which form the summit and western limit of the Pounds. form the summit and western limit of the Boundary Creek watershed, within that part of the latter at least, which is best known. West of this summit is a series of Cretaceous sandstones and shales continuing to Rock Creek, eight or ten miles. Through this series the last-mentioned limestones may be seen protruding at points along Kettle River; but after crossing Rock Creek the schists and quartzites again appear in the vicinity of Camp McKinney, and these in turn are succeeded, on nearing the valley of the Okanagan, by a recurrence of the Archæan rocks first mentioned.

Throughout this extent of territory these stratified rocks are found to be penetrated by, or underlain and overlain by, eruptive rocks of different ages and diverse natures. These eruptives are all more or less intimately associated with the mineral deposits of the district, and a thorough knowledge of them (to be derived only from a comprehensive and accurate geological survey) is much to be desired.

Avoiding more technicalities than are necessary, these eruptive rocks include granite, syenite (?), felsite, trachyte (both often porphyritic) and "diorite." The felsite and trachyte often pass under the name of "porphyry." The "diorite" is meant to signify all those basic, heavy, hard and dark-coloured rocks which, scientifically, may properly be called by other names; the term is much burdened, as porphyry has been for many years, but it is convenient and not inexcusable.

The granites are probably the oldest eruptive rocks hereabouts. They are found in the valley of Boundary Creek, about eight miles above its mouth, and from there northward. Diorite, including the lighter coloured varieties, is the predominant eruptive rock, and occurs throughout the region in dykes of greatly varying width, with a strike somewhat north of west. These penetrate the granite and all the other rocks, except possibly the more recent limestones and porphyry, as at the head of Copper Creek.

The porphyritic rocks are prominently associated with the limestones and

the Cretaceous strata.

Besides these, considerable areas are known to afford schistose rocks, essentially composed of magnesian minerals, such as chlorite, hydro-micas and tale, together with serpentine and dolomite. Earge parts of these rocks are probably alterations of an eruptive original, and they are especially in evidence in the southern part of Boundary Mountain, as at White's and Attwood's camps.

ORES AND ORE DEPOSITS.

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The Boundary District is essentially a gold district. The great bulk of the ores is a mixture of the various iron sulphides with copper pyrites, all more or less auriferous. This class of ore is notably associated with the basic eruptive rocks, which are of so widespread occurrence in southern British Columbia, and with the older metamorphic rocks near or at the contacts of these with the former. The magnesian rocks above referred to also afford this ore. This mineral mixture occurs in bodies which at times are so elongated as to give the impression that they occupy fissilves, and again at others it occurs in apparently isolated shutes of limited horizontal extent; finally what seem to be well-defined blanket deposits hold the ore. The croppings of several of these deposits consist of very large masses of (frequently polaric) magnetite, through which are disseminated copper and iron pyrites. Where denudation and wearing action have had sufficient opportunity these cappings have been removed, and calcite, specular hematite and quartz appear as the normal accompanying gangue. This class of ores has a wide range in value, but, excluding the extremes, may be said to carry about \$15 in gold, with two or three ounces in silver, per ton, and five per cent. copper. It is exemplified by many of the prominent properties of the district, among which are the Emma, and Oro Dinero in Summit Camp; Stemwinder, Gold Drop, Knob Hill and Snowshoe in Greenwood; Winnipeg and Calumet in Wellington; City of Paris, Lexington, Golden Rod and Oro in White's Camp, and the Mother Lode, Sunset and Great Hopes in Deadwood Camp.

In the granites along Boundary Creek and in the siliceous rocks by which they are flanked—in other words in the more acidic rocks—fissure veins of varying width are found, which afford quartzose dry silver ores and some large bodies of presumably partly free milling gold quartz. In the former case the minerals present with the quartz include small amounts of galena, zinc blende and iron pyrites with ruby silver, etc., as in the Skylark Camp; and in the vicinity of Long Lake, beside the above, tellurium and tellurides of gold and silver, with more or less free gold at the surface, are found. All these dry silver ores contain gold. Their veins are from a few inches to five or six feet in width, and the greater part of the value is often concentrated in a narrow pay streak. An idea of the values of this material is had from the statement that in 1894 a shipment of eighty-five tons of sorted ore was made from one property, and the metal contents were 16.947 ounces silver, 101 ounces gold, and 7.836 fbs. of lead. Small shipments from other claims have been made, showing gross values of about \$100 per ton, but the average value of unsorted ore may be placed at about \$50 per ton.

These ores are found over a considerable part of the district, and notably on the Jewel and Dinero Grande claims in Long Lake Camp; G.A.R. and D.A. in Providence Camp; Skylark, Crescent and Last Chance in Skylark Camp; Nonesuch, Boundary Falls and Ruby in Smith's Camp, and the No. Seven and Lincoln in Attwood's and White's Camps, respectively, the latter affording grey copper as the principal source of value.

The milling ore mentioned above occurs on the O. B. and Big Ledge claims, south of the D.A. It affords values from \$15 to \$40 per ton.

The Devonian limestone, which extends north and south from the head of Copper Creek, is cut through by several dykes of porphyry and felsite, and along the contacts of these with the limestone are bodies of copper ores. In the southern part of this belt the mineral is copper glance and copper pyrites, the latter of which in places seems to be a constituent of the felsite. In the Copper Camp the ore is entirely in the contacts, has a quartz gangue, and is almost entirely copper glance, oxidized at surface and partly again reduced to metallic copper. These ores, while they carry only a small amount of the precious metals, sometimes give assays of over thirty ounces in silver. The copper tenure is about seven or eight per cent. only, but this grade could probably be improved by wet concentration of the sulphide.

This class of ore is found on the Copper Mine, King Solomon, Copper Queen, etc., in Copper Camp, and the copper pyrites and some copper glance are found on the Bruce, Texas and other claims in Graham's Camp, four miles west of Midway.

Of course, the chief want of Boundary is cheap transportation. Even the high-grade dry ores of the district can do little more than bear the burden of sixty or seventy miles of waggon haulage when added to the other necessary expenses. So much the less then can the low-grade sulphide ores be profitably exported.

With a railway system in operation it is doubtful if a well-equipped smelting plant adapted to the treatment of these ores could not be profitably operated in the district; for with the certainty of abundant ores of varied character, as pure limestone as can be desired, and an apparently excellent metallurgical coal at hand, no other material is needed. But the railway under ordinary circumstances will wait until the production of tonnage, either directly or indirectly dependent upon the mineral resources.

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To those who are already interested in the Boundary District the necessary tourage seems to be in sight, but whether this has been proven to the satisfaction of those upon whom the railway builder is dependent remains an open question. Thus again we are brought face to face with the immediate necessity of an ample and well-directed mining capital, which is certain to meet with its just reward.

[The lack of railway communication to which Mr. Fowler refers is not likely to long remain an obstacle to development, as by the action of the Dominion and Provincial Legislatures during their recent sessions adequate assistance has been afforded for either the extension of the C.P.R. line by way of Crow's Nest Pass, or the construction of an independent line from Robson to Penticton, which will traverse this mining district and give access eastward to the smelters of Kootenay, and also by way of Vernon to the coast. Ultimately, too, when the projected short line is built to the coast by way of Hope, it will have alternative and direct communication with the seaports of B.C. No doubt one or more of the American lines will push up from the south, and one is already talked of to traverse the interior plateau of B.C. to Alaska, a long talked of and probably quite feasible route. In this way the facilities of Boundary Creek will be exceptionally good.

—Ed 1

SOUTHERN YALE MINING CAMPS.

THE three most important camps in Southern Yale or Boundary District are Camp McKinney, Fairview Camp and Central Camp, in which a number of claims have been recorded. Of these, on account of the development on the Cariboo-Amelia mine, Camp McKinney is at present the most important. It is situated between 3,500 and 4,000 feet above Okanagan Lake, between Okanagan and Kettle Rivers, fifty-six miles east from Penticton on the main stage road and thirty-two miles westerly from Midway. The history of the camp dates back to 1884, when the first discovery was made. It was not until 1887, however, when the Cariboo vein was found, that anything was done.

The ores of the camp are, as a rule, free milling, consisting of white quartz containing some sulphides. The principal claims are the Cariboo-Amelia, Alice and Emma, Maple Leaf, Le Roi, War Eagle, Dolphin, Fontenoy, Vernon, Victoria, Minnehaha and Old England. The quality of ore on the Cariboo-Amelia, which is the representative mine of the camp, has increased with depth, the total yield being from \$15 to \$20 per ton from the lowest works.

The mine consists of two claims owned by the Cariboo Gold Mining & Milling Co., with a capital stock of \$800,000. Three shafts have been sunk, of which the present working shaft is 175 feet deep with tunnels and drifts. So far over 20,000 tons of ore have been mined, and dividends to the amount of \$160,000 have been declared.

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Fairview Camp is located two and a half miles west of Okanagan River, and is twenty-eight miles south of Penticton by stage, twenty-nine miles west of Camp McKinney, and twelve miles north of Osoyoos. The claims lie on the eastern side of a low range of mountains separating the Okanagan and Similkameen Valleys, along a series of foot hills 700 feet above the Okanagan Valley. The geological formation and character of ores are very much similar to those of Camp McKinney, although it is difficult at the present time with the limited amount of development to say how far the values of the ores

correspond. So far the milling value has not proved so great as that of the latter. In this camp are located a number of promising claims, such as the Morning Star, Stem Winder, Tin Horn, Smuggler, Silver Crown, those of the Strathyne Mining & Milling Co., the Joe Dandy, the claims of the Consolidated Fairview Gold Mines Co., Winchester, Comet, and Western Girl. The Tin Horn, Big Horn and Fortune are owned and operated by the firm of Dier, Davidson & Russell, of Fairview, and are being actively developed. Not much ore has been shipped, but 2,700 tons of Morning Star ore yielded about \$12 a ton.

Central Camp, also known as White's, Douglas' and Atwood's Camps, at

the head of Douglas Creek, eight miles from Midway by trail and five miles from Boundary Falls, lies at an elevation of 4,000 to 5,000 feet. In this camp there is a variety of ores, gold and silver-bearing quartz, gold-copper sulphides, and argentiferous gray copper. The principal claims here are Golden Rod, Mabel; Number Seven, Norfolk, New York, Rob Roy, St. Maurice, City of Paris and Oro. Development work has not been carried to sufficient extent to fully demonstrate the ore values or extent of the veins.

With respect to the three camps referred to, the general character of the ore is similar and largely free milling. The quartz veins seem to lie in large bodies, and are what might be called low grade ores. Hence their development as a mining district depends largely upon cheap transportation and communication being established. At the present time communication is somewhat difficult and expensive, and consequently these camps will not become shippers to any large extent until such facilities are provided.

There are limited supplies of water, and, as a rule, plenty of timber, if not on the claims themselves within easy distance of them. Sufficient is already. known to justify the conclusion that this will be a very important mining district, and will be a heavy yielder in gold.

EAST KOOTENAY.

N account of the building of the Crow's Nest Pass, or British Columbia Southern Railway, now under construction, the prospects for the great mineral wealth of East Kootenay being exploited are very good indeed, and in anticipation of this line prospecting has been very active, and several very fine properties are being developed.

Official information respecting this district is contained in the Minister of Mines' Report of recent years, but particularly in Mr. Carlyle's report of 1806 from which the following is condensed:

A short examination was made of those parts of East Kootenay where mining was being actively carried on, but with the exception of mines such as the

North Star, Moyie Lake Mines, and the placer mines on Wild Horse Creek, little work other than assessment work was being done. However in the southern part of Fort Steele District the prospectors were very busy during the past season. both in the Selkirks and Rocky Mountain Ranges, and a large number of claims were staked off in close vicinity to the North Star Mine and on the St. Mary's River, Bull River, Perry Creek, and their tributaries.

Hitherto means of communication have been such that considerable time had to be consumed in reaching any part, and prospectors and mining men have been attracted to other parts more easy of access, but with a more extended steamboat service on the rivers, new roads and trails, and with keener interest aroused by the progress of mining in other parts of Kootenay, the Division of East Kootenay is on the eve of receiving much greater interest, with every probability that her latent resources will prove very valuable.

TOPOGRAPHY.

Running north and south for over two hundred miles, flanked on the east and west by the towering ranges of the Rockies and the Selkirks, is the wide and beautiful valley through which flows the Columbia River to the north, and the Kootenay River to the south, to join waters at Robson in West Kootenay. This valley is ten to thirty miles wide, and gently rises to the foot-hills along the main ranges, which are often bold and craggy and rise in lofty peaks.

TRANSPORTATION.

STEAMERS.—From Golden, on the C.P.R., a very comfortable steamer of the Upper Columbia N. & T. Co., Capt. F. P. Armstrong, leaves for the Upper Columbia every Tuesday morning when navigation is open, and runs for most of the season as far as Mud Lake Landing, 113 miles, where passengers and freight are transferred by a horse tram, four and three-quarter miles, to the Upper Columbia Lake, where another steamer runs to Canal Flats, about fifteen miles, and thence by the stage to Fort Steele, forty-six miles, stopping over night at Hanson's, at Wasa Creek, twelve miles from Fort Steele, one of the best hostelries in Kootenay. When navigation ceases a weekly stage runs between Golden and Fort Steele, carrying the mails. To the south steamers of the same navigation company run down the Kootenay River from the North Star Landing, six miles above Fort Steele, to Jennings, and at high water these boats go as far north as Canal Flats or about four miles from the steamer landing on the Columbia. Anticipating a large influx of men and supplies from the south during the present year, Captain Armstrong intends establishing a daily steamer service, as long as the depth of water will permit, between Fort Steele and Jennings.

ROADS.—A good waggon road extends from Golden to Fort Steele, whence roads radiate to Wild Horse Creek, Perry Creek and St. Mary's River, North Star Mine, Cranbrook, and to Tobacco Plains and across the border to the south.

TRAILS:—(a.) The Dewdney or Moyie Trail runs from Cranbrook southwest

past the St. Eugene Mines, on Moyie Lake, to the landing on Kootenay River, where stop once or twice a week steamers on the Kootenay Lake service. This was the trail traversed by the placer miners in the early sixties.

(b.) The Toby Creek Trail, or Well's Trail, starts a few miles north of Win-

dermere, and crossing the Columbia runs up Toby Creek to the Divide, thence

down Hamill Creek to Argenta, at the north end of Kootenay Lake.

(c.) From Carbonate, south of Golden, a road for part way and trails lead up the different branches of the Spillimacheen River and into the McMurdo District. Of course there are many other trails, such as over the Crow's Nest Pass,

ORE.—Shipments are made by the steamers on the Kootenay Lake south to Jennings in the United States, and thence by G.N.R.R to the smelters. The smelter at Golden has never yet been blown in, as no ore has so far been obtainable, but the development of the northern part of the Golden and other districts may yet supply these works, which were built rather prematurely.

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NORTH STAR.

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This valuable property comprises the North Star, O. K., Dreadnaught and Buckhorn, Crown-granted; and the Rowan, Daffodil, Cromarty, Notre Dame, Dorval, Maverick, Good Luck, Canton, Full House, Brandon, Stemwinder and Ontario, mineral locations, owned by the North Star Mining Co., Ltd., Montreal. President, D. D. Mann; Secretary, H. S. Holt, Montreal; Business Manager, N. W. Curran, Fort Steele.

These claims, 1,500 feet square, are located on a gently sloping mountain one mile south of Mark Creek, and twenty-three miles by waggon road west of the North Star landing on the Kootenay River six miles above Fort Steele, and 2,600 feet above the landing, or sixteen miles directly west of the river. This lode was located in June, 1892, by Jos. Bourjouis, the locator of the War Eagle, Centre Star and Lily May, at Rossland, and since that time it has been so developed as to expose one of the largest bodies of silver-bearing galena ore yet uncovered in the Province.

GEOLOGY AND ORE-DEPOSIT.

The rock enclosing the ore found in these and adjoining claims is dark gray with a fine-grained, hard and tough texture, apparently of igneous origin, except for slight evidences of bedding planes on the Sullivan Group, indicating the probability of its being very highly altered stratified rock. In the mine is rock looking much like the typical miner's "porphyry," running in places as tongues, into the mass of solid ore, as if a dyke were there, but this might be simply the country rock altered near the ore-shute.

THE ORE.—(a.) Is primarily a very clean, solid, argentiferous galena, rather fine-grained, with only a small amount of zinc blende, while underlying it along the foot-wall is the "iron-ore," or iron and manganese oxides assaying about twenty ounces in silver per ton. The assay value of the ore as per smelter returns is:-

Silver, 23.5 ounces to 45.3 ounces per ton; lead 53 to 68%.

(b.) The upper part of the ore-shute has been decomposed to a mass of red-dish-brown, black and yellow oxides and carbonites of iron and lead, with beautiful specimens of moss-like metallic silver and crystals of cerussite. There is a large amount of this ore, and unlike the "carbonate ore" in the Slocan it carries a higher silver value than the crude or solid galena ore, the values from smelter returns being:-

Silver, 52 to 60.8 ounces per ton; lead, 49 to 57%. In shipping ofe a mixture is made of both kinds of ore and then sacked in jute sacks (made in Montreal) so that sixteen sacks of the ore weigh one ton, and this is not low grade ore by any means, as is shown by the smelter returns on between two and three thousand tons sold during the past season, when the net or yield values averaged per ton:-

Silver, 30 ounces; lead, 55%.

Such ore was worth \$52.40 per ton, and left a very good profit, after deduct-

ing costs of mining, transportation, smelting and duty.

ORE BODY.—The existence of the ore body was betrayed by the large amount of galena float on the surface, but it was not until much prospecting work had been done that the magnificent ore body was found, the value and significance of the decomposed material first found apparently not having been appreciated until proven to be the richer carbonate ore overlying the unaltered galeña.

The ore body varies from eight to twenty feet in thickness, and during the present year 2,000 tons were shipped to the smelter. Another very large body of ore has been discovered this year 1,200 feet north, similar in size and quality. Ten men are engaged on this prospecting, waiting for railway facilities. Timber and water for mining purposes are somewhat scarce.

(a.) A waggon road has been built from the Landing, 23 miles, to the mine, at a cost of \$11,000, and in summer time a four-horse team will take down five to six tons of ore a day, and in winter six to eight tons, at a contract price of \$5 per ton, horses being changed at the stables, half-way between the mine and the river.

(b.) The steamer carried the ore to Jennings Landing at a contract price

of \$4 per ton.

(c.) The freight charges to the smelter at Great Falls, Montana, from Jennings was \$4.50 per ton, while the smelter of treatment charge was \$17 per ton for crude ore and \$15.50 for "carbonate" ore.

The cost of labour was the same as in the Slocan District.

OTHER CLAIMS.

Other claims in the immediate vicinity include the Sullivan Group, on Sullivan Hill, north of Mark Creek, near the North Star. On this group there are large surface showings of mineral, not only of solid lead ore, but of concentrating galena ore, for which purposes the very ample supply of water and waterpower of Mark Creek, 4,000 feet distant, will be easily available.

The Quantrelle, Utopia and Stonewall Jackson, Midnight, Deane and All-

Over, in the immediate vicinity, have all been more or less developed and disclose

ore bodies.

On the south side of Moyie Lake, 33 miles south-west of Fort Steele, reached by the Dewdney Trail, is an important group of claims extending south, up the mountain side from the lake, consisting of the St. Eugene, Peter, Loretta and Rose (the last two fractional claims). On the St. Eugene a very fine body of ore has been disclosed, similar in quality and extent to that in the North Star, and there are several thousand tons of ore on the dump waiting for shipment when the railway is put through.

The Moyie, Queen of the Hills, the' Lake Shore and other claims are in

the vicinity, and are awaiting railway communication for development.

On Tracy or Wasa Creeks several veins have been disclosed in the mountains of the Rockies, and also nearly as far south as the Boundary Line, on which work is progressing. GOLD PROPERTIES.

Considerable excitement was aroused by the discovery and location of several very large quartz ledges on the north side of Perry Creek and west of Saw Mill Creek, which flows into Perry Creek, a tributary of the St. Mary's River, and a stream much washed in the seventies for placer gold, two or three miles above which placer ground, or by roads and trails 25 to 30 miles westerly from Cranbrook, these quartz leads are now located. For five miles west and two miles east of Ellwood Creek, a small branch of Perry, the country has all been located along the course of three, if not more, quartz ledges which have proved to be auriferous, but to what value had not then been determined.

On the tributaries of the Wild Horse Creek, famous for the production in the past of its placers, many mineral locations have been made, on one of which, The ore is roasted in heaps at the the Dardanelles, mining was being done. mine, then rawhided down to a new arrastra near by an overshot wheel, the arrastra being 9 feet in diameter, 2 feet 4 inches deep, with 5 to 800 pound drags,

and equipped with three copper plates and blanket sluices.

An English Company, the Invicta Gold Mining (Placer) Co., Ltd., England, having secured about one mile along Wild Horse Creek, from which much gravel had been washed during the last thirty years, during the 1896 season began the installation, under the superintendence of Mr. J. W. R. Young, M.E., of a requisite plant, sluices, etc, for the hydraulicing of a large bank of gravel. About 70,000 cubic yards were moved, that yielded, according to the annual report of this company, 7 cents per yard.

The Nip-and-Tuck Gold Mining Company, a placer mining company of

Vancouver, has rights over the placer ground below the Invicta ground, on the There is a ditch about five miles long for the water south side of Wild Horse.

supply.

CRANBROOK.

Owing to the construction by the C.P.R. of the B.C. Southern Railway through Crow's Nest Pass, Cranbrook, which is finely situated, will become an important divisional railway point, and is the most central and suitable for smelting purposes, and smelting facilities are certain to be provided.

WINDERMERE, GOLDEN AND DONALD.

Some prespecting work was done during 1896; most of it on the Selkirks. but also some on the Rockies, and from the very fine samples of ore seen, and the

reports of the characteristics of the ledges, a large and rich section of the country is awaiting easier means of access and the transport of ore to smelting centres.

The Thunder Hill property, 1½ miles west of Upper Columbia Lake, was standing idle, the ore having proved unsuitable for concentrating, for which purpose a mill was erected on the lake, but recently this property has been tested for its gold values, but with what result is not known. The ledge is reported to be very large, and if it contains gold in paying quantity it should be thoroughly exploited.

BUGABOO CREEK.—Six miles west of the Spillimacheen Landing or Galena, Mr. F. W. Aylmer of Golden, was working the "Balrath" group of two claims, on which, crossing the slates and quartzites was a wide vein strike. N.W. and S.E. dip seventy degrees, about 16 feet wide, of which eleven feet were solid fine-grained opaque quartz, and five feet broken slate and quartz stringers. A cross-cut tunnel, 150 feet long, cuts the vein, where is nine feet of quartz, carrying about 20 per cent. iron pyrites. Mr. Aylmer has had assays of \$2.50 to \$36 in gold per ton. and if it proves to be profitable enough for milling, there is abundant and excellent water power right at the mine.

TOBY CREEK.—Prospecting was in progress in this country, now opened up by a trail, and veins 10 to 22 inches wide of silver-bearing galena were being located.

VERMONT CREEK.—From Well's Landing, 30 miles north of Golden, a sleigh road leads back 22 miles up the south fork of the Spillimacheen to Vermont Creek, where on the "Minnie," "Ruth" and "Charlotte," located in 1893, Capt. Armstrong had mined over 150 tons of galena ore, carrying zinc blende.

McMurdo District.—Some prospecting was being done, and assessment work, but nothing was doing on the "Bobbie Burns" and "International," gold quartz veins situated along branches of the Spillimacheen.

Some have waited long and patiently for the wave of mining interest to flow through this large territory, and it will not be long now before the hidden resources here will receive that careful examination they merit.

COAL FIELDS.

The coal fields of East Kootenay are without doubt among the most important on the North American continent. It is doubtful even if deposits to the same extent and of equal value exist elsewhere, and on account of their nearness to the mining regions and prospective railway facilities to be enjoyed, will be of Dr. Selwyn, late Director of the Geological immense economic importance. Survey, made an examination of the ground in 1891, and from his reports, which have subsequently been confirmed by other experts, the coal deposits are shown to be of extraordinary extent and value.

Speaking of the ridge which runs in a north-easterly direction between Martin Creek and Michel Creek, forming the west side of the valley of the west branch of Michel Creek, he says:

"From this ridge a number of spurs, with steep intervening gullies, descend abruptly to the trail; in these, and on the intervening ridges, a wonderful series of coal seams is disclosed, one above the other from near the level of the trail to the summit of the ridge. No exact measurements were taken, and it may be that some of the lower cannel seams are the upper ones, repeated by faulting. The out-crops which can be seen on the ground are as follows, twenty seams in all, showing a total thicknes of 132 feet of coal. * * * * * Elsewhere Dr. Selwyn says: "On the 5th August we descended the Elk River Valley about seven miles, then turning to the left ascended the mountain, a steep climb of Here on top of a broken-down cliff of massive sandstone, about 50 feet thick, we came to the first of a series of coal seams, the dip being E. 20, N. 35, and the seam 25 to 30 feet thick, with a shale parting about two feet, barometer Ascending 130 feet, over shales and brown thick bedded sandstone, forming a similar broken-down cliff of about 50 feet, a second seam of coal was rearched.

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Railway ome an r smeltalso 30 feet thick, barometer 24.80. Above this four seams were examined, averaging 14 feet in thickness * *

aging 14 feet in thickness. * * *

"Above No. 6 there are six more seams which were not visited, but the particulars of which, given to me by Mr. Fernie, are as follows, averaging six feet in thickness. * * *

"The above gives a total thickness of 148 feet of coal against 132 feet in Marten Creek area on the eastern side of the basin, while in other respects the seams correspond so closely as to make it almost certain that, except where cut out in the valleys, they are continuous beneath the whole intervening area. For much detailed information respecting the Crow's Nest Pass, the annual report of the Geological Survey, Volume I., Part B, 1885, already cited, and the accompanying map can be referred to.

"Many of the seams are first-class coking coals and others are good gas

coals, but none of them are anthracites.

"The few hours I was able to spend on the ground, while not sufficient to enable me to affirm the absolute correctness of the details of the table, were, however, ample to enable me to see that there is in the Crow's Nest Pass, between the eastern summit, 4,330 feet above tide, and the valley of Elk River, in British Columbia, an area of not less than 124 square miles, that is destined to be one of the most valuable and most productive coal fields in Canada. A rough calculation would give about 49,952,000 tons per square mile. If one-half of this is available, there are in each square mile 24,976,000 tons. The average elevation of the field is about the same as that of Canmore and Banff, or between 4,000 and 5,000 feet."

Analyses, which are too elaborate to be given here, show the coal in these

remarkable seams to be of excellent quality.

PETROLEUM DEPOSITS.

Dr. Selwyn's report on the petroleum deposits of the south-eastern section contains references to the numerous indications which he found in the field ex-

plored near the boundary. The following extracts will suffice:

"Cameron Falls Brook is a rapid mountain stream eight or ten yards wide. After following it up about a mile and a half on the left bank, I noticed a powerful odour of petroleum. Descending to the edge of the water and stirring the stones and gravel in the bed of the stream, considerable quantity of oil at once rose to the surface and floated aways. Crossing to the right bank, some inches above the then level of the stream, here, skimming off the surface of a shallow pool, a wine bottle full was soon collected. * *

"On the 24th we proceeded down the valley, and about four miles north of the 49th parallel the trail came down to the level of the brook, and here, on the edge of a beaver dam pool, there were ledges of dark blue snale dipping E. 30 degrees, N. 12 degrees. Lifting layers of this at and below the water, a quantity of dark green circular parches of oil rose to the surface, and a precisely similar result followed by stirring up the mud in the bottom of the pool. * * *

"The beaver dam oil is of a dark greenish-black, and does not apparently

differ much from that of Cameron Falls Creek.

"Directly the layers of this rock are raised, the oil rises and spreads over the surface of the water in such abundance that a short time suffices, with the aid of a tin cup, to collect a bettle full. Here (12 miles farther up) also a considerable quantity of gas escapes from the cracks and joints in the rocks, and ignites freely on the application of a match.

on the application of a match.

"Less than half a mile higher up, on the right bank and on the opposite or west side of the valley, oil was again found issuing from the base of the bank or drift. No rock was exposed here, but every stone in the bed of the creek, especially on being broken or rubbed, gave out a strong odour of petroleum."

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No experiments have been made to test the quantity of the oil, owing to the heretofore inaccessibility of the locality, but the oil fields will now be thoroughly prospected.

KOOTENAY AND BIG BEND.

HE Kootanie region, including under that general term the somewhat distinctly separated Big Bend country, extends from the International Boundary north-westerly to the Great Bend of the Columbia, with a length of 246 miles: It is, for purposes of description, also regarded as including the adjacent western slopes of the Rocky Mountains proper. Wild Horse, Perry, French, McCullough and Carnes Creeks may be mentioned as the most productive, though there are also many less noted localities, and a great number of streams which have as yet been little, if at all prospected, though favourable in appearance. The mines of Wild Horse Creek have proved the richest in this region, though confined to about two miles in length along the valley of that stream. They were developed early in the history of gold-mining, and have ever since produced a considerable annual yield. Nearly all the other streams which enter the Columbia-Kootanie Valley are known to hold more or less gold, and river bars have been successfully worked along the Columbia and in places on the Kootanie. The discovery within the past few years of paying ground on Porcupine, Cañon and Quartz Creeks, shows that the possibilities of this region for placer work are as yet by no means exhausted, and the resumption of work on Carnes, French and McCullough Creeks, since the opening up of the country by the railway, bears similar evidence.

With the exception of some considerable tracts of fertile and partly open country along the lower valleys, the greater part of this region is extremely mountainous. It is generally well wooded, often bearing fine timber, but it is penetrated with difficulty, and much yet remains to be done in the way of prospecting before it can be considered to have been even fairly run over in search of placer mines. There is good evidence, in several places, of the existence of rich, deep ground in the valleys of creeks partly worked in former years, and some attention is also being paid to the initiation of hydraulic work on a considerable scale. The climate in the lower valleys enables a prolonged working season to be obtained on the placers.—Mineral Wealth of British Columbia, Dawson, 1888.

NORTH KOOTENAY.

Under this head is included the Revelstoke, Lardeau, Illecillewaet and Trout Lake mining divisions, in the North Riding of West Kootenay. All of this section of country, which is very rugged and mountainous, is highly mineralized and has been widely prospected. Owing, however, to its physical character and the difficulty of providing adequate facilities of communication none of the many claims recorded and partially developed have attained to the dignity of being mines, and consequently it is not easy, without going into endless details of particular claims to give a good general idea of the mining characteristics, because the district has not been minutely surveyed geologically and there are no representative mines to establish what will ultimately constitute its distinctive conditions.

It may be stated generally that there are many claims recorded, upon which assessment work has been done aggregating large amounts, throughout the entire

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district, and the samples of ore and individual assays of high average reported are multitudinous. It may thus be concluded that the indications are in every instance hopeful of ultimate success; but in mining, of all industries, it may be said that only systematic and extensive development considered in connection with all the necessary conditions can demontsrate the value of ores and ore bodies and this district has not yet reached that stage.

REVELSTOKE DIVISION.

Of this division little can be said definitely in addition to what has been stated in the foregoing. The principal claims are on McCulloch Creek, Camp Creek, Goldstream, Columbia River, Smith Creek, French Creek, Downie Creek, Carnes Creek, Jordan Creek, and a tew in the vicinity of Revelstoke. In the northern part, about the Big Bend of the Columbia River, a good deal of prospecting has been done, mostly in gold-bearing veins.

LARDEAU DIVISION.

In the Lardeau division the surface indications show gold, silver, copper and lead, and the prospects are regarded as good. Some work has been done on the creeks running into Fish Creek. Numbers of claims have been recorded on Sable, Boyd, Pool and Lexington Creeks, most of which give high assays, with a largel body of ore exposed in some of them.

TROUT LAKE.

Trout Lake is the chief mining district north of the Slocan and a great deal of prospecting has been done, with the discovery of silver-lead veins above the timber line. The valleys are steep, densely timbered and difficult of access, but

not more so than in the Slocan.

Near Ferguson the Lillooet, Fraser River and Cariboo Gold Fields Company is opening up the Silver Cup, on which the prospects of success are excellent, but the company has stopped work on the Broadview, where such large ore bodies were reported, but found not to exist. The Silver Cup is a small vein of high grade silver-lead, with gray copper ore. A number of properties is being opened up. There are numerous claims in this district, many of them bonded.

ILLECILLEWAET.

In this district also there have been much prospecting, many records and some rich showings of ore. The principal work in this division has been done on the Lanark, which was reported to have had a large amount of shipping ore in sight. An aerial tramway and a concentrator were hurriedly erected, and the ore mined out without prosecuting search for more, with the result that the ore in sight, which was less than reported, has been extracted and the mill closed down pending the result of development, which should have preceded milling. Very complete and commodious buildings have been erected.

Apart from the Lanark there is no work going on in the district of any

consequence.

At Downie Creek the Grant-Govan Syndicate claim to possess a very rich property in the Waverley, which is still, however, a prospect, but one which has been declared by those who have seen it, to be a good one. There has not been sufficient development to predict the output promised. A waggon road, twentysix miles long, has been built from the railroad, but it will require high grade ore to stand the cost of transport,

Speaking generally of the West Kootenay district, too much has been claimed for individual prospects, the value of which, as stated in the foregoing, can only be determined by systematic development. As a rule, too, prospectors hold their claims at too high a price, which seems to be the general complaint of

those who have examined them with a view to purchase.

KAMLOOPS AND VERNON.

DURING the present year a good deal of excitement took place in the vicinity of Coal Hill near Kamloops, and there was a stampede of prospectors and numerous claims recorded. The copper prospects though good are small as yet. Mr. Cobbledick, who is largely interested there, is doing good work. Some iron from the Glen Mine is being shipped to the Tacoma smelter for fluxing.

At Varnon considerable work on quartz ledges has been done, but sufficient has not yet been determined as to their value to enable any decided opinion being formed.

SIMILKAMEEN, ROCK CREEK AND OKANAGAN.

The Similkameen, Rock Creek and Okanagan region includes some of the first discoveries of gold in British Columbia, and has never since been entirely abandoned, though the amount of work carried on has fluctuated from year to year. This region stretches across the interior of the Province, and includes on one side streams rising in the inner flanks of the Coast Ranges; on the other, valleys which penetrate the western edge of the elevation of the Gold Ranges. The physical characteristics met with in this wide stretch of country are very varied, including mountains and plateau country with extensive wooded tracts penetrated with difficulty, but also some of the lowest, warmest and most arid valleys of the Province, like that of the Similkameen itself. The most notable portions of the region in respect to the occurrence of "coarse" gold, of evidently local origin, are Granite Creek and Tulameen. Rock Creek and vicinity, Cherry Creek and Mission Creek. Elsewhere the gold is generally "fine," and is chiefly obtained from river-bars and flats, or from low benches. The most interesting features in the region are, the late resumption of gold mining on a somewhat extensive scale on the Tulameen, the recent discovery (in 1885) of rich deposits of "coarse" gold on Granite Creek, an inconspicuous stream, passed by hundreds of prospectors in early years; the transference of attention from the more or less completely exhausted placers of Rock Creek and Cherry Creek to the development of veins containing the precious metals, in the same vicinity, and the occurrence in very considerable quantities throughout the Similkameen district of platinum, alloyed with other related metals. It may be added here, that no part of this region is now so remote from means of communication as to cause serious difficulty in the development of any really rich metalliferous deposits; and the adoption, where circumstances warrant, of improved methods of placer-mining on a large scale.-Mineral Wealth of British Columbia, Dawson, 1888.

MOUNT SICKER.

One of the newly discovered districts of the Province which has attracted some attention and afforded indication of promise is that of Mount Sicker, south of Chemainus Island, three miles from the E. & N. Railway station at Westholme, Vancouver Island. On the west side of the mountain are several very large leads of milk-white quartz on which, however, little or nothing has been done. Prospectors have confined their work to small copper-bearing quartz veins in the schists, but on the Lenora claim is a much larger body of copper ore carrying some gold and silver, now being opened up. The formation is mostly eruptive rock and schists. A trail six miles long leads to this camp.

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OMINECA.

MINECA District was first entered about 1864, but scarcely developed till This district is situated near the 56th parallel of latitude and is in the drainage-basin of Peace River. The area within which the greater part of the mining has taken place is scarcely more than fifty miles in greatest diameter, and includes the upper portions of Germansen, Omineca and Manson Rivers and their tributaries. This area is described as being hilly rather than mountainous, and is nearly everywhere covered by the dense northern forest. A very high opinion was at first formed by miners of the Omineca district, but when the Cassiar discoveries occurred, it was nearly abandoned. * * * This district is practically the most remote and inaccessible in the Province, the cost of supplies has always been excessive, and the difficulties in the way of enterprise in the form of exploration thus far very great. A wide area of promising country in this region, therefore, remains untried. The head-waters of Finlay River have always been considered particularly promising, from the fact that good "prospects" of fine gold are found in all the river-bars, some of which have paid well for work on them. The sources of the Nation River have also been favourably spoken of, and the Misinchinca and other tributaries of the Parsnip, present all the appearance of gold-bearing streams, but so far as I know have never been The "fine" gold which is found and has been mined along the whole upper portion of the Peace River, has doubtless been carried through the mountains by that stream, and is derived from the wide belt of dark, shaly and schistose rocks which run along the western flanks of the Rocky Mountains in this portion

Considerable quantities of arquerite, a silver amalgam containing about eleven per cent. of mercury, have been found of the gold in scales and nuggets in Omineca, practically upon Vital and Silver Creeks. This metal is commonly referred to by the miners as "silver," with which its appearance is identical. Very promising deposits of highly argentiferous galena have been found in the vicinity of the placer mines in Omineca, but no attempt has so far been made to work them.

The miners reached Omineca by two principal routes, viz., with pack-animals, by trail from Quesnelle via Stuart Lake, and on foot across the Babine and Fire-pan Mountains from the Forks of the Skeena, the Forks being attained in the first place by ascending the Skeena from the coast in canoes.—The Mineral Wealth of British Columbia, Dawson, 1888.

Mining in Omineca has continued in a small way ever since the outset, a few miners remaining in the country after the first excitement subsided, and small quantities of gold have been taken out annually. It is difficult to ascertain approximately the amount of gold extracted, but it probably does not exceed \$1,000,000, which may be considered an outside estimate, taken almost entirely from creek bottoms.

Recently, however, a good deal of attention has been paid to the district as a prospective large producer by hydraulic methods, and several large companies have been organized and have secured a number of claims. The Omineca Consolidated Hydraulic Mining, Co., Ltd., Victoria, is one of these, having a capital of \$100,000, and commenced operations in 1886 on Manson and Slate Creeks. This company was formed for the purpose of purchasing and operating nine placer claims of 80 acres each, 4,800 inches of water, situated on Manson, Black Jack Gulch and Lost Creeks, from which in the early seventies large pay was taken.

FAIRVIEW, B. C.



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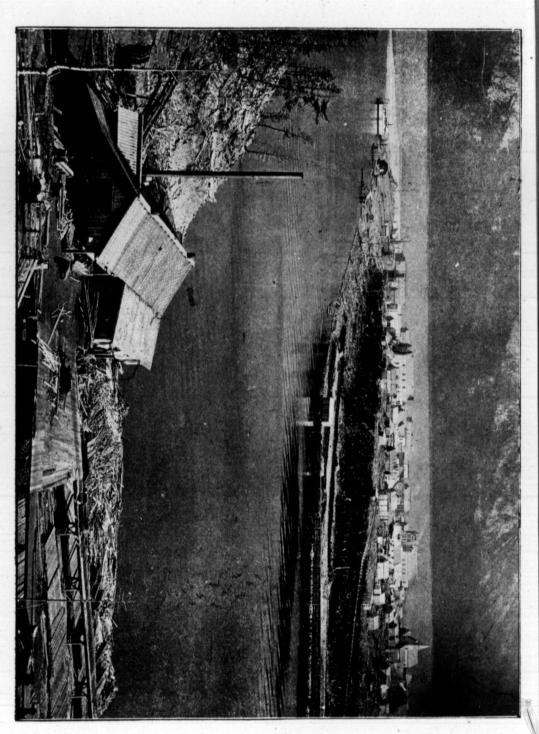
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The Caledonia General Mining Association, Victoria, with a capital of \$1,500,000, has purchased 640 acres of placer ground in Germansen Creek, and is taking in supplies and machinery.

An Ottawa company, the 43rd Mining & Milling Co., has acquired seven claims on Manson and Slate Creeks and is erecting a saw mill and taking in machinery. Timber is plentiful in places. Capt. Black, C.E., is manager.

All of these companies anticipate large returns. At present the district suffers for lack of communication and the facilities for taking in supplies, and especially heavy machinery, are limited. At present it costs about 17 cents per tb. from Victoria for taking in supplies. However, this condition of affairs is likely to be speedily altered, on account of the attention being paid to the Northern Districts generally, and the prospects of improved communication by means of roads and a railway are most favourable.

CASSIAR.

THE Cassiar District includes the most northern region of gold-mining in British Columbia, and some of the creeks which have been worked lie to the north of the 60th parallel, or northern boundary of the Province. Dease Lake, latitude 50° 30', longitude 130° may be considered as the central point of the district. This lake is the source of the river of the same name, which is a tributary of the Liard, itself a branch of the Mackenzie. Gold had already been found and worked on the river-bars of the Stikine for eleven years, when

Chief Localities of Mining.

Thibert and McCullough, coming from the East, reached and discovered the richer deposits of the Liard drainage-basin in 1872. The miners, who soon flocked into the district, came by the way of the Stikine River, thouh a route for cattle and pack animals was also opened overland from Fraser Lake. Dease, Thibert and McDame Creeks and their tributaries have proved the richest, and a large quantity of gold has been obtained from them; though the yeild has, of late years, become comparatively inconsiderable. The region presenting identical or analogous characters with that portion of it which has proved to contain these rich deposits, is very extensive, and much the same marks which have been made in regard to the explocation of the Omineca District apply here also, though the cost of living in SCassiar has usually been somewhat more moderate. The country is generally wooded and mountainous, and

difficult to traverse, but a waggon road or even a railway, might without difficulty be constructed from the head of navigation on the Stikine to Dease Lake, and this will no doubt eventually be accomplished, as discoveries of veins containing the precious metals are confidently to be anticipated. Argentiferous galena has already been found, and the rough, unworn character of the gold on some of thee reeks leads to the belief that its source might be ascertained without great difficulty. "Coarse" gold is found locally on that part of the Stikine above Telegraph Creek, and the circumstances appear to indicate the existence there of an old channel, above the present

river-bed, but covered by massive flows of basalt of Tertiary age.

Difficulty has been encountered in this district from permanently frozen soil met with in mining, but when once the covering of forest and moss has been cleared off by fire these disappeared.—Mineral Wealth of British Columbia, Dawson.

The gold yield of the Cassiar District, from the commencement of mining to the present date, is about \$5,000,000.

HARRISON LAKE DISTRICT.

HARRISON LAKE District, as it is erroneously called, comprises a portion of both Yale and New Westminster Districts, and extends from the southern end of Harrison Lake to the Fire Mountain country, some fifteen miles inland from the northwestern end of the lake.

The country rock at the southern end of Harrison Lake consists principally of ferruginous slates, often containing highly mineralized quartz seams, syenite, and some diorite, and, strange to say, in nearly every case these slates show

a fair assay value in gold. In a belt of volcanic rock lying southeast of the lake some four miles away are found deposits of copper pyrites, carrying with a good percentage of copper, some silver

values. The development work in this portion of the district has been hardly sufficient to prove the existence of ore in paying quantities—though indications are,

however, very promising.

In the early sixties there was quite an excitement on Harrison Lake, caused by the discovery of silver ore south of Silver Creek about midway up the lake, and a Victoria company expended several thousand dollars in running a number of tunnels at the point of discovery. As these tunnels, three in number, were put in quite close to each other and were cross-cutting the same formation—shale—it is hard to understand why more than one was driven. After a lapse of nearly forty years, however, a Vancouver man has re-located this property and claims that he has had very fair assays from the rock. In any case he has the good fortune to find a developed prospect if not a mine.

At Silver Creek and vicinity, several local companies are developing some very promising properties, but so far on this, the east side of the lake, there are at

present no shipping mines.

The formation at and above Silver Creek, while similar in many respects to that south of it, gradually changes into the serpentine formation, with the same belts of slate traversing the country. From this ore there is a far greater percentage of copper in the veins discovered. Silver Creek is over thirty miles long and runs through a most promising mineral country, while gold is to be found in the benches and bars near the creek. The country,however, is here rough and precipitous.

Crossing the lake above Silver Creek and about twenty-eight miles above the hot springs, we find the Providence mine from which such high assays and smelting tests have come. The surface showings of this property have been most favourable. So far the development work has proved that there seems to be lots of ore similar in character and value to that first discovered,

but whether in a regular vein—hardened deposit of glacial mud, carrying values, or the existence of a number of veins running parallel with the mountain—is, at this writing, I fancy, an unsolved question. I am, however, inclined to think from what little I have seen of this property, that several veins will be found. There seems to be an abundance of ore which is largely a matrix of calcide, and would probably yield greater profits to the

owners if it is found to be a good concentrating proposition.

Near the Providence mine the lake, which has been running in a northerly direction, takes a turn to the west and by this change in its course appears befter to cut the different formations, an advantage which seems to be appreciated, judging by the many locations to be found between this point and the townsite of Tipella at the head of the lake. These locations are of too recent date for any

positive determination of their value.

From Tipella townsite at the head of Harrison Lake to the already famous Fire Mountain mines is fifteen miles. A capital pack trail has been built between

these points by the Fire Mountain Gold Mining Company, which also owns the townsite of Tipella. This Company is now engaged in the transportation of a complete mill to their mines, on which they are working night and day. On this Company's property is a strong fissure vein averaging from four to five feet in width, which is a free milling proposition of high value with the exception of some twelve inches of high grade copper pyrites and is to be concentrated in the frue vanners included in the mill.

In no part of this Province no greater or more favourable indications of a future great mining country can be found than on Fire Mountain. This mountain appears to be an intrusion of volcanic rocks (trachyte and porphyry) between the granite and the great slate belt of this upper country gold in a quartz matrix, either free or in combination with azurite and bornite, often as telluride of gold, can be found on all sides. Some of the ledges are very strong and large, others appearing on the surface as small stringers, quickly developing into large and strong veins, easily traced for thousands of feet—a second Cripple Creek Camp, if not a better one. On the old Cariboo Road from Ft. Douglas to Lillooet Lake many valuable discoveries have been made within the last year and while principally a copper country with high values in gold and silver in the sulphurets, some very good galena propositions have been located. Silver sulphides are also present.

The benches on the banks of the Lillooet River offer to the placer and hydraulic miner a fine field, the gravel being rich in gold, with few large boulders. The gold is, however, very fine.

The Indians in the different settlements on this route all own a few sluice boxes and on approach of hard times do a little placer mining. If they, in their desultory way, can make it pay, the more earnest white miner would reap a very good harvest out of these golden sands.

JOHN R. BROWN.

NEW WESTMINSTER DISTRICT.

MR. D. ROBSON, Government Agent and Mining Recorder at New Westminster, writes as follows, under date of June 5th, 1897: "Referring to your letter of the 29th May asking for information respecting the mines in this district for publication in the Year Book, I have to say that there has been so little development work done on any of these mineral claims that it would be impossible to furnish any reliable information as to their value. Nearly all these claims have been located and recorded within the past twelve months and the great majority of them have not been developed at all. Apparently authentic reports of assays of some of the claims in this district have been from time to

time published, showing assays as high as \$1,400 to the ton (from Fire Mountain region), but one could not vouch for these assays without personal cognizance of the facts. I am under the impression that many of the mines in this district will prove valuable, and shall not be surprised if some of them turn out remarkably rich; but I could not undertake to give even approximate figures with respect thereto for publication in an official publication. There are now recorded in this district about 2,400 claims. The situation of these you will find generally stated in the last report of the Minister of Mines under the Victoria Mining District. Lately a great many locations have been made in the region of Fire Lake, Fire Mountain, Red Lake, and north of Harrison Lake generally, and there are a large number of prospectors up there now locating new claims. I am sorry that I have not more definite information respecting these mines, because I fully realize the importance of having the mining in-

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terests of this district fairly set out in the Year Book. There is every reason to expect that before the end of the year such dvelopment will have been made as to enable one to procure reliable statistical information, and I am hopeful that then it will be shown that the mineral wealth of this district is not much, if any, less important, than that of any other district in the country."

important, than that of any other district in the country."

W. Pellew Harvey, Esq., F.C.S., Mining Engineer, Assayer, etc., Vancouver, in response to a request for information respecting the mineral indications of Westminster District, Texada, Phillips' Arm and the West Coast, replied:—

"I am unable to send you the particulars you wish. The fact is so little development has taken place at the places named that a casual reference is all one could make. At the same time I have a very good opinion as to the future of some of the points you name."

NANAIMO DISTRICT.

MR. MARSHALL BRAY, Gold Commissioner, Nanaimo, sends the following list of locations made in his district, which is a fair indication of the activity prevailing, from the 1st of January, 1897, to the 31st of May, 1897:—

	Reco	rds.
Texada Island		247
Cameron District		15
Dunsmuir District		35
Wellington, Nanoose and Douglas Districts		57
Stewart and Thurlow Islands		40
Lasqueti Islands		32
Cortez and Valdez Islands		42
Hardwicke, Dent, Pearse, Read Rendezvous and		
Islands		160
Sechert, Jervis, Twin, Jeddidiah, Channe, Minstrel, Kloo	tise	15
Cracroft		21
Johnstone Strait, V.I		2
Nelson District		16
Total		538

MINERALS IN THE E. & N. RY. BELT.

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Regarding the mineral rights in the E. & N. Railway belt, concerning which there has been a good deal of local political discussion, the following official notice, published by the Land Commissioner of the E. & N. Railway Company will

indicate the terms upon which these may be obtained::-

"To prospectors, miners, and holders of mineral claims on unoccupied land within the Esquimalt & Nanaimo Railway Company land grant for one year only from the date of this notice, the Railway Company will sell their rights to all minerals (excepting coal and iron) and the surface rights of mineral claims, at the price of \$5.00 per acre. Such sales will be subject to all other reservations contained in conveyances from the Company prior to this date. One-half of the purchase money to be paid ten days after recording the claim with the Government, and a duplicate of the record to be filed in the Company's Land Office, Victoria, on payment of the first instalment. The balance of the purchase money to be paid in two equal instalments, at the expiration of six and twelve months, without interest. Present holders of mineral claims who have not previously made other arrangements with the Company for acquiring surface and mineral rights, are hereby notified to at once make the first payment on their claims, as otherwise they will be deemed and treated as trespassers."

COAL BEARING AREAS.

In British Columbia the formations containing coals and lignites are the cretaceous and the tertiary. Rocks of cretaceous age are developed over a considerable area often in great thickness, and fuels occur in them in important quantities in two distinct stages, of which the lower and older include the coal measures of Queen Charlotte Islands and those of Quatsino Sound on Vancouver Island, with those of Crow's Nest Pass in the Rocky Mountains; the upper coal measures of Nanaimo and Comox, and probably also those of Suquash and other localities. The lower rocks hold both anthracite and bituminous coal in Queen Charlotte Islands, but elsewhere contain bituminous coal only. The fuels of the testiary rocks are generally and the stages.

cite and bituminous coal in Queen Charlotte Islands, but elsewhere contain bituminous coal only. The fuels of the tertiary rocks are generally speaking lignites. Coal is found in large quantities at points widely apart. The most northern cretaceous coal field is that of Queen Charlotte Island which extends over parts of Graham and Moresby Islands, on both sides of Skidegate Inlet. At Cowgitz in Skidegate Inlet, the coal seams are anthracite in character, though somewhat broken. The best seam found has a maximum thickness of over six feet and in composition compares favourably with the coals of Pennsylvania. There are also coal areas on the Ya-Koun River between Skidedate and the head of Massett Inlet.

A considerable area of cretaceous coal-bearing rocks exists in the northern part of Vancouver Island. These are at Forward Inlet, Kokrino and Koskeemo on the northeast coast of the Island. At Koskeemo the total length of the cretaceous area is about seven miles and its approximate area is 5,630 acres. At Kokrino it extends along Quatsino Sound for seven or eight miles and has conconsiderable wealth. The Suquash area extends along the northeast coast of Vancouver Island from Port McNeill to Beaver Harbour, a distance of fourteen miles. The Comox and Nanaimo coal fields are, however, the most important in the Province. The cretaceous rocks constituting these form a belt of comparatively low rolling or hilly country between the mountainous region of the Interior and the Coast reaching to within about eighteen miles of Victoria southwestward and to the vicinity of Cape Mudge in the opposite direction, with a length on the shore of about 130 miles.

The Comox measures are probably greater in extent and the coals somewhat superior to those of Nanaimo. The former is estimated at 300 square miles and the latter at 200 square miles. From both of these, especially the latter, large quantities of coal have been extracted.

Reference has already been made to the vast valuable deposits of coal which exist in Crow's Nest Pass and which economically will be a very important factor in the development of the mining interior. Coal-bearing formations have also been found on the Upper Skeena, in the Peace River country, in the Westminster District, in the Nicola Valley, near Kamloops, and on the North Thompson. None of the latter have been extensively prospected, but the indications are in each case promising and would probably

prospected, but the indications are in each case promising, and would probably justify exploratory work being carried on sufficient to determine the value of the deposits.

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BUREAU OF MINES.

F OR facilitating the acquirement of an accurate knowledge of the mining industry, for assisting in the work of development, and as a means of disseminating reliable information with respect to the mineral resources of the country provision was made for the organization of a Bureau of Mines by the passing of the "Bureau of Mines Act, 1895," and in accordance therewith W. A. Carlyle, Esq., Ma. E., was appointed Provincial Mineralogist, and work began in January, 1896. Mr. Herbert Carmichael, Provincial Assayer and Chemist, was retained as an associate, and pending the removal of the office and appurtenances to permanent quarters, the preliminaries were vigorously entered upon and a system established, which is being developed towards a complete and comprehensive Bureau, by which it is proposed to:-

(a.) Ascertain the name and progress of every mine or mining company, keeping a comprehensive directory of their locality, ownership, kind of ore mined and conditions of property.

(b.) To visit and examine, from time to time, the different mining districts, and to issue reports to the Hon. the Minister of Mines, descriptive of them, and their progress in mining affairs.

(c.) To collect full and accurate statistics of the mine, output, number of men employed, etc.

(d.) To maintain a laboratory for assay and chemical analysis, for which will be charged the customary fees, and to determine, free of cost, specimens of rock, mineral or ore that may be sent in; and give all possible information concerning the occurrence or probable commercial value of such, with hints concerning the best mode of treatment, etc., etc.

(e.) To maintain student laboratories, for instruction in assaying, blow-piping, mineral-

ogy, geology, etc., etc.

(f.) To assemble and systematically arrange in a public museum, specimens of mineral, ore, country rock, building and other economical mineral materials from the mines; and also, for

comparative study, specimens of the same from other mining countries, models, maps, etc.

(g.) To assemble, for the use of the Bureau and also the public, a library of the best reference books and papers relating to the art and industry of mining and metallurgy, mining magazines, reports, tables of statistics, etc.

(h.) To establish and equip a plant for testing, metallurgically; the different kinds of ore, coal, coke, etc., etc.

A series of lectures was given by Mr. Carlyle and staff, and it is announced that several valuable monographs on subjects of practical mining are being prepared in conjunction with the Bureau for the use of miners and metallurgists in British Columbia.

Since the organization of the Bureau four important reports have been

issued, as follows:-

Bulletin No. 1.—On the Alberni Mining District;

Bulletin No. 2.—On the Trail Creek District, which includes the celebrated Rossland Mining Camp

Bulletin No. 3.—On the Slocan, Nelson, and Ainsworth Districts;

Minister of Mines' Report, 1896, which, in addition to matters of a general

character, includes the former three.

The Bulletins in question were the result of personal visits of the Provinciai Mineralogist, who, as far as possible in the time at his disposal, made himself familiar with the general conditions of the districts in question, and the actual development which had taken place up to that time. He also visited East Kootenay, a district of rich promise. His observations on the latter are included in the Annual Report just referred to. These reports have been of the most satisfactory character, and were everywhere received with favour.

The foundation of an excellent library of purely mining interest has been laid by the purchase of standard works and reports and the leading mining and

scientific periodicals.

A comprehensive system of obtaining mining statistics has been incorporated, with excellent results so far.

One of the features of the Bureau when fully in order will be a large and

representative collection of minerals.

The Assay Office, in charge of Mr. Carmichael, will be thoroughly equipped with the best appliances. The following are the fees charged:—

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Gold and silver\$1 50	Zinc\$5 00	
Lead I 50	Nickel, qualitative assay 5 00	
Copper 3 00	Nickel, quantitative assay10 00	
Iron 3 00	Cobalt, qualitative assay 5 00	
Mercury 5 00	Cobalt, quantitative assay10 00	b
Tin 5 00	Chromium, qualitative assay 5 00	ĺ
Antimony 5 00	Chromium, quantitative assay10 00	

INSPECTION OF METALLIFEROUS MINES ACT, 1897.

THIS Act was passed May 8th, 1897, and provides for the safety and health of men engaged in mines (other than coal mines) in this Province by the appointment of an Inspector by the Lieutenant-Governor-in-Council. The said Inspector shall be a man of at least seven years' practical experience in mining. He shall not act as manager, agent or lessee for any mining or other corporation during the term of his office, but shall give his whole time and attention to the duties of the office to which he has been appointed; neither shall he make a report on any mine or mining property for any person interested in mines. of Mines shall at such times as he may deem necessary instruct the Inspector to report on the safety and working of mines in general or into the cause of any accident pertaining thereto, and in case of differences arising between owners or agents of mines and the Inspector, the former may appeal to the Minister of Mines. The Inspector must be admitted to mines on presentation of his certificate of appointment. This Act prohibits the employment of women, girls, Chinese and Japanese underground and boys under twelve years of age; and no boy under sixteen shall be employed underground for more than fifty-four hours in any one week, or more than ten hours in any one day. Persons in charge of machinery must be eighteen years of age, but in no case Chinese or Japanese. Owners shall send to the Bureau of Mines in Victoria by the 15th of January in each year a correct return of the workings of the mine for the preceding year, and the number of persons employed. Notice of accidents in mines, or subsequent death caused by such accidents must be sent to the Inspector within twentyfour hours after accident or death. Abandoned mines must be fenced round op and plan of such sent to the Minister of Mines. Plans of workings must be kept at the office of the mines and submitted to Inspector for examination on his request.

MINING ASSOCIATIONS.

Town.	PRESIDENT.	SECRETARY.
Boundary Creek Mining Association Anaconda Commercial Club Fort Steele Mining Association Kamloops' Mining Association Rossland Stock Exchange	T. Hardy. Thos. T. McVittie W. F. Wood.	C. W. N. Sansom. J. N. Miller. C. F. Vanosta. J. S. Bennet. Ernest Kennedy.

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GOLD COMMISSIONERS AND MINING RECORDERS.

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Mining Divisions.	Name of Recorder.	Address.	Name of Gold Commissioner,	Address.
Cassiar, etc.— Stikinę Liard McDame Laketon	James Porter	Laketon, B.C	James Porter	Laketon, B.C.
Skeena	John Flewin	Port Simpson	W. S. Gore	Victoria, B.C.
CARIBOO— Omineca Richfield Quesnelle		Manson Creek Barkerville Quesnelle Forks	W. S. Gore	Victoria, B.C. Barkerville, B.C.
VICTORIA	. W. S. Gore	Victoria, B.C	W. S. Gore	Victoria, B.C.
YALE— Kamloops Yale. Similkameen Vernon Osoyoos Ketile River	Wm. Dodd H. Hunter L. Norris	Kamloops	G.C. Tunstall	
GRAND FORKS	S. R. Almond	Grand Forks		
EAST KOOTENAY— Donald	G. Goldie C. M. Edwards	Donald	J. E. Griffith J. F. Armstrong.	
WEST KOOTENAY— Revelstoke Illecillewaet Lardeau Trout Lake. Slocan Ainsworth Nelson	J. D. Graham R. J. Scott C. Menhinnick T. Taylor A. Sproat John Keen	Revelstoke	J. D. Graham	B.C. Revelstoke, B.C.
Trail Cieek Goat River Arrow Lake Slocan City	J. Kirkup J. C. Rykert F. G. Fauquier	Rossland. Rykert's Nakusp Slocan City.	O. G. Dennis	Nelson, B.C.
NANAIMO	M. Bray	Nanaimo	M. Bray	Nanaimo, B.C.
ALBERNI	Thos. Fletcher	Alberni	Thos. Fletcher	Alberni, B.C.
CLINTON	F. Soues	Clinton	F. Soues	Clinton, B.C.
LILLOOET	C. A. Phair	Lillooet	F. Soues	Clinton, B.C.
NEW WESTMINSTER	D. Robson	New Westminster.	W. S. Gore	Victoria, B.C.

TEXADA ISLAND.

On the east of this island the Van Anda mine is now being slowly developed, and shipments of gold-silver-copper ore, averaging \$40 per ton by report, are now being made to Swansea, the copper being in the form of bornite, or "peacock" copper ore. To the south of this, at the Raven, a deposit of chalcopyrite and pyrrhotite is being prospected, while inland near Kirk Lake and on the west shore gold-bearing quartz veins, at present small in size, and some copper deposits, are being tested. A deposit of iron ore is also being mined on a small scale for flux for smelters. In the past a large amount of money has been spent in exploratory work; mostly by inexperienced men, and hence very wastefully; but more careful work is now in progress to prove up many of the claims that have been located during the past year.

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MINING STATISTICS TO DATE.

EFERENCE has been made to the conditions governing the production of minerals in British Columbia from the outset to the present time. The statistics given here, taken from the report of the Minister of Mines, illustrate these more forcibly than can be done otherwise, and show at a glance the rapid rise and steady decline of the old-fashioned placer, mining, and the result of the recent awakening in another direction-the development just recently of lode mining. With the introduction of improved hydraulicing meth-Conditions ods we may expect to see the returns from placer deposits, which Illustrated. an upward turn again in 1894, steadily, if indeed they do not rapidly, increase from now onward. In former years the statistics of gold production, though probably approximately correct, were obtained by indirect methods which for the earlier years were somewhat imperfect, but by the systematic efforts of the Bureau of Mines recently organized returns have been made as complete as possible and henceforth will afford an exact record.

The tables given here are taken en bloc from the report of the Minister of Mines for 1896, and are consequently authentic and as complete as can be given:—

TABLE I.

TOTAL PRODUCTION FOR ALL VEARS

TOTAL TRODUC	MOIL	FUR A	LLL YEARS.
Gold, placer			.\$57,704,855
Gold, lode			. 2,177,869
Silver			. 4,028,224
Lead			. 1,606,427
Copper			. 254,802
Coal and Coke.			. 33,934,427
Building stone,			
Other metals			. 25,000

TABLE II.

PRODUCTION FOR EACH YEAR FROM 1890 TO 1896 (INCLUSIVE).

Year. 1890												Amount. \$2,608,608
1891	 											3,546,702
1892	 . ,											3,017,971
1893				,								3,588,413
1894	 											4,225,717
1895	 								٠			5,655,302
1896	 											7,146,425

\$100,931,604

With 1890 practically begins the new era of mining in the Province, and future comparisons will naturally be based on the output of that year. The report adds: "The increase for 1891 over 1890 being due to the larger export of coal,

the output of which for that year of 1,000,000 tons, being the largest ever reached by our colleries. In the year 1892 the influence of the production of the lode mines began to be felt, and since then the very marked increase in production has been carried on by the quickly growing value of the gold, silver, lead and copper produced."

TABLE III.

Amount and Value of Materials Produced 1895 and 1896.

	Customary	189	95.	1896.		
	Measures.	Quantity.	Value.	Quantity.	Value.	
Gold, placer quartz Silver Copper Lead Coal Coke Other material		24,084 39,264 1,496,522 952,840 16,475,464 939,654 452	\$ 481,683 785,271 977,229 47,642 532,255 2,818,962 2,260 10,000	27,201 62,259 3,135,343 3,818,556 24,199,977 846,235 615	\$ 544,026 1,244,186 2,100,686 190,926 721,386 2,327,14 3,073 15,000	
			\$5,655,302		\$7,146,42	

It has as yet been impossible to collect statistics concerning the amount of building stone, brick, lime, fire-clay, tiles, etc., hence these tables do not contain any particulars this year about the mining of the economic materials which, of course, should be here included.

TABLE IV.

PRODUCTION OF METALS PER DISTRICT.

	Divis	ions.	DISTRICTS.			
Name,	1895.	1896.	1895.	1896.		
CARIBOO	\$ 81,000 40,700 18,200	\$ 82,900 53,000 51,100	\$ 282,400	\$ 384,050		
Keithley Creek CASSIAR KOOTENAY, EAST KOOTENAY, WEST. Ainsworth Division Nelson Slocan Trail Creek Other parts	388,944 63,608 1,057,677 702,457 10,520	197,050 189,589 545,529 2,010,048 1,243,360 14,209	22,575 17,575 2,223,206	21,000 154,427 4,002,735		
LILLOOET	147,731 41,650 48,400	131,220 9,000 65,108	40,663 241,581	33,665 206,078		

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TABLE V.

YIELD OF PLACER GOLD PER YEAR TO DATE.

1858 \$ 705,000	1872\$1,6	10,972	1886	\$903,651
1859 1,615,070	1873 1,3	05,749	1887	
1860 2,228,543	1874 1,8	44,618	1888	
1861 2,666,118	1875 2,4	74,004	1889	
1862 2,656,903	1876 1,7		1890	
1863 3,913,563	1877 1,6		1891	
1864 3,735,850	1878 1,2	AND DESCRIPTION OF THE PARTY OF	1892	
1865 3,491,205	1879 1,2		1893	
1866 2,662,106	1880 1,0		1894	
1867 2,480,868	1881 1,0		1895	
1868 3,372,972	1882 9		1896	
1869 1,774,978	00	94,252		0117
1870 1,336,956		36,165	\$5	7,704,855
1871 1,799,440		13,738		,-00

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This gives the yearly production of placer gold as determined by the returns sent in by the banks and express companies of gold sold to the mints, and from returns sent in by the Gold Commissioners and Mining Recorders. To these yearly amounts one-third was added up to the year 1878, and from then to 1895, one-fifth, which proportion was considered to represent approximately the amount of gold sold of which there was no record.

This placer gold contains from 10 to 25 per cent. silver, but the silver value has not been separated from the totals.

TABLE VI.

PRODUCTION OF LODE MINES.

YEAR.	G	OLD.	SIL	VER.	LEA	AD.	Сорр	TOTAL	
VE	Oz.	Value.	Oz.	Value.	Pounds.	Value.	Pounds.	Value.	VALUES
		\$		\$		\$		\$	\$
1887			17,690	17,331					17,331
1888			79,780	75,000					75,000
1889			53,192	47,873					47,873
1890			70,427	73,948	113,000	5,805			79,753
1891			4,500	4,000	588,665	25,607			29,60
			77,160	66,935	1,768,420	72,505			139,440
1893	1,170	23,404	227,000	195,000	2,135,023	78,996			.297,400
1894	6,252	125,014	746,379	470,219	5,662,523	169,875			
1895	39, 264		1,496,522		16,475,464		952,640	47,642	2,342,39
1896	62,259	1,244,180	3,135,343	2,100,689	24,199,977	721,384	3,818,556	190,926	4,257,179
T'ls	108,945	2,177,869	5,907,993	4,028,224	50,943,072	1,606,427	5,096,076	254,802	8,067,322

The gold production consists mostly of the output of Rossland mines as per smelter returns, but there are added the gold saved by amalgamation in the Osoyoos District, as at Camp McKinney in the Nelson District, as at the Poorman Mine, and the product of small lots of gold ore sent out to the smelters from other parts.

Some silver ore is known to have been sold prior to 1887, but no record has been obtained regarding these small sales.

The production of coal has increased from 14,250 tons (2,240 fbs.) in 1860 to 846,235 tons in 1896. The biggest product of any one year was in 1891, when it reached 1,029,097 tons: The average production for thirty-six years has been

340,000 tons.

The production of coke is small, but will be now rapidly increased when the coke ovens, now being perfected at the Union Mines at Comox, and the coking coal of the Crow's Nest Pass, will have begun the regular supply of this fuel to the smelting centres. For the last two years the output of coal has been declining by reason of the increasing competition of British and American coal in the Pacific Coast markets of the United States, where most of the coal exported from British Columbia is sold.

COAL MINING OPERATIONS, 1896.

The collieries in operation during the past year of 1896 were:—
The Nanaimo Colliery, of the New Vancouver Coal Mining & Land Company, Limited.

pany, Limited.

The Wellington Colliery, owned by Messrs. R. Dunsmuir & Sons.
The Union Colliery, owned by the Union Colliery Company; and

The Union Colliery, owned by the Union Colliery Company; and The West Wellington Company, owned by the West Wellington Coal Company. Limited Liability.

pany, Limited Liability.

The output and export of coal for 1896 were as follows:—

Output.	Tons.	Export.	Tons.
Nanaimo	339,896 15-20	Nanaimo Wellington Union	232,436 11-20 235,916 5-20 165,885
Total output On hand 1st January	894,882 8-20	Total Home consumption On hand 1st January, 1897.	634,237 16-20 261,983 12-20 32,111 13-20
Total for disposal	928,333 1-20	Total	928,333 1-20

The following shows the relative standing of British Columbia coal in the California market for 1896:—

Where From.	Tons,
British Columbia	551,852
Australia,	273,851
English and Welsh	156,368
Scotch	8,356
Eastern (Cumberland and Anthracite)	17,907
Seattle, Franklin and Green River	
Carbon Hill and South Prairie	255,293
Mount Diablo and Coos Bay	110,237
Japan	2,247
Total	

Shipments were made in California to San Francisco, San Pedro and San Diego, and also to Oregon, Washington, Alaska, Petropavloski and the Hawaiian Islands.

Mr. Dick, Inspector of Mines, in his annual report says: "The total arrivals of coke into California for the year have been 36,132 tons. This is 50% more than in 1895. Fully 75% of this coke was imported from England and Belgium. Now that the owners of the Union Colliery at Comox, B.C., have begun the manufacture of coke on a large scale, having now 100 ovens from which they are turning out a first-class article, they have begun to make regular shipments to California, where it finds a ready sale. These shipments of coke, it is expected, will lead to a decrease in the importations to California from the countries already referred to. These ovens will also supply the Kootenay District, where there is a good demand for coke of such high quality for the smelters. A market for a limited quantity will also be found in Vancouver and Victoria."

COMPARATIVE STATEMENT OF ORE EXPORTED FOR TEN MONTHS, 1896-1897.

		1896	6.			189	7.		1897.
MONTH.	From Slocan	From Slocan	From Trail Creek.	From Ainsworth.	From Slocan	From Slocan	From Rossland	From Rossland	Increase per Month.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	
January. February. March April. May June. July August September October.	1,103 1,498½ 1,545¼ 478¼ 253 428½ 584½ 1,455 567 762¼	1481/2 1,2551/2 889 200 695 552 665 798 560 1,0563/4	1,021 1,448 207 409 397 234 1,249 43214 967/2	30 10 53½ 441 55 35	2,644\2 2,758\34 3,306\4 1,088\34 1,167 1,686\14 3,910\34 4,019 3,780\12 4,225\12	842 1,215½ 415 170 200 1,247½ 	9483/4 2,625 1,8811/4 1,0241/4 824 1,6481/2 313 	351/2 161/2	2,1623/ 2,4025/ 2,978 1,1953/ 846 8,3573/ 1,6713/ 8921/ 1,694 2,525
Totals	8,6751/4	6,81934	6,365	6241/2	28,5871/2	4,223	9,347	52	19,726

* All gold ore.

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1,852 3,851 6,368 8,356 7,907 8,917 5,293 0,237

Total.	1896, ore treated and ore exported92,7661/4 tons.
Total	ore exported, 1896 25,734¾ "
Total	ore treated, 1896 67,031½ "
Total	ore exported (ten months) 1897 42,210 "
Value	\$3,042,268.59
Avera	ge value per ton
Produce o	f Smelters (shipped) to Nov. 1, 1897—
	n (Hall Mines) matte 2,576½ tons.
Trail,	matte 4,664½ "
	value\$3,689,682.06
"	" of ore and matte exported 6,731,950.65
"	" to November 6 exceeds 7,000,000

DIVIDEND PAYING MINES.

THE following is a list of the principal mines in the Interior, which are either paying dividends or shipping ore regularly. In this are not included the North Star, East Kootenay, which has shipped several thousand tons of ore; the Poorman, of Nelson, which under its former ownership, though not operated systematically nevertheless made good annual profits; or all of the shipping mines of the Slocan of which there are about forty. It may be remarked also that the Hall Mines, of Nelson, recently paid a dividend on preferred stock. The list, which follows, was taken from "The Rosslander," and has been corrected from the most reliable information available:—

TRAIL CREEK DISTRICT, B.C.

	Capital	Shares	Par Val.	Total Am't	Date Last	Am,
Le Roi, g.c War Eagle, g.c	\$2,500,000	500,000	\$5.00 1.00	\$625,000 187,000	Sept. '97 Oct. '96	.05
	SLOCA	N DIST	RICT, B	.c.		,
Rambler-Cariboo, s.1 Reco, s.1 Slocan Star, s.1 Two Friends	\$1,000,000 1,000,000 500,000 240,000	1,000,000 1,000,000 1,000,000 800,000	50	\$ 40,000 187,000 400,000 20,000	Apr. '97 May '97 Dec. '96 Mar. '97	.02 .05 .05
	CAMP McF	KINNEY	DISTRIC	et, B.C.		
Cariboo, g	\$800,000	800,000	\$1.00	\$173,000	Feb. '97	.02

The following mines are owned by private individuals, and have returned profits. The exact amounts are not obtainable, but are estimated below:

Mine	District	Estimated Profits
Payne, s.1	Slocan, B.C.	\$300,000.00
Idaho, s.1	Nelson, B.C.	132,000.00
Poorman, g		50,000.00
Ruth, s.1		50,000.00
Whitewater, s.1		60,000.00
Washington, s.1		20,000.00
Slocan Boy, s.1		25,000,00
Goodenough, s.1	! "	35,000.00
Noble Five		50,000,00
Northern Belle, s.1		20,000.00
Antoine, s.1		10,000,00
Surprise, s.1	"	20,000,00
Monitor, s.1	"	15,000.00
Last Chance, s.l		50,000,00
Dardanelles, s.l		0.,100,100

Following is a partial list of incorporated mines making regular shipments, which thus far have declared no dividends:

Mine	District	Cap. Stock	Shares	Par Value
Jumbo, g.c Columbia & Kootenay, g.c Hall Mines, s.c	Trail Trail Nelson	\$ 500,000 250,000 £300,000	500,000 2,500 300,000	\$ 1.00
Josie, g.c	Trail	\$ 700,000	700,000	\$ 1.00
Iron Mask, g.c	Trail Trail	500,000	500,000	1.00

Explanation-g., gold; g.c., gold-copper; s.l., silver-lead; s.c., silver-copper.

MINING LAWS.

THREE leading divisions exist in the law relating to mining, the classes of statutes dealing respectively with coal mining, placer mining, and vein or lode mining. The scope of this article will be confined to an endeavour to afford the reader such information as will enable him to ascertain the rights accorded by the statutes of this Province to persons desiring to engage in either of these classes of mining, and the procedure to be followed in order to render those rights available.

The provisions of the "Coal Mines Act," and Amending Acts (Con. Acts, 1888, Cap. 83; 1890, Cap, 32; 1892, Cap. 31; and 1895, Cap. 38) confer and regulate the right to enter Crown lands and lands containing minerals reserved to the Crown, and prospect for and mine coal and petroleum. Persons desiring a license to prospect upon any tract of Crown lands or lands held under lease from the Crown in which the minerals are reserved to the Crown, must select the land in one block, in rectangular form, and in areas not exceeding 640 acres for each license, mark the selected tract by a post (four inches square and four feet high at the least) placed at one corner or angle of the tract and having inscribed thereon the names of the

licensees and the angle of the tract at which it stands. A notice must also be posted in a conspicuous place on the land and in the Government Office of the District, of intention to apply for

a prospecting license over the land. This notice must be placed thirty clear days before the formal application for a license is made, and a similar notice must be published for the same time in the "British Columbia Gazette" and in one newspaper. At the expiration of the thirty days a formal application for a license may be made to the Assistant Commissioner resident in the district. This application has to be made in duplicate and accompanied by plans of the tract applied for, and a fee of \$50 for each application. The application and documents in connection therewith are forwarded to the Chief Commissioner, by whom the license is issued, for a term not exceeding one year. Upon proof that the license has been bona fide worked under, a renewal may be obtained for a second and for a third year, upon the payment of a fee of \$50 for each license on each renewal.

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Upon the discovery of coal or petroleum under lands comprised in the license, the licensees may obtain, after survey of the lands, a lease for five years at an annual rental of ten cents per acre; and during that term or within three months after its expiration, the licensees, upon proof to the satisfaction of the Chief Commissioner of the continuous and bona fide carrying on of the mining, will be entitled to purchase the lands at the price of \$5 per acre, payable in full at the time of sale. In addition to the rental and purchase price, there is payable

to the Crown, a royalty of five cents per ton on coal, and one cent per barrel on petroleum. Any number of licensees, not exceeding ten, may unite in a mining partnership and carry on joint operation, as well under licenses as under leases; and, if under leases, it is not necessary for each leasehold to be worked separately provided work is carried on in any one of them to the satisfaction of the Chief Commissioner. Licensees may use the timber and stone on the lands for the purpose of prospecting and mining operations, and for buildings to be occupied in connection therewith, but for no other purposes.

The "Coal Mines Regulation Act" (Con. Acts, 1888, Cap. 84) and amending Acts, contain complete provisions regulating the conduct and management of coal mines, and providing especially for the safeguarding of the lives of the employees.

Before proceeding with the consideration of vein or lode mining and placer mining it will be expedient to deal as succinctly as may be with the mode of obtaining a Free Miner's Certificate and the effect of that certificate when obtained, as the continuous holding of such certificate is an essential to the carrying on of

either of the above classes of mining. This certificate is issued by any Gold Commissioner or Mining Recorder to any applicant therefor upon payment of the prescribed fees, without refer-

ence to the residence or nationality of the applicant, the only required qualification being that the applicant, if an individual, be over eighteen years of age, and, if a joint stock company, be by law entitled to carry on business in this Province and to engage in mining operations. To an individual it is issued upon payment in advance of an annual fee of \$5; to a company, if the nominal capital does not exceed \$100,000, upon payment in advance of an annual fee of \$50, and, if the capital exceeds \$100,000, of an annual fee of \$100. The obtaining of this certificate (which is not transferable) constitutes the individual or company obtaining the same, a free miner, entitled to have and exercise all the privileges and rights by the mining laws of the Province conferred upon and restricted to free miners. The taking out of such a certificate is obligatory as well upon owners of mines and interests in mines (except shareholders in companies, who may acquire, hold, and transfer shares without taking out a certificate) as upon miners and employees working in mines for wages; and to render this obligation effective it is provided in the first place that any person or company owning any mine or claim or interest therein, or working in any mine or claim, without holding a certificate shall be liable to a penalty not exceeding \$25; in the second, that no person or company shall be recognized (i.e., shall be allowed to claim, obtain and enforce rights of property) as having any right or interest in or to any mine or claim, or any mining water right, unless such person or company shall be the holder of a certificate; and, in the third, that the expiration and non-renewal of a certificate shall work an absolute forfeiture of all the mining property and interests of the non-renewing holder. This provision as to forfeiture

Forfeiture. does not apply to mines held under Crown grant. If a co-owner in a mine or claim allows his certificate to lapse, his interest does not revert to the Crown, but falls in for the benefit, pro rata, of his co-owners. In order to prevent the provision as to forfeiture working any injury to purchasers for value, without notice, it is provided that if any person or company shall purchase any claim, mine, or interest, and it shall appear that the vendor had neglected to obtain or renew a certificate, the purchaser may avert a forfeiture by paying the fees which ought to have been paid by the vendor, within one month from the time of discovering the default. Owners of mines and contractors are obliged, under liability upon default to a penalty not exceeding \$100, to pay for a certificate for every person in their employment, for whom a certificate is by law

requisite, and may deduct the amount paid therefor from the wages of such employee. Throughout the remainder of this article, the expression free miner will be understood to mean and include every person and company holding a Free Miner's Certificate.

The Province is divided into Mining Divisions, the officers of each Division

and their addresses being given elsewhere.

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The Lieutenant-Governor-in-Council has power to appoint a Chief Gold Commissioner, and Gold Commissioners either for the whole Province or for particular districts to be created and fixed from time to time by Order-in-Council. The Gold Commissioner of a district is the officer whose duty it is, and who is for that purpose invested with full power, to do and at his discretion to permit the doing of all acts and things necessary or expedient for the carrying out of the mining laws and the exercise and enjoyment of the rights and privileges thereby granted

Gold to and conferred upon free miners. A full enumeration of his powers in regard to each branch of mining will be found in the Acts relating respectively to placer mining and vein or lode mining. In addition to his other powers and duties the Gold Commissioner is charged with the duty of taking possession of and protecting the mining property of a deceased free miner, and of administering the estate and effects of such miner until his representatives obtain from the Courts the proper authority to deal with his estate and effects.

The Mining Recorder in each division is the officer charged with the duty of keeping complete records of all mining locations in his division, and of all transactions and documents affecting such mining locations and requiring by law to be recorded. All books of record and documents filed with the Recorder

All Mining Recorder.

The Mining Recorder also issues Free Miners Certificates and Certificates of Work. In the event of a discovery being made in an outlying portion of the Province, it is lawful for the free miners of the locality, by a two-thirds vote, to elect one of their number to act as Recorder and issue Free Miners Certificates until such time as a regularly appointed official can be stationed in the locality.

In addition to the jurisdiction of the Supreme Court the County Courts are invested with a special mining jurisdiction, in respect of the matters following:—

(1.) In all personal actions, where the debt or damages claimed arise directly out of the business of mining (other than coal mining), or from the exercise of or interference with any right, power, or privilege given, or claimed to be given, by this Act or any other Act relating to mining (other than coal mining):

(2.) In all actions between employers and employees, where the employment is directly connected with the business of mining (other than coal mining):

(3.) In all actions for supplies to persons engaged in mining, where such supplies were bought, contracted for, or supplied, or were alleged to have been bought, contracted for, or supplied for mining purposes, or for consumption by persons engaged in mining or prospecting:

(4.) In all actions of trespass on or in respect of mineral claims or other mining property, or upon or in respect of lands entered or trespassed on, or claimed to have been entered or trespassed on, in searching for, mining, or working minerals (other than coal), or for any other purpose directly connected with the business of mining (other than coal mining), or in the exercise of any power or privilege given, or claimed to be given, by this Act, or any other act relating to mining (other than coal mining):

(5) In all actions of ejectment from mineral claims or other mining property, or from lands entered, or claimed to have been entered, in searching for, mining, or working minerals (other than coal), or for any purpose directly connected with the business of mining, or entered, or claimed to have been entered, under some power, right or authority given or obtained under the provisions of this Act, or any other Act relating to mining (other than coal mining):

(6.) In all suits for foreclosure or redemption, or for enforcing any charge or lien, where the mortgage, charge or lien shall be on mineral claims, mines, or

other mining property:

(7.) In all suits for specific performance of, or for reforming, or delivering up, or cancelling any agreement for sale, purchase or lease of any mineral claim, mine, or other mining property:

(8.) In all suits for the dissolution or winding up of any mining partnership, whether registered or not, under the provisions of this Act:

(9.) In all suits relative to water rights claimed under this Act, or any other Act relating to mining (other than coal mining):

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(10.) In all proceedings for orders in the nature of injunctions, where the same are requisite for the granting of relief in any matter in which jurisdiction is given to the County Court by this Act.

A method of procedure is provided whereby transfer to the Supreme Court may be obtained of any litigation which it is expedient should be tried and determined by the Supreme Court.

The Lieutenant-Governor-in-Council has power to establish by Order-in-Council, general rules and regulations necessary to insure the due carrying out of the mining laws.

TABLE OF CHARGES.

For every free miner's certificate issued to an individual. For every free miner's certificate issued to a joint stock company,—	\$ 5	00	
(a) Having a nominal capital of \$100,000.00 or less	50	00	
(b) Having a nominal capital exceeding \$100,000.00	100		
[1897, c. 28, s. 22.]	100	-	
Every substituted certificate	I	00	
Recording any claim	2	50	
Recording every certificate of work		50	
Recording any "lay over," or every other record required to be made in the		50	
"Record Book"	2	50	
Recording every abandonment, including the memorandum to be written on			
the record	2	50	
For any other record made in the "Record of Abandonments"		50	
For recording every affidavit, where the same does not exceed three folios of		٦.	
100 words	2	50	
For every folio over three, per folio		30	
The above rate shall be charged for all records made in the "Record of Affidavits."			
For all records made in the "Record of Conveyances," where the same do			
and are record three folion	10		
not exceed three folios.	2	50	
For every folio over three, a further charge per folio of		30	
where such copy or extract shall not exceed three folios, per copy	2	50	
Where such copies or extracts exceed three folios, per folio for every folio			
over three		30	
For filing any document		25	
For a Crown Grant	5	00	

VEIN OR LODE MINING.

In this class of mining the term "mine" means and includes any land in which any vein or lode, or rock in place, is mined for gold or other minerals, precious or base, except coal; "mineral" meaning all valuable deposits of gold, silver, platinum, iridum, or any of the platinum group of metals, mercury, lead, copper, iron, tin, zinc, nickel, aluminum, antimony, arsenic, barium, bismuth, boron, bromine, cadmium, chromium, cobalt, iodine, magnesium, man-

ganese, molybdenum, phosphorus, plumbago, potassum, sodium, strontium, sulphur (or any combination of the aforementioned elements with themselves or with any other elements), asbestos, emery, mica, and mineral pigments; and the term "rock in place" being deemed to mean and include mineral, not necessarily in a vein or lode; that is, when discovered in the same place or position in which it was originally formed or deposited, as distinguished from loose fragmentary or broken rock or float which, by decomposition or erosion of the rocks, is found in wash, loose earth, gravel or sand:

Every free miner shall, during the continuance of his certificate, have the right to enter, locate, prospect, and mine upon any waste lands of the Crown for all minerals other than coal, and upon all lands the right whereon to so enter upon, prospect, and mine all minerals other than coal shall have been, or hereafter shall be, reserved to the Crown and its licensees, and also to enter, locate, prospect, and mine for gold and silver upon any lands the right whereon to so enter and mine such gold and silver shall have been, or shall be, reserved to the Crown and its licensees. Excepting out of all the above descriptions of lands any land occupied by any building, and any land falling within the curtilage of any dwelling house, and any orchard, and any land for the time being actually under cultivation, and any land lawfully occupied for mining purposes other than placer mining, and also Indian reservations and military or naval reservations: Provided, that where any hydraulic mining works, established in

accordance with the "Placer Mining Act, 1891," have been in Free Miner s operation, the land which may have been uncovered by the Rights. operation of such works shall not be located or mined upon by any free miner other than the person or persons carrying on such hydraulic works for a space of six months next after the same shall have been so uncovered: Provided, that in the event of such entry being made upon lands already lawfully occupied for other than mining purposes, and not being a portion of lands granted to and held by or for a railway company under any railway subsidy Act heretofore or to be hereafter passed, such free miner shall give adequate security to the satisfaction of the Gold Commissioner or Mining Recorder for any less or damages which may be caused by such entry if requested by the owner or owners of such land, and should he refuse to give such security when so requested his right to such claim or mine shall cease and determine: Provided, that after such entry he shall make full compensation to the occupant or owner of such lands for any loss or damages which may be caused by reason of such entry; such compensation, in case of dispute, to be determined by the Court having jurisdiction in mining disputes, with or without a jury.

When a lode is supposed to cross a valley or under an alluvial deposit, and where such lode is indicated by its appearance on the side of the mountain leading into such valley, any free miner upon making a sworn statement before the Mining Recorder or Gold Commissioner of the district that there is a lode which has indications of running through and under such alluvial deposit shall be entitled to a permit for three months to search for such lode over the area of a mineral claim, with the privilege of having such permit extended on his proving to the satisfaction of the Gold Commissioner that he has bona fide searched for such lode and has expended, either in cash or labour, or both, not less than \$100 in such search. During the existence of such permit the ground covered by the same shall not be open to record by any other miner. The fee for such permit, and each renewal of the same, shall be the same as the fee for a record.

A mineral claim shall be marked by two legal posts, placed as near as possible on the line of the ledge or vein, and the posts shall be numbered 1 and 2,

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and the distance between posts I and 2 shall not exceed fifteen hundred feet, the line between posts Nos. I and 2 to be known as the location line, and upon posts

Nos. I and 2 shall be written the name given to the mine-al claim, the name of the locator, and the date of the location. Upon No. I post there shall be written, in addition to the foregoing, "Initial Post," the approximate compass bearing of No. 2 post, and a statement of the number of feet lying to right and to the left of the line from No. I to No. 2 post, thus: "Initial post. Direction of post No. 2. —— feet of this claim lie on the right, and —— feet on the left of the line from No. I to No. 2 post."

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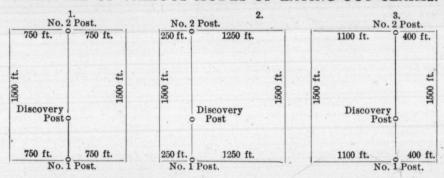
All the particulars required to be put on No. 1 and No. 2 posts shall be furnished by the locator to the Mining Recorder, in writing, at the time the claim

is recorded, and shall form a part of the record of such claim.

When a claim has been located, the holder shall immediately mark the line between posts Nos. I and 2 so that it can be distinctly seen; in a timbered locality, by blazing trees and cutting underbrush, and in a locality where there is neither timber nor underbrush he shall set legal posts or erect monuments of earth or rock not less than two feet high and two feet in diameter at base, so that such line can be distinctly seen.

The locator shall also place a legal post at the point where he has found rock in place, on which shall be written "Discovery Post": Provided, that when the claim is surveyed the surveyor shall be guided by the records of the claim, the sketch plan on the back of the declaration made by the owner when the claim was recorded, posts 1 and 2, and the notice on No. 1, the initial post.

EXAMPLES OF VARIOUS MODES OF LAYING OUT CLAIMS.



It shall not be lawful to move No. I post, but No. 2 post may be moved by the Provincial Land Surveyor when the distance between Nos. I and 2 posts exceeds 1,500 feet in order to place No. 2 post 1,500 feet from No. I post on the line of location. When the distance between posts Nos. I and 2 is less than 1,500 feet, the Provincial Land Surveyor has no authority to extend the claim beyond No. 2.

beyond No. 2.

The "location line" shall govern the direction of one side of the claim, upon which the survey shall be extended according to this Act. The holder of a mineral claim shall be entitled to all minerals which may lie within his claim, but he shall not be entitled to mine outside the boundary lines of his claim

continued vertically downwards.

No mineral claim of the full size shall be recorded without the application being accompanied by an affidavit or solemn declaration in the Form S, made by the applicant or some person on his behalf cognizant of the facts: That the legal notices and posts have been put up; that mineral has been found in place on the claim proposed to be recorded; that the ground applied for is unoccupied or any land falling within the curtilage of any dwelling-house,

Declarations. or any orchard, or any land under cultivation, or any Indian Reservation. In the said declaration shall be set out the name of the applicant, the number and date of his Free Miner's Certificate, and the name of the place where the said certificate was issued, and the date of the

location of the claim. The words written on the No. 1 and No. 2 posts shall be set out in full, and as accurate a description as possible of the position of the claim given, having special reference to any prior locations it may join.

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No mineral claim which at the date of its record is known by the locator to be less than a full-sized mineral claim, shall be recorded without the word "fraction" being added to the name of the claim, and the application being accompanied by an affidavit or solemn declaration in the Form T, made by the applicant or some person on his behalf cognizant of the facts: That the legal posts and notices have been put up; that mineral has been found in place on the fractional claim proposed to be recorded; that the ground applied for is unoccupied by any other person as a mineral claim, and is not occupied by any building, or any land falling within the curtilage of any dwelling-house or any orchard, or any land under cultivation, or any Indian Reservation. In the said declaration shall be set out the name of the applicant, the number and date of his Free Miner's Certificate, and the name of the place where the said certificate was issued, and the date of the location of the claim. The words written on the No. 1 and No. 2 posts shall be set out in full, and as accurate a description as possible of the position of the claim given. A description of the land bounding the fractional claim on all sides shall state whether it is vacant Crown land or land occupied by mineral claims, with the names of the claims. A sketch plan shall be drawn by the applicant on the back of declaration, showing as near as may be the position of the adjoining mineral claims, and the shape and size, expressed in feet, of the fraction desired to be recorded:

Provided, that the failure on the part of the locator of a mineral claim to comply with any of the foregoing provisions of this section shall not be deemed to invalidate such location, if upon the facts it shall appear that such locator has actually discovered mineral in place on said location, and that there has been on his part a bona fide attempt to comply with the provisions of this Act, and that the non-observance of the formalities hereinbefore referred to is not of a character calculated to mislead other persons desiring to locate claims in the vicinity.

Any free miner having duly located and recorded a mineral claim shall be entitled to hold the same for the period of one year from the recording of the same, and thence from year to year without the necessity of re-recording: Provided, however, that during each year, and each succeeding year, such free miner shall do, or cause to be done, work on the clai a itself to the value of one hundred dollars, and shall satisfy the Gold Commissioner or Mining Recorder that such work has been done, by an affidavit of the free miner or his agent, setting out a detailed statement of such work, and shall obtain from such Gold Commissioner or Mining Recorder, and shall record, a certificate of such work having been done: Provided, also, that all work done outside of a mineral claim with intent

to work the same shall, if such work have direct relation and Conditions of be in direct proximity to the claim, be deemed, if to the satisfac-Holding. tion of the Gold Commissioner or Mining Recorder, for the purposes of this section, to be work done on the claim: Provided, further, that any free miner, or company of free miners holding adjoining mineral claims, or any two or more free miners who locate and record adjoining mineral claims, not exceeding eight in number, to be worked by them in partnership under the provisions of any Act for the time being in force, shall, subject to filing a notice of their intention with the Gold Commissioner or Mining Recorder, be allowed to perform on any one or more of such claims all the work required to entitle him or them to a certificate for work for each claim so held by him or them. If such work shall not be done, or if such certificate shall not be so obtained and recorded in each and every year the claim shall be deemed vacant and abandoned, any rule of law or equity to the contrary notwithstanding.

The holder of a claim may, instead of doing the annual assessment work, pay the sum of \$100 to the Crown, and the recording of the Mining Recorder's receipt for this payment will relieve the claim holder from doing assessment work for the year covered by the receipt.

A location may be made upon Sunday or any public holiday, and in cases where, from the nature or shape of the ground, it is impossible to mark the location line of the claim, then the claim may be marked by placing legal posts as

nearly as possible to the location line, and noting the distance and direction such posts may be from such location line, which distance and direction shall be

set out in the record of the claim.

Every free miner locating a mineral claim shall record the same with the Mining Recorder of the district within which the same is situate, within fifteen days after the location thereof, if located within ten miles of the office of the said Mining Recorder. One additional day shall be allowed for such record for every additional ten miles, or fraction thereof.

The surface rights acquired by a claim-holder are limited to the right to the use and possession of the surface of his claim, including the use of all the timber

thereon, for the purpose of winning and getting from and out of such claim the minerals contained therein, including all operations connected therewith or with the business of mining, and all remaining surface rights shall be deemed to be vested in the Crown, and may be granted and disposed of as is provided by the Land Laws for the time being in force, but subject always to the rights of free miners as aforesaid.

In case of any dispute as to the location of a mineral claim the title to the claim shall be recognized according to the priority of such location, subject to any question as to the validity of the record itself, and subject, further, to the free miner having complied with all the terms and conditions of the Act.

Upon any dispute as to the title to any mineral claim no irregularity happening previous to the date of the record of the last certificate of work shall affect the title thereto, and it shall be assumed that up to that date the title to such claim was perfect, except upon suit by the Attorney-General based upon fraud.

If any person shall in any suit or matter claim an adverse right of any kind to the mineral claim comprised in any record, or to any part thereof, or shall claim that any record is invalid or has been improperly obtained, or that the holder thereof has not complied with the provisions of the Act under which the location and record were made, or has not prior to the obtaining of such record made a good and valid location of such mineral claim according to law, the onus of proof thereof shall be on the person so claiming an adverse right, or so claiming that such record is invalid and has been improperly obtained as aforesaid, and in default of such proof judgment shall be given for the holder of such prior record in so far as such action, suit or matter relates to any of the matters afore-

No free miner is entitled to hold in his own name, or in the name of any other person, more than one mineral claim on the same vein or lode, except by purchase, but such free miner may hold by location a claim upon any separate vein or lode.

A free miner may at any time abandon any mineral claim by giving notice in writing of such intention to abandon to the Mining Recorder, and from the date of the record of such notice all interest of such free miner in such claim shall cease.

When a free miner abandons a mineral claim he shall have the right to take from the same any machinery and any personal property which he may have placed on the claim, and any ore which he may have extracted therefrom within such time as shall be fixed by the Gold Commissioner or Mining Recorder.

No free miner shall be entitled to relocate any mineral claim, or any portion thereof which he shall have failed to record within the prescribed period, or which he shall have abandoned or forfeited, unless he shall have obtained the written permission of the Gold Commissioner to make such relocation; and he shall hold no interest in any portion of such mineral claim, by location, without such permission.

Where a tunnel is run for the development of a vein or lode the owner of such tunnel shall, in addition to any mineral claim legally held by him, have the right to all veins or lodes discovered in such tunnel: Provided, that the ground containing such veins or lodes be marked out by him as a mineral claim, and be duly recorded within fifteen days after such discovery; and provided further, that such veins or lodes are not included in any existing mineral claim. Any money or labour expended in constructing a tunnel to develop a vein or lode shall be deemed to have been expended on such vein or lode.

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er of have t the laim, fur-Any lode Any lawful holder of a mineral claim is entitled to a Crown grant thereof on payment to the Government of the sum of \$500 in lieu of expenditure on the claim. The intending purchaser must comply with all the requirements for obtaining a Certificate of Improvements, except such as have respect solely to the work required to be done on claims.

Whenever the lawful holder of a mineral claim shall have complied with the following requirements, to the satisfaction of the Gold Commissioner, he shall be entitled to receive from the Gold Commissioner a Certificate of Improvements in respect of such claim, unless proceedings by any person claiming an adverse right have been taken:

right have been taken:

(a.) Done or cause to be done work on the claim itself in developing a mine to the value of \$500, exclusive of all houses, buildings and other like improvements. For the purpose of this section, work done on the claim by a predecessor or predecessors in title shall be deemed to have been done by the applicant who receives a transfer of such claim.

(b.) Found a vein or lode within the limits of such claim.
(c.) Had the claim surveyed by an authorized Provincial Land Surveyor, who shall have made three plats of the claim. The owner of a mineral claim who has had his claim surveyed within one year from the record of the claim, and has filed in the office of the Mining Recorder a declaration by a Provincial Land Surveyor, stating that he has surveyed the claim, and that he has delivered two plats of the claim and a copy of the original field-notes to the owner of such claim, shall be entitled to have the cost of such survey, not to

exceed \$100, counted as work done on the claim.

(d.) Shall have posted on some conspicuous part of the land embraced in the survey a copy of the plat of the claim, and a legible notice in writing of his

vey a copy of the plat of the claim, and a legible notice in writing of his intention to apply for a Certificate of Improvements, and shall also have posted a similar notice in the Mining Recorder's office, and such notice shall contain—

(e.) Inserted a copy of such notice in the "British Columbia Gazette" and in a newspaper published and circulating in the division in which the claim is situated, or, in the absence of such local paper, in the one nearest thereto, for at least sixty days prior to such application, which insertion can be made at any time after the posting of the notice on the claim.

(f.) Filed with the Mining Recorder an affidavit of due compliance with and carrying out of the foregoing requirements.

A Certificate of Improvements, when issued as aforesaid, shall not be impeached in any court on any ground except that of fraud.

In case any person shall claim an adverse right of any kind, either to possession of the mineral claim referred to in the application for Certificate of Improvements, or any part thereof, or to the minerals contained therein, he shall, within sixty days after the publication in the "British Columbia Gazette" of the notice above referred to (unless such time shall be extended by special order of the Court upon cause being shewn), commence an action in the Supreme Court of British Columbia to determine the question of the right of possession or otherwise enforce his said claim, and shall file a copy of the writ in said action with the Mining Recorder of the district or mining division in which the said claim

is situate within twenty days from the commencement of said action, and shall prosecute the said suit with reasonable diligence to final judgment, and a failure to so commence or so to prosecute shall be deemed to be a waiver of the plaintiff's claim. After final judgment shall have been rendered in the said action the person or any one of the persons entitled to the possession of the claim or any part thereof, may file a certified copy of the same in the office of the Mining Recorder. After the filing of the said judgment, and upon compliance with all the requirements of the next preceding section, such person or persons shall be entitled to the issue to him or to them of a Certificate of Improvements in respect of the claim, or the portion thereof, which he or they shall appear from the decision of the Court rightly to possess: Provided, that this section shall not apply to any adverse claim filed or action to enforce the same commenced prior to the date of this

Act coming into force, but the same shall be continued in the same manner as if this Act had not been passed.

If an adverse claim affects only a portion of the claim, the holder may

relinquish the disputed portion, and obtain a Certificate for the remainder.

The holder must make an application for a Crown Grant within three months after receiving his Certificate of Improvements, otherwise the Certificate will lapse

On the granting and recording of such Certificate of Improvements in respect to a mineral claim situate outside of the Railway Belt, the holder thereof shall be entitled to a Crown Grant of such claim without the payment of the \$500, and in respect of a mineral claim situate inside the Railway Belt, the holder shall be entitled to a Crown Grant of such claim on the payment of \$5 per acre to the

Mining Recorder.

Between the time of application for and the granting of the Certificate, the holder may transfer the claim; but after the issue of the Certificate, no transfer can be recorded until after a Crown Grant is obtained. Crown Grants, in addition to the mineral rights, convey the right to the use and possession of the surface of such claim, including the use of all the timber thereon, for the purpose of winning and getting from and out of such claim the minerals contained therein, including all operations connected therewith or with the business of mining, and all remaining surface rights shall be deemed to be vested in the Crown, and may be granted and disposed of as is provided by the Land Laws for the time being in force, but subject always to the rights of free miners as aforesaid.

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The holder of a Crown Grant of a mineral claim shall, in cases where such claim has been located on waste lands of the Crown or on lands not already lawfully occupied for other than mining purposes, be entitled to receive a Crown Grant of all the surface rights of such mineral claim on payment to the Government of the sum of \$5 per acre for such land, and of the fee of \$5 for the Crown

Grant.

No transfer of any mineral claim, or of any interest therein, shall be enforceable unless the same shall be in writing, signed by the transferer or by his agent authorized in writing, and recorded by the Mining Recorder; and if signed by an agent, the authority of such agent shall be recorded before the record of such transfer. All mineral claims derived under Crown grant, and every transfer thereof, or any interest therein, shall be registered under the provisions of the "Land Registry Act."

No free miner shall be entitled to any interest in any mineral claim which has been located and recorded by any other free miner unless such interest is specified and set forth in some writing signed by the party so locating such claim.

No mineral claim shall be open to location by any other person during the last illness, nor, unless with the permission in writing of the Gold Commissioner,

for twelve months after the death of the lawful holder.

A free miner may locate any unoccupied and unreserved Crown land not known to contain mineral, and not exceeding five acres, as a mill-site. No free miner shall be entitled to obtain and hold under this section more than one mill-site for each mineral claim lawfully held by him. Such mill-site shall be as nearly as possible in the form of a square. The Act prescribes the procedure to be followed to perfect the location, and also to obtain a Crown Grant. A free miner holding a claim may obtain a license to run a drain or tunnel; and may acquire water rights for mining or milling purposes. This latter matter is now dealt with by the Water Clause Consolidation Act, 1897, a reference to which will be found in this volume on page —. Mining partnerships may be formed in the same manner as under the provisions of the Placer Act, set out above, and the provisions of the Acts are in this respect so far alike as to render it unnecessary for the purposes of this article to again deal with the subject in detail.

7

PLACER MINING.

PLACER mining is defined as the mining of any natural stratum or bed of earth, gravel or cement for gold or other precious minerals or stones. Placer claims are divided into four classes; and, as the size and location of claims vary, according as they fall within one or other of these classes, it will be advisable, as a preparatory measure, to become familiar with the mode and effect of the classification. The following table contains a compilation of the legislation relating to this matter; the claims being measured horizontally, irrespective of inequalities on the surface of the ground.

"Creek diggings" shall mean any mine in the bed of any river, stream, or ravine, excepting bar diggings; and a "creek claim" shall be 100 feet long, measured in the direction of the general course of the stream, and shall extend in width from base to base of the hill or bench on each side, but when the hills or benches are less than 100 feet apart the claim shall be 100 feet square.

"Bar diggings" shall mean any mine over which a river extends when in its flooded state; and in "bar diggings" a claim shall be a strip of land 100 feet long at high water mark, and in width extending from high water mark into the river to its lowest water level.

"Dry diggings" shall mean any mine over which a river never extends, and

in "dry diggings" a claim shall be 100 feet square.

"Bench diggings" shall mean any mine on a bench, and shall, for the purpose of defining the size of a claim in bench diggings, be excepted from "dry diggings"; and in "bench diggings" a claim shall be 100 feet square: Provided,

diggings"; and in "bench diggings" a claim shall be 100 feet square: Provided, that the Gold Commissioner shall have authority, where a bench is narrow, to extend the limits of the claim beyond the limits of the bench, but not to exceed 100 feet square.

"Hill diggings" shall mean any mine on the surface of a hill, and fronting on any natural stream or ravine; and in "hill diggings" a claim shall have a base line or frontage of 100 feet, drawn parallel to the main direction of the stream or ravine on which it fronts. Parallel lines drawn from each end of the base line, at right angles thereto, and running to the summit of the hill, shall constitute the side lines thereof. Legal posts shall be placed 100 feet apart, on both the base line and side lines, and no claim shall extend beyond the posts so placed.

In addition to these classes there is a subsidiary class relating to precious stones alone, a further reference to which will be made when dealing with the granting of leases. The definition "Precious stone diggings" shall mean "deposit of precious stones, whether in veins, beds, or gravel deposits."

A special right is given to discoverers of new diggings, this being as fol-

If any free miner, or party of free miners, discover a new mine, and such discovery be established to the satisfaction of the Gold Commissioner, placer claims of the following size, in dry, bar, bench, creek or hill diggings shall be allowed, viz.:—

To one discoverer, one claim 300 feet in length.

To a party of two discoverers, two claims, amounting together to 600 feet in lenth.

To a party of three discoverers, three claims, amounting together to 800 feet in length.

To a party of four discoverers, four claims, amounting together to 1,000 feet in length.

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ordinary size only.

A creek discovery claim shall extend on each side of the centre of the creek as far as the summit of the hill, but not exceeding 1,000 feet. A new stratum of auriferous earth, gravel, or cement, situated in a locality where all placer claims are abandoned, shall be deemed a new mine, although mines in the same locality shall have been previously worked; and dry diggings discovered in the vicinity of bar diggings shall be deemed a new mine, and vice versa. A discoverer's claim shall be considered as one ordinary claim, in respect to

recording, working, and representing.

Every free miner has the right to enter, locate, prospect, and mine for gold and other precious metals upon any land in British Columbia, whether vested in the Crown or otherwise, except Government reservations for townsites, land occupied by any building, any land falling within the curtilage of any dwelling house, and any orchard, any land lawfully occupied for placer mining purposes, and also Indian reservations. Previous to entry upon lands already lawfully occupied, security must be given for any loss or damage to be occasioned by the miner, and the amount due for such loss or damage if not paid by the miner, may be collected by process of law. A free miner has also the right to kill game for his own use

at any time of the year.

A placer claim must be as nearly as possible rectangular in form, and marked by four legal posts at the corners thereof, firmly fixed in the ground. One of such posts shall be marked as the "initial post," and on that post shall be placed a legible notice in writing, stating the name of the claim, its length in feet and general direction, with the date of the notice and name of each locator. If any side line of any claim shall exceed 100 feet in length, legal posts shall be placed along such side line, at distances not exceeding 100 feet. A "legal post" means a stake standing not less than four feet above the ground, and squared or faced on four sides for at least one foot from the top, and each side so squared or faced shall measure at least four inches on its face so far as squared or faced, or any stump or tree cut off and squared or faced to the above height and size.

A location may be made upon Sunday or any public holiday. In case of any dispute as to the title of a placer claim, the title to the claim shall be recognized according to the priority of the location, subject to any question as to the validity of the record itself, and subject further to the free miner having complied

with all the terms and conditions of the Act.

Every free miner recording a placer claim shall record the same with the Mining Recorder of the district or division within which the same is situate, within three days after the location thereof, if located within ten miles of the office of the said Mining Recorder. One additional day shall be allowed for making such record for every additional ten miles or fraction thereof. If by inadvertance a claim be recorded in the wrong office, the record may be transferred to the proper office; but such transfer must be made within fifteen days after the discovery of the error.

After the recording of a placer claim, the removal of any post by the holder thereof, cr by any person acting in his behalf, made for the purpose of changing

the limits of his claim, shall act as a forfeiture of the claim.

A placer claim may be recorded for one or more years, a recording fee of \$2.50 being payable for each year. These records may, before expiration, be renewed from time to time upon payment of the same fee per year, the interest of the free miner in a claim being a chattel interest equivalent to a lease for the period covered by the record, renewable by re-recording. The holder of a placer claim has no right to any vein or lode within the limits of his claim unless he shall have located and recorded the ground as a mineral claim under the Act regulating the location and record of claims for vein or lode mining; and until he shall so locate and record such ground, any free miner discovering the vein or lode may locate and record the ground as a mineral claim, and become thereby entitled to mine the vein or lode only.

Every placer claim must be represented and bona fide worked by the holder, or by some person on his behalf, continuously, as nearly as practicable, during working hours, and shall be deemed to be abandoned and absolutely forfeited when the same shall have remained unworked on working days by the holder

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nolder, during rfeited holder thereof, or some person on his behalf, for the period of seventy-two hours, except during the close season, some lay-over, or leave of absence, or during sickness, or for some other reasonable cause which shall be shown to the satisfaction of the Gold Commissioner.

Every free miner, or company of free miners, shall be entitled to a leave of absence for one year from his or their placer claim or set of claims upon proving to the Gold Commissioner that he or they has or have expended on such claim or on any portion of the set of claims, in cash, labour, or machinery, an amount equal to one thousand dollars on each full interest, without any return of gold or other minerals in reasonable quantities from such expenditure; and upon the application for such leave being signed by all the holders of the claim or set of claims.

A miner holding a claim, the working of which requires the use of water, is entitled to a lay-over during any time the water supply falls below the quantity necessary for the working of the claim.

No transfer of any placer claim, or interest therein, shall be enforceable unless the same or some memorandum thereof shall be in writing, signed by the transferer, or by his agent authorized in writing, and recorded in the Record of Conveyances.

Every bill of sale, conveyance, or mortgage of a placer claim, or ot any fraction thereof, shall be recorded within the time prescribed for recording placer claims.

A free miner desiring, for the proper working of his claim, to construct a tunnel or drain through any occupied or unoccupied land, whether mineral or not, may obtain from the Gold Commissioner a license for that purpose subject to the giving of such security and upon such terms and conditions as the Gold Commissioner may fix, and a tunnel or drain so constructed shall be considered as part of the claim.

A free miner desiring to engage in the enterprise of constructing a tunnel or drain for the public drainage of claims and mines may apply to the Gold Commissioner for a grant of right of way and entry through and upon any mining ground in the district. The application for every such grant shall be in writing, and shall set out the name of each applicant, the nature and extent of the proposed drain, the amount of toll to be charged, the term of years for which such grant is to be made, and all other privileges sought to be acquired. The application shall

be left at the Mining Recorder's office addressed to the Gold Commissioner. A notice of such application, setting out the above particulars, shall be posted on the office of the Mining Recorder and on the ground for thirty clear days before such grant shall be made. The applicant for every such grant shall deposit with the Mining Recorder at the time of the leaving of his application as aforesaid, twenty-five dollars, which shall be refunded in case the application shall be refused. Such grants shall be in writing and signed by the Gold Commissioner, and shall not

lars, which shall be refunded in case the application shall be refused. Such grants shall be in writing and signed by the Gold Commissioner, and shall not be given for a longer period than twenty years, and shall give such rights of way and entry and such powers to assess, levy, and collect tolls from all persons using such drain, or benefitted thereby, as the Gold Commissioner shall think fit, but not in any case to exceed the term, rights or powers set out in the application.

Every such grant shall be recorded in the Record Book, and the deposited sum of twenty-five dollars shall be retained as a recording fee. A rent of twenty-five dollars for each quarter of a mile and each fraction thereof shall be paid annually to the Mining Recorder by the grantee; such rent to commence from the date of the grant.

Certain statutory conditions form part of every such grant, imposing upon the grantee the duty of constructing and maintaining works of sufficient capacity to carry out the objects for which the license has been granted; to provide, without discrimination or preference, proper connections or tap-drains for all claims adjacent to the works; to avoid injury to property, and to make good any damage caused by the construction of the works.

The right to obtain grants of water for mining purposes, and the procedure therefor, is now contained in the Water Clauses Consolidation Act, 1897, a reference to which will be found in another part of this work.

Mining partnerships for the carrying on of the business of mining and such other matters as pertain solely thereto may be formed by free miners, and shall be governed by the provisions of the Act and by their written articles of partnership (if any). A mining partnership shall, unless otherwise agreed upon, be deemed to be a yearly partnership, renewable from year to year by tacit consent. Mining partnerships can locate and record in the partnership name a placer claim for each partner who is a free miner. Such partnership claims may be located and recorded as a set of claims, and each such claim shall be staked as an ordinary placer claim. One stake on each such claim shall be marked as an initial stake, by writing thereon the words "Initial post." It shall not

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be requisite to post more than one location notice on each set of claims, which notice shall be on the first initial post. A set of claims may be recorded in one record. The name of every partner, and the number of every partner's free miner's certificate, shall be on the record of every such set of claims. The partnership name shall appear on every such record, and all claims so taken up shall be the property of the partnership. A partner in any mining partnership, or his agent authorized in writing, shall, at any meeting thereof, be entitled to vote upon any interest or fraction of an interest which he may hold therein: but the result of the votes given shall be determined by the number of the full interests voted upon, and not by the number of partners voting at such meeting.

A majority of such votes may decide when, how long, and in what manner to work the partnership claim, or set of claims, the number of men to be employed, which number shall not be less than one man to each claim, and the extent and manner of levying the assessments to defray the expenses incurred by the partnership. Such majority may also choose a foreman or manager, who shall represent the partnership and sue and be sued in the name of the partnership for assessments and otherwise; and he shall have power to bind them by his contracts. Every partner, or his duly authorized agent, shall be entitled to represent his interest in the partnership property by work and labour, so long as such work and labour be satisfactory to the foreman or manager. In the event of such partner or agent being discharged by the foreman or manager, the Court having jurisdiction in mining disputes may, if requested, summon the foreman or manager before it, and upon hearing the facts make such order as it shall deem just.

All assessments shall be payable within five days after being made. Any partner making default in payment, after receiving a notice certifying the amount due by him, shall, if such amount be correct, be personably liable therefor to the partnership, and his interest in the partnership property may be sold by the partnership for the payment of the debt, and any further assessment which may have accrued thereon up to the day of sale, together with all costs and charges occasioned by such default; and if the proceeds of the sale be insufficient to pay off the several sums mentioned, the Court having jurisdiction in mining disputes, upon being applied to, shall issue an order directed to the sheriff to seize and sell any other personal property of the debtor. Notices of sale shall, in either of the above cases, be conspicuously posted ten clear days prior to the day of sale, in the vicinity of such mining or other property, and on the Court House or Mining Recorder's office nearest thereto. But if such partner be absent from the district, such notices shall be posted as aforesaid thirty clear days before the day of sale, and a copy of such notice shall be published in some newspaper, circulating in the district wherein such mining or other property is situate, for the same period. sale shall be by public auction to the highest bidder. The purchaser shall be entitled to possession of the property sold, and to a bill of sale therefor signed by the auctioneer; such bill of sale shall confer such title upon the purchaser as the owner had.

Any partner may abandon his interest and after a notice of abandonment, in writing, shall have been served on the foreman or manager of a partnership by any member thereof, and duly recorded, such member shall not be liable for any debts or other liabilities of the partnership incurred after service and record of such notice, and no member shall be deemed to have abandoned an interest until service and record of such notice.

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nership ible for record interest Any partner shall be entitled to sell, or contract for the sale of his interest in the partnership property, but such interest shall continue liable for all the debts of the partnership. No partner shall, after a bill of sale conveying his interest has been recorded, be liable for any indebtedness of the partnership incurred thereafter.

Any mining partnership, composed of two or more free miners, and being free from all debts in respect of the partnership property, may limit the liability of its members, upon complying with the requirements following, that is to say: Upon filing with the Mining Recorder a declaratory statement, containing the name of the partnership, the location and size of every partnership claim, and the particular interest of each partner; and also placing upon a conspicuous part of every such claim, or set of claims, in large letters, the name of the partnership, followed by the words "Limited Liability." The words "Limited

Limited Liability" shall be part of the partnership name. After such conditions shall have been complied with, no member of such partnership shall be liable for any indebtedness incurred thereafter beyond an amount proportionate to his interest in the partnership. Every such partnership shall keep a correct account of its assets and liabilities, together with the names of the partners, and the interest held by each, and shall make out a monthly balance sheet showing the names of the creditors, and the amounts due to each, and file the same among the papers of the partnership; and such balance sheet and all the books of the partnership shall be open to the inspection of creditors at all reasonable hours. Every partner in such partnership shall be at liberty to sell or dispose of his interest therein, or of any part thereof, to any other free miner; but such partner shall be liable for the indebtedness on the said interest in proportion to his interest in the partnership.

No member of such partnership, after a bill of sale conveying his interest has been duly recorded, or after he has served a notice of abandonment of his interest on the foreman, and left a copy thereof with the Mining Recorder, shall be liable for any indebtedness of the partnership incurred thereafter. No such partnership shall declare any dividend until all its liabilities have been paid. Every such partnership shall appoint a foreman or manager, who shall represent the partnership, and who shall sue and be sued in the name of the partnership; and his contracts in relation to the business of the partnership shall be deemed to be the contracts of the partnership. No such partnership shall be liable for any other indebtedness than that contracted by its foreman or manager, or by its agent duly authorized in writing.

One or more free miners may apply to the Gold Commissioner for a grant of exclusive rights of way through and entry upon any mining ground in his district, for the purpose of constructing, laying and maintaining a bed-rock flume. Every such application shall be in writing, and shall be left at the Mining Recorder's office, addressed to the Gold Commissioner, and shall state the name of the applicant and the nature and extent of the privileges sought to be acquired. Thirty days' notice of such application shall be given, by affixing the same to some conspicuous part of the ground through which the rights of way are asked, and a copy thereof upon the walls of the Court House or of the office of the Mining Recorder of the district. Prior to such application, such

Bedrock Flumes ing Recorder of the district. Prior to such application, such ground shall be marked out by legal posts, placed at intervals of one hundred and fifty feet along the proposed main line or course of the flume, with a notice of such application affixed to one of such posts. And it shall be competent for any free miner to protest before the Gold Commissioner within such thirty days against such application being granted, but not afterwards. Every application for a grant shall be accompanied by a deposit of one hundred and twenty-five dollars, to be left with the Mining Recorder, which shall be refunded if the application be refused, but not otherwise. A grant may be for any term not exceeding five years, and the grantee shall be entitled to the following rights and privileges, that is to say:—

(a.) The right of way through and entry upon any new and unworked river, creek, gulch, or ravine, and the exclusive right to locate and work a strip of ground one hundred feet wide and two hundred feet long in the bed thereof to each grantee named in such grant:

(b.) The right of way through and entry upon any river, creek, gulch, or ravine, worked by miners for any period longer than two years prior to such entry, and already wholly or partially abandoned, and the exclusive right to stake out and work both the unworked and abandoned portions thereof, one hundred feet in width, and one-quarter mile in length, for each grantee named in such grant:

(c.) Such right of way through and entry upon any river, creek, or ravine discovered within two years next preceding the date of his application before mentioned, and upon any portions of which any free miner is legally holding and bona fide working a claim, as to the Gold Commissioner may seem advis-

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(d.) The right of way through and entry upon all placer claims which are at the time of the notice of application before mentioned bona fide being worked by any free miner, for the purpose of cutting a channel and laying his flume therein, with such reasonable space for constructing, maintaining, and repairing the flume as may be necessary: Provided, that the owner of such lastmentioned placer claim shall be entitled to take and receive the gold or other

minerals found in the cut so made:

(e.) The use of so much of the unappropriated water of the stream on which the flumes may be located, and of other adjacent streams, as may be necessary for the use of the grantee's flumes, hydraulic power, and machinery to carry on his mining operations, and the right of way for ditches and flumes to convey the necessary water to his works, subject to the payment of any damage which may be done to other parties by running such ditches or flumes through or over their ground: The right to all the gold or other minerals in his flumes:

(g.) No person locating new and unworked or abandoned ground within the limits of such grant, after the notice above mentioned has been given, shall have any right or title as against such grantee to the ground so located.

The holder of a claim through which the line of the grantee's flume is to be run may put in a bed-rock flume to connect with the grantee's flume, but must maintain a like grade, and construct a flume of like strength, and must maintain his flume and keep it free from obstruction. Such claim holder shall have the right to become a partner of the grantee by uniting his claim and flume with the ground and flume of the grantee and taking in the whole an interest proportionate to that which he shall cede to the grantee; or he may abandon his claim and flume. and such abandonment shall enure to the use and benefit of the grantee.

The grant must be recorded within three days after its issue; and the grantee must pay an annual rental of \$12.50 for each quarter of a mile of right of way granted, and must lay one hundred feet of flume during the first year of the grant, and three hundred feet annually thereafter until completion of the flume. Any free miner working a claim where a bed-rock flume exists is entitled to tail his sluices, hydraulics and ground sluices into the flume, but must not obstruct

the free running of the flume.

A free miner may apply for and subject to compliance with the statutory requirements relating to the mode of application, the marking of the ground by legal posts, and the giving notice of intended application, obtain from the Gold

Commissioner (with the sanction of the Lieutenant-Governor-in-Council) a lease of any unoccupied and unreserved Crown land for placer mining purposes or for precious stone diggings for any term not exceeding twenty years on such terms and conditions as the Gold Commissioner

Applications shall not be for greater than the following areas or distances: In creek diggings on abandoned or unworked creeks, half a mile in length; any other placer mining ground, eighty acres; but in no case shall any lease extend along any creek or river more than five hundred yards; creek diggings excepted; precious stone diggings, ten acres; but the right to mine for precious stones shall not include the right to mine for gold or other precious metals, unless the ground be held also for that purpose separately, under the provisions of the Act.

Every lease shall provide for securing to the public reasonable rights of way

and water, and shall contain a covenant by the lessee to mine the ground in a

miner-like manner, and shall contain such covenants for the continuous working of such ground as the Gold Commissioner shall think reasonable, and shall reserve the right to free miners to enter on such ground and mine for veins or lodes. lease shall not be granted for any mining ground any portion of which is actually occupied by free miners, unless with the consent of such occupiers; and no lease shall be granted for any mining ground which is, in the opinion of the Gold Commissioner, available for agricultural purposes.

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Adjoining leaseholds may, to an extent not exceeding 640 acres in area, be consolidated into one holding, and the lessees are allowed to do all the required annual work on one holding; or may commute the annual work by paying an amount equal to twenty-five per cent. of the required annual expenditure for works to the Crown by way of rental. Dredging leases may also be obtained, which grant only the bed of the river below low water mark for dredging purposes. These leases are restricted to a distance not exceeding five miles of the river's course, and the term is not to exceed twenty years, and such leases are made subject to the rights of free miners working claims fronting on or adjacent to the river.

MAINLAND COAST LINE.

Much prospecting is now being done and considerable work along the different arms of the sea that extend inland along this coast, and on Phillips Arm and other places large deposits of low grade gold ores are found in extensive reefs of milky white quartz with coarse iron pyrites, or in zones of eruptive rock mineralized with iron and copper pyrites. So far, work has not sufficiently advanced to afford more definite information, but much attention is now being paid to this part of the Province, and several companies are spending a good deal of money in development. No official reports have yet been made on Texada or these Mainland deposits.

CONSULS.

United States—Abraham E. Smith, Consul, Victoria; F. W. Smith, Vice-Consul, Victoria; W. B. Denison, Consul, Nanaimo; L. Edwin Dudley, Consul, Vancouver; F. Schofield, Vice-Consul, Vancouver.

Germany—Carl Lowenberg, Consul at Victoria; Johann Wulffsohn, Consul

at Vancouver. France-M. Camille Jordan, Consul, Vancouver; H. M. Graham, Vice-Consul, Victoria.

Spain—H. A. Mellon, Vice-Consul, Vancouver. Italy-John H. Turner, Consul, Victoria.

Sweden and Norway—Robert Ward, J.P., Consul; Wm. A. Ward, Vice-Consul at Victoria; John C. Maclure, Vice-Consul at Vancouver.

Belgium—Thos. R. Smith, J.P., Consul; John M. Whitehead, Vice-Consul,

Victoria. Netherlands-Gardiner Johnson, Consul, Vancouver.

Japan-T. Nosse, Consul, Vancouver.

Central America—M. P. Morris, Consul, Vancouver. Peru—R. H. Alexander, Consul, Vancouver.

Chili-M. P. Morris, Consul, Vancouver. Hawaii-R.P. Rithet, Consul, Victoria; J. W. McFarland, Vice-Consul, Vancouver.

SOCIOLOGICAL.

OTWITHSTANDING that sociology is a very comprehensive science and may be said to include almor every condition of living, it is not intended here to deal with the sociological aspects of the Province in the wider sense. It is the intention to limit the scope of the chapter to the con-sideration of three subjects dealing with and affecting the social organization. These may be broadly defined a free conditions and laws governing labour; the moral and religious life; and professional, fraternal and benevolent organizations. These in algeneral way determine the status of a community in regard to inner life and character. In all three respects British Columbia Social Conditions may be said to have a standard comparable, at least in essential features, with the most highly developed social organization elsewhere. Its communal characteristics are not, it is needless to say, evolved from local and primitive conditions, but transplanted from the most highly civilized parts of the British Empire. Hence, with the experience and intelligence acquired elsewhere, the component parts readily adjusted themselves to a system, applicable to their new abode, retaining at the same time all the characteristic and familiar features of their With population came churches, schools, lodges, social forms. former home-life. old-time recreations-all re-established on former lines. It is Western Ways. often a surprise to newcomers, who have associated life in the "wild and woolly West" with bears, cow-boys, Indians, bowie-knives and desperadoes, to find that they are still far away from the danger of being eaten up by wild beasts, tomahawked and scalped, or shot at sight. They find a state of society almost identical with that which they left, except that the environments, being new and strange, render it novel for a time.

Social usages are less conventional than in older communities and there is a freedom and an agreeable abandon which has a peculiar attraction to most people coming from the East; and only a brief residence is necessary to enable them to adapt themselves thoroughly and comfortably to life as it is on the Coast. It has been frequently remarked that there is an indefinable something in the social atmosphere of the West, or it may be in the air itself, that weds people to it after establishing themselves, and extinguishes the desire to return to their old homes. Western people become characteristically open-hearted, liberal in the expenditure of money, and hospitable. Ten cent pieces soon come to have the same value to them as coppers, quarters as dimes, and dollars as quarters. Differences in value, or the purchasing power of money, may account for that. The man who in the East "grubbed" for a livelihood soon begins to deal in "big propositions," and

contemplates thousands and hundreds of thousands in the same way that he thought of hundreds formerly. Millions, even, do not disturb his equanimity. When our representatives go to the House of Commons they startle the eastern

mind by the ease and nonchalance with which figures containing six and more ciphers roll off their tongues. Demands for appropriations for development works create genuine alarm for the safety of the Federal coffers. The western idea is a new condition imported into Canadian politics, which is not yet thoroughly comprehended east of the Great Lakes. It is a product of Pacific Coast climate, and will have to be reckoned with.

Although the liquor traffic is subject to much fewer restrictions than in Eastern Canada and the regulations respecting the same less rigidly enforced, drunkenness is not more prevalent. Public opinion, however, exerts a strong influence and no one can with impunity violate the proprieties in regard to sobriety in British Columbia more than elsewhere, and in this respect sentiment is

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daily growing stronger. Card-playing, which is a general recrea-Drinking and tion of the Pacific Coast, is carried on openly everywhere and Gaming. compared with its extent develops but little serious gambling. It is part of the social life of, especially, the old-time element of the people, and is nowhere regarded as a crying evil. The peculiar conditions of the country, the product of mining life, account for this. There is always a good deal of gaming in mining countries, and perhaps British Columbia is not specially exempt from this evil, but few of its results are seen on the surface, and it is carried on quietly and orderly. This is not stated in palliation or defence of the system, but as an explanation of conditions as they are. In fact, notwithstanding what might appear in some respects as a laxity in outer morals from an eastern standpoint, in few countries are the communities more orderly and law-abiding than in British Considering the extent of sea coast, the influx of population, from all quarters, the number of the native population, the many mining and logging camps and the other conditions favourable to lawlessness, there is a remarkable freedom from crime and viciousness. Miners, loggers, seamen and others are as a rule respectable and intelligent, and honourable in their dealings. Perhaps no more superior class of men, of the same number, than the miners can be found anywhere. The law is administered fairly and firmly and is respected thoroughly. In fact, it may be briefly stated

A Character Estimate. in summarizing the general conditions that the amenities of private and public life are generally well observed, law and order are thoroughly maintained, political ethics will compare favourably with any state or country in the world, education is thoroughly disseminated, intelligence and literacy are conspicuous features of every community, and the moral and religious elements are largely represented. This estimate of the character of the people as a whole is from a comparative standpoint. All British and English speaking communities are as a matter of fact more or less alike; but these remarks are intended to convey the impression, which is a truthful one, that notwithstanding the pre-conceived ideas of persons living in, or coming from, older settled communities, the plane of advancement in British Columbia is above rather than below the average.

A word may be added here in reference to church and fraternal and benevolent organizations. A special chapter, containing a very great deal of data respecting these had been prepared at the expense of considerable labour, but owing to the limitations of space, the greater part has been omitted for the present. However, it may be

stated that one of the most remarkable features of the development of the Province has been the way in which social, fraternal and religious organizations have kept pace with material advancement. Missionaries came early in the history of the Coast and soon obtained a strong footbold with the patitive and imported appropriate page leaves the page

followed and to-day the spiritual wants of the cities and towns are adequately

supplied, all the leading denominations being well represented.

What may be referred to as the home life of the people is for a new country not less worthy of note. The mildness of the climate and the profuse vegetation, coupled with the natural picturesqueness of the scenery, render residence conditions peculiarly favourable; and it is not long before attractive and cosy houses grow up to dot the landscape. It may not be unreasonable, therefore, under such happy auspices, to anticipate that the residences of British Columbia may, before very long, aspire to be ranked with those of "Merrie England," which is proverbial for the beauty and comfort of its homes.

PROFESSIONAL ASSOCIATIONS.

THE permanent seat of the Law Society is at the Law Courts in the City of Victoria. The regular meetings of the Benchers are held at Victoria on the first Monday of January, April and October in each year. Students at law and articled clerks are admitted in the months of January, April and July. No person is admitted who is not of the full age of sixteen years. Students desiring

admission must notify the secretary of the Society on or before the first Monday in the month preceding the month in which he seeks admission, and deposit with the sub-treasurer the amount of fees payable on admission. The term of attendance at Barris-

ters' Chambers before call to the bar and of service under articles before admission as Solicitor is five years, except in case of students at law, who, previously to having been entered on the books of the Society shall have attained the degree of B.A., or M.A., or B.L., or LL.D. in any recognized university of Great Britain or Ireland or the Dominion of Canada, and of articled clerks who previously to having been articled shall have attained the degree of B.A. or M.A. in any such university in which case the term of five years shall be reduced to three. Examinations are held at the following dates: The first Monday in March, June and December of each year. There are 143 practicing Barristers on the roll of the Society. The fees payable are:—

On admission as a student-at-law or articled clerk, \$50: on examination for call to the bar, \$100; on Solicitors' examination, \$100; for any intermediate examination, \$10; on enrollment of applicant from another Province or County, \$50; Barristers' or Solicitors' annual fee, payable first Monday of each November, \$10 rebate if paid one month in advance, \$30. Proportionate amounts returned to

unsuccessful candidates.

B.C. Law

Society.

The Act under which the Council at present exists was passed in 1886 and the conditions necessary for registration as medical practitioners in the Province are briefly: Council admits upon register persons producing diploma of qualification from any college or school of medicine or surgery requiring at least three years' course of study, provided that applicant furnishes satisfactory evidence of identification and good standing and passes examination before the members. Qualified practitioners coming from other Provinces

British Columbia Medical Council.

Other officer of the medical body having jurisdiction where applicant last practiced his profession, and evidence by statutory declaration that he has not lost

the benefit of his said resignation by misconduct or otherwise. Entrance fees will not exceed \$100.00. Before examination, candidates are required to pay to the Registrar of Council a fee of \$100.00, half of which will be returned if candidate is rejected. Permits are not granted by the Council. There are three examinations during the year:—The first Tuesdays of May and September and the second Tuesday of January. The Council consists of seven members elected triennially by the profession of British Columbia. Dr. Fagan, New Westminster, is Registrar and Secretary.

The British Columbia Pharmaceutical Association was incorporated June, 1891, and has sixty-two licentiates on the register. Its affairs are conducted by a council composed of six (6) licentiates of pharmacy, and a Board of Examiners, consisting of three members of the association, who (the examiners) are appointed

Pharmaceutical Association.

annually by the Lieutenant-Governor-in-Council. Persons registering on "outside" diplomas must have certificate of standing and requirements equal to those of the association, and have attended two (2) courses of lectures on chemistry, two (2) on materia medica and pharmacy and one course in botany. Fees are \$8.00 per annum for each certificate to persons engaged in the business on their own account, \$4.00 per annum for licentiates acting in the capacity of clerks, and \$2.00 per annum for apprentices. The regular examinations of the association are held on the first Wednesday and Thursday of April and October in each year. Fees:—For the preliminary (certified apprentice) examination, \$2.00; for the minor (certified clerk) examination, \$10.00; for the major (licentiate of pharmacy) examination, \$20.00. No fees will be returned, but unsuccessful candidates will only be required to pay half the usual fees if they present themselves a second time. These fees do not include annual registration fee. Secretary, Registrar and Treasurer, John K. Sutherland, Vancouver.

The British Columbia Dental Society was formed in 1895, and has a membership of fifty-four, eighteen on Vancouver Island and thirty-six on the Mainland. In order to practice in British Columbia, it is required that the applicant should

B. C. Dental
Society.

be a graduate of a reputable Dental College and pass a satisfactory examination before the Board of Examiners. Examinations are given to applicants after thirty days' notice. A. R.

Baker, Victoria, is Secretary of the Society.

The Provincial Land Surveyors' Association was organized in 1891, and has a membership of fifty. President, A. S. Farwell; Secretary, J. H. McGregor. With respect to the qualifications of Provincial Land Surveyors, it is provided that any person who has passed the examination for and served two years in any of Her Majesty's surveys, or as an officer in Her Majesty's dominions, or who has been in the active employ of any chartered railway company in this Province as a surveyor and engineer for the space of five years,

Provincial Land Surveyors.

Shall be admitted after examination provided, to serve as a provincial land surveyor. Qualified civil engineers from any British or Canadian University or chartered institute of engineers can make surveys, and such surveys, when certified by him, shall be authoritative and admissible to public record; and such civil engineer shall be entitled to practice as a Provincial land surveyor on presenting credentials to board of examiners and furnishing proofs of competency and residence in the Province for one year immediately preceding his application for admission. There are one hundred and thirty registered land surveyors in the Province. The board of examiners is composed of six members, of whom Mr. Tom Kains, Surveyor-General, is President and Secretary.

FRATERNAL AND BENEVOLENT ASSOCIATIONS.

There are branches of the Young Men's Christian Association in Victoria. Vancouver, New Westminster and Nanaimo.

The Young Women's Christian Association has branches in Victoria and Vancouver, and the secretaries are: Victoria, Miss Annie Munroe; Vancouver, Mrs. J. Johnstone.

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good ar or pracot lost The Young Men's Institute has Councils located as follows: In Victoria, S. A. Bantly, Secretary; Vancouver, J. B. McGarrigle, Secretary; New Westminster, W. H. Keary, President; Nanaimo, A. W. McDonald, Secretary; Wellington,

John M. Vetter, Secretary.

The Loyal Council of Women of Victoria and Vancouver Island was organized November 8th, 1894. Twenty-nine societies—philanthropic, educational, religious—have since then affiliated with it. The Corresponding Secretaries are: Mrs. Arthur Scaife, Victoria; Miss G. A. Reid, Vancouver; Mrs. Foster, Donald; Mrs. H. B. Parke, Vernon.

The Epworth League of British Columbia is affiliated with the Methodist Church. There are thirty branches, with a total membership of 1,000. Secretary, C. S. Keith, New Westminster.

The Society of Christian Endeavour has branches connected with all the churches of the Presbyterian and Congregation denominations. There is a Provincial Union, the Secretary of which is W. A. Gleason, Vancouver.

The Sons of England have lodges in Victoria, Vancouver and New West-

The Sons of England have lodges in Victoria, Vancouver and New Westminster. The Secretary of Alexandria Lodge, Victoria, is J. Crutchley.

The Sons of St. George have branches in: Victoria, Wm. Greasley, Secretary; Vancouver, E. G. Cracknell, Secretary; Nanaimo, J. Chadwick, Secretary.

The Sons of Scotland: Vancouver, J. B. Smith, Secretary. Sir William Wallace Society, Victoria (under the patronage of Lord Aberdeen), R. H. Jameson, Secretary.

Scotland: Vancouver, Victoria.

Daughters of England, Victoria, Miss Gladding, Secretary; Daughters of St. George, Victoria, Mrs. Mulcahy, Secretary.

Sons of Erin, Victoria, F. H. Lang, Secretary. St. Patrick's Society, Vancouver, J. M. O'Brien, President. Sons of Hermann, Vancouver, John Decker.

couver, J. M. O'Brien, President. Sons of Hermann, Vancouver, John Decker, Secretary.

Mainland Steamshipmen's Protective and Benevolent Association, Vancou-

ver, Wm. Elliott, Secretary.

The Sons of Temperance have seven lodges with 267 members. J. J. Dougan, Vancouver, is Provincial Secretary.

The Royal Templars of Temperance have six lodges with 294 members. The Secretary is J. J. Johnston, New Westminster.

The Ancient Free and Accepted Masons number 1,329 and have twenty-four lodges. W. J. Quinlan, Victoria, is Grand Secretary.

The Independent Order of Odd Fellows has twenty-one lodges, with 2,807 members. The Grand Scribe is Fred'k Davey, Victoria.

The Canadian Order of Foresters has six lodges, with a membership of 145. British Columbia lodges are included in the District High Court of Manitoba and North-West Territories, and the District High Secretary is Wm. Kirkland, P.O. box 677, Winnipeg, Man.

The Ancient Order of United Workmen has sixteen lodges, with 713 members. The Grand Recorder is J. T. McIlmoyl, Vancouver.

The Knights of Pythias have twenty lodges, with a membership of 1,274 The Grand Recorder is Emil Pferdner, Victoria.

Hospitals, Etc.—Marine Hospital, Victoria; St. Joseph's Hospital, Victoria (Catholic); Royal Jubilee Hospital, Victoria, F. Elworthy, Secretary; St. Paul's Hospital, Vancouver; Royal Columbia Hospital, New Westminster; St. Mary's Hospital, New Westminster; Women's Hospital, New Westminster; British Columbia Insane Asylum, New Westminster, G. F. Bodington, M.D., Superintendent; Misericordia Hospital, Rossland; City Hospital, Nanaimo.

Homes and Orphanages.—W.C.T.U. Refuge Home, Victoria, founded 1889, Secretary, Miss Perrin; Refuge Home, Victoria, Mrs. Clarke, Matron; Protestant Orphan's Home, Victoria, John Jessop, Secretary; Old Men's Home, Fairfield Road, Victoria; Alexandria Orphanage, Vancouver; Provincial Home for Old Men, Kamloops; New Westminster Orphanage, 622 Columbia Street.

The British Columbia Benevolent Society, organized in 1872, W. H. Mason, Victoria, Secretary; St. Ann's Society, Victoria (Catholic); Society for Prevention of Cruelty to Animals, Victoria, Dr. D. B. Holden, Secretary-Treasurer.

The Licensed Victuallers' Association, Vancouver, was organized in 1887 and has a membership of fifty-five. The Secretary is Ernest E. Barker.

The Art, Historical and Scientific Association, Vancouver, was established

in 1894 and has 150 members. Secretary, G. F. Monckton.

The New Westminster Art and Scientific Association was established in 1894 and has a membership of forty-five. Secretary, A. E. White.

The Natural History Society of British Columbia, Victoria, was founded in

1889 and has at present a membership of about seventy. Dr. E. Crompton, Sec-

A Provincial Rifle Association was organized in 1874 and is in a very flourishing condition. His Honour Lieut.-Governor T. R. McInnes, is President,

and Captain E. H. Fletcher is Secretary.

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The Aberdeen Association has for its object the dissemination of good literature among the settlers of the more remote parts of the Province. Parcels of books and magazines are periodically sent to missionaries for distribution among their congregations and to lighthouse keepers, isolated settlers, mining camps, etc. There are two branches in British Columbia—at Victoria and Vancouver. The officers of the Victoria branch are: Mrs. J. H. Turner, President; Mrs. Mc-Killigan, Vice-President; Miss Finlayson, Treasurer, and Mrs. J. H. Church, Secretary. There is also an executive of eight members.

There is a long list of athletic associations in the Province which represent almost every British sport, the more prominent being cricket, lacrosse, football, lawn tennis, hockey, golf, boating, bicycling and gunning. In this respect the

disposition to athleticism is strongly developed.

From the Report of the Department of Agriculture for the year 1804 from returns received it appears that at that time the total area of agricultural land owned was 1,238,616 acres; of that 111,425 acres were cultivated, 504,497 acres woodland or forest, 40,000 acres swamp and 513,438 acres prairie or pasture land (including meadows).

CHURCH STATISTICS.

DETAILS	Baptist	Catholic	Congregational	Episcopal	Methodist	Presbyterian	Reformed Episcopal	Total
Number of Churches	14	36	2	20	82	(3	295
" Missions	14 25	36 86		15		138		221
" Clergymen	- 11		2	22	95 60	56	.5	156
" Priests		43						43
" Lay Preachers	10	- 10			105			115
" Communicants	1,208		250	3,614	3,769	2,957	193	11,991
" Church Families				1,324		2,623		3,947
" Number of Scholars.	1,410	THE PARTY.		2,232	4,671	3,763		12,076
Value of Church Property	\$85,000	\$130,000	\$20,000		[\$350,446	\$325,000	\$11,100	\$1,087,496
Catholic Populat'n, incl' Indians		33,000						
Colleges and Academies		4			1	• • •		5
Students in Colleges & Academies		382						
Convents		7						
Schools and Homes	*	15			16	5		36
Pupils		360			620			36 980
Young People's Societies					23	46		69
Total Membership					954	11,276		2,230
Census of 1891-Population	3,098	20,843	775	23,619	14,298	15,284		*20,256

Estimated.

CENSUS OF 1871.

DISTRICT.	Whites.	Coloured	Chinese.	Natives.	Total.
Victoria City	2,842	217	211	360	3,600
Districts adjacent to Victoria Cowichan, Chemainus, Salt Spring	1,512	56	60	553	2,181
Island			estimate	d at 1,400	to 2,000
Nanaimo and District	601	92	35	850	1,579
Comox	. 102			1,100	1,202
New Westminster and District	1,292	37	27	(est)goo	1,656
Yale-Lytton (estimated)					1,000
Lillooet-Clinton	235	3	80	906	1,224
Cariboo	.920	32	685	570	2,207
Columbia and Kootenay	108	2	145	543	798
Omineca (as now estimated)					1,800
Total estimated population from	settled I	istricts			19,277

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CONDITIONS OF LABOUR.

In considering the question of labour, which is always an important economic factor, both to the capitalist in determining the profit value of an industry and to the labourer as affecting his general welfare, it would be upsafe to apply standards of living elsewhere or accept the comparatively higher rates paid as indicative of greater demand. Necessarily the cost of living in a new country is greater than in old and well-settled communities. Rates of wages to some extent correspond, but it may be stated here that in nearly every avenue of employ-

ment the supply is equal to and in most instances in excess of the demand. This is particularly true of all "office" workers—em-Supply Equal to Demand. ployment is difficult to obtain. For several years it was true of all but a few of the trades, but increased activity in mining and the widespread interest in prospecting has relieved the labour market of late to some extent. It is probably safe to say that there is a fair demand for miners in Kootenay and that in the interior there is generally a better chance of employment; and that altogether the conditions are favourable to improvement, but, except for female don estics, the almost invariable reply to a large number of enquiries was that the supply is equal to, or exceeds the demand. A general want exists for good domestic servants. Therefore, no one is encouraged by what may appear to be higher rates of wages than obtain in the eastern provinces of Canada or in other countries, to come to British Columbia in search of employment in any line except a few in which special knowledge or skill is required. Of course, there are always a few fortunate, who by favour, good luck, or superior management, succeed in obtaining employment, even in a congested market, but these are the exception. Once obtained a situation in British Columbia is probably better, if properly husbanded, than a similar one elsewhere, and the opportunities for individual efforts and promotion There is an element of speculation in everything in a new countrypossibilities for the future—which do not exist outside, and that fact accounts for so many of all classes being attracted to new countries in the hope of bettering their condition; and thus without any advertising the labour market is ant to become crowded. Apart from the individual chances of success referred to there

is no royal road to wealth or even moderate competence here any more than in older countries. In fact, when the labour market becomes crowded the number of unemployed is usually considerable and much suffering and privation of which the world never knows are experienced. By the increased cost of living, and the fact that all are strangers to each other greatly accentuates any want that may exist.

THE WAGE RATE.

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3,600

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THERE are labour organizations in Victoria, Vancouver and Nanaimo; and it may be unnecessary to state, the railway operatives on the various lines are allied with some of the several unions peculiar to carrying corporations. In the three cities named there are Trades and Labour Councils representing the various unions of each. In Nanaimo the principal labour controlled by such organizations is that employed in the mining industry. Owing to the unsatisfactory condition of the coal trade neither the demand nor the remuneration for labour is satisfactory to the unions, although the situation is accepted as the best under the circumstances, and the relations between employer and employee may be stated as fairly harmonious. Labour statistics for the coal mining districts, as contained in the report of the Minister of Mines for 1896, are given as follows:—

COAL MINING.

	No. o	OF EMP	LOYEES.	WAGES PER DAY.						
	Whites	Boys.	Mongol- ian.	Whites.	Boys.	Mongolian.				
West Wellington	12		I	\$2 50		\$1 25				
Nanaimo	803	53	125	2 37 to \$3 50	\$1 00 to \$2 00	1 00 to \$1 2				
Wellington	796	53 72 18	91	2 25 " 3 50	I 00 " 2 00-	100" I 5				
Union	365	18	415	2 25 " 3 50	I 00 " 2 00	1 00 " 1 3				
Total	1,976	143	632							

VEIN MINING.

The rate of wages for miners in the interior districts is given below from returns received direct from a number of mines, and is referred to incidentally in the chapter on mining.

Shift box es\$3 50 to \$5 50 per day.	Engineers\$4 oo to \$5 oo per day
Black ths 3 00 " 4 00 "	Miners 3 00 " 3 50 "
Timbermen 3 50 " 4 00 "	Trammers 2 50 " 3 00 "
Pullmen 3 00 " 4 00 "	Chinese and Japs 1 00 " 1 25 "
Roustabouts 2 50 " 3 50 "	Indians 3 00 " 3 00 "

VICTORIA TRADES AND LABOUR.

The secretary of the Victoria Trades and Labour Council, Victoria, reports the state of trade and labour in that city as in a very depressed condition, and states that for some time the market has been overstocked in all lines. His report is as follows:—

Stone Cutters' Association of North America—\$4.50 per day of eight hours.

Victoria Typographical Union, No. 201—Day work: foremen, \$23 per week; time work, \$20 per week of fifty-three hours; piece work: book, 42½c., news, 40c. per 1,000 ems; linotype operators, \$3.50 per day of eight hours. Night work: foremen \$26 per week; piece work, 42½c. per 1,000 ems; linotype operators \$4.25 per night of eight hours. Trade fair.

International Iron Moulders' Union, No. 144-\$3.25 and \$3.50 per day of ten hours. Trade very bad.

Local Union of Shipwrights and Caulkers—\$4.00 per day of nine hours. Trade dull.

No. 492, Amalgamated Society of Carpenters and Joiners—\$2.50 to \$3.00 per day of nine hours. Trade very bad.

VANCOUVER TRADES.

A report on labour in Vancouver from an official source, received early in the summer, contained some interesting particulars. It is fair to state that conditions have improved somewhat in that city since that time, especially in the building trades; but the rates of wages have not materially altered. The following extract is made from the report in question:—

extract is made from the report in question:—
"Of course you are aware that the building trades have been demoralized during the past winter, and some branches have become almost extinct, notably

the bricklayers and stonemasons and cutters.

Hours	3.	Was	ges	Pa	id.	
Machinists	·····	\$2 75	to	\$3	00	
Moulders					00	
Boilermakers 9				3	25	
Cabinetmakers 9	(no union)			2	50	
Upholsterers 9	(no union)			2	50	
Carpenters 9		2 25	"	3	75	
" (C.P.R. shops)					50	
Bricklayers9		3 00	"	3	35	
Stonemasons and cutters, same as Vic-						
toria						
Builders' Labourers 9		2 00	"	2	25	
Painters 9				3	00	
Bakers12 to 18	per month	20 00	"	35	00	
Deck hands (including board)					00	
Mates	·			50	00	
S.S. Firemen				40	00	
Tailors 9		2 75	"	3	00	
Job Printers 9				3	50	
Operators (Printers):						
Evening Papers 8				3	60	
Morning Papers 8				-	75	
Motormen and Conductors on Tram Cars		.per	hou	100000	20	

"It is almost a matter of impossibility to keep wages in Vancouver much higher than at Toronto because all workmen coming to these parts from the East land here first and as a rule are willing to take work at any rate so long as it is a little above the eastern rate and when they find they cannot live on the

conditions of Labour. Wages paid manage to leave for other parts. As for the mills, they are principally worked by Indians, half-breeds, Chinese and Japs, who are paid 75c. to \$1.00 a day. One or two head sawyers get \$75 a month. Pacific navvies and labourers receive \$2.00 a day. Clerks and the like get from \$1.00 a day to \$50 a month. I know of three smart, well-educated dry goods clerks (aged 20 and 21) who receive \$8 a week. Every one nearly who is idle and working for low wages is going to the upper country. If business improves the old rates of a few years ago are bound to be restored."

Enquiries are frequently made by foreign investors as to the price of unskilled, or what is generally designated as "common" labour. From careful enquiries it is ascertained that although the civic rate of pay is \$2.00 per day, as unskilled Labour. It is class of labour may be obtained from \$1.25 to \$1.75 per day or from \$30 to \$50 per month, \$40 being a fair average. Of course, unskilled labour varies and is subject to fluctuations according to demand. Taking the last three or four years during dull times the above rates were fairly representative with supply greater than demand. An improvement in demand has been noticeable this season.

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From the large number of reports, covering nearly every part of the Province, received from industrial and commercial establishments, the table given below has been compiled showing the weekly wage, for in most instances ten hours a day. Most of the wholesale establishments close at one on Saturday. The rate of wages to managers is not included, as that varies very much according to particular conditions governing each establishment. As frequently happens, the manager is part proprietor or managing director, and in such cases the salary is usually high. Reports range all the way from \$25 to \$100 per week. Apprentices vary from \$4.00 to \$10, \$5.00 and \$6.00 being an average. Labourers vary from \$0.00 to \$15, \$10 and 12 being the average. Chinese get from \$6.00 to \$8.00, and Japanese from \$7.00 to \$9.00. Indians who work in logging camps, sawmills, on board boats, etc., being strong and active, obtain about the same wages as white

WEEKLY WAGES.

	Foremen.				Book- keepers.					Clerks.					Journeymen.				
Lumber Mills	\$25	oo to	\$35	00	\$20	00	to	\$30	00	\$10	00	to	\$20	00	\$15	00	to	\$21	oc
Flour Mills		00			20	00	66						1			00		18	
Breweries	18	00 "	20	00	18	00	"	25	00						15	00	"	18	o
Iron Works Blacksmiths and	25	00			20	00				12	00	"	18	00	15	00	"	18	o
Carriage Build'rs															15				
Furniture Boot and Shoe Fac-	21	00				• • • •				15	00	"	18	00					
tory	28	00			23	00	-								18	00			
Cooperage Works	20	00			15	00									12	00	"	18	00
Sugar Refinery.,	25	00		*	25	00				15	00	"	20	00	15	00	"	20	o
Shipyards Building and Con-	20	00 "	25	00	15	00	"	18	00						15	00	"	20	o
tracting	25	00		1	20	00										00		18	O
Soap Works	25	00		1	15	00	"	20	00						15	00	"	20	00
Candy Factories	.30	00			15	00										00		20	O
Tinsmiths																00		21	O
Cigar Factories Fruit and Spice	20	00 "	25	00		• • • •									18	00			
Factories	20	00			15	00	"	18	00						15	00	"	18	00
Printers		00 "		00	15	00	"	20	00	12	00	"			18			21	O
Dry Goods	15	00 "	20	00		00		25	00	15	00	"	20	00					
General Stores	15	00 "	20	00		00		15	00	IO	00	"							

SPECIAL TRADES.

Millers (flour)\$2	50 to \$4	50 pe	er day.	Engineers\$3	00	to \$3	50	per day.
Firemen	2	50	**	Blacksmiths 2	75	" 3	00	"
Horseshoers	3	25	"	Wheelwrights	17	3	00	. "
Carriage painters	3	00	"	Filers (saw mill)		36	00	per week.
Sawyers (saw mill)	27	00 pe	r week.	Engineers (saw mill)		15	00	"
Machinists (saw mill)	15	00	"	Tally men (saw mill)		15	00	
Stable men (saw mill)	50	00 pe	rmnth.	Cabinetmakers 2	50	11 3	00	per day.
Carpenters			r day.	Captains100			00	pr month.
Mates85	00 " 125	oo pr	month.					

Of course, it must be understood that in a new country, with a variety of employment under a variety of conditions, it is very difficult indeed to classify

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fair ordove labour under various heads uniformly. Nearly every locality presents conditions different from any other. While the social organization is not nearly so complex and the division of labour much less minute than in older countries, there is nevertheless greater diversity in the character of employment, and individualism counts for more. Consequently anything like exact classification is out of the question and information in regard to particular trades will not apply strictly to any extended area. However, the figures given above may be accepted as fairly representative of wages under average conditions. It may be stated to those seeking employment as clerks, book-keepers, and in secretarial and general office capacities there is a surplus and emoluments are proportionately limited.

RAILWAY EMPLOYEES.

Salaries vary very much, and it is difficult to obtain accurate returns in every instance. However, the following will be found approximately correct:—

	Per month.			
Station Agents	\$ 60	00 t	to \$125	00
Frain Despatchers		00		
Operators		00		00
Conductors,	90	00	" IIO	00
Orivers	100	00	" 135	00
Firemen	65	00	" 90	00
Brakemen	50	00	" 85	00
Baggagemen	50	00	" 75	00
Clerks		00		00
Sectionmen		00		00

The above does not include, of course, first class clerks and specialists in various departments who receive emolument according to responsibility and work attached to office, usually on a liberal scale.

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DOMESTIC HELP.

	Per Month.
Chinamen	\$10 00 to \$25 00 25 00 " 35 00 15 00
Nurse Girls Stable Men, etc	9 00 20 00 " 30 00 15 00 " 25 00

Note-For teachers' salaries see chapter on Education.

BOARD.

Exclusive of regular board at high class hotels which is about \$60 per month, first class board is about \$8.00 to \$9.00 per week, second class, \$5.00 to \$6.00; third class, \$3.50 to \$4.50. Transient rates in hotels vary according to class from first, \$3.00 to \$5.00 per day; second, \$2.00 to \$2.50; third, \$1.00 to \$1.50.

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N Act was passed in 1893 for the establishment of a Bureau of Labour A Statistics and a Board of Conciliation and Arbitration. As the conditions of labour at that time did not render necessary the machinery provided under the Act in the following year it was substituted by another Act by which in case of dispute between employers and employees reference could be made to arbitra-

tion, but action under the arbitration clause is voluntary. The Arbitration single dispute referred since the passing of the Act terminated and Conciliation. satisfactorily, and the Act in question affords an easy and practicable method of settlement. Fortunately, however, owing to the generally harmonious relations existing between labour and capital in this Province it has not been necessary to bring its provisions into requisition oftener.

Under the Creditors' Trust Deeds Act the assignee under any assignment for the general benefit of creditors is obliged to pay in priority to all other claims the wages or salary of all persons in the employment of the as-

Lien signor at the time of the assignment not exceeding three months' Laws. wages or salary, the employees being for any excess above such

three months entitled to rank as ordinary general creditors.

Unless there is an agreement to the contrary, every contractor, sub-contractor and labourer has a lien for work and labour, limited in amount to the sum actually owing to the person entitled to the lien. Lien expires, unless registered twenty-one days after completion of work. If lien is on mortgaged premises it is prior to mortgage against increase of value of mortgaged premises by reason of such work or improvement, but not further, unless work is done at request of mortgagee in writing.

By the Employers' Liability Act, 1891, an Act passed to secure compensation to workmen for personal injuries suffered by them in the course of their employment, provision is made for rendering employers liable for injuries caused to workmen by reason of any defect in the condition or arrangement of machines, plants, buildings or premises used in the course of employment, and for injuries

arising by reason of the negligence of any person in the service Liability. of the employer to whose orders or directions the workman at the time of injury was bound to conform. The compensation is limited either to three years' wages or to a sum not exceeding \$2,000. It is also Employers' provided that no agreement entered into by a workman shall be a bar to his recovering under the Act unless for the entering into of such agreement there was to the workman some consideration other than that of his being given employment, and in the opinion of the Court such other consideration was adequate and the agreement was just and reasonable, the burden of proof in respect to these latter requirements resting upon the employer. Notice of injury must be given to the employer within twelve weeks of the accident, and if the action be for personal injury, the action must be commenced within six months. Should the workman be killed, his representatives have twelve months in which to bring

By the Homestead Act, which purports to be an Act to exempt homesteads and other property from forced seizure and sale, provision is made (a) As regards personal property for the securing to a debtor of an exemption of personal property from all processes of execution amounting in value to \$500, provided that

no exemption can be claimed out of a stock in trade in a busi-(b) As regards realty for the obtaining of an exemption Homesteads. of real property registered as a homestead under the Act, up to a value not to exceed \$2,500. Should such homestead at the time of the issue of execution be of a greater value than \$2,500 the excess over such value is liable

to seizure and sale. A special procedure and mode of registration is provided for

the registration of real estate as homestead property.

By the Masters' and Servants' Act, it is provided that no voluntary contract of service or indenture shall be binding for a longer period than nine years; that agreements for profit sharing may be entered into; that no Apprentices, verbal agreement shall exceed the term of one year, and that dis-Minors, etc. putes may be disposed of summarily before Justices of the Peace under the procedure contained in the Act, an appeal lying as from orders under the Summary Convictions' Act.

The Apprentices' and Minors' Act contains provision for the care of minors by guardians and relatives, and for the care by charitable associations of minors who might otherwise become a charge on the public; defines the powers of guardians and of such charitable associations in regard to the apprenticing of minors; codifies the law respecting the mutual rights of masters and apprentices; and contains procedure for the settlement of disputes, an appeal being given to the County Court.

The Liquor Traffic Regulation Act consolidates the former Acts dealing with the regulation of this traffic and contains the provisions of the old Tippling Act, under which debts of \$5.00 contracted in retail purchases of spirituous liquors are not recoverable unless for the price of liquor sold in bottles and taken off

the premises. A retailer is prohibited from taking any pawn or Liquor Traffic, pledge by way of security for the payment of any tippling debt, and the owner may recover any pledge so taken, and the dealer is liable to a penalty of \$10 for each offence.

It is further provided that, under penalty of not less than \$20 nor more than \$50 for a first offence, and not less than \$30 nor more than \$100 for a second offence, no sale or other disposal of liquor shall take place from the hour of eleven o'clock Saturday night until one o'clock Monday morning, except on a requisition from a qualified medical practitioner or a Justice of the Peace for

medicinal purposes.

Under the Drunkard's Protection Clause it is provided that where any person by excessive drinking of liquor mis-spends, wastes or lessens his estate or greatly injures his health or endangers or interrupts the peace and happiness of his family, such person shall be deemed to be a "drunkard," and a Stipendiary Magistrate by writing, under his hand, may prohibit the furnishing to such drunkard of any liquor for the space of any prohibit the furnishing to such drunkard of any liquor for the space of any prohibit the space of this provision renders ard of any liquor for the space of one year. Any breach of this provision renders the offender liable to a penalty not exceeding \$50 for a first offence and not exceeding \$100 for a second offence. Application may be made to a County Court Judge to set aside the prohibition under the procedure contained in the Act.

The Act also contains provisions concerning the respective rights of land-

lord and tenants in regard to the license of licensed premises.

COMPARATIVE TABLE OF POPULATION.

DISTRICT.	Whites. Chinese.		ese.	se. Indians.		Total.			
	1881.	1891.	1881.	1891.	1881.	1891.	1871.	1881.	1891.
New Westminster	4,479	28,048 1,550	870 1,344	3,591 1,151	10,068	10,151	1,356	5,417 7,550	42,226
Yale Victoria Vancouver	2,901 6,359 4,306	7,459 17,267 11,203	1,156 690 290	1,353 2,470 821	5,143 252 5,395	4,629 2,021 3,419	1,316 4,540 1,419	9,200 7,301 9,991	13,661 18,538 18,229
	19,448	65,527	4,350	9,386	25,661	23,257	10,568	49,459	98,173

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unknders t excourt It will be observed that for the individual districts in the above the aggregate of whites, Chinese and Indians in each case for 1891 does not agree with the final total as taken from the census returns. This is due from the fact that the political divisions do not agree exactly with the census divisions, the former being to some extent an apportionment by the author; but this does not affect the accuracy of the table, as the final totals all agree. It may be necessary here to state that in the census-taking of 1891 no account was taken of nationalities, only as to nativity, hence it was only after a revision of the returns between Indians, Chinese, etc. It was only after a revision of the returns that a separation was possible. The following table was adapted from the revised returns not without a great deal of labour, and is the only time such a statement has been made or published. As nearly as possible the Dominion political divisions are made to contain evenly Provincial divisions. They do not, however, exactly correspond, but are sufficiently approximate for material purposes.

NEW WESTMINSTER DISTRICT.

	Whites.	Indians.	Chinese.	Total.
Richmond	1,933	1,628	746 466	4,307
Delta	3,098 2,068	196 374	136	3,760 2,578
Dewdney	1,787	313	130	2,230
Cassiar	556 12,667	7,364	609	8,529
Vancouver City Westminster City.	5,939	167	932 572	13,708 6,678
	28,048	10,151	3,591	41,790

CARIBOO.

	Whites.	Indians.	Chinese.	Total.
Cariboo Lillooet West Lillooet East	791 323 436	1,475 983 579	801 236 114	3,067 1,542 1,129
	1,550	3,037	1,151	5,738

YALE.

	Whites.	Indians.	Chinese.	Total.
Kootenay Lower Kootenay Upper	954 1,545	7I 373	195	1,220 2,185
Yale, North Yale, East	1,797	373 1,361 692	240 366	3,398 3,140
Yale, West	1,081	2,132	285	3,498
	7,459	4,629	1,353	13,441

VICTORIA.

	Whites.	Indians.	Chinese.	Total.
Esquimalt Victoria City Victoria South	1,481 14,690 1,096	1,828 173 20	33 ² 1,977 161	3,641 16,840 1,277
	17,267	2,021	2,470	21,758

VANCOUVER.

	Whites.	Indians.	Chinese.	Total.
Victoria North	860	20	63	. 943
Cowichan	1,595	1,430	63 98	3,123
Comox	1,139	1,966	IO	3,115
Nanaimo City	4,363	3	228	4,594
Nanaimo North	2,720		228	2,948
Nanaimo South	526		194	720
	11,203	3,419	821	15,443

Kootenay at the time the census was taken was but sparsely settled, and it is therefore impossible to divide the population except as Upper and Lower Kootenay. At the present time it is, in the absence of a census, impossible to estimate accurately the population. Conditions have greatly changed.

Present Population. After careful computation, however, the total population of the Province may be placed at, in round figures, 100,000 whites and Chinese and 25,000 Indians. Were a census taken now it would be found that the Coast cities have, in the aggregate, increased little in population since 1801, the natural increase being distributed over the new mining districts. In no part of New Westminster District or in Vancouver Island has there been an appreciable increase, except in the mountains north from Pitt River, in the latter to the Harrison, and in the latter in Alberni and along the West Coast.

rison, and, in the latter in Alberni and along the West Coast.

The principal increases have been in West Kootenay, in the Boundary Division of Yale, while the southern part of East Kootenay, the vicinity of Kamloops, the Quesnelle and Barkerville Divisions of Cariboo, and Lillooet, have been influenced in growth by mining activity. Claims of a much greater popula-

Prospective Increase. tion are made, as high as 125,000 for whites, but it will be difficult to make it up, allowing a fair proportion of increase in each of the localities referred to. However, it is safe to assume that the total population at the end of 1898 will be 150,000 and may possibly reach 175,000. The increase until 1901 will be very rapid, when we may anticipate another lull in activity following out the experience of previous decades.

WOMEN'S RIGHTS, MARRIAGE, AND DIVORCE.

UNDER the Married Women's Property Act, a married woman is capable of acquiring, holding and disposing by sale or will of property both real and personal as her separate property in the same manner as if she were a femme sole without the intervention of any trustee. A woman, upon marriage, continues liable to the extent of her separate property for all debts contracted and all contracts entered into or wrongs committed by her before marriage. She may also

act as executrix or trustee; may effect insurance on her own life or that of her husband, and in the event of her dying intestate, her separate estate will be distributed in the same proportion between her husband and her children as the personal property of a husband dying intestate is to be distributed between his wife and children. The liability of a husband in respect to the ante-nuptial debts of his wife is limited to the amount of the property of the wife which he may have acquired through or upon or after the marriage.

A married woman may also, under certain circumstances, such as cruelty, abandonment or non-support on the part of the husband obtain a protection order securing to her her own and the earnings of her minor children free from any control or disposition on the part of the husband.

Under the Imperial Dower Act, 3 and 4 William IV., Cap. 105, a widow is entitled to dower (which is an estate for her own life in the one-third part of her

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husband's lands) out of both legal and equitable estates; this right being, however, subject to be barred by any deed or a will of the husband executed or made with that intent.

The solemnization of marriage in this Province is regulated by the "Marriage Act." Marriage may be celebrated by the ministers and clergymen of every church and religious denomination in British Columbia (including male adult staff officers of the Salvation Army) and by the Registrars appointed by the

Marriage. Lieutenant-Governor under the Act. Marriage licenses are issued under the hand and seal of the Lieutenant-Governor, or his deputy, duly authorized on that behalf. Quakers and those professing the Jewish religion are authorized to celebrate marriage according to the rites and ceremonies of their own religion and creed. The Lieutenant-Governor is empowered to appoint as many Registrars throughout the Province as may be necessary. Such Registrars are empowered to issue marriage licenses, upon receiving a statutory declaration of the non-disqualification of either party to the intended contract, and are also empowered to preside over marriages by civil contract which may be contracted in the office of the Registrar in the form prescribed by the Act, after fourteen days' notice of intention to so contract entered in a book kept in the office of the Registrar and open to the inspection of the public. All ministers and clergymen celebrating marriage are required to keep a marriage register in which entries of the facts of each marriage and concerning the parties contracting the same are to be made in the form by the Act prescribed.

Provisions are also contained defining the consent necessary and the parties by whom such consent may be given in the case of marriages contracted by minors, and also procedure whereby, should such consent be unduly withheld, an application may be made to and authority obtained from the Court for the celebration of such marriage. Any person on payment of \$2.50 may enter a caveat

against the issue of a certificate for the marriage of any person named therein; and no license shall thereupon issue to such person until the Registrar has examined into and adjudicated upon the matter of the caveat. An appeal in such

case lies from the Registrar to the Registrar-General.

It has been held by the Supreme Court in the case of S—vs. S—, 1 B.C. Rep. 25, decided in 1877 that by force of the "English Law Act," which provides that the Civil Laws of England as the same existed on the 19th day of November, 1858, and so far as the same are not from local circumstances inapplicable, shall be in force in all parts of British Columbia, the Imperial Divorce and Matrimonial Causes Acts, (20 and 21 Vict., C. 85; and 21 and 22 Vict., C. 108) are in force in this Province, and the Supreme Court exercise jurisdiction under and grants Divorces and Judicial Separations in accordance with the pro-

visions of the above Statutes. A husband may present a petition to the Supreme Court praying that his marriage may be dissolved on the ground that his wife has since the celebration thereof been guilty of adultery; and a wife may present a petition praying that her marriage may be dissolved on the ground that since the celebration thereof her husband has been guilty of incestuous adultery, or of bigamy with adultery, or of rape or bestiality, or of adultery coupled with cruelty, or of adultery coupled with desertion without reasonable excuse for two years or upwards. Upon proof of the matters set forth in the petition, and of the absence of collusion between the parties, the Court may decree a dissolution of the marriage. The Court is also empowered to make orders for the payment of alimony, and respecting the custody of the children of the marriage, and as to costs.

A sentence of judicial separation may be obtained either by the husband or by the wife on the ground of adultery, or cruelty, or desertion without cause for two years and upwards. Application for restitution of conjugal rights may be

made to the Court by petition.

On the making of a decree absolute for a divorce under the Act, the parties are at liberty to marry again; but no clergyman can be compelled to solemnize the marriage of any person whose former marriage may have been dissolved on

the ground of his or her adultery.

By the Families Insurance Act, an Act passed for the securing to wives and children the benefits of life insurance, provision is made for the insuring of life for the benefit of wife, or of wife and children, or of children only at the option of the insured, with power to apportion the amount of insurance money on the policy. Insurance may also be effected for the benefit of a future wife or a future wife and

children. Where insurance is effected under this Act, the insurance moneys are payable to the beneficiaries according to the terms of the policy free from the claims of creditors of the in-

sured; provided, that if the policy was effected and premiums paid with intent to defraud creditors, the creditors are entitled to recover an amount equal to the premium paid, but without interest.

DEFENCE.

THE Fifth Regiment of Canadian Artillery consists of two battalions of three companies each, the first with headquarters at Victoria and the second in Vancouver and New Westminster on the Mainland. Lt.-Col. the Hon. E. G. Prior is Commander of the Regiment and Lt.-Col. F. B. Gregory, of Victoria, and Lt.-Col. C. A. Worsnop, of Vancouver, are in command of the first and second battalions, respectively. This Regiment is one of the largest in Canada, having 625 members on the roll. A detachment of Royal Marine Artillery and a small detachment of Royal Engineers, whose duty it is to construct and keep in order the fortifications on Esquimalt Harbour, are stationed at the Macaulay Point Barracks and number about one hundred in all. Lt.-Col. Muirhead, of the Royal Engineers, is in command of the Royal Engineers and Major Trotter, of the R.M.A. The most modern fortifications have been constructed, being provided with disappearing guns of the most effective type.

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TRADE AND FINANCE.

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N regard to the subjects dealt with in this chapter there is little to be said in addition to the statistics which follow. They tell their own story, being a record of gradual growth and expansion in every direction. The Province has had many vicissitudes, with alternate periods of inflation and depression, but through all legitimate business has kept steadily forward, demonstrating that its sources are permanent and its channels natural and well-directed.

IMPORTS INTO THE PROVINCE OF BRITISH COLUMBIA FOR TWENTY-SIX YEARS, ENDING 30TH JUNE, 1897.

	VALUE OF	Goods	ENTERED FOR	HOME CONSU	MPTION.
	TOTAL IMPORTS.	Dutiable Goods.	Free Goods.	Total.	Duty Collected.
To 30th June, 1872	\$1,790,352 00	\$1,600,361 00	\$ 166,707 00	\$1,767,068 00	\$ 342,400 48
From Canada	22,215 00		22,215 00	22,215 00	
To 30th June, 1873	2,191,011 00	1,569,112 00	507,364 00	2,076,476 00	302,147 65
From Canada	75,604 00		75,604 00	75,604 00	
To 30th June, 1874	2,085,560 00	1,676,792 00	371,544 00	2,048,336 00	336,494 47
From Canada	66,104 00		66,104 00	66,104 00	
To 30th June, 1875	2,543,552 00	1,924,482 00	566,111 00	2,490,593 00	413,921 50
From Canada	117,054 00		117,054 00	117,054 00	
To 30th June, 1876	2,997,597 00	2,237,072 004	707,906 00	2,944,978 00	488,384 52
· From Canada	129.735 00		129,735 00	129.735 00	
To 30th June, 1877	2,220,968 00	1,820,391 00	346,318 00	2,166,709 00	403,520 21
From Canada	163,142 00		163,142 00	163,142 00	
To 30th June, 1878	2,244,503 00	1,905,201 00	367,926 00	2,273,127 00	426,125 14
From Canada	144,754 00		144.754 00	144,754 00	
To 30th June, 1879	2,440 781 00	1,997,125 00	320,326 00	2,317,454 00	484,704 04
From Canada	184,951 00		184,951 00	184,951 00	
To 30th June, 1880	1,689,394 00	1,614,165 00	122,451 00	2,457,116 00	450,175 43
From Canada	208,072 00		208,072 00	208,072 00	
To 30th June, 1881	2,489,643 00	2,214,153 00	242,963 00	1,736,616 00	589,403 62
From Canada	387,111 00		387,111 00	387,111 00	
To 30th June, 1882	2,899,223 00	2,472,174 00	404,287 00	2,875,461 00	678,104 53
From Canada	449.768 00		449,768 00	449,768 00	
To 30th June, 1883	3,937,536 00	3,331,023 00	550,833 00	3,866,856 00	907,655 54
From Canada	624,207 00		624,207 00	624,207 00	
To 30th June, 1884	4,142,486 00	3,337,642 00	702,693 00	4,040,335 00	884,076 21
From Canada	789,287 00		789,287 00	789,287 00	
To 30th June, 1885	4,089,492 00	3,458,529 00	564,923 00	4,023,452 00	966,143 64
From Canada	927,054 00		927,054 00	927,054 00	000 -66 6-
To 30th June, 1886	3,953,299 00	2,851,379 00	1,060,347 00	4,011,726 00	880,266 65
To 30th June, 1887	3 547,852 00	3,065,791 00	560,348 00 729,266 00	3,626,139 00	883,421 53
To 30th June, 1888	3,509,951 00	2,674.941 00		3,401,207 00	861,465 14
To 30th June, 1889	3,763,127 00	2,002,646 00	807,140 00	3,809,786 00	974,675 69
To 30th June, 1890	4,379,272 00	3,357,111 00	1,030,375 00	4,287,486 00	1,075,215 20
To 30th June, 1891	5,478,883 00	4,261,207 00	1,074,983 00	5,336,190 00	1,346,059 42
To 30th June, 1892	6,495,589 00	4,423,414 00 3,662,673 00	1,803,005 00	6,226,419 00	1,367,250 32
To 30th June, 1893	3,934,066 00	3,582,333 00	1,255,495 00	5,336,961 00	1,308,631 23
To 30th June, 1894	5,320,615 00		1,738,282 00	4,368,425 00	
To 30th June, 1895 To 30th June, 1896	4,403,976 00	3,131,490 00	1,236,935 00	5,526,490 00	1,137,727 49
To 30th June, 1897	5,563 095 00 7,130,381 00	3,993,650 00 5,048,755 00	2,028,653 00	2,077,408 00	1,406,931 91

EXPORTS, THE PRODUCE OF CANADA, FROM THE PROVINCE OF BRITISH COLUMBIA FOR TWENTY-SIX YEARS, ENDING JUNE 30TH, 1897.

Year.	The Mine.	Fisheries.	Forest.	Animals and their Produce.	Agricul- tural Pro- ducts.	Miscel- laneous.	Total.
1872	\$1,389,585 00	\$ 37,707 00	\$214,377 00	\$214,700 00	\$ 142 00	\$ 1,540 00	\$ 1,858,050 00
1873	1,224,362 00	43,361 00	211,026 00	259,292 00	2,885 00	1,197 00	1,742,123 00
1874	1,351,145 00	114,118 00	260,116 00	320,625 00	5.296 00	443 00	2,051,743 00
1875	1,929,294 00	133,986 00	292,468 00	411,810 00	9,727 00		2,777,285 00
1876	2,032,139 00	71,338 00	273,430 00	329,027 00	3,080 00	. 68 00	2,709,082 00
1877	1,708,848 00	105,603 00	287,042 00	230,893 00	.3,083 00	1,500 00	2,346,969 00
1878	1,759,171 00	423,840 00	327,360 00	257.314 00	462 00		2,768.147 00
1879	1,530,812 00	633,493 00	203,366 00	268,671 00	2,505 00	57 00	2,708,848 00
1880	1,664,626 00	317,410 00	258,804 00	339,218 00	3,843 00	100 00	2.584 001 00
1881	1,317,079 00	400,984'00	172,647 00	350,474 00	248 00	22 00	2,231,554 00
1882	1,437,072 00	676,903 00	362,875 00	300,429 00	946 00	2,616 00	3,080,841 00
1883	1,309,646 00	1,332 385 00	407,624 00	287,394 00	6,791 00	443 00	3,345,263 00
1884	1,441,052 00	899,371 00	458,365 00	271,796 00	1,745 00	1,413 00	3,100,404 00
1885	1,759,512 90	727,672 00	262,071 00	414.364 00	2,324 00	5,948 00	3,172,391 00
1886	1,720,335 00	643,052 00	194,488 00	329,248 00	1,907 00	2,811 00	2,891,811 00
1887	1,832,827 00	910,559 00	235,913 00	380,126 00	10,265 00	1,911 00	3,371,601 00
1888	1,889,805 00	1,164,019 00	441,957 00	318,839 00	27,631 00	85,826 00	3,928,077 00
1889	2,377,052 00	993,623 00	449,026 00	397,685 00	14,831 00	102,089 00	4,334,306 00
1890	2,375,770 00	2,374,717 00	325,881 00	346,159 00	9,323 00	113,271 00	5,545,221 00
1891	2,030,229 00	2,274,686 00	374,996 00	294,646 00	5,017 00	20,434 00	6,257,158 00
1892	2,979,470 00	2,351,083 00	425,278 00	390,584 00	25,018 00	31,976 00	6 574,989 0
1893	2,898,947 00	1,501,831 00	454,994 00	310,621 00	30,173 00	446,231 00	5,642,797 0
1894	3,521,543 00	3,541,305 00	411,623 00	149,269 00	23,323 00	196,895 00	7,843,958 0
1895	4,615,452 00	3,264,501 00	500,080 00	457,373 00	21,774 00	261,918 00	9,121,098 0
1896	5,763,253 00	3,288,776 00	685,746 00	438,864 00	61,414 00	338,471 00	10,576,524 0
1897	8,909,592 00	3,567,815 00	742,173 00	307,845 00	104,744 00	552;539 00	14,184,708 0

POSTAL STATISTICS.

Statement showing the accounting offices in operation, the gross postal revenue; the number and amount of money orders issued and paid; the amount of commission thereon, during the year ending 30th June, 1897:

Name of Office.	County.	Gross Postal Revenue.	Number of Money Orders Issued.	Total Amount of Money Orders Issued.	Total Comm'n Received from Public.	Total Amount of Money Orders Paid.
	Vancouver New Westm'r Victoria Burrard	9,024 31	13,500	55,836 22 161,618 62	540 59 1,626 18 7 1,802 76	43,619 33 131,719 74 181,455 66
		\$ 156,882 69	69,292	\$ 1,053,339 0	8 \$ 9,609 54	\$ 545,925 25

Table showing the number of post offices in operation, extent of mail travel, estimated number of letters and other articles of mail matter posted in British Columbia during the year ending 30th June, 1846:

ending 30th June, 1866:	
Number of offices in operation on 1st July, 1897	274
Number of miles of post route	6,640
Annual travel thereon	1,395,318
Estimated number of letters and other articles of mail matter posted in C	anada during the
year ending 30th June, 1896:	
Letters	4,175,000
Post Cards	398,000
Registered Letters	118,000
Free Letters	129,800
No. of transient Newspapers and Periodicals, Packets, Circulars,	7-21-21
Samples, Patterns, etc	461,000
Policies, etc	88,000
No. of Packets of Fifth Class Matter, Ordinary Merchandise, open	
to examination	43,500
No. of Parcels by Parcel Post	30,000
No. of Closed Parcels for the United Kingdom and other countries	
140. Of Closed Parcels for the United Kingdom and other countries	2,100

MBIA

IMPORTS FOR THE FISCAL YEAR ENDING 30TH JUNE, 1897.

		TOTAL	TOTAL IMPORTS.								
PORT OF	Dutiable.	Free Goods.	Leaf Tobacco.	Coin Bul- lion.	Total Imports.		Duty Received	Chinese.	Minor Revenue.	Revenue, 1897.	Total, 1896.
Victoria. Nanaimo. Vancouver. New Westminster. Nelson	\$1,871,138 00 141,351 00 1,422,079 00 367,985 00 1,246,202 00	\$869,687 00 \$4,878 00 \$70,113 00 189,466 00 344,509 00	\$13,254 00 4,065 00 2,717 00 27,430 00 5,507 00		\$2,754,079 200,294 1,994,909 584,881 1,596,218	88888	\$661,867 o3 46,462 77 390,981 81 110,577 54 349,000 o5	\$58,963 oo 50 oo 62,604 oo 1 50	\$10,676 49 3,650 26 4,022 60 1,577 16 1,077 95	\$731,506 52 50,163 03 457,608 41 112,156 20 350,078 00	\$699,069 45 56,849 17 352,378 91 111,068 06 187,566 32
Total, 1897	\$5,048,755 00	\$2,028,653 00	\$52,793 00		\$7,130,381 00		\$1,558,889 20	\$121,618 50	\$21,004 46	\$1,701,512 16	
Total, 1896	\$3,993,650 00	\$1,532,840 00	\$36,001 00	\$604	\$5,563,095 00		\$1,306,604 25	\$86,800 50	\$13,527 16		\$1,406,931 91
	•	EXPORTS	FOR THE	FISC	AL YE	AR ENI	EXPORTS FOR THE FISCAL YEAR ENDING 30TH JUNE, 1897.	TUNE, 1897.			
PORT OF	The Mine.	The Fisheries.	The Forest.	An and Pro	Animals and their Products.	Agricul- tural Pro- ducts.	1- Manufac- tures.	Miscel- laneous.	Coin Bullion.	Total, 1897.	Total, 1896.
Victoria Nanaimo. Vancouver New Westminster Nelson	\$ 351,308 00 2,445,397 00 323,795 00 947,632 00 4,841,460 00	\$1,600,527 00 669 00 322,279 00 1,584,340 00	\$ 31,152 00 155,272 00 523,931 00 31,818 00	*	\$235,115 00 1,661 00 49,889 00 8,142 00 13,038 00	\$23,641 00 25 00 80,814 00 264 00	\$ 80,340 6,073 111,527 12,262 37,523	00 \$61,944 00 00 52 00	\$166,767 00 76,051 00	\$2,610,794 00 2,609,097 00 1,488,338 00 2,584,458 00 4,892,021 00	\$2,490,391 00 2,530,534 00 1,048,402 00 2,610,029 00 1,897,168 00
Total, 1897	\$8,909,592 00	\$3,567,815 00	\$742,173 00		\$307,845 00	\$104,744 00	00 \$247,725 00	oo \$61,996 oo	\$242,818 00	\$14,184,708 00	
Total, 1896	\$5,763,253 00	\$3,288,776 00	\$685,746 00		\$438,864 00	\$61,414 00	00 \$159,985 00	00 \$71,765 00	\$106,721 00		\$10,576,524 00

NUMBER OF BUSINESS ESTABLISHMENTS IN THE PROVINCE.

					M	AIN	LAN	ND.						VA	NC	VER	IS	L'D.			
CLASSIFICATION OF TRADE.	Vancouver	Westminster	Kamloops	Kaslo.	Rossland	1 Tall	Nelson	Grand Forks	New Denver	Revelstoke	Sandon.	Chilliwack	Outlying Towns and Villages	Victoria	Wellington	Nanaimo	Union	Outlying Towns and Villages	Total Vancouver Island	Total Mainland	Grand Total
General Hardware, House Furnishing, Tin, Stoves, Agricultural Implements, Pumps, Windmills, Guns, Bicycles and Sporting Goods.	20	8	3	2 :	2	4 1	ıı	2			2	2	13	2		3	1		25	60	8
Foundries, Steam Forges, Machinery, Engines, Boilers, Car Wheels, Metals, Machinists and Railroad and Electrical Supplies	5	3	1			6	4			1				10		3			13	19	.:
Plumbers, Plumbers' Supplies, Lead Pipe, Steam and Gas Fitters and Gas Fixtures	6	4	-			1 :	2							I		2			12	13	
Carriages, Wagon Makers, Wheelwrights, Blacksmiths and Livery Cloths, Clothing, Tailors, Men's Furnishings, Hats and Caps	15	8 7		3	4 1	I	4 I 3 4		I	1 2	5	2 2	31		1 4	5	2		31 42	90 75 36 32	I
Dry Goods, Carpets, Small Wares and Notions and Millinery	11	5	1	3 :	2	7	3		I		2	1	2	16	4 1 2	4 5	2		42 23 16	36	1
Furniture, Undertaking and Upholstery	9	3		2 I	1 2	5 3	3 1 5 4		2 2	I	3	1 2			5 1	5	I	6	15	76	
Coal Wood Ice and Defrigerating	7	8	2		1		II				1	1 3		1	S I	7	I	3		9 51	
Boots and Shoes, Tanners, Hides, Leather and Findings	2	2		I	1	1	I	1		1	1		5		2 1	2		3	5	16	
Groceries, Confectioners, Provisions, Ship Chandlers, Teas, Coffees,						_ ,	5 -					,	. 16	-					93	136	
and Spices	64	15	5 3	4	1 1	7 6	5 5 3	I	1	1	I	1	16	70	3 1		2	3	19	47	
Brewers Maltsters and Distillers	4	9	-	13		3 1	3 5	1		2		3 2	3	I	3	2		1		18	
Drugs, Physicians and Patent Medicines	10	9	3	4	1						1				1	-					
Rakers	17	. 6	3 2	. 3	3		2 3	I	I	1	2	2 3	11		2 2	5	1	1	31	58 58	
Cigars and Tobacco		4	1	3			1.														
Paper Boxes and Bookbinders	IO	7	4	3	2	7	4	1	2	3	2	1	7	20		5	I		27	60	
Wine & Liquor Dealers Hotels & Saloons	OI	14	7 3	20 6	5 2	9 2	2 20	7	3	9 1	7	4 3	161	79	5	28	5	31			
Crockery, China and Glassware	2	T			1	I			1						3				3	3	
Paner Coods Varieties and Toys	2			I		I			1			1		1	I				9		
Painters, Paint and Oil Dealers, Varnishes and Paper Hangings	II		3			2 3	3 3	1	1	6	I	1 5			5			39		28 254	1
General Stores Carpenters, Contractors, Roofers, Builders, Planing Mills and Sash	2	4	4	4 :	5	0	3	3	3		3	1 3		1	13	9	3	39			
and Blinds	26	8	1	3	2	3	3 1		1	2	1	5	15	2	3	4		I	28	69	
			-8	-6 0		of n	1 70	24					540	42	22	100	26	00	697	1684	22

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BRITISH COLUMBIA BOARDS OF TRADE.

Town.	PRESIDENT.	SECRETARY.
Victoria	. G. A. Kirk.	F. Elworthy.
Vancouver New Westminster	. Wm. Godfrey. Judge Bole.	Wm. Skeene (Hon. Sec.). D. Robson.
Nanaimo	W. K. Leighton.	Geo. Norris (acting).
Kamloops	. Sibree Clark.	J. S. Bennet.
Okanagan	G. A. Henderson.	R. J. Davies.
Revelstoke	. J. D. Sibbald.	C. E. Shaw.
Rossland	J. F. McLaughlin.	J. J. Franklin.

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LIST OF CHARTERED BANKS AND BRANCHES.

NAME.	Address.	Manager or Acting Manager.	NAME.	Address.	Manager or Acting Manager.
Bank of British Columbia (Est. 1862.)	Victoria	William Murray. G. W. Booth. George Williams. J. V. Holt. W. H Pegram.	Montreal. (Est. 1817')	New Westminster Rossland Nelson Vernon	G. D. Brymner. J. S. C. Fraser. A. H. Buchanan. G. A. Henderson
Bank of British North America.	Sandon Kaslo Victoria Vancouver Rossland Sandon	G. H. Burns.	Imperial Bank of Canada. (Est. 1895.)	Vancouver Revelstoke	J. F. Finucane. A. Jukes. A. R. B. Hearn.
(Est. 1858.)	Trail Slocan City	G. B. Gerrard. H. R. Heffell. James Cran.	M'ch'ts B'k of Halifax. (Est. 1897.)	Posstand	

INLAND REVENUE, CANADA—DIVISIONS No. 37 AND 38.

ENTERED FOR CONSUMPTION, JULY 1ST, 1896, TO JUNE 30TH, 1897.

	No. 37, Victoria, B. C.	No. 38, Vancouver, B. C
Spiritsproof gallons,	52,861.11	≈61,956.92
Spirits, exported	2,755.87	647-54
Maltlbs.	1,308,163	991,382
Manufactured Tobacco	138,727	136,480
" exported	5,113	2,720
Raw Leaf "	48,511	51,687
Cigars, ex-warehouse	317,850	120,425
" ex-factory"	1,225,090	1,848,300
Malt Liquorgallons.	695,371	394,284
Petroleum	44,466	436,159.21
Total receipts	\$156,157.24	\$173,468.83

In the commercial reports of R. G. Dun & Co., the statistics of failures in British Columbia as compared with Canada for the years 1894-95 and 96 are shown as follows: 1894, liabilities, British Columbia, \$2,377,256; Canada, \$36,109,244; 1895, British Columbia, \$1,416,032; Canada, \$34,698,142; 1896, British Columbia, \$565,374; Canada, \$23,052,644, showing a rapid recovery from the depressed times

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which were so severely felt in this Province subsequent to 1801.

The customs revenues of British Columbia in 1872 was \$342,400.48 as compared with \$13,045,493.50 for the whole of Canada. In 1896 the amounts were

\$1,306,738.56 and \$20,388,984.87, respectively.

The ratio of customs revenue derived from British Columbia and the whole

of Canada has risen in twenty-five years from 1:44 to 1:15.

The total trade of British Columbia in 1872 amounted to \$3,702,459 and that of Canada in the same year was \$194,070,190. In 1896 the amounts were, respectively, \$16,142,789 and \$239,025,360.

Compared with the whole of Canada it will be seen that in twenty-five is the trade of British Columbia has risen from 1:53 in 1872 to 1:15 in 1896—a

most remarkable relative increase.

British Columbia with one-fiftieth of the population does one fifteenth of the trade of Canada; or covering the whole period of twenty-five years with an average of one-seventy-fifth of the population has done one-twenty-fifth of the trade.



COLLECTION AND ASSIGNMENT LAWS.

TIPENDARY and Police Magistrates hold small debts courts for the recov-O ery of debts not exceeding \$100.00 by summary process. No legal forms are prescribed for use in these courts, the creditor merely furnishing written particulars of his claim, which are annexed to a summons and served on the defendant. The Magistrates have power to order payment, either Recovery of Debts. immediately or by instalments, and to enforce the order by warrant of execution and by attachment under garnishing proceedings of debts due by third parties to the defendant.

In each county there is a court known as the County Court. Regular sittings of the Court are held at the principal places throughout the county, and there is jurisdiction in actions of contract up to \$1,000.00. In this court also, as in the Small Debts Courts, no formal pleadings are prescribed, and all actions are commenced by plaint and summons and heard and determined in a summary way. In this court a judgment may be obtained in an action of debt without going to trial, where it is proved to the satisfaction of the Judge that the defendant, having no

bona fide defence, is disputing the claim merely to delay the plaintiff; and a speedy judgment may be obtained where the defendant is about to abscond, but in the latter case the judgment enures for the benefit of all the creditors pro rata. In aid of the recovering of a debt garnishing proceedings may be taken before judgment and completed after judgment is obtained, or may be taken after judgment. Execution may be issued on the judgment, and the defendant may be examined on oath, under process known as a judgment summons, as to his ability to satisfy the judgment, and the Judge has power to make an order directing payment within a certain time, or by instalments, and in the event of non-compliance to treat the defendant as in contempt of court.

The Supreme Court has jurisdiction in all matters, but it is a rule that if a plaintiff sues in the Supreme Court for a debt which could be recovered in the County Court, costs will only be allowed on the County Court scale. There is a

similar procedure to that of the County Court for obtaining judgment when the defendant disputes the claim merely to gain time, and a defendant may also after judgment be examined as to his ability to pay. Garnishing proceedings may be taken after judgment.

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There is no procedure for instituting proceedings by the issue of a writ of attachment in ordinary cases, but, under the "Absconding Debtors Act," if any person resident in this Province departs therefrom with intent to defraud his creditors, he shall be deemed an absconding debtor, and his property may be seized and taken for the satisfying of his debts by a writ

of attachment.

Goods and chattels to the extent of \$500.00 are exempt from forced seizure or sale by any process of law; but this exemption does not extend to the protection of the identical goods and chattels in respect of which the debt sued on was contracted, and does not permit a trader to claim as an exemption any of the goods and merchandise which form a part of the stock in trade of his business.

The owner of a home may by effecting a special homestead registration under the "Homestead Act" obtain a complete exemption of his home from forced seizure or sale by any process of law up to a value of \$2,500.00. Unless so speci-

ally registered there is no exemption of real property.

A creditor having brought action in the Supreme or County Court for \$100.00 or upwards may obtain a special order authorizing the issue of a writ of Capias ad Respondendum for the holding of the defendant to bail upon proving by affidavit that the defendant is about to leave the Province unless forthwith

Arrest, Etc.
(a)—Before
Judgment.

amount claimed and \$50.00 for costs. A defendant so arrested may at any time move for his discharge on the ground of any irregularity in procedure or any other ground entitling him to his discharge.

If a defendant be already held to bail under the writ of Ca. Re. above described, the plaintiff may, after obtaining judgment in the action, obtain a Special Order which has, under the Revised Statutes, superseded the former writ of Capias ad Satisfaciendum, without any further Order of Court, and the defendant will be detained thereunder. In any action where judgment has been obtained for \$100.00 or over, and the plaintiff proves to the Court that the defendant is about to leave the Province with intent to defraud his creditors generally, or the plaintiff in particular, or has parted with his property, or made some secret or fraudulent conveyance thereof in order to prevent its being taken

(b)—After Judgment. Special Order, and the defendant may thereunder be taken into custody. Any person so arrested may obtain his discharge upon proving that he has satisfied the debt, or that he has no property or is not about to leave the Province, or that he has made no fraudulent conveyance or disposition. A creditor detaining a debtor in custody must pay to the Sheriff fifty cents per day for maintenance by weekly payments in advance, and if default be made in this payment, the prisoner is entitled to his immediate release.

Chattel mortgages, executions, etc., must be registered within twenty-one days after execution. If affecting property in Vancouver Island with the Registrar-General of Titles at Victoria; if affecting property on the Mainland within any established land registry district, in the office of such registry; if elsewhere

any established land registry district, in the office of such registry; if elsewhere on the Mainland, in the office of Stipendary Magistrate of the district where the property is situate, or with such other person as may be named. If not so registered, does not take effect as against creditors of mortgagor. Executions may issue immediately after judgment in the Supreme Court, or after fourteen days in County Court, unless otherwise ordered. Lands may be sold by execution. Judgments, if registered, are lien upon all lands and interest in lands then or thereafter owned by the defendant. Registration must be renewed every three years.

JOINT STOCK COMPANIES.

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HE law of this Province respecting the incorporation and regulation of joint stock companies and trading corporations has by the "Companies Act, 1897," a statute which passed its third reading on the 7th of May, 1897, been assimilated to the law of England under the Companies Acts, 1862 to 1890, except in so far as relates to winding up, and with the addition of provisions relating to the Sue of mining stock and to the registration in the Province Extra Provincial of foreign, or, as they are now termed, extra-provincial com-Companies. panies. The subject of winding up falls to a certain extent within the Federal legislative power, and cannot therefore be completely dealt with by

the Province along the lines of the English Acts; and the issue of mining stock and registration of extra-provincial companies are matters which, owing to local circumstances, require special treatment.

The Companies Act, 1897, contains procedure whereby subsisting companies may re-incorporate under its provisions, but as the adoption of this procedure is optional and the number of existing companies very large, it is probable that for years to come the bulk of the share capital of provincial companies will be subject to the provisions of the prior Acts. This fact renders it necessary to set forth the main facts relating to companies incorporated under the Acts in force

at the time of the passing of the Companies Act, 1897.

On the 8th of March, 1866, by the "Companies Ordinance, 1866," the English Companies Act, 1862, was brought into force in the then Colony of British Columbia (Mainland), and on the 20th of August, 1869, by the "Companies Ordinance, 1869," the English Act was brought into force in Vancouver Island. In the consolidation of the Statutes in 1888, these ordinances were consolidated as Part I of the "Companies Act," Chap. 21 of the Consolidated Acts, 1888, and there-under the English Act of 1862 remained in force until the passing of our Act of 1897. The capitalization of provincial companies formed under the English Act as so applied to this Province amounts in the aggregate to upwards of \$800,000,000.

In addition to this class of companies formed under the English Act, there are two other classes of companies in existence; the one class formed under the provisions of the "Companies Act, 1878," consolidated with its amending Acts as Part II. of Chap. 21 above referred to; and the other class under the provisions

of the "Companies Act, 1890," and amending Acts,

The companies formed under the Act of 1878 are in effect simply assessment companies without personal liability of the shareholders; the main provisions of the Act in regard to incorporation and to the liability of the shareholders, being as follows:-

13. Any three or more persons, who may desire to form a company under this part, may make, sign and acknowledge (in duplicate), before some person competent to take the acknowledgement of deeds in this part, and file the same is the office of the Registrar of Joint Stock Companies (who is hereby empowered to receive and file the same) a certificate in writing, in which shall be stated the corporate name of the company, with the addition of the words. I limited liability. I the object for which the company shall be formed, the amount of its capital stock, the time of its existence (not to exceed fifty years), the number of shares of which the stock shall consist: the number of trustees, and their names, who shall manage the concerns of the company for the first three months, and the names of the city, town or electoral district is which the principal place of business of the company is to be located; and that a shareholder is not individually liable for the debts or liabilities of the corporation, but that the liability of a stockholder is limited to his proportion (based upon the amount of his respective shares) to assessments legally levied, and the charges thereon, if advertised as delinquent, during the time that he is a stockholder, upon a share or shares of which he is the holder, as shown by the stockholders' register book of the corporation; assessments and charges thereon when taken collectively shall not exceed, in the aggregate, the value in dollars printed or shown upon each share when issued. shown upon each share when issued.

18. It shall be lawful for a company incorporated under this part to stipulate in any or all of its contracts, mortgages, bills, notes or other evidences of debt, that the property of the company shall be responsible for the amount, and that the stockholders shall not be individually liable to any extent, and the creditor shall be deemed to have waived the liability of the individual stockholder to assessment.

assessment.

32. A stockholder in a company incorporated under this part shall not be individually liable for the debts or liabilities of the corporation, and shall not incur any further liability than the payment of his proportion (based upon the amount of his respective shares) of assessments legally levied in accordance with the provisions of this Act, and the charges thereon, if advertised as delinquent during the time that he was a stockholder, upon a share or shares of which he is the holder, as shown by the stockholders' register book of the corporation; assessments and charges, when taken collectively, shall not exceed in the aggregate the par or face value as printed or shown in dollars upon each share when issued.

38. The total amount of assessments levied upon each share shall not exceed in the aggregate the par or face value as printed or shown in dollars upon each share when issued.

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dgnies l be the nce r of ths, the ties the sed the The Act further provides power to the trustees of the company to levy assessments, in amounts not at any one time exceeding five per cent. of the nominal capital, and, in the event of non-payment by any shareholder to advertise his stock for sale as delinquent, and to sell sufficient to pay the assessment and costs to the highest bidder, who is defined to be the person offering to pay the assess-

ment and costs in consideration of the transfer to himself of the smallest number of shares. If no bidder offers to pay the assessment and costs, the company may bid in the stock, which while it remains the property of the company shall not be liable to assessment and shall not share in dividends. A company may be dissolved upon petition to the County Court, pursuant to a resolution passed by a vote of two-thirds of all the stockholders, and upon proof that all claims against the company have been satisfied.

On the 26th of April, 1890, another Act was passed, known as the "Companies Act, 1890," which, without repealing any then existing Acts, provided a complete procedure for the incorporation and management of companies under its provisions. The provisions as to incorporation, management and dissolution under this Act do not differ materially from those in the Act considered above, the distinction being in regard to the liability of shareholders, as to which the Act of 1890 provides:—

20. (I.) Each shareholder, until the whole amount of his stock has been paid up, shall be individually liable to the creditors of the company to an amount equal to that not paid up thereon, but shall not be liable to an action therefor by any creditor before an execution against the company has been returned unsatisfied in whole or in part; and the amount due on such execution shall, subject to the provisions of the next section, be the amount recoverable with costs against such shareholder.

(2.) Any shareholder may plead by way of defence, in whole or in part, any set-off which he could set up against the company, except a claim for unpaid dividends, or a salary, or allowance as a trustee.

22. The shareholders of the company shall not, as such, be held responsible for any act, default, or liability whatsoever of the company, or for any engagement, claim, payment, loss, injury, transaction, matter, or thing whatsoever, relating to or connected with the company, beyond the unpaid amount of their respective shares in the capital stock thereof.

The capitalization of the companies in existence under the various Companies' Acts, amounts in the aggregate to:—

	No.	Amount.
Companies Registered under the "Companies' Act" 1862 (Imperial)	130	\$ 70,802,070
vincial) Foreign Companies Registered under the "Companies' Act". Companies Registered under the "Companies' Act".	146 348 854	46,487,350 455,233,350 577,802,220
Grand Total	1,478	\$1,150,324,945

COMPANIES ACT, 1897.

THE Companies Act, 1897, prescribes five as the minimum number of subscribers to a Memorandum of Association who may incorporate a company for any purpose or object to which the legislative authority of the Legislature of British Columbia extends, except the construction and working of railways and the business of insurance. A company may be formed either without limited liability, or with the liability of its members limited to the amount unpaid on their shares, or to such amount as they respectively undertake to contribute to the assets of the company in the event of the same being wound up. If the liability of the members is limited to the amount of their guarantee, the memorandum must be accompanied by Articles of Association; and if the liability is limited to the amount unpaid on the shares the company is at its option to be subject to the provisions of Table A

cles of Association; and if the liability is limited to the amount unpaid on the shares the company is at its option to be subject to the provisions of Table A of the Act, or to articles filed with the memorandum and expressly excluding or modifying Table A. The memorandum and articles when executed are filed with the Registrar, who issues a Certificate of Incorporation upon receipt of the proper fees, as prescribed in the following table:

TABLE B.

Table of Fees to be Paid to the Registrar of Joint Stock Companies by a Company Having a Capital Divided into Shares.

For registration of a company whose nominal capital does not exceed \$10,000, a fee of For registration of a company whose nominal capital exceeds \$10,000, the above fee of \$25, with the following additional fees, regulated according to the amount of nominal capital, that is to say: For every \$5,000 of nominal capital, or part of \$5,000, after the first \$10,000, up to \$25,000	\$25 00
For every \$5,000 of nominal capital, or part of \$5,000, after the first \$500,000 \$1 25	
For registration of any increase of capital made after the first registration of the company, the same fees per \$5,000 or part of \$5,000, as would have been payable If such increased capital had formed part of the original capital at the time of registration.	
For a license to or registration of any extra-provincial company, the same fees as are payable for registering a new company.	
For registration under this Act of any existing company, the certificate of registration whereof is issued pursuant to section 56 hereof (i.e. authorizing the company to issue mining stock at a discount), or the capital whereof is increased pursuant to section $5(b)$ hereof, in lieu of the fee of \$10 prescribed by section 5 of this Act, the same fees as are payable for registering a new company hereunder, allowing credit as part of such fees for the amount of fees paid by such company in respect of its original registration.	
For a license to or registration under this Act of any extra-provincial company already registered in this Province as a foreign company. And, in addition thereto, if the license or certificate of registration under this Act is issued pursuant to section 56 hereof (i. e. authorizing the company to issue mining stock at a discount), the same fees as are payable for registering a new company hereunder; allowing credit as part of such fees for the amount of fees paid by such extra-provincial company in respect of its original registration in this Province.	\$10 00
For a license to an extra-provincial insurance company under section 125 of this Act	\$25 00
For registering any document hereby required or authorized to be registered, other than the Memorandum of Association	\$1 00
For making a record of any fact hereby authorized or required to be recorded by the Registrar, a fee of	\$1 00
Publication in the <i>Gazette</i> , according to the scale of charges as defined in Schedule A of the "Statutes and Journals Act."	\$1.00

The scale of charge for advertising in the "British Columbia Gazette" is

For 100 words and under	5 00
Over 100 words and under 150 words	6 50
Over 150 words and under 200 words	8 00
Over 200 words and under 250 words	9 00
Over 250 words and under 300 words	10 00
And for every additional 50 words	75

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In all matters relating to the government and management of a company, including the increase or reduction of capital, contracts, distribution of capital, and liability of members and officers, the provisions of the Act of 1897 place a company on the same basis as if incorporated in England under the Companies Acts, 1862 to 1890. Companies are given a general power, to be exercised with

the sanction of a special resolution, to borrow money for the Powers of purpose of carrying out the objects of their respective incorpo-Companies. rations, and to issue, execute and deliver debentures, mortgages, and other evidences of debt and covenants to repay. A company may be wound up voluntarily, and the practice and procedure upon a voluntary winding up are to be regulated by the provisions of the Federal Winding-Up Act and Amending Acts, and the rules in force thereunder.

The memorandum of a company incorporated for mining purposes may contain a provision that no liability beyond the amount actually paid upon shares or stock shall attach to a subscriber or purchaser—the certificate of incorporation must shew that the company is specially limited as a mining company. may then be issued which entail no personal liability on the holder. shares must have distinctly marked on the face thereof the words, "Issued under

Section 56 respecting Mining Companies, of the 'Companies Act, 1897,'" and "Non-Assessable," or, if the shares, although entailing no personal liability, are liable to assessment for development or working purposes, "Assessable." In the latter case, if any assessment duly levied remains unpaid for sixty days after notice to a shareholder, his shares, to an extent sufficient to meet the assessment, may be sold by auction. An extra-provincial company may be licensed or registered, and an existing company may be reincorporated under the Act, so as to take advantage of these pro-In regard to shares sold below par previous to the passing of the Act, the following provision is made:

61. Wherever any shares have been heretofore issued (i.e. before the 8th May, 1897) by any company duly incorporated under any Act as fully paid-up shares, either at a discount or in payment for any mine, mineral claim or mining property, purchased or acquired by such company or for the acquiring whereof such company has been incorporated, all such shares shall, except as to any debts contracted by the company before the passing of this Act (in regard to which the liability on such shares shall be the same as if this Act had not been passed) be deemed and held to be fully paid-up, and the holder thereof shall be subject to no personal liability thereon, in the same manner as if the Memorandum of Association of the company had contained the provision aforesaid.

In this Act the old expression, "Foreign Company," is discarded, and "Extra-Provincial Company" substituted. It is provided that no extra-provincial

company shall carry on business without being either licensed or registered.

Companies incorporated under the laws of Great Britain or Ire-Extra land, the Dominion of Canada, the late Province of Canada, or Provincial of any of the Provinces of Canada, may obtain a license to carry Companies. on business in the Province; and any extra-provincial company wherever incorporated may be registered in the Province. In order to obtain a license or registration the company may petition therefor under the common seal of the company, and with such petition shall file in the office of the Registrar:

(a) A true copy of the charter and regulations of the company, verified in manner satisfactory to the Registrar, and showing that the company, by its charter, has authority to carry on business in the Province of British Columbia:

(b) An affidavit or statutory declaration that the said company is still in existence and legally authorized to transact business under its charter:

(c) A copy of the last balance sheet of the company and auditors' report thereon.

(d) A power of attorney appointing a resident of the Province the attorney of the company, with complete power to carry on its business.

A company which can obtain a license is allowed to carry on its business subject only to the terms of its incorporation, while on the contrary, a registered company is made subject to all the provisions of the Act as if incorporated in the first instance under the provisions thereof, and it is provided that all its acts and contracts, in order to be of any effect in the Province, must be valid under the provisions of the Act. The Act also contains provisions, taken from the later English Statutes, prescribing the matters which must

be set forth in the prospectus of a company, and for the protection of purchasers of stock from losses by forged transfers, and the prevention of fraudulent and negligent practices. It provides that every mining company shall take out a free miner's license annually, commencing from the 1st of July, 1897; and in the repealing section, repealing the former company law of the Province, while preserving the corporate existence and rights of all subsisting companies heretofore incorporated, effects an important change in their regulation, namely, that they shall in regard to the annual return to be made to the Registrar, the keeping of a Register of Members, and voluntary winding up, be subject to the provisions of the Act under consideration.

THE Companies Clauses Act, 1897, relates to the constitution and management of joint stock companies empowered to carry out undertakings of a public nature, and embodies the provisions of the English Companies Clauses Consolidation Act, 1845, an Act apparently in force in this Province so far as applicable by virtue of the Statute respecting the application of English law.

On the second reading of the Act, during the last session of the Legislature, it was stated that the Act was brought forward with special reference to the provision of the Water Clauses Act, 1897; and in this last mentioned Act it is provided that any Company desiring to avail itself of the powers and privileges thereby conferred and created must be especially incorporated as to be exclusively governed by the Companies Clauses Act.

PROPERTY RIGHTS, ETC.

THE law relating to partnerships in this Province is now codified in the Partnership Act, 1894, which provides for the registration of partnerships, both general and limited, and contains provisions respecting the rights and liabilities of partners, both as between themselves and as between the firm and the individual members thereof, and the creditors of the firms and the individual members thereof. Provisions are also contained dealing with the question of dissolution of partnerships and its consequences.

All general partnerships must be registered within three months after formation of firms.

The limitation of action is six years for simple contracts and twenty years for specialities.

Married women have the same powers in respect to their separate property or earnings or rents as a femme sole.

All receipt notes or hire receipts or order for enattels, when the condition of the bailment is such that the possession of chattels would pass without any ownership therein being required by the bailee until the payment of the purchase

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or consideration money, or some stipulated part thereof, are void as against subsequent purchasers or mortgagees unless registered within twenty-one days after the bailment.

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When not otherwise agreed upon and where due by law interest is six per cent. No usury law.

Appeal from any judgment, order or decree in Supreme Court or County Court may be taken as follows:—

(a.) Six months in the case of final judgments, orders or decrees;

(b.) Thirty days in the case of interlocutory judgments, orders or decrees. By the Official Administrator's Act the Lieutenant-Governor is empowered to appoint an official for each county, to be known as the Official Administrator, who is required to give security for the due conduct of his office, and who, upon receiving knowledge of the death of any person intestate, applies for and obtains an order for the administration of the estate of such person.

Under this order he is invested with the same powers as are possessed by an administrator to whom a regular grant of Letters of Administration is made, and after administration pays into the Provincial Treasury on an account known as the Intestate Estates Fund all moneys remaining in his hands. The Act contains provisions under which relatives or other parties entitled may come in and obtain administration or obtain probate should a will be found, and also provisions for the distribution of the estate among the parties entitled thereto. The Court is also invested with power which may be exercised upon the application of next of kin or creditors to control the acts of the Administrator in the course of administration.

By the Intestate Estates Act the Courts are invested with powers relating to the management and sale of real estate of intestates. Under this Act the Courts also have power to allow to an Administrator a commission not exceeding five per cent. on the gross value of the estate, and power to make provision for the illegitimate family of an intestate.

The Succession Duty Act, 1894, renders all property passing by will subject to succession duty, with the exception that the Act does not apply (a) To any estate the value of which does not exceed \$5,000; nor (b), the property passing under a will intestacy or otherwise to or for the use of a father, mother, husband, wife, child, grandchild, daughterin-law or son-in-law of the deceased, where the aggregate value of the property does not exceed \$25,000.

The duty payable upon all property liable to duty under the Act is computed upon the following basis: (a), Upon the value up to \$100,000, a duty of one dollar upon every \$100; (b), where the said value reaches \$100,000 but does not reach \$200,000, a duty of two dollars on every \$100 of the value: (c) where the said value reaches \$200,000 but does not reach \$700,000, a duty of three dollars on every \$100 of the value; (d), where the said value reaches \$700,000 but does not reach \$1,000,000, a duty of four dollars on every \$100 of the value; and (e), where the said value reaches \$1,000,000, a duty of five dollars on every \$100 of the value of the property:

Provided: (1), That property going to the father mother, husband, wife, child, grand-child, daughter-in-law or son-in-law of the deceased, shall only be charged with duty at one-half of the rates aforesaid.

The Provincial system of registration of land titles is set forth in an Act known as the Land Registry Act, under the provisions of which Land Registry Offices have been established in the Counties of Victoria, New Westminster, Vancouver and Yale, with power to the Lieutenant-Governor-in-Council to establish such others as may be necessary. In each Land Registry Office a complete set of records is maintained, in which registration is effected under the heading of Absolute Fees, Registration of all Crown Grants and Conveyances, the whole estate

Land Registry. Charges of all mortgages, encumbrances, charges and dispositions affecting the titles to registered lands. The fees payable upon registration are graded according to the value of the lands dealt with and the registration affords prima facie evidence of the title, matter or thing registration affords prima facie

tered without any official guarantee as to title or otherwise. It is, however, provided that the purchaser for valuable consideration of any registered real estate or interest thereon is not to be affected by any notice expressed, implied or construed of any unregistered conveyance, charge, interest or disposition of

or affecting such registered real estate.

For some years the question of the advisability of introducing the Torrens system of registration has been under consideration, but it is probable that in view of the fact that the comprehensive and detailed surveys necessary for the proper establishment of the Torrens system cannot for some time to come be had in this Province; and in view of the further fact that the present system has in operation proved of great practical utility, it is possible that no radical change will be made in the system of land registry for some time to come.

SHIPPING.

FROM their geographical situation the chief ports of British Columbia have undoubtedly a future of importance. Their shipping interests have already attained to some magnitude, but as trans-Pacific trade and commerce are only on the eve of development, it is not possible to arrive at any safe conclusions regarding their ultimate proportions. We might with some justification speculate on the creation of seaports comparable with Liverpool, but routes of traffic are subject to conditions which are mutable and uncertain, concerning which it is not possible to predict with any degree of confidence. What, for instance, would be the ultimate effect of the successful completion of the Panama or Nicaraguan Canal, is not easy to determine. At the present time, and probably for

some time to come, a canal across the Isthmus would not to Unsafe to any important degree constitute a competitor with the Suez Canal; Predict. but in case of a large development of trans-Pacific traffic, by which the trade of the Orient would be divided and a considerable portion brought this way, the route via Central America, though it would beneficially affect our export trade with Europe, might have the result of diverting trade, of which otherwise our seaports would be the natural entrepots. Nor is it possible to anticipate what will be the relative advantages of sea and land travel in the future under conditions which are being so continuously and materially modified by the inventive genius of the age. In a period of rapid transitions and transformations, such as the one through which we are passing, no forecast, except in a very limited way, can be a true one. So far, however, everything points to an important commercial status for our Coast cities. The present trend of events is decidedly favourable to such reasonable expectations as may have been formed respecting the possibilities of the new Canadian route of travel. Political considerations of vast Colonial and Imperial concern are even precipitating that union of material interests which is necessary to permanent organic cohesion. The recent tariff overtures made by Canada, the completion of arrangements for a Canadian fast Atlantic service, the negotiations looking to an all British

cable communication by way of the Pacific Ocean, the several Pan-British Trade Congresses, the spirit of hostility—sometimes covertly, sometimes openly—of late displayed by the United States towards Canada and Great Britain, and, above all, perhaps, the momentous demonstration of affectionate loyalty to Her Majesty and to British institu-

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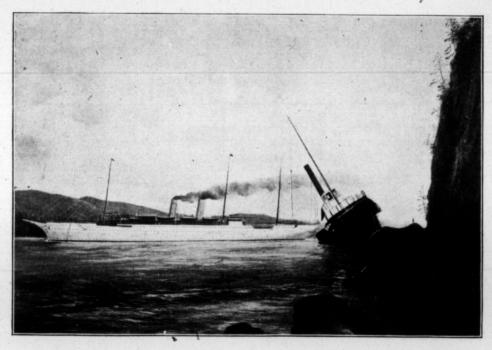
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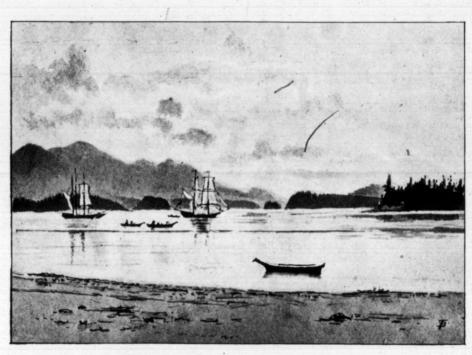


"EMPRESS OF INDIA."

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"BEAVER."

THE OLD AND THE NEW.



PORT COX, Meares' Ships at Anchor.



View in East Kootenay. A Bucking Broncho.

Queen Charlotte Island Prairie. A Bunch of Apples. Cypress Forest.

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Future of Ship-Building.

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> B. C. Japan Coppe Behri

tions just witnessed at the Heart of the Empire—have together had such an effect in impelling and consolidating sentiment in the one direction, that the consummation of what was long visionary and considered outside the pale of practical politics seems suddenly come within easy reach, and unless something untoward should intervene to turn back the tide, now almost irresistible, the hopes of many of our greatest statesmen will be speedily realized. In such a solution of a problem of territorial and political consolidation—the greatest of modern times—the relations of Canada with the other parts of the confederal structure are obvious, and the material advantages which would accrue from a commercial standpoint to her western seaports are so conspicuous as to render comment superfluous. In any event, the commercial significance of our situation is notable; but it is upon considerations such as have been referred to that the greatest ultimate importance must depend.

The growth of Canadian Pacific shipping has not been rapid any one year compared with any immediately preceding it, but progress from small beginnings has been remarkably steady, and comparison by periods shows marked advance.

Prior to Confederation, and, in fact, for some years subsequent, communication practically was limited to a regular line of steamers to San Francisco and occasional ships to and from England. The coasting trade was of small proportions. In very early days, when Victoria was a free port and the chief point of the coast business of the Hudson's Bay Company, trade was carried on not only with England, but with San Francisco, the Hawaiian Islands, the Mainland of

with England, but with San Francisco, the Hawaiian Islands, the Mainland of British Columbia, China, and Russian America, or Alaska. There was at that time a considerable export of furs, timber and agricultural products, as well as of British imported goods. The returns of those days, owing to changed conditions, are not a basis of comparison with those of the present time, and are interesting only as side lights in dealing with the pioneer history of our country. Elsewhere are given some statistics of trade of the Colonies of Vancouver Island and British Columbia. The instructive feature contained in such information is the relative importance maintained by Victoria, then the only entrepot of any consequence on the North Pacific Coast north of San Francisco.

Comparison for our purpose begins with Confederation, and for practical purposes really with 1876. The figures at the end of the three periods, viz.: 1876, 1886, and 1896 will best illustrate the progress that has been made. From 1866, the time of the union of the two Colonies, was, viewed as a whole, a period of stagnation—of waiting for the larger developments anticipated as a result of communication overland by means of a railway. Ship-building and ship-owning, important adjuncts of shipping, have never assumed large proportions for obvious reasons. Ship-building on a large scale, though an industry for which naturally the coast cities are well adapted, owing to altered and well-understood conditions, cannot be carried on until, by increase of population, the development of the iron

Future of Ship-Building. industry, etc., competition is possible with the great shipyards; and as local demand for the smaller craft is necessarily restricted to local requirements, no great expansion can be expected for There has, however, been steady and noticeable progress throughout the whole period, though statistics are too irregular from year to be valuable for comparison.

SEALING CATCH, 1897.

		Skin
B. C. Coast	 	6,10
Iapan Coast	 	7.32
Copper Island	 	I,38
Behring Sea	 	
Total		30.4

PROGRESS OF SHIPPING.

DESCRIPTION	1	876	1	886		1896
	No.	Ton.	No.	Ton.	No.	Ton.
Coasting SteamersIN		59,950	1,872	726,879	5,731	1,375,381
" " OUT		54,111	1,876	728,961	5,823	1.382,864
Coasting Vessels (Sail)IN	141	6,835	217	10,261	390	50,285
" "OUT	F	7,112	215	10,232	401	59,260
Canadian Cargoes IN	21	5,250	3	1,460	127	7,434
" "OUT	7	1,242	2	1,084	30	3,064
British CargoesIN	23	18,124	33	33,907	98	186,076
" "ООТ	31	18,350	58	62,538	103	191,632
Foreign CargoesIN	301	160,811	505	313,021	1,202	759,791
"Our	146	121,977	344	309,085	1,236	1,019,800
Foreign Ballast IN	154	109,681	262	221,051	705	63,594
" " OUT	284	140,775	508	224,082	682	342,490
British " IN	15	6,408	31	36,957	64	129.202
" " " OUT	6	3,709	6	5,274	50	107,817
Canadian " IN	10	1,925	7	896	69	17,458
" " Our	19	4,677	14	973	182	16,910

The following is a comparative statement of vessels entered in and clearing out from British Columbia ports and Dominion of Canada:

	1	BRITISH C	OLUMBI	2.		CANA	DA.	
	17/1/2	In.	(our.	I	N. '	0	UT.
YEAR.	Number of Vessels.	Tonnage.	Number of Vessels.	Tonnage.	Number of Vessels.	Tonnage.	Number of Vessels.	Tonnage.
1876 1886 1896	841	302,199 607,292 1,663,255	493 932 2,283	290,370 603,036 1,681,713	8,414 10,603 15,291	2,972,459 4,026,415 5,895,360	8,349 10,768 14,511	2,938,305 4.018,156 5,563,464
	3,630	2,572,746	3,708	2,575,479	34,308	12,894,234	33,628	12,519,925

BIOGRAPHY.

A CHAPTER containing brief biographies of a number of prominent men of British Columbia, both past and present, has been omitted for lack of space, which, as it is, has been exceeded by over one hundred pages the number originally intended. The biographical portion included, for reference purposes, sketches in outline of the careers of the more or less historical personages of the Province partaking nothing, however, of the character of the "write-up-" such as embellish so many publications of the day. The large amount of material prepared is of sufficient general interest to find a place in a future issue.

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INTERPROVINCIAL RELATIONS.

FROM a British Columbia point of view the subject of inter-provincial trade is a peculiarly interesting one from the fact that it is the only Province of Canada in which it is possible to estimate with any hope of arriving at an approximately accurate result, and even in the case of British Columbia it is extremely difficult: In this Province all imports entered for consumption are consumed here; that is, there is little, if anything, imported to be exported Inter-Provincial again to other provinces or other countries. In Eastern Canada Relations. goods entered at Halifax may be consumed in Quebec or Ontario, or goods entered at Montreal may be consumed in the Maritime Provinces. Hence, there is no basis of arriving at the average rate of customs taxation paid by the other provinces, and all such calculations are valueless. In British Columbia, on the other hand, all imports are either by way of the sea from the West and South, by rail through the United States, or from Eastern Canada, and are consumed in the Province. There is only a very limited trade, except in home products, east of the Rockies. Therefore, if we can arrive at the individual importations from Eastern Canada upon which no duty is paid at this end, and add it to the importations upon which duty is paid, the latter being accurately recorded by customs officials, the sum of the two amounts so obtained will give us the amount of home consumption, the one showing the inter-provincial trade and the other the foreign trade, so far as imports are concerned. Important In a similar way the total of the exports may be arrived at, and Information.

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In a similar way the total of the exports may be arrived at, and the sum of imports from, added to the sum of our exports to, Eastern Canada will give us the aggregate of out inter-provincial trade. As the latter depends upon voluntary returns from merchants and manufacturers it is not an easy matter to obtain an accurate result, and until business men realize the importance of obtaining such a knowledge of commercial conditions will they be induced to take the trouble to give such returns, though with accurate book-keeping, the trouble is not great.

Early in the year a series of enquiries was instituted with this object in view, but was only partially successful. Three things were in view: (1) To obtain the aggregate of imports and exports from and to the rest of Canada; (2) the aggregate freight bill of the Province, as a factor in the price of goods consumed, which, on account of the extreme western position of the Province and the long carriage overland, may be regarded as an added tax; and the percentage, approximately, of goods imported from Eastern Canada, which had previously paid duty. These three kinds of information fairly arrived at would pretty accurately determine the position of British Columbia commercially in relation to the rest of Canada—a result worthy of every effort.

From the large number of returns received, which, however, only represented a percentage of business establishments, not sufficient information has been obtained as yet to make an absolutely authentic statement of the aggregate under

any one of the three heads; but a careful estimate based on an average of the returns places the amount of imports from Eastern Canada at, roundly, \$7,000,000

for 1896. Complete returns might possibly swell the aggregate to eight or nine millions of dollars. So far as could be ascertained from individual statements about twenty-five per cent of these had previously been imported and paid duty. As to the freight paid, the value varies so much in relation to the value of the goods as to serve no useful purpose, in the absence of complete returns, to attempt an estimate. Readers will not readily appreciate the labour that the simple statement of such an amount involved; and in order to make it complete and in detail is a "large (statistical) contract," which it is possible, however, to successfully undertake, with the assistance of business men themselves.

Another subject, which has been much discussed, is the amount of revenue contributed by this Province to the Dominion Treasury, as compared with the expenditure in or on behalf of this Province by the Dominion Government. To arrive at that was necessary to examine the Auditor-General's reports and compile the statements in each, under the various heads of receipts and expenditures,

for all the years since 1871 down to and including 1896, twentyfive years. The results are shown in the tables following, which
it is needless to say represent long and tedious work. The statements are shown as a simple cash balance by methods of debit and credit on a
book-keeping basis. They tell their own tale and need no explanation. They,
however, will remove much misapprehension on the part of both sides to the
contention as to what the Province was receiving from and contributing to the
Dominion. No pains was spared to make the result accurate.

Opinions will differ as to how the information given under the heads in the table of "special expenditure" should be applied. They are not included because they are justly chargeable to the account of British Columbia, as in most instances, in the opinion of the author, they are not so chargeable; but because it is desirable that all the data, directly or indirectly affecting the subject, should be fully, fairly and impartially set forth. For instance, the cost of the "C" Battery, of the Behring Sea arbitration, of the Alaska Boundary, or

of coast service, is part of the national requirements, and is for general benefit and is no more chargeable to British Columbia than similar expenditure on the Atlantic seaboard should be chargeable to the individual account of New Brunswick or Nova Scotia. Then again, the C.P.R. was a national undertaking, and British Columbia is only assessable for its share of the interest computed annually according to population. However, the facts are all given and may be applied as individual opinions may determine. It will be observed how vastly, from year to year, the contributions on the part of British Columbia have increased in relation to the appropriations made in its behalf. At the present time the former is nearly double of the latter, the aggregate and a trage of ordinary receipts and expenditures for the past ten years being:—

CONTRIBUTIONS OF B.C. TO THE DOMINION TREASURY.

	1890-91.	1891-92.	1892-93	1895-96.	Grand Total from 1871 to 1	
Inland Revenue	,				\$ 245,472	85
Customs	\$1,344,358 19	\$1,407,008 42	\$1,217,718 20	\$ 1,311,237 03		
Excise	152,890 84	237,966 06	247,584 26	294,231 78	2,147,433	
eizures	15,022 06	3,947 62	19,145 00	2,613 27	72,226	
ees, Fines and Forfeitures	1,619 80	31241	1,050 85	,0., -,	7,060	
Chinese	107,787 50	139,777 00	113,491 00	88,800 00	742,349	
Veights and Measures	338 93	312 90	376 50	385 30	9,719	
Gas Inspection	80 00	54 00	268 75	409 00	5,437	
Post Office	106,873 09	127,327 98	132,747 86	156,882 69	1,448,469	
Celegraphs		12/132/ 90	132,747 00	130,002 09	104,155	
Militia		338 87	410 02		1,440	
Lighthouse and Coast	. (161 65	330 01	4.0 02		2,676	
teamboat Inspection		1,945 61	2,204 40	2,429 90		
ick Mariners' Fund	6,149 68	6,450 74	7,130 10	6,725 74	92,853	
isheries		8,192 48	40,264 00	26,410 75	157,885	
uperannuation		315 92	1,779 90	2,029 46	11,093	
nterest on Investments			1,//9 90	2,029 40	146,711	
remium, Discount and Exchange			1,094 02			
Public Works		2,32/ 12	1,094 02		70,776	
Penitentiary		471 55	689 06	868 94	346	
Esquimalt Dock		18,416 23		10,221 68	10,051	
ndian Trust Fund		659 46	23,204 38	THE RESERVE OF THE PROPERTY OF	132,147	
			3,193 80	1,041 21	8,915	
Agassiz Experimental Farm	79 05	66 55	450 88	1,845 92	2,917	
liscellaneous	108 00	1,492 80	4,396 45	696 88	42,932	7.
	\$1,781,684 93	\$1,957,071 31	\$1,817,199 43	\$1,906,829 55	\$25,455,751	6
Dominion Lands	4.,,0.,004 93	4-173/10/1 31	4.,0.7,199 43	ψ1,900,029 55	496,613	
Journal Lands					490,013	0
					\$25,952,364	66

DOMINION EXPENDITURE IN BRITISH COLUMBIA.

	1890-91.	1891-92.	1892-93.	1895-96.	Grand Totals from 1871 to 1896
Public Debt	7131				
Sinking FundSavings Bank	15,872 65	16,464 14	17,676 31		834,859 77 855.528 14
Assistant Receiver-General	3,728 66	3,989 24	3,661 48	\$ 3,700 25	161,572 38
LieutGovernor	9,000 00		9,000 00	9,000 00	215,499 92
Administration of Justice	39,564 21	40,515 21	39,268 15	38,052 15	853,353 80
Superannuation	21,672 70		15,006 04	18,790 60	226,765 21
S. S. Subsidy, Victoria and San Francisco	17,640 00		17,640 00	5,000 00	740,291 07
Lighthouse & Coast Service—(1) Construction	3,865 38	7,167 11			53,657 11
" (2) Maintenance			24,458 27	11,787 09	432,552 44
Dominion Steamers	65,101 77	25,501 69	47,744 88	29,481 51	472,897 47
Marine Hospitals	3,422 62		3,504 15	5,803 49	80,803 16
Marine and Fisheries	7,660 04	9,054 74	9,121 28	22,027 14	137,046 49
Steamboat Inspection	2,752 07	2,196 55	2,561 55	2,723 72	29,621 48
Public W'ks and Bldg's-(1) Construction	49,128 60	39,333 53	82,251 05	69,943 84	671,299 28
" (2) Maintenance	3,348 51	3,957 59	4,228 03		102,985 02
" (3) Public Works Agent	5,297 98	6,352 17	2,167 71	2,278 74	57,865 0
Penitentiary—(1) Construction					308,934 8
" (2) Maintenance	37,839 87	36,711 82	42,548 03	37,189 97	571,584 49
Dredging	19,400 36	23,374 22	14,717 75	10,776 91	347,592 53
Harbours and Rivers	53,841 96	59,767 89	76,546 16	27,367 57	607,437 45
Telegraphs—(1) Construction	16,070 94	8,191 39		2,327 93	189,027 6
" (2) Maintenance	5,334 65	1,085 84	8,919 70	14,378 29	445,438 64
Post Office	106,541 32	114,945 77	117,394 96	201,198 60	2,473,608 40
Customs	49,388 92	51,508 12	56,143 16	76,866 32	865,893 55
Excise	9,669 13	11,892 56	13,252 04	16,492 60	189,313 44
Seizures				1,797 71	6,472 54
Chinese	13,250 00	28,805 36	70,584 93	26,375 37	175,744 93
Weights and Measures	2,179 90	2,128 20	1,518 21	2,067 17	22,926 34

22,926 34

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Gas Inspection	411 38	1 495 00	536 00	893 00	7,679 64
Indians		90,021 79	106,838 25	91,541 85	1,400,208 25
Militia		15,743 03	6,089 06	14,633 07	162,942 35
Immigration and Quarantine	6,684 94	8,524 24	21,421 74	8,297 15	101,285 28
Subsidies		242,241 46	242,241 46		5,252,254 34
Art and Agriculture		30,805 08			61,524 61
Agassiz Experimental Farm	10,381 74	20,110 75	8,623 19		93,073 02
Meteorological Station	1,519 64			1,223 00	5,285 64
	1,519 04	1,325 00			5,488 88
Skeena Expedition					
Civil Government					
Miscellaneous	2,233 58	1,127 39	21 00	55 03	37,001 12
	\$ 934,774 97	\$ 997,896 71	\$1,092,898 94	\$1,004,763 26	\$20,645,144 06
Dominion Lands	7 2511111 21				
					\$21,022,485 24
Esquimalt Dock—(1) Construction		3,945 87	4,075 61		736,693 54
" (2) Maintenance	15 265 EE	12,645 95	13,106 61		736,693 54 87,142 50
(2) Maintenance					
	\$. 950,140 52	\$1,014,488 53	\$1,110,171 16	\$1,004,763 26	\$21,846,321 28
Special Expenditure, C.P.R.—(1) Surveys					1,597,844 79
" (2) Construction		28,361 02			12,922,484 03
" (3) Arbitration					83,172 02
F. & N. R. R. Subsidy					
"C" Battery	39, 396 57	39,462 77	45,415 18		268,469 55
"C" BatteryBehring Sea Seal Fishery	37137- 31	3,956 78			42,604 78
Columbia & Kootenay R. R		88.800 00			88,800 00
Shuswap & Okanagan R. R					162,260 00
Fortifications, Esquimalt		102,200 00		121.801 55	259,946 14
Pay Roll,				121,091 33	67,839 84
Alaska Boundary		***************************************			104,562 00
Miscellaneous					1,140 59
Miscellaneous					2,140 39
	\$ 989,537 09	\$1,337,329 10	\$1,155,586 34	\$1,126,654 81	\$37,877,965 02

From the Trade and Navigation Returns, 1896, the following statement is taken, but as previously remarked, the imports set down to the respective provinces do not accurately, except in the case of British Columbia, represent home consumption in each and therefore the per capita contributions in the way of customs taxa-

tion to the Treasury can only be properly compared as between British Columbia and all of Canada, which roundly is three to one. The question may reasonably arise as to the reason for the consumption per head being so much greater in this Province than in the rest of Canada. The explanation is readily available in the fact that in the average the people of this Province, being less frugal, eat, drink and wear three times in value the average of the people of the Dominion. As potential or economic units of the whole population they are three times greater, and practically represent in relative importance for purposes of revenue, 300,000 instead of 100,000.

Provinces.	Duty.	Amount per head of population.
Ontario	\$7,860,366 78	3.72
Quebec	7,738,547 82	5.20
Nova Scotia	1,442,927 51	3.22
New Brunswick	1,086,804 45	3.38
Manitoba	615,218 29	4.03
Prince Edward Island		1.18
North West Territories	40,824 76	0.61
British Columbia	1,306,738 56	13.06
Total for Canada	\$20,219,037 32	4.40

The above per capita amount is estimated according to census returns of 1891.

CAPITAL INVESTED.

UNDER this head an estimate has been based on most comprehensive and generally speaking very complete data contained in the numerous returns from all over the Province and from information obtained from a variety of sources. These have been carefully compiled and the results arrived at, after taking into account every business interest in the Province—involving labour of some magnitude—will be surprising to even those familiar with the affairs of the Province. It is not claimed that the figures are absolutely correct, as in some instances, where actual returns were not available, they are based on estimates, which, however, are approximately correct, and a complete return would probably modify the total to some extent. Nor do they include by any means all that has been invested in the Province in various ways,

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but only what may be regarded as in the main live and productive capital. The figures are:—

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DESCRIPTION.	Amount.
Miscellaneous Industrial Establishments	\$16,260,000 00
Electric Light and Railways	2,000,000 00
Telephone	200,000 00
Waterworks	2,100,000 00
Railways and Telegraphs	47,500,000 00
Steamships and Navigation	3,000,000 00
Mining Plant and Smelters	10,500,000 00
Coal Mining	3,000,000 00
Sealing, Salmon Canning and Fish Curing	3,250,000 00
Churches and Schools	1,850,000 00
Bank Deposits	6,500,000 00
Municipal Assessments	45,000,000 00
Municipal Public Works and Buildings	925,000 00
Provincial Public Works and Buildings	5,500,000 00
Provincial Assessments	51,500,000 00
Dominion Public Works and Buildings	2,800,000 00
All Commercial Establishments	5,500,000 00
Timber, Leases and privately owned (value estimated)	100,000,000 00
	\$307,385,000 00
Private wealth, less public assets and values, assessed in above	\$280,000,000 00

By the census of 1881 it was shown that there was \$2,952,835 invested in industries and in 1891 that amount had increased to \$7,246.662. The wages paid was \$929.213 and \$5,119,258 respectively, and of the hands employed 2,871 and 11,507 respectively.

INDEBTEDNESS.

Against the invested capital, which as we have seen, amounts to \$280,000,000, and practically represents the wealth of British Columbia in a more or less developed form, we must set the indebtedness of all kinds for which in a private and public way it is liable. Considering the age of the Province and the limited stage of development, the liabilities, it must be admitted, are large, and are the result of active speculation, which has been carried on for some years whereby the future has to some extent been discounted. In order that the credit of the Province as a whole may be fairly determined and its borrowing margin shown, a full statement of indebtedness, public and private, is given, and is as follows:—

Provincial debt	\$ 4,088,291	39
Municipal debt	5,044,684	
Dominion debt (B.C.'s share, estimated 100,000 pop.)	5,170,000	co
Railway and debenture debt	22,500,000	
Realty mortgages	32,261 914	00
Chattel mortgages	6,000,000	
* Total		62

It is necessary to state in explanation of the above that the amount of realty mortgages, though being the total of those registered in the Province, is

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really in excess of the true amount, and is about twice that on which the Treasury receives taxes. It is very difficult to arrive at an exact total, for the reason that mortgages are often, for business reasons, registered in more than one office; and again a number of mortgages that have been liquidated remains undischarged, either through neglect or for personal reasons. In this way the aggregate is considerably reduced, but how much it is impossible to say. It will be seen from the foregoing tables that the margin of credit on private wealth alone is very great. On the basis of 100,000 population the Province's share of the Dominion net debt is \$5,170,000 and that added to the provincial and municipal indebtedness makes a total of, roundly, \$15,000,000. When we compare that with the unalienated resources available in minerals, timber, land and fisheries it is insignificant, though large in itself. Deducting the public indebtedness from the total indebtedness there is left \$60,000,000 as against an asset in private wealth of \$280,000,000; and in the sum of \$60,000,000 is included an undetermined amount for duplicate and undischarged mortgages. The aggregate amount of the mortgages upon which the Province collects a mortgage tax is about \$15,000,000.

REALTY MORTGAGE RETURNS.

No.		-			III. South State of the State o		
100	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
932	\$7,081,713 00 3,513,550 00	1,341	\$6,941,125 00 4,557,922 00	1,540	\$3,216,076 00 4,548,527 00	334 186	\$803,080 00 482,588 00
435	591,217 00 535,383 00	155 178	218,481 00 482,639 00	138	166,568 oo 335,581 oo	103	155,523 oc 180,856 oc
4,554	\$11,721,863 00	2,961	\$12,200,167 00	2,819	\$8,266,752 00	687	\$1,622,047 00
329 181	\$452,865 00 142,960 00	129	246,752 00 171,441 00	122 57	\$170,716 00 113,112 00	70 15	186,450 oc 64,619 oc
510	\$595,825 00	242	\$418,193 00	179	\$283,828 00	85	\$251,069 00
		· es					
3,086 958	\$7,220,065 00 3,905,973 00	1,367	\$6,912,854 00 4,869,120 00	1,556	\$3,211,928 00 4,770,996 00	367 235	\$772,153 oc 598,825 oc
4,044	\$11,126,038 00	2,719	\$11,781,974 00	2,640	\$7,982,924 00	602	\$1,370,978 00
4	932 435 207 1,554 329 181 510	332 3,513,550 00 435 591,217 00 535,383 00 329 \$452,865 00 142,960 00 \$510 \$595,825 00 4,086 \$7,220,065 00 3,905,973 00	332 3,513,550 00 1,287 435 591,217 00 155 207 535,383 00 2,961 329 \$452,865 00 129 181 42,960 00 113 510 \$595,825 00 242 4,086 \$7,220,065 00 1,367 958 3,905,973 00 1,352	932 3,513,550 00 1,287 4,557,922 00 435 591,217 00 155 218,481 00 482,639 00 ,554 \$11,721,863 00 2,961 \$12,200,167 00 329 142,960 00 129 246,752 00 171,441 00 510 \$595,825 00 242 \$418,193 00 ,086 \$7,220,065 00 1,367 \$6,912,854 00 958 3,905,973 00 1,352 4,869,120 00	932 3,513,550 00 1,287 4,557,922 00 1,030 435 591,217 00 155 218,481 00 138 482,639 00 111 ,554 \$11,721,863 00 2,961 \$12,200,167 00 2,819 329 \$452,865 00 129 246,752 00 122 171,441 00 57 510 \$595,825 00 242 \$418,193 00 179 4,086 \$7,220,065 00 1,367 \$6,912,854 00 1,556 9,588 3,905,973 00 1,352 4,869,120 00 1,084	932 3,513,550 00 1,287 4,557,922 00 1,030 4,548,527 00 435 591,217 00 155 218,481 00 138 166,568 00 335,581 00 ,554 \$11,721,863 00 2,961 \$12,200,167 00 2,819 \$8,266,752 00 181 142,960 00 113 171,441 00 57 113,112 00 510 \$595,825 00 242 \$418,193 00 179 \$283,828 00 4,086 \$7,220,065 00 1,367 3,905,973 00 1,352 \$6,912,854 00 1,556 \$3,211,928 00 4,770,996 00	932 3,513,550 00 1,287 4,557,922 00 1,030 4,548,527 00 186 435 591,217 00 155 218,481 00 138 166,568 00 103 335,581 00 64 ,554 \$11,721,863 00 2,961 \$12,200,167 00 2,819 \$8,266,752 00 687 329 \$452,865 00 129 246,752 00 122 \$170,716 00 70 113,112 00 15 510 \$595,825 00 242 \$418,193 00 179 \$283,828 00 85 4,086 \$7,220,065 00 1,367 3,905,973 00 1,352 \$6,912,854 00 1,556 \$3,211,928 00 367 4,770,996 00 235

Chattel mortgages registered in Victoria, Vancouver, New Westminster, Nanaimo, Kamloops and Revelstoke amount to, in round figures, \$6,000,000.

TRADE, FINANCE AND WEALTH.

In the table which follows there is a general comparison as between British Columbia and the principal countries of the world, of per capita trade, revenue, expenditure, public debt and private wealth. The last named, for the countries

in question, is based on lands, cattle, houses, furniture, railways, ships, merchar-dise, bullion, and sundries.

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The private wealth of British Columbia is based on the amounts of private capital contained in the table of "Capital Invested," exclusive of public works and public property, but to which is added \$100,000,000 (a conservative estimate) for the value of timber owned privately, or covered by timber Private Wealth. leases. The immense total of \$280,000,000 of private, wealth is arrived at, which per head of the population is \$2,800, exceeding by far that of any other country of the world—three times that of Great Britain or the United States and nearly three times that of all Canada (which, by the way, agrees with the statement made under the head of "Inter-provincial Relations" as to the potential value of each unit of our population), and greater by far than that of Australasia. The table below is an exceedingly instructive one.

Table showing Trade, Finance and Private Wealth of Principal Countries in the World compared with British Columbia:—

		Trac	rts		Fin	ance.	,	Public		* Private	
		and Exports. Value per head.		Reve Va per l	lue	ture.		per head		Wealth. 1888. Per head	
1						Per				/	
	United Kingdom Cape of Good Hope	\$ 87	37	\$12 14	57 56	\$12	o6 92		96 91	\$1,235 00	
Su	Canada	46	64		14	7	21		43	980 00	
0	Newfoundland	59	57	7	62	6	59	63	69		
British Possessions	West Indies	252	21	38	59	40	92	59	39	•••••	
So	New South Wales	144	45	35	80	37	89	220	79		
4	Victoria	III	27	27	58		73	193	30		
SD	South Australia	177	47	35	64	35	64.	296	90/	/.	
	Western Australia	245	53		12	45	03	167		1,850 00	
1 1	Queensland	151		-	07		96	336	81	1	
	Tasmania	74	67	23	05	22	66	235	50		
	New Zealand	104	13	31	73	30	44	296	86 /		
Sur	ope.				-0						
K	ussia		77		08		52	1	73	275 00	
IN.	orway		51		90	7		1	39	610 00	
D	weden	1 .	04	7		100	68	15		625 00	
C	enmark		80		84		27		63	1,150 00	
U	erman Empire		09	-	84	-	86	9	69	700 O	
D	olland	224			63					1,080 00	
P	elgium	90	43		-		33		21	835 oc	
6	rancewitzerland	103	18	5	55 28		66	157		1,120 00	
m	erica.	103	12	5	20	4	98	5	57	825 00	
	hili	10	67	0 TO	62	-	00	24	26		
	ruguay		81	1	77		99				
	rgentine Republic		75		82		59	143	36	605 0	
	nited States		77		75		10		84	625 00	
D	ritish Columbia	213		-	00		00		00	2,800 0	

^{*} Statistics of private wealth are taken from "Mulhall's Dictionary of Statistics."

PROVINCIAL TAXATION.

THE rate of taxation is as follows: On real estate, four-fifths of one per cent.; on assessed value personal property, three quarters of one per cent.; on wild land, three per cent; income exceeding \$1,000 is subject to the following tax: Upon excess not above \$10,000 and one-quarter of one per cent.; over \$10,000 and not no than \$20,000, one and one-half of one per cent.; when excess is over \$20,000, one and three-quarters of one per cent.

If taxes are paid by the 30th of June in each year as under, the rate is as follows: Three-fifths of one per cent. on assessed value of real estate; one-half of one per cent. on personal property and two and one-half per cent. on assessed value of wild land; on excess of income when the same is not more than \$10,000, one per cent; between \$10,000 and \$20,000, one and one-quarter of one per cent.; and over \$20,000 one and one-half of one per cent.

Cattle and sheep depastured on Crown Lands are taxed twenty-five cents per head on all cattle and five cents per head on sheep. This tax entitles owners to depasture them for six months; if tax is not paid on demand it may be collected by distress and sale.

Residents in the cities of Victoria, Vancouver, Nanaimo and New Westminster are taxed annually \$3 per head due after the 2nd of January in each year for municipal purposes, said tax to be paid to municipal collectors; and in all places

outside of the limits of the above named municipalities to be collected by Provincial Assessors. The employers of labour may pay the tax for employees and deduct the amount from wages due. Employers must also furnish lists of employees to collectors. Clergymen and militiamen are exempt.

Mines and minerals are regarded as a separate class of property and are taxed in the following manner: One per cent. on assessed value of all ore or minerals, the said value to be based on market price at the mine. No ore shall be taxed which is not sold or removed

from the mining premises. Mine owners must notify assessor of any mine being in active production, and no ore can be shipped until such notification has been made. All mineral taxes are payable quarterly. Mine owners must make returns to Assessor of output, etc., within seven days from the end of the quarter.

The following property is exempt from taxation: All property belonging to Her Majesty the Queen; Indian Lands unoccupied or occupied officially; all places of public worship and every burying ground (not exceeding five acres) and public cemeteries; public school houses, court houses, gaols, public hospitals,

asylums and reformatories, etc., with the land attached thereto and the personal property belonging to each of them; literary societies and mechanics' institutes; public roads and squares; municipal property occupied for municipal purposes, or unoccupied; the property of public libraries, mechanics' institutes and all scientific institutions, and of agricultural or horticultural societies, if actually occupied by such societies; the personal property

of the Governor-General and the Lieutenant-Governor of the Province; the property of fire companies; naval or military officers on full pay, and the pay of persons in the Imperial, Naval or Military Service; public funds, pensions and all incomes up to \$1,000; income derived from interest on bonds or stocks, or from farm and assessed capital; all property out of the Province, the unpaid purchase money of land and all personal property lequal to debts due, and the net personal property under \$300; ministers' salaries, all household effects, books, etc.; mineral and other lands on which a royalty is reserved, to the extent of such royalty; all the land within the limits of a municipality; homesteads to the value of \$500.

For rate of municipal taxation, see Municipal Statistics.

PROVINCIAL ASSESSMENT.

	REAL PROPERTY.	WILD LAND.	PERSONAL PROPERTY.	INCOME TAX.
DISTRICT	TOTAL ASSESSED VALUE.	TOTAL ASSESSED VALUE.	TOTAL ASSESSED VALUE.	TOTAL TAXABLE INCOME.
		- 1-		
11	\$418,878 00	***** *** ***		0
Alberni		\$179,391 00	\$ 9,100 00	340 00
Cariboo (Barkerville)	329,115 00	1,050 00	137,060 00	3,760 00
" (Lightning Creek)	6,500 00	1,800 00	88,525 00	3,700 00
" (Ouesnelle)		700 00	21,000 00	***************************************
(Suconcise)	71,300 00	The state of the s	64,700 00	200 00
(Metthicy)	59,200 00		53,700 00	476 00
" (Williams Lake)	116,090 00 556,586 00	600 044 00	70,050 00	
		607,044 00	207,360 00	
Comox	661,745 00	345,242 00	148,315 00	
Squimalt	1,793,417 00	102,394 00	67,920 00	4,856 00
" (Southern Division)	310,549 00	20,857 00	125,926 00	
West (Nelson)	207,249 00	65,841 00	43,075 00	740 00
" West (Nelson)	217,625 00	707 400 00	106 010 00	
(Reveistoke)	332,190 00	191,490 00	106,349 00	- 0
illooet	706,650 00	67,975 00	507,900 00	7,852 00
Nanaimo City.	706,670 00	66 100 00	753,700 00	11,860 00
MOI CH		66,492 00	569,250 00	
" South New Westminster, City and District.	987,740 00	100,547 00	246,150 00	1,600 00
	566,110 00	43,355 00	6,455,360 00	41,744 00
Stikine	940 00 538,192 00	256 227 20	37,000 00	269,896 00
	530,192 00	356,237 00	5,994,569 00	487,628 00
Victoria City	0.750.001.00	60 764 00	10,939,694 00	
" South and part North" " North No. 2	2,753,321 00	63,764 00 8,608 00	147,425 00	
NOITH NO. 2	174,650 00		12,186 00	
" No. 4.	28,950 00	4,750 00	13 00	••••••
110. 4	54,300 00	1,100 00	6,100 00	
" Galiano	34,000 00	16,591 00	500 00	7,450 00
	755,737 00	58,248 00	2,054,441 00	
" (Kettle River Division)" " (Nicola Division)	677,117 00	13,162 00	182,510 00	
" (Similkameen Division)	90,250 00	1,000 00	321,295 00 29,680 00	.,
" (Okanagan Division)	1,258,447 00	17,030 00		T 000 0
" (Hope, Yale, Lytton and Cache	1,250,447 00	17,030 00	365,400 00	1,000 00
Creek Divisions)	392,350 00	17 200 00	233,840 00	Y 500 0
Creek Divisions)	ASSESSMENT DESCRIPTION AND PERSONS ASSESSMENT	17,399 00		1,500 00
	\$15,895,168 00	\$2,430,969 00	30,000,093 00	\$872,290 00
Canadian Pacific Railway	\$1,857,000 00			1
Columbia & Kootenay Railway	188,593 00			
Esquimalt & Nanaimo Railway	225,000 00	***************************************		
Victoria & Sydney Railway	51,000 00			*
victoria & Syuncy Ranway	-		*************	
	\$18,216,761 00	**********		v

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LOANS-BRITISH COLUMBIA.

Year.	Amount Issued.	Rate of In-	Sold at	Redeemable.	Present Price.	
		terest.			Offered.	Asked.
1874	\$ 20,000 00	7 p. ct.	Par.	May 1, 1899.	Not on	Sale.
1877	727,500 00	6 "	96	July 1, 1907.	115	120
1887	996,190 00	41/2 "	98½ 86	July 1, 1917.	III	114
*1891	2,085,791 00	3 "		July 1, 1941.	102	103
11893	599,945 00	3 "	91	July 1, 1941.	1021/2	103
1895	2,037,100 00	3 "	95	July 1, 1941.	1021/2	103

* Issue of inscribed stock.

† Issue for Parliament Building construction.

The following have been guaranteed in aid of railways:-

Against the guarantee to the Shuswap & Okanagan and Nakusp & Slocan Railways the Province receives 40 per cent. of the gross earnings under agreement with the C.P.R. Co., which company is operating both lines.

In aid of dyking and drainage the "Drainage, Dyking and Irrigation Act, 1894," guarantees 4 per cent. annual interest on bonds of six dyking systems, amounting to \$12,960.00.

As security for the sums guaranteed to the several districts, the lands are liable for the same on rates levied by District Commissioners.

Under authority of Act passed last session of Parliament (1897) the debentures of the various dyking systems (all of which are in Westminster District) are being consolidated, and a new issue of debentures, covering the whole amount and sufficient for further improvements, will be issued.

Net public debt of the Province, being balance of liabilities over	
assets at 30th June, 1896	\$4,088,291 39 989,765 22 1,614,723 62
Net revenue, 1896	989,765 22
Net expenditure, 1896	1,614,723 62

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Popula Reven Value

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Year. 1872.. 1873.. 1874.. 1875..

1876... 1877... 1878... 1879...

1880... 1881... 1882...

1884..

Canada

The increase of the development in British Columbia is shown in the following table:

	1871.	1881.	1891.	, 1896.
Number of Miners		2,792 1,850 2,381 6,992	4,591 3,798 5,874 16,776	*
Population Revenue Value of Fisheries Exports Imports	\$ 192,000/ 1,912,907 1,790,352	\$ 397,035 1,454,321 2,255,753 2,489,246	98,175 \$1,038,238 3,008,755 6,199,280 5,477,411	\$ 1,156,079 5,000,000 10,576,524 5,563,095

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Comparative table, showing growth and development in ten years :-

	1886.	1896.
Aggregate assessments of all cities Number of Schools Teachers Pupils Revenue on Provincial assessment	\$10,750,000 92 116 5,345 \$73,177	\$45,000,000 220 350 14,460 \$278,962

CUSTOM REVENUES COMPARED.

Year. British Columbia	. Canada.	Year. British Columbia	. Canada.
1872 \$342,400 48	\$13,045,493 50	1885 966,143 64	19,133,558 99
1873 302,147 65	13,017,730 17	1886 880,226 65	19,448,123 70
1874 336,494 47	14,421,882 67	1887 883,421 53	22,469,705 83
1875 413,991 50	15,361,382 12	1888 861,465 14	22,209,641 53
1876 488,384 52	12,833,114 48	1889 974,716 59	23,784,523 23
1877 403,520 21	12,548,451 09	18901,078,507 20	24,014,908 07
1878 426,125 31	12,795,693 17	18911,346,425 92	23,481.069 13
1879 516,261 87	12,939,540 66	18921,412,878 27	20,550,581 53
1880 450,175 43	14,138,849 22	18931,220,521 52	21,161,710 93
1881 599,427 72	18,500,785 97	18941,189,414 13	19,379,822 32
1882 679,207 18	21,708,837 43	18951,053,691 13	17,887,269 47
1883 908,962 54	23,172,308 97	18961,306,738 56	20,219.037 32
1884 884,076 21	20,164,963 37	1	
The state of the s	The second second	. \$19,925,325 37	\$458,388,984 87

The ratio of customs revenue derived from British Columbia and the whole of Canada has risen in 25 years from 1:44 to 1:15.

RAILWAY ENTERPRISES.

E have in British Columbia entered upon a distinctively railway era. No other Province of Canada, or country in the world depends more thoroughly upon railway communication for a realization of its latent wealth. On account of distances and physical irregularities no other mode of communication will answer the requirements. There are many objective points of great importance to reach, and, while physical conformation has lent itself strangely to the creating of a perfect system of railway network,

Railways
Demanded.

modern methods and modern conditions demand in order that these points may be reached and tapped that the means of travel and transportation must be cheap and rapid. Trails and waggon roads are, to use an expressive vulgarism, no longer "in it." If British Columbia alone were concerned, stage coaches, like sailing vessels, would serve a purpose; but competition embraces so wide an area of the earth's surface that the main rivalry is no longer between individuals and corporations, but between countries. It has assumed that vast proportion that individuals in a state cannot succeed where the State itself is behind in the race.

The policy of railway building in British Columbia in the past has followed and has been one with the general policy adopted throughout Canada. The necessity of railways has always been apparent and their promotion has been secured by land grants or guarantee of interest on bonds although, heretofore, in no instance has there been a cash subsidy per mile extended as in other parts of Canada. At the last session of Parliament an Act was passed authorizing the Government to borrow the sum of \$2,500,000 for the purpose of assisting in the construction of three lines of railway to the extent of \$4,000 per mile, particulars of which are given elsewhere. This Act does not contemplate assistance by land subsidy or guarantee of bonds, and in this respect is a departure from former policy. It does not, however, preclude such assistance by special enactment in

Provincial addition if deemed necessary. The short line from the Coast into the interior by way of Hope and Similkameen Valley was projected by a company which obtained a charter for the purpose, and the inception of the enterprise in this preliminary way was received at first with a good deal of enthusiasm, especially in the Lower Mainland, and generally met with approval. The object to be achieved from a railway point of view was the shortening of the distance to the mines, affording more direct communication with the towns of Southern Yale and Kootenay and with the eastern markets via Crow's Nest Pass. It would also avoid the snow sheds and expensive mainten-

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which a rai Plate and I ance of the present main line of the C.P.R. This enterprise, however, is one which the management of the C.P.R. has had in view for some years, and towards which end thorough surveys had been made extending all the way from Lethbridge through the Crow's Nest Pass as far as the main line at Hope. Depressed times and to some extent the difficulty of finding easy passes delayed the project so far as the Company was concerned. The very rapid development of the mines in Southern Kootenay forced the issue somewhat sooner than was anticipated, and the construction of the direct line from Lethbridge through the Crow's Nest

Pass was undertaken by the C.P.R. as the initial step in carrying A New out a long-planned project. With the attention being directed Short Line. · to British Columbia and the easing of the financial situation the C.P.R. Company will be enabled to undertake a very considerable extension of their system in British Columbia and it is not improbable that it has plans for a wider field of operations than have yet been wholly revealed. The building of the line from Trail to Robson through the Boundary country to Penticton and another from Penticton to the Coast direct would be the logical completion of the Crow's Nest Pass Railway, and whether undertaken by the present charter holders or by the C.P.R. is inevitable. A very strong fight was made at Ottawa last session for a Dominion subsidy for both of the sections referred to and at one time the Boundary line at least was regarded as an established fact, but disagreement as to terms resulted in both being laid over. The prospects are good for one, if not both, having favourable consideration next session.

Another objective point in British Columbia for a railway is the gold mines of Cariboo at Williams Creek and Quesnelle. There are strong advocates for each of two routes, one leading from Ashcroft or Kamloops on the C.P.R., and the other from the sea up Bute Inlet. As the arguments in favour of the construction of a line of railway along either route involve considerations of a political and sectional character it is not proposed to deal with their respective

merits. Both have been on the tapis for a number of years and have had charters granted and renewed from time to time. One would in all probability form a part of the C.P.R. system, and the other is practically what has been known as the Canada Western or British Pacific scheme. More especially in view of the trend of recent northern development, both or some other lines attaining similar objects, are likely to be built. They are both ultimate links in the natural arterial system of railways in this Province.

No reference has been made to the main line of the C.P.R. through British Columbia which was built and completed some time ago as a consummation of the national idea of a transcontinental railway, linking all the Provinces together, and none at this late date is necessary to elucidate its magnitude, importance or results. It is its own living witness. Leaving it out of the question, however, in so far as it answers the purpose for which it was constructed, the main problem of railway construction is yet to be dealt with, and the exploitation of the Canadian

Yukon gold fields is helping in the solution in a most wonderful way. The railway of the future is neither the Penticton line nor the British Pacific, nor any one yet built or projected, but one of which all these would become tributaries and essential links. Reference is made to a railway from the South to the North extending through the great Interior Plateau of British Columbia and as far north as the mineral belt is accessible and having its outlet it may be in Alaska at the mouth of the Yukon and connect-

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ing ultimately with the Siberian Railway now pushing eastward to a Pacific port. It has long been talked of as a possibility, but has never until the present entered the pale of practical politics. The recent live issues respecting routes to the Yukon have brought it prominently to the front, not only as a possibility but as a probability as soon as the financial resources of the country will permit or capital is available. The maps accompanying this book will show the various routes that have been advocated and it will be observed that they all, somewhere, culminate in this line which marks itself out as the undertaking in chief. With the resources of the various sections south to north developed there is not necessarily any rivalry in the conception of the different routes, not even of the one from Edmonton; because taking the Boundary country as a start and following up the Okanagan Lakes to and by way of Vernon to Kamloops from Donald

Not Rival
Routes.

and Golden, from Revelstoke and from Kamloops, through to
Canoe River Valley; from Ashcroft through Cariboo; from Bute
Inlet to Quesnelle; from Edmonton via Tété Jeune Cache; from
Kitimat to the proposed Stickine and Teslin line; or from any of the ports at
present in Alaska—there is a raison d' etre for the existence of each. They would
all form feeders to the central line, which in turn as a main artery of the system
would afford them traffic and incidentally develop a series of very rich districts,
through which smaller networks of vein communication would be distributed.
Instead of acting as rivals they would materially assist in the success of each
other and altogether would constitute the most complete exemplification of the
benefit of an all-Canadian and British Columbian route to the Klondyke.

There are other problems presenting themselves, in addition to the routes which railways will take, and among these arises the question of how best they can be built. With the multiplicity of demands for railway construction there are necessarily involved the responsibilities and obligations of the Province itself in respect thereto. It is becoming pertinent to enquire to what extent the Province should be interested in the ownership as a just return for assistance extended. As yet the Province owing to, among other things, its relations with the Do-

Ownership and Control. Dominion extends to the power of declaring all railways to be for the benefit of Canada, and therefore, supersedes that of the Province. Should sentiment develop as it has in the Australias in favour of Government ownership it will be necessary to arrive at some new understanding as to how railways within the Province may be owned and controlled. At present the constitutional relations of the Provinces and the Dominion are illogical and anomalous, and are open to political abuse.

The settled policy of the Dominion Government for some time has been to assist railways, for the purpose of colonization—an extremely elastic definition of their uses and value and well suited for the exercise of a wide political discretion—to the extent of \$3,200 a mile. The Government of British Columbia, however, has taken the position, as the result of the superior jurisdiction of the Dominion authorities and the much greater benefit derived through customs revenues, that the latter are entitled to pay towards railways in this Province double the provincial bonus per mile, and the Act of 1897 was to some extent based on that proportion.

RAILWAYS ASSISTED, SUBSIDIES, ETC.

The greater portion of the main line of the C.P.R. was built by the Dominion Government and subsequently transferred to the C.P.R. syndicate. Total length in British Columbia, 502 miles.

The Esquimalt & Nanaimo Railway, Vancouver Island, received \$750,000 in cash as a bonus from the Dominion and 1,000,000 acres from the Province, the lands to be free of taxation forever and the land exempt for ten years.

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The Columbia & Kooteray, Kaslo & Slocan, Nelson & Fort Sheppard, and Columbia & Western—all in operation—were granted 10,240 acres per mile by the Provincial Legislature and received \$3,200 per mile from the Dominion Government. For the particulars respecting the aid to the Nakusp & Slocan, Shus-

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ernment. For the particulars respecting the aid to the Nakusp & Slocan, Shuswap & Okanagan, and Victoria & Sidney and other particulars, see tables of "Loans" and "Railways." They also received the Dominion bonus of \$3,200 a mile. The latter was in each instance, as a return for the guarantee of bonds, hypothecated to the Province. One-half of the guarantee of interest of four per cent. on the bonds of the Victoria & Sidney Railway was assumed by the City of Victoria.

The New Westminster Southern Railway from Blaine, in Washington State, to New Westminster, a distance of twenty-two miles, was built in 1889 without aid. It subsequently passed into the control of the Great Northern Railway and became part of its system.

By Act of 1893 provision was made for assistance similar to that extended to the Nakusp & Slocan to a railway through Nicola Valley and another through the Lower Fraser valley to Chilliwack from Vancouver, but these lines were not proceeded with.

In 1889 the Canada Western, better known as the British Pacific, was granted a charter and provision made for a land grant of 10,000 acres per mile of its extent through the Province to the eastern boundary, not yet undertaken.

During last session of Parliament under the provisions of the "Loan (B,C. Public Works) Act," authority was obtained by the Government to assist lines of railway (a) from Penticton to Boundary Creek, 100 miles; (b) from Bute Inlet to Quesnelle, 230 miles; (c) from English Bluff near Point Roberts via Chilliwack to Penticton, 230 miles; to the extent of \$4,000 per

54,000 a Mile. mile under certain conditions. Land subsidies to the extent of 5,200 acres per mile were also granted to lines of railway in Cassiar District as follows: (a) Head of Taku Inlet to Teslin Lake, 140 miles; (b) head of Lynn Canal via White Pass to northern boundary of Province; (c) Glenora on Stickine River to Teslin Lake (about 150 miles).

THE CASSIAR CENTRAL.

A concession to the Cassiar Central Ry. from a point on the Stickine River to Dease Lake, 70 miles, aroused considerable interest and gave rise to a good deal of political discussion. Under the provisions of the "Cassiar Central Aid Act, 1897," the Company, of which Mr. Warburton Pike, the well-known traveller, was the promoter, receives a lease for thirty-five years of an area not exceeding 700,000 acres between the 58th and 60th parallels and 131st and 128th meridians of longitude. In the mineral claims located within this area the Company pays one-half of one per cent. royalty on ore extracted in addition to all other taxes imposed;

\$50 per annum on each claim so long as held; \$100 for each trans-Concessions fer of claim; usual royalties on timber cut or used. Lands are to and Conditions. be selected in blocks of four miles square not exceeding 10,240 acres per mile of railway. In respect to free miners, whose rights have been much discussed, they may enter and locate on lands demised by the Company according to the mining laws of the Province and within six months are to offer terms to the Company for the undivided half of their claims, which the Company may accept or refuse within sixty days. In the event of the Company declining, the miner has two years within which to sell his claim, the Company having the right to purchase at the price offered after paying to the miner the value of development work. At the end of two years the Company may assume control, paying the miner the value of development work and one-half the amount realized for the sale of the claim or from the sale of ores. The miner is entitled to six months' previous notice of the intention of the Company, but if the latter at the end of the two years declines to proceed with development, the location becomes the property of the free miner. There are other provisions and conditions, but the foregoing form the crux of the Act. Active exploratory work has already been undertaken by the promoters of the railway.

THE B. C. SOUTHERN.

Under the charter of the B. C. Southern Railway Company, the control of which has been secured by the C.P.R., construction is now proceeding from

Lethbridge via the Crow's Nest Pass into Kootenay. The former Company obtained a land subsidy of 10,240 acres applicable to sections (a) and (b) of the Act extending aid for a distance of 173 miles from the eastern boundary of the Province westward through Southern Kootenay. To assist in the construction of this line, which was strongly urged from all quarters of the Dominion, the Government at Ottawa granted \$10,000 per mile subject to certain conditions as to traffic arrangements, the price of coal, and the reversion of 50,000 acres of coal lands, etc. The work of construction is proceeding rapidly. Among early results anticipated are the delivery of coal and coke to the smelters in Kootenay and the erection of smelters in East Kootenay.

OTHER LINES.

During the present year the Red Mountain Railway from Northport to Rossland, six miles, has been built and is in operation and a branch of the Columbia & Western from Robson to Rossland, sixteen miles, was commenced and completed and traffic arrangements have been entered into with the C.P.R. in connection with its operation. A charter has been in existence for some time, several times renewed, for a railway from Ashcroft or Kamloops to Barkerville, about 100 miles, and the early construction of this line by the C.P.R. is considered to be fairly probable.

The line of railway attracting the greatest immediate attention is one from Telegraph Creek to Teslin Lake to afford an all-British route to the Yukon. The proposal contemplated utilizing the Stickine River for this purpose, but more recently there has been a proposal to start the railway to Teslin Lake from the head of Kitimat Inlet by way of the Kitimat route,

so as to avoid the navigation of the Stickine and an exploratory survey has already been made.

On Vancouver Island there have been several projects for railways. One of these is a railway from Nanaimo to Alberni, the latter point being long regarded by many as a very important objective point as a seaport. Hon. Dr. Helmcken has for years advocated a railway to the north end of the Island, and doubtless its importance will be ultimately fully recognized.

Numerous local charters not referred to in the foregoing have been obtained

from time to time, mainly for speculative purposes.

The mileage of railways in British Columbia is:-

		Miles.
C.P.R. main line and branches		505.3
Columbia & Kootenay		28.50
Esquimalt & Nanaimo		78.01
Kaslo & Slocan		31.80
Nakusp & Slocan		36.90
Nelson & Fort Sheppard		59.40
Shuswap & Okanagan		51.00
Victoria & Sidney		16.26
Red Mountain		6.
Columbia & Western		21.
New Westminster Southern		22
New Westminster-Vancouver Tramway		12
	_	
Total		868,17

The bonded debt of lines outside of the main line is, roundly, \$5,500,000; and the total cost of railways in the Province, about \$48,000,000 inclusive of rolling stock and all other plant.

The chapter on Electrical Enterprises, in connection with which very complete data had been prepared, has been unavoidably left out. It may be briefly stated that in respect to the telegraph, telephone, electric light and tramways, the Province is well to the front, and, in fact, in respect to electric lighting and tramways, was the pioneer Province in Canada.

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THE CANADIAN YUKON.

PERHAPS no other event or combination of events occurring outside of the arena of the battlefield has during the present century so profoundly affected the English-speaking people, and generally has had so wide an influence in so short a space of time as the gold discoveries in the Yukon. The mining excitements of Australia, California or South Africa were similar in character, but they did not move the world as the Klondyke has moved it. Nor did they ever experience the same sudden, concerted and momentous rush as we are likely to witness during the next few months.

This chapter is not written for the purpose of inducing its readers to join the stampede, but to supply a legitimate demand for information. It is said that there is no animal so savage as a mob, and there is nothing, outside of the forces

Anticipated Rush.

of Nature itself, so irresistible as human beings impelled by a "movement," more especially if the impetus be that of finding gold. It would matter little under such stimulating conditions whether the words written were of warning or encouragement; their effect would be less than the merest ripple on the surface of the ocean. Anywhere between one hundred thousand and half a million persons in all quarters of the globe have set their minds on reaching Klondyke "in the spring." It is alike a commentary on the rage for wealth and the tremendous energy and directness afforded by modern agencies for the concentration of effort on a given point. Nothing in history quite equals the enterprise thus displayed.

It is unnecessary for practical information to readers to review the history of mining and prospecting in the Yukon District. The country has been prospected by numbers of men ever since 1887 and the scene of the present mining operations has been several times gone over. Prior to 1896 the operations were confined mainly to the Alaska side of the 141st meridian and in the diggings there good results had been obtained. In 1896, however, Bonanza and other creeks were discovered on the Canadan side and coarse gold exposed equal to the richest finds of Cariboo.

Then began the rush, which has become memorable, from Circle City and other points on the American side. Mr. Ogilvie, in his reports to the Dominion Government, gave the first intimation of these discoveries, and although great

Interest
Awakened.

interest was awakened and a subsequent rush to the Yukon anticipated, it was not until the steamer "Excelsior" to San Francisco brought the first consignment of miners and gold dust that the real excitement began. It spread immediately to all the cities on the Pacific Coast and throughout America, and to Great Britain. Thousands started for

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comoriefly ways, g and the Yukon by way of San Francisco, Seattle, Tacoma, Victoria and Vancouver, but the lateness of the season prevented many from getting through to Klondyke this year. About 10,000 people from all points started northward, the main objective points by which to reach Dawson City being Skagway and Dyea Pass. These routes, totally unprepared for the traffic suddenly thrust upon them, soon became congested and hardships, suffering, and much loss resulted.

At the time Mr. Ogilvie left Dawson City in midsummer there were between three and four thousand people there. Of the 10,000 who started in after the excitement began, probably three thousand have reached their destination. Mr. Ogilvie considers that during 1897 about \$3,500,000 was taken out of the various creeks in the vicinity of Dawson City. It has been said that every dollar in gold

lifted by the ordinary process of mining costs a dollar to proGold to Get Gold. duce it. This will be found particularly true of the wealth of the
Yukon. Of the 10,000 people who started this year, \$500 each
by way of expenditure would be a moderate estimate indeed. That represents in itself \$5,000,000 as against the \$3,500,000 mined, and in reality
\$10,000,000 would be nearer the total of the expenditure in reaching the Yukon
alone. Again, if we accept the estimate that at least 100,000 persons will start for
the mines in 1898, at an agrerage of \$500, the amount expended will be \$50,000,000
in one year. Mr. Ogilvie's estimate of the gold in the creeks in the Klondyke to
be taken out during the next decade is between \$65,000,000 and \$75,000,000.

It will be unnecessary to refer to the rich character of the diggings or the many individual finds and clean-ups which have made some rich and others millionaires. These range from \$5,000 up to \$150,000. Pans of gold averaged all the way from \$1.50 up to \$500. In the rich diggings, however, \$10 and \$12 a pan was a fair average. From the evidence of Mr. Ogilvie, Dr. Dawson, and many others more or less competent to form an opinion, it is undoubted that the whole Yukon territory is rich in precious and other minerals, and that it will take many years before development has reached its height. This country, however, is simply a continuation, and practically the same in character as the whole northern portion of British Columbia, included in Cariboo and Cassiar, the riches of which have been demonstrated many years ago, and which will be exploited more thoroughly as a result of gold mining in the far North.

The question of routes to this country is fully discussed elsewhere and all available particulars given. As to what extent a country like the Yukon can support and successfully accommodate the thousands of people who are about to

rush in is a question which cannot easily be determined, but a note of warning is necessary as to the capabilities of a country wholly undeveloped to maintain for any length of time from 100,000 to 200,000 persons, whose livelihood must depend upon mining and in the absence of success in that, upon the resources which they carry with them. There is a danger of the situation being overdone and prospective gold-seekers should weigh carefully the risks that may be involved as against the chances of making wealth. There is a danger, too, of speculation being over-stimulated by the excitement, and the over-investment of capital in the hundred and one schemes which are evolved by such circumstances. Already the business community has been besieged by hosts of enterprising promoters, some of them the purest fakirs, for the purpose of interesting them in all kinds of schemes from advertising to balloon projects. Over-speculation and over-investment are bound to be followed by reaction and the loss of much capital.

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It is doubtful also to what extent the Yukon may become permanently colonized. Dr. Dawson speaks hopefully of it from an agricultural and industrial point of view. Mr. Ogilvie, on the other hand, sees little in the country upon which to found hopes of agriculture being carried on to any extent or in fact any other industry, except that of mining. It

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is possible, however, that with the rush of people many openings for enterprises will occur which may induce permanent settlement, especially by people from the northern countries of Europe to whom the conditions are not unusual or forbidding.

It should be borne in mind, particularly, that the Klondyke is in Canadiana territory and that outfits purchased in British Columbia or in Canada are not subject to duty; and also that all supplies coming from any point outside of Canada are subject to a duty ranging from twenty to thirty-five per cent., according to the nature of the articles. There was a temporary exemption of \$100 during the present year, but we have the assurance of a Minister of the Crown that this was not intended to continue.

THE YUKON DESCRIBED.

THE Yukon District comprises an area of approximately 192,000 square miles, within Canadian territory, over 150,000 square miles of which is included in the watershed of the Yukon River. In other words, its area is almost equal to that of France, and greater than that of the United Kingdom by over 70,000 square miles. The northern portion of British Columbia is included strictly within the Yukon Basin, which, with the southern part of the Yukon, is drained by three great river systems. Its waters reach the Pacific by the Stickine, to the Mackenzie, and eventually the Arctic Ocean by the Liard, and Behring Sea by the Yukon. The Stickine makes its way through the Coast Range in a southwesterly direction, while the Liard in a south-easterly direction cuts across the Rocky Mountains into the Mackenzie Valley. The watershed separating these rises to a height of 2,730 feet. The whole northern country may be said to be in a general way a continuation of the more pronounced physical features of British Columbia. The mountain ranges, however, which are more sharply de-

fined in the northern part of British Columbia, gradually converge towards the north until they merge into each other and broaden out into one more or less composite area. The region as a whole, being a portion of the Cordillera belt of the West Coast, is naturally mountainous in general character, but it comprises as well important areas of merely hilly or gently rolling country, besides many wide, flat river valleys. It is more mountainous and higher in the south-eastern part, and subsides gradually and apparently uniformly to the north-westward, the mountains becoming more isolated and more separated by broader tracts of low land. The general base level or height of the main valley within the Coast Ranges declines from a height of about 2,500 feet to 1,500 feet at the confluence of the Lewis and Pelly Rivers, and the average base level of the entire region may be stated as being a little over 2,000 feet. Disregarding minor irregularities, the trend of the main mountain

ridges and ranges throughout the entire region has a general parallelism to the outline of the coast. The Coast Ranges having an average width of about eighty miles, and closely set with high, rounded or rugged mountains, reproduce geographically and geologically the features characteristic of it in the southern portion of British Columbia.

The mountain axis next in importance to the Coast Ranges is that forming the water-parting between the Upper Liard and Yukon on one side, and the feeders of the main Mackenzie River on the other. This represents

the north-western continuation of the Rocky Mountains proper.

This forms, so far as has been ascertained, the culminating range of number of more or less exactly parallel ridges, and summits in it attain heights of from 7,000 to 9,000 feet.

A third notable mountain axis, designated as the Cassiar Range by Dr. Dawson, is cut through by the Dease River in its upper course, and further to the north-westward appears to form the line of water-parting between the tributaries of the Upper Liard and those of the branches of the Yukon. Peaks near the Dease range between 7,000 and 8,000 feet. In the north-western portion of the region the mountain ranges and ridges are in general lower and become discontinuous and irregular. Scarcely anything is known of the character of the country drained by the McMillan, Stuart, and White Rivers. The topographical features of the entire region have been considerably modified by the events of the glacial period, and the changes produced at that time have more particularly affected drainage basins and the courses of various streams. The valleys and lower tracts of country are now more or less completely filled or covered by extensive deposits of boulder-clay, gravel, sand and silt, laid down during that period. To these deposits are due the flat floors of the larger valleys, and also to a great extent the appearance which the more irregular mountain ranges present of being partly merged in level or rolling plains.

In regard to the sources of the Yukon. Dr. Dawson says whether reckoned by size or distance from its mouth, the source of the Lewis must be placed at the head-waters of the Hootalinqua, in approximate latitude 59° 10' and longitude 132° 40'. In regard to the Pelly, it is not absolutely certain that the Pelly proper rises farther from the common point at Fort Selkirk than its great branches, the McMillan and the Ross Rivers. The volume of water in the Yukon River is small compared with many of the large rivers of the American Continent, and is about

half of that of the Mackenzie.

The large rivers by which the Yukon District and the northern portion of British Columbia are intersected constitute the natural and principal routes of travel, and during the summer months render inter-communication comparatively easy. The first of these to be considered is the Stickine. In size and general character the Stickine closely resembles the Skeena, which enters the coast in a parallel direction about 200 miles farther south. The former is navigable for stern-wheeled steamers of light draft to Glenora, 120 miles from Rothsay Point, and under favourable circumstances to Telegraph Creek and the Great Canyon, which extends for many miles, and is quite passable for either steamers or boats, though traversed by the Indians in winter on the ice. The head-waters of the Stickine are unknown, but lie for the most part to the south of the 58th parallel of north latitude, in a country said to be very mountainous, interlocking

there with the northern branches of the Naas or western feeders of the Black, a tributary of the Liard. From Telegraph Creek, the head of navigation, a pack trail, sixty-two and one-half miles in length, constructed by the British Columbia Government, follows the valley of the Stickine close to the river to the head of Dease Lake, which is the centre of the whole Cassiar mining district. This route Dr. Dawson says has long been known to the Indians, the Stickine having been to them from time immemorial an important avenue of trade, by which, as by the Skeena, the coast tribes penetrated a considerable distance inland. Stern-wheel steamers for the navigation of this river require good engine power, and should draw not more than four feet of water when loaded. According to Mr. J. C. Calbreath, a man of very long experience in the district, who is at the present time engaged in opening a route from Telegraph Creek to Teslin Lake for the British Columbia Government,

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the Stickine generally opens for navigation between April 20th and May 1st. Ice or sludge usually begins to run in the river about the 1st of November. The river generally freezes over about the end of November. The highest water occurs in the early summer, generally in June.

A trail was at one time opened from Fraser Lake overland to Dease Lake, over which cattle were driven, but has not latterly been used. The Dease River can scarcely be considered navigable for steamers, though constituting a fairly good

boat route. The Upper Liard and Frances Rivers are navigable for large boats, with occasional portages, but not so for steamers.

The difficulties of the Lower Liard, however, are such as to render it an undesirable route even for boats, and scarcely suited as an avenue

of trade between Cassiar and the Mackenzie.

Little is known of the Taku River, but Indians ascend it in canoes to a distance of about eighty miles. From Taku Inlet an Indian trail leads south-castward to the Tahitan, eastward to Tealin Lake, and north-eastward to the lakes near the head of the Lewis. From what has been ascertained of these it is probable it would not be difficult to construct a trail suitable for pack

Taku Inlet. animals, if not a waggon road, from the vicinity of the head of navigation on the Stickine, on these lakes, connected with the navigable waters of the Lewis. The rivers draining the Upper Yukon Basin have in general low grades, and afford better navigable water, and are likely to prove of greater importance in connection with the exploration and development of the country.

The Yukon is continuously navigable for small steamers from its mouth, on Behring Sea, and following the Lewis Branch to Miles Canyon; thence, after an interruption of about three miles, to the head of Bennett Lake, and to an additional considerable distance by the waters extending south-westward from

Tagish Lake.

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The Teslintoo is probably navigable for stern-wheel steamers for 150 miles or more from its mouth, while the Tahk-keena and Big Salmon Rivers may probably both be ascended by steamers of the same class for some distance. From the site of the old Fort Selkirk again the Pelly might be navigable by small steamers of good power to within about fifty miles of the site of old Fort Pelly banks, and the McMillan branch is also navigable for a considerable distance. The same may be said of the Stuart River, but White River, so far as known, is very swift and shoal.

The total length of water which may be utilized for navigation for light stern-wheel steamers on the main river and its branches to the east of the 141st meridian, or Alaskan boundary, measured in straight lengths of fifty miles, is estimated by Dr. Dawson at 1,000 miles, and, following the sinuosities of the various streams would be very much greater. This does not include the Porcupine River, and, with the exception of a single break, namely, Miles Canyon on the Lewis, forms a connected system, all parts of which lie to the east of the above meridian.

In regard to the climate of the Yukon District; there is little available information obtained by experience, but its general features are fairly well known. The coast and coastward slopes of the Coast Range constitute a belt of excessive

humidity and great precipitation, while the interior region to the eastward is relatively dry, with a temperature of extremes. In the interior, however, Dr. Dawson remarks that the climate is largely influenced by the altitude of each particular district, and in consequence of the general lowering of the country beyond the 60 parallel it is certain that the climatic conditions there are much more favourable than in the Cassiar District.

N account of the depth of the snowfall and the clouded character of the skies, the Coast Ranges support numerous glaciers, which are absent in the Cascade Mountains and the other ranges in the interior. This retards the progress of spring on the Coast mountains. The depth of snow in winter is mod-

erate as far down the Pelly (and Yukon) as the mouth of the Stuart River and Forty-Mile Creek, while at Nutato, on the lower river in a similar latitude, but 500 miles farther west, the depth of snow from April to November is said to average eight feet and often to reach twelve feet. Mr. Dall says that the valley of the Lower Yukon is sometimes foggy in the latter part of summer, but as we ascend the river the climate improves, and the short season at Fort Yukon is dry but pleasant, only varied by an occasional shower. As in the more southern part of British Columbia, the driest country is found to be bordering the east side of the Coast Ranges, and this phenomenon occurs, though in a less marked degree, with each of the well-defined mountain ranges of the interior.

A change in the direction, as between the summer and winter winds, is noted in connection with the passes leading from the head of Lynn Canal, and, doubtless, in all the lower gaps in the Coast Ranges. In the summer strong winds blow up the valley, and are of very frequent occurrence. In the winter months the conditions are reversed, the strong winds blowing seaward. The temperatures of Wrangel and Fort Yukon are given in the following table, taken from the United States Coast Pilot, these two points being taken as fairly representative of coast and interior climates, respectively:—

	Wrangel.	Fort Yukon.
Spring	40.4	14.6
Summer	57.I	56.7
Autumn	43.0	17.4
Winter	28.3	-23.8
Year	42.2	16.8

The mean seasonal temperature for these two stations is given for both places.

Dr. Dawson says: "In the central Provinces of European Russia the thermometer descends to -22 and -31, and occasionally even to -54 in the winter months, but rises at times to 104 and even to 109 in summer. The rainfall is small.

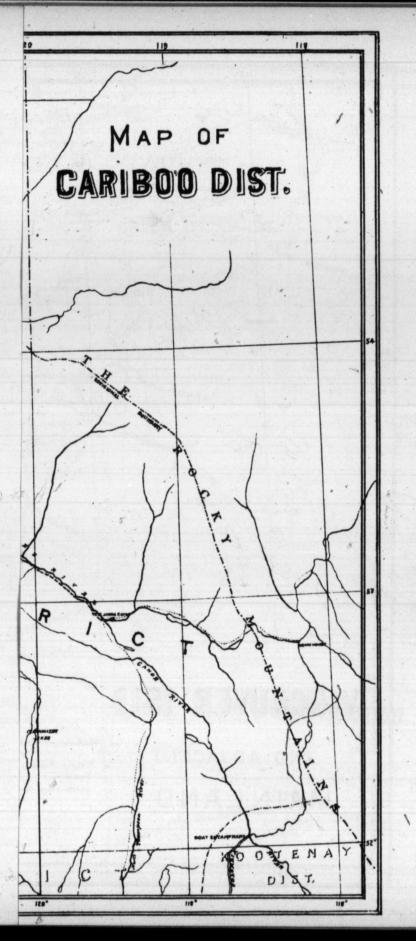
changes. varying from sixteen to twenty-eight inches, the maximum precipitation taking place during the summer months, and not, as in Western Europe, in the winter, while the months of advanced spring are warmer than the corresponding months of autumn. So far as our information goes, the above statement might also be adopted as characterizing the climate of the southern half of the Yukon District."

In referring to the bearings of climate on mining, Dr. Dawson, writing generally of the whole Northern District, says:—

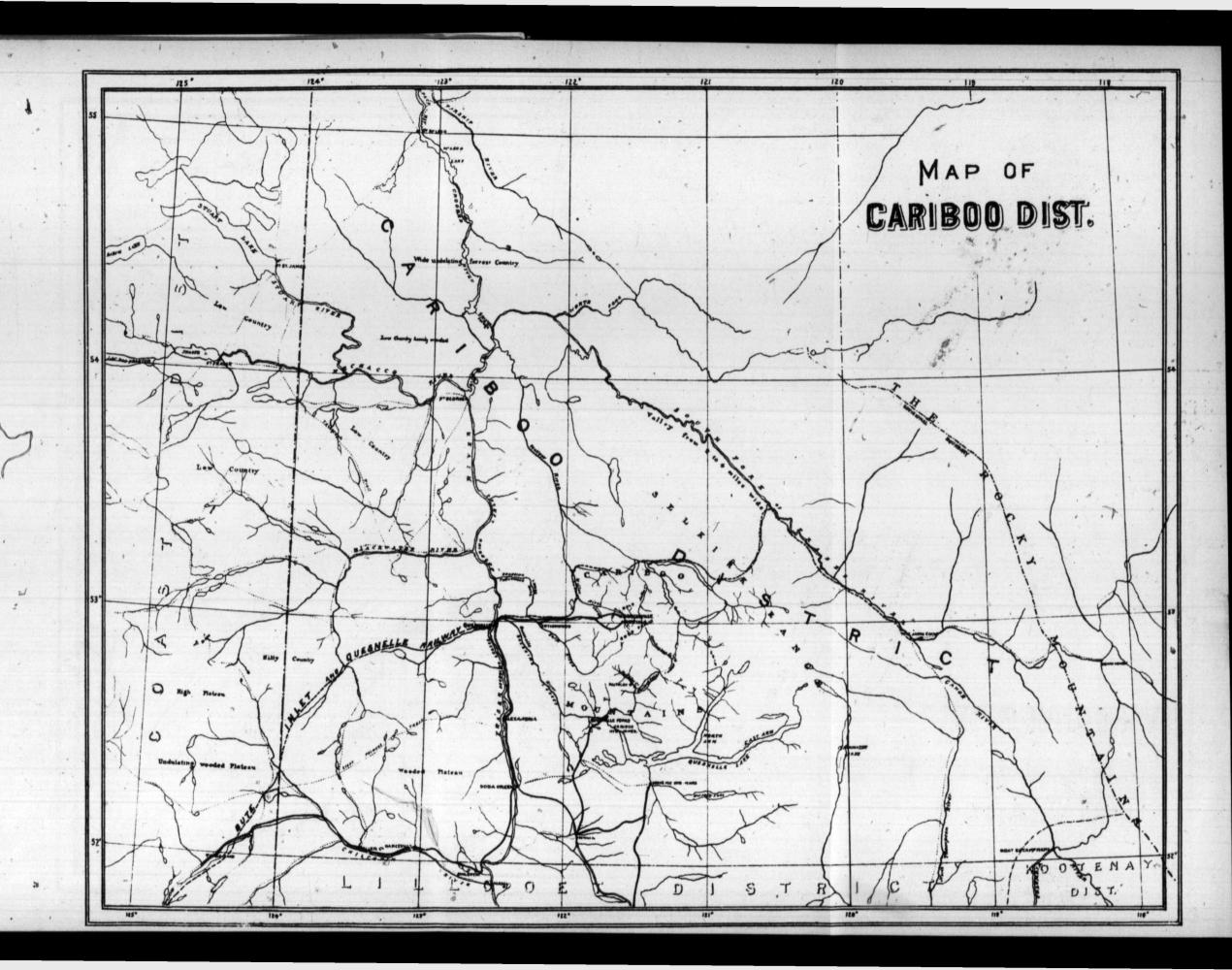
"In the Northern Districts here reported on, it is true that the winter climate is a severe one, rendering the working season for ordinary placer mines short, and likely also to present some special difficulties in the way of 'quartz mining.' There is, however, on the other hand, an abundance of wood and water, matters of great importance in connection with mining, and, means of communication once provided, mining operations should be carried on here at less cost than in dry and woodless regions, such as are great portions of Arizona."

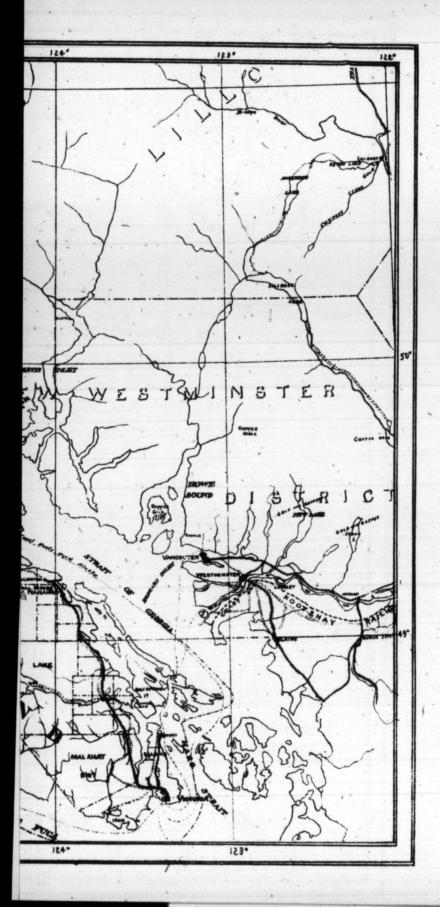
The winter climate of all of this region is known to be a severe one, the northern part lying within the Arctic circle, but it must be remembered that the climatic conditions on the eastern and western sides of the continent are by no means comparable, and that the isothermal lines representing the mean annual temperature trends not westward, but northward from the Manitoba region.

At Telegraph Creek and in its vicinity, on the Stickine, wheat, barley and potatoes are successfully grown with the aid of irrigation, although their cultivation has only been attempted on a limited scale on account of the want of a market. None of these can be successfully grown or ripened on the coastward side of the mountains. At Fort Yukon Mr. Dall states he was informed that barley had once or twice been tried in small patches, and they had succeeded in



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maturing the grain, though the straw was very short. A few cattle had been kept here at one time. Dr. Dawson confirms this statement, and adds: "I feel no hesitation in stating my belief that such hardy crops as barley, rye, turnips, and flax can be cultivated in the Yukon District as far north as Fort Selkirk, near the 63rd parallel." His conclusion is that there exists an area of about 60,000 square miles, of which a large proportion may and doubtless in the future will be utilized for the cultivation of such crops, and in which cattle and horses might be maintained in sufficient number for local purposes without undue labour, as excellent summer grazing is usually to be found along the river, and natural hay meadows are frequent. "I do not maintain," he says, "that the country is suitable for occupation by a large self-supporting agricultural community, but hold that agriculture may before many years be successfully prosecuted in conjunction with the natural development of the other resources of this great country, of which by far the most valuable portion lies to the east of the line of the Alaskan boundary."

In general economic importance and conditions Dr. Dawson compares it with the Province of Yologda, in European Russia, which is, by the way, very much similar in regard to area, and is situated between the 58th and 65th degrees of latitude, and adds: "The climate in both cases is a continental one, in which severe winters alternate with warm summers, and the actual degrees of cold and

heat, so far as our information goes, are not dissimilar. There is no very heavy rainfall in either region, such as we find near the western coasts bordering on the Atlantic and on the Pacific, respectively. The agricultural products from the province of Vologda are oats, rye, barley, hemp, flax, and pulse. The mineral products comprise salt, copper, iron, and marble, but the precious metals do not appear to be important, as in the Yukon District. Horses and cattle are reared, and the skins of various wild animals, as well as pitch and turpentine, are among the exports. The population of the province is stated at 1.161,000."

"While the Yukon District and the northern portion of British Columbia are at present far beyond the limits of ordinary settlement, we may be prepared at any time to hear of the discovery of important mineral deposits, which will afford the necessary impetus, and may result in the course of a few years, in the introduction of a considerable population into even its most distant fastnesses. To-day it may well be characterized by the term which has been employed in connection with the Mackenzie basin, a portion of Canada's 'Great Reserve.' It appears meanwhile eminently desirable that we should encourage

appears meanwhile eminently desirable that we should encourage and facilitate, in so far as may be possible, the efforts of the miners and others who constitute our true pioneers in the region, and to whom, in conjunction with the fur companies and traders, the peaceful conquest of the whole of our Great West has been due. In the future there is every reason to look forward to the time when this country will support a large and hardy population, attached to the soil and making the utmost of its resources."

The latter part of this quotation, which was written in 1887, with reference to the ultimate development of the Yukon District, taken in conjunction with the recent events of this year, looks remarkably like prophecy. He says also the information now obtained is sufficient to warrant a confident belief in its great value. Very much yet remains to be learned respecting it, but it is known to be rich in furs, well-supplied with timber, and is traversed in great length by navigable rivers. In each of these particulars and climate it is greatly superior to the inland portion of Alaska. In may in fact be affirmed with little room for doubt that the region here spoken of as the Yukon District surpasses in material resources the whole remaining northern interior portion of the Continent in the same parallels of latitude.

In regard to the trees of the interior country treated as a whole, Douglas fir, Engelmann's spruce, hemlock and the red cedar, all common and characteristic trees, a few degrees of latitude to the south, are nowhere found. The white and black spruce, balsam fir, aspen and cottonwood, are found in suitable localities.

over the whole region east of the coast mountains, the two first mentioned trees constituting probably one-half of the entire forest of the country. The black pine is pretty widely distributed in this northern region. The larch is found westward on the Dease River to a point twenty-two miles above its mouth and along the Liard and Fiances. Birch is also found on the Dease River and the Liard head waters to Frances Lake. The juniper was observed as a small tree in the dry country in the lee of the coast mountains at Telegraph Creek on the Stickine. The alder and several species of willow become small trees in the interior. The timber line or upper limit of the growth of forest on the mountains of the interior in the vicinity of the watershed between the Liard headwaters and those of the Pelly in latitude 61.30 is found to be at a height of 4,200 feet. The red cedar is not now in any abundance north of the latitude of the mouth of the Stickine River. It is confined to the mouth of the Stickine and does not follow up the valley any distance inland. The yellow cedar generally reaches Sitka and is not found anywhere among the inner islands near the entrance to Lynn Canal. The alder forms groves as far north as latitude 59. Broad leaf maple may reach latitude 55 on the Alaska coast, but is rare north of the Prince of Wales Archipelago. Eighttenths of the entire forest of the coast region consists of the single species of Menzies spruce. Pinus contorta, a species of black pine, is found along the Lynn Canal and elsewhere along the coast. Here also Tsuga pattiona grows to a fair

Summarizing his remarks on timber, Dr. Dawson says: "It may suffice here to say that the country is generally wooded and that in all portions of it, in valley and low land, there is an abundance of white spruce of fair to good quality, well suited to purposes of construction. The other species of trees present are of inferior economic importance."

The fauna of the region does not notably differ from other parts of the northern country. The smaller black-tail deer occurs on the islands. In the southern portion of Alaska and adjacent Mainland the mountain goat is moderately abundant in the Coast Ranges and is found in the mountain inland region.

The big horn, or mountain sheep, occurs on the mountains about the head of the Lewes and other parts of inland spurs of the Fauna. Coast Ranges. It is also found in the mountains of the interior. The moose is more or less abundant throughout the entire region, and together with the caribou, which is also abundant, constitutes the greater part of the food of the Indians. Black and grizzly bears roam over the entire region and are often seen on banks of rivers when dead or dying salmon are to be obtained. The smaller fur-bearing animals are generally distributed throughout the northern interior. The salmon ascend the Lewes River as far as the lower end of Lake Marsh and run up the Pelly for considerable distance above the mouth of The lakes and rivers throughout the country generally are well supplied with fish, the principal of which are white fish, lake trout, grayling, pike and sucker. The annual value of furs obtained in this region amounts to between \$75,000 and \$100,000, and consists of the skins of the beaver, cross black and red fox, bear, marten, otter, mink, lynx, wolverine and wolf. Foxes, as may be inferred, are exceedingly numerous.

The Yukon District was first explored as far back as 1834, when Mr. J. Mc-Leod, of the Hudson's Bay Company, ascended the Liard as far as Simpson Lake. It was, however, due to the energy of Mr. Robert Campbell that the exploration of the Upper Liard and Yukon is almost entirely due. After the abandonment of the Dease Lake post in 1839 Mr. Campbell was in the spring of 1840 commissioned by Sir George Simpson to explore the northern portion of the

Early History. Liard to its source, and to cross the height of land in search of any river flowing to the westward, especially the head waters of the Colville, the mouth of which on the Arctic Ocean had been discovered by Messrs. Dease and Simpson. In pursuance of his instructions he left Fort Halkett in May and ascended to Frances Lake, named in honour of Lady Simpson, from which place they ascended the valley of Finlayson's River to Finlayson's Lake, from which place he crossed to the Pelly. In 1842 Fort Pelly Banks was

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constructed, and in June, 1843, Campbell left and reached the mouth of a river which he called the Lewes, and where he encountered a camp of wood Indians, and was so discouraged by the number and ferocity of the people on the Lower River that he turned back. Until 1847-8 the Hudson's Bay Company did not extend their operations beyond Pelly Banks. In 1848, however, Campbell set out to establish a fort at the confluence of the Pelly and Lewes Rivers, which was named Fort Selkirk. Meanwhile an entry was being made to the Yukon Basin from another direction. Mr. J. Bell in 1842 reached the Porcupine or Rat River and had descended it for three days' journey. In 1846 he was in charge of the Hudson's Bay Company's post on the Peel River, and was instructed again to cross the mountains and further explore the Porcupine. In that year he reached its mouth, and to the great river into which it flowed, which the Indians said was named the Yukon. In 1847 Fort Yukon was established at the mouth of the Porcupine by Mr. A. H. Murray. It still remained, however, for Campbell to prove that the Pelly and theYukon were identical. In 1850 he did this by descending the river from Fort Selkirk to Fort Yukon, after which he ascended the Porcupine, crossed the mountain portage and returned to Fort Simpson by the Mackenzie, the result of the journey showing that the route from Fort Selkirk by way of the porcupine to the Mackenzie was preferable to that originally discovered, the navigation of the Liard being both arduous and dangerous, to which was added the length of land transport from Fraser Lake to the Upper Pelly.

Owing to the hostility of the natives, Fort Pelly Banks and Fort Frances were abandoned in 1850-1. The hostility of the natives of wood Indians was due to the fact that their trade with the Coast Indians which had been carried on by them as intermediaries was greatly interfered with. Fort Yukon at the mouth of the Porcupine was continuously maintained until 1869, when the Hudson's Bay Company were expelled by the United States Government, it having been ascertained by astronomical observation that the post was situated to the west of the 141st meridian.

Dr. Dawson in referring to the efforts of the Hudson's Bay Company in this District, says: "The utmost credit must be accorded to the pioneers of the Hudson's Bay Company for the enterprise made by them in carrying their trade Hudson's Bay Co. into the Yukon Basin in the face of difficulties so great and at Hudson's Bay Co.

Pioneers.

Pion Thompson and Campbell, we owe the discovery of our great North-West. Again, neither distance nor danger appeared to have been taken into account, and in spite of every obstacle a way was opened and a series of posts established extending from Fort Simpson on the Mackenzie to Fort Yukon. Fort Simpson may itself be regarded even at the present day as a post very far removed from the borders of civilization. For this farther route, which nearly half a century ago became familiar to the Company's voyageurs, stretched out beyond it for nearly 1,000 miles. Mr. James Anderson in 1853 writes thus of the Liard River: 'You can hardly conceive the intense horror the men have to go up to Frances Lake. They invariably, on re-hiring, endeavour to be exempted from the West Branch (Liard). The number of deaths which have occurred there is fourteen, viz:-Three in connection with Dease Lake and eleven in connection with Frances Lake and Pelly Banks; of these last three died from starvation and eight from drowning.

"At the time of the establishment of Forts Yukon and Selkirk, and for many years afterwards the 'returns' from these farthest stations reached the market only after seven years, the course of trade being as follows: Goods.—First year, reach York Factory; second year, Norway House; third year, Peel River, and were hauled during the winter across the mountains to La Pierre's House; fourth year, reach Fort Yukon. Returns.—Fifth year, reach La Pierre's House and are hauled across to Peel River; sixth year, reach depot at Fort Simpson; seventh year, reach market."

The Stickine, although indicated on the map of Vancouver, its existence as

a large river was evidently not known to him. The river was first found by fur traders in the sloop "Dragon," Capt. Cleveland, in April, 1799, and was no doubt

visited by many of the trading vessels which at that time frequented the coast. In 1834 the Hudson's Bay Company fitted out a vessel named the "Dryad" for the purpose of establishing a post at the mouth of the Stickine, but were anticipated by the Russians who sent two small armed vessels to the spot and constructed a defense work called Fort Dionysius, where the present town of Wrangel is. The dispute was compromised in 1837, when the Hudson's Bay Company leased the Russian territory of Alaska for a period of ten years. Fort Stickine, named by Sir James Douglas, was in 1841 attacked by Indians, and was again threatened in the following year. In the spring of 1840 the Hudson's Bay Company established a second fort, named Fort Durham, about thirty-five miles southward from the mouth of the Taku River, in sight of Douglas Island, but it was abandoned in the spring of 1843. In 1834, however, Mr. J. McLeod had reached the banks of the upper part of the Stickine near Dease Lake overland from the Mackenzie River. Mr. Robert Campbell spent the winter of 1838-39 on Dease Lake. Nothing else of consequence occurred until 1861, when two miners, named Choquette, a French-Canadian, nicknamed "Buck," and Carpenter, discovered placer gold on the bars. Some excitement was created by the announcement, and several prospecting parties were fitted out at Victoria and a number of men passed the summer in mining on the river. A Hudson's Bay post was established on the east side of the river in 1862 or 1863 and was maintained until 1874, then removed to Glenora, and finally abandoned in 1878.

In 1866 explorations for the line of the Western Union or Collins Telegraph Company, referred to elsewhere, were extended to the Stickine under Major Pope. These were continued in 1867 by Messrs. M. W. Burns, Vital Lafleur, W. McNeill and P. J. Leech, Victoria, and embraced the first tributaries of the river.

Telegraph Creek was so named on account of the explorations.

referred to, being at this point where the proposed line crossed the Stickine. The project was subsequently abandoned. In 1873 Messrs. Thibert and McCulloch, travelling westward from the Mackenzie, discovered gold in the Cassiar region, and fell in with miners already/engaged in placer mining on the Stickine in the autumn of that year. By reference to a chapter elsewhere on the Alaska Boundary Question, it will be seen that the Stickine came prominently into notice in connection with the difficulty in regard to territorial jurisdiction, which occurred in connection with customs and other matters, a full report of which may be found in the Canadian Sessional Papers, Vol. 9, No. 11, 1878.

A TRAVELLER'S VIEW.

S INCE the decay of the placer mining in the Cassiar District in the early eighties, the northern part of the Province of British Columbia and the adjacent portions of the North-West Territory have been looked upon as a desolate wilderness, exposed to the rigour of an Arctic climate and utterly useless, except for the support of a few wandering Indians and their attendant fur-traders.

In 1887 an expedition was sent to the North by the Dominion Geological Survey Department to make an exploratory survey of the better known lines of travel by which this district was formerly exploited by the Hudson's Bay Company. Dr. G. M. Dawson, who was in charge of the expedition, made the journey by the Stickine into the Cassiar District, ascended the Liard and Frances.

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of the scer best rail ar Canal to th to the main the Yukon there by ri crossed the height of land separating the waters of the Frances and the Pelly, ran down the Pelly to its junction with the Lewes at the sight of old Fort Selkirk, and

ascending the Lewes, reached salt water again by the Chilcat

Pass. Mr. McConnell left Dr. Dawson at the mouth of the
Dease River, and ran down the Liard to the Mackenzie, crossing
afterwards to the Porcupine and joining the Yukon at Fort Yukon. Mr. Ogilvie
left the sea by the Chilcat Pass, and descended the Lewes and Yukon to FortyMile Creek, which was even then a mining camp of some importance. There he
passed a winter in locating the 141st degree of Longitude, the International Boundary between Alaska and the North-West Territories. He afterwards proceeded
overland to the Mackenzie, and came south by the Hudson's Bay Company's
trading route through the Great Slave and the Athabasca Lakes to Edmonton.

The results of these exploratory expeditions were published in three most interesting reports made by thoroughly competent men, stating in close detail the character of the country passed through, the geological formations, the distribution of fauna and flora, besides accurate information as to the distances and feasibility of various routes, and careful notes as to the impediments to navigation in the different rivers examined. Yet, with their usual apathy, the British Columbians took not the slightest interest in the matter. Very few people in the Province had ever heard of Dr. Dawson's report until six months ago, and it is only now, when they have been rudely shaken out of their apathy by the stirring report of the discovery of rich placer ground on some of the tributaries of the Yukon, that people are beginning to ask each other where the Yukon is and which is the best way to get there; but even still there is not one man in a thousand who has any idea of the economic possibilities of the vast unexplored area lying to the east of the Yukon, drained by rivers in comparison to which the already famous Klondyke is a very small stream indeed.

At the last meeting of the Legislative Assembly of British Columbia, great surprise and some derision were expressed at the numerous applications for charters for building railways in the northern part of the Province; no one dreamt that they would be built for years, or that there would be any necessity or any possible hope of remuneration for building them during the lifetime of the present generation. Suddenly, however, some of these railways are looked upon as an accomplished fact, and there is no doubt that some more speedy means of access must be provided for the ever-increasing number of miners who are forcing their way into the North, than the primitive method of packing provisions on their backs and building rough boats from hand-sawn lumber. This is all very well for the prospector going into a new country, but when a mining camp is once established, the building of a short line of railway and opening up of steamer

Question of Routes.

Communication wherever suitable waterways can be found, are sure to be taken in hand at once. At present the Klondyke is the objective point of most of these railways, and little consideration is given to the possible future development likely to occur to the eastward of the scene of the present excitement. A great discussion has arisen as to the best rail and steamer route to the Yukon—whether it lies from the head of Lynn Canal to the chain of lakes from which the Lewes drains; thence down the Lewes to the main stream of the Yukon—the same route, in fact, that has been used by the Yukon miners since 1884; or by the Stickine River to Teslin Lake, and from there by river steamer down the Hootalinqua. The best one can say for the

Lewes is that it is navigable in stretches, but as yet there is no definite information as to the navigability of the Hootalinqua. A rumour has been freely circulated that this river is navigable for a steamer throughout its course, but no reliable report has so far been published on the subject. It seems hardly possible to believe that the intermediate river—the Hootalinqua—running its course between the Lewes and Pelly—the main tributaries of the Yukon—should be clear of obstruction, while the much larger streams offer numerous obstacles to navigation in the forms of canyons, rapids, and shallow bars. If it should prove to be really true that the Hootalinqua is free of all these obstacles, there can be

be really true that the Hootalinqua is free of all these obstacles, there can be little doubt that it will eventually be the main approach to the Yukon mining camps. There are several very great advantages in favour of this route. In the first place, the navigability of the Stickine for steamers as far as Telegraph Creek, 150 miles from the mouth of the river, is well assured and has been used as a trade route for twenty years. From Telegraph Creek, the proposed line of railway to Teslin Lake, a distance of another 150 miles, is easy of construction, and runs throughout its length in the dry belt lying to the east of the Coast Range, where the snowfall is so light as to offer no hindrance to the operation of the line in winter; but from Teslin Lake, as above mentioned, several hundred miles of the course of the Hootalinqua have yet to be examined before this route can be confidently recommended. Another great advantage of this inland route would be that international complications could by no possibility arise, as the navigation of the Stickine—thirty miles of which lie in United States territory—is by treaty made equally free to Canadian and American vessels.

The Lynn Canal route has the advantage of shortness, but the high mountain range to be crossed immediately after leaving salt water must always be a serious obstacle to the construction of a railway, which will prove expensive and difficult to maintain owing to the great depth of snowfall in winter. At the present time, in the summer months, no great difficulties are to be met with in reaching the Yukon by this route. Of course, delays are inevitable when many men, each with a large supply of provisions, are struggling to get their outfits over the portage at the same time. But the distance is only about thirty miles, and when once the headwaters of the Lewes are reached, a down-stream run of 500 or 600 miles, with a couple of short portages, is a very small matter for a

water Ways. competent traveller. The return journey is a different affair altogether, as the difficulties of up-stream navigation are fully in evidence on all the northern rivers. Obviously, the cheapest way of sending goods to any point on the Yukon is to make use of the water carriage by way of St. Michael the deep-water landing, long used by the Alaska Commercial Company, situated on an island thirty miles north of the mouth of the river. From there stern-wheel steamers of large size can run up with ease to Fort Selkirk, a distance of (roughly) 1,800 miles, and there is no reason why an unlimited amount of supplies should not be taken up by this way it is only a question of putting enough steamers on the river. The summer season is, of course, short, and the season of navigation is further shortened by the fact that the ice from the river, and the drift ice of the Behring Sea, piles up on the river bar until late in June and effectually blocks the entrance to the steamers. This difficulty has always been reckoned with by the Alaska Commercial Company, and they have for years started their steamers from St. Michael late in the autumn, knowing that they would be frozen in before they reached Forty-Mile Creek, but that they would be able to leave their winter quarters and proceed on their journey in the following spring a full month before the mouth of the river is opened.

But when all has been said in favour of or against these various modes of reaching the Yukon mining camps, it must be borne in mind that at the very best they are but summer routes; when winter sets in, and the ice forms on the waterways, communication is shut off for several months. It is true that men can always travel in and out on snowshoes, with dog-sleighs, during the winter, but when the necessity arises for shipping out ore, and the transportation of heavy freight, it is obvious that an all-rail route must be found, which can be

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aminat railway Yukon of the kept moderately clear of snow in winter. Telegraphic news is a most important factor in the manipulation of mining interests on the European Stock Exchanges, and people avoid a mine that affords no information for six months at a stretch. Another fact has yet to be fully appreciated, that when the Klondyke is reached,

the traveller is nearly as far from the centre of the great mineral belt of the North as he is at Victoria, with the disadvantage of having a long and difficult up-stream journey to reach even the heads of the Yukon's tributaries. If a man carefully examines a map of the northern territories, and can make himself realize in some degree their vast extent, he will see that there is an enormous stretch of country bounded by the Yukon on the west, the main range of the Rockies on the east, and the Liard on the south, over which the white man's foot has never trodden, and yet it is the birthplace of large streams that give every promise of wealth. The Pelly, the Ross, the McMillan, and the Stewart, entering the Yukon from the east, all have their sources in this district, while south of the unknown divide the Frances, Hyland, Black, and Beaver Rivers drain large areas towards the Liard. All

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these streams have been proved to bear gold at their mouths, but the exploration of their upper waters has always proved a task beyond the power of the poor prospector. South of the Liard, again, lies another little-known area, embracing the Omineca and Peace River districts, stretching away to the scene of the old Cariboo excitement of 1862. All this country lies in the mineral belt extending northward from California, and has proved wherever examined to be rich in precious metals. The statement has been made that this mineral belt grows richer the farther it extends towards the North, but there is no foundation for any such prophecy. Let us be well content to suppose that it is only as rich as California, Nevada, Colorado, Montana, Idaho, and the Kootenay district of British Columbia. Even so, what bigger field for enterprise could be opened for any colony? And the geographical peculiarities of the North point conclusively to the fact that all this region is tributary to British Columbia, although the large part of it lies north of the 60th parallel of latitude.

At the present moment the greatest rush for gold that the world has seen for several years is setting towards the Klondyke, and in the absence of any definite information as to the extent of the new gold fields, it is impossible to make any prediction as to the effect that this rush will have on the hitherto unexplored mining regions of the North; but the history of all these excitements tends to show that new countries are often developed very quickly in this manner. It may well be that the Klondyke fields will prove as limited as the rich discovery on Forty Mile, Miller Creek, Franklin Creek, and several other tributaries of the Yukon have done, and in this case the surplus population will spread over the country and seek new fields. There will be no talk of settling down to

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The most practicable way of opening all this northern country, if on examination it should prove worthy of development, would be to build a direct railway from Ashcroft, on the C.P.R., to Fort Selkirk, on the banks of the Yukon at the confluence of the Lewes and Pelly, below which the main stream of the Yukon is navigable, with connecting branches to the navigable waters of

the Skeena and the Stickine. Thus the whole extent of country would be rendered available for mining enterprise, and the construction of the main line of railway is by no means such a great engineering undertaking as most people imagine. It is a very little known fact that the dry belt lying between the Cascade Range and the main range of the Rockies is continued northward in a more or less marked degree to the boundary of British Columbia, and beyond into the North-West Territories. The general trend of the main mountain ranges is from south-east to north-west, and a railway can be built parallel with these ranges with a great deal less expense than was incurred by the C.P.R. in crossing the Rockies, the Selkirks, and the Cascades. Throughout the dry belt there is very slight annual precipitation, so little trouble would be caused by the snowfall in winter. This line would run right through the heart of the mineral belt, and should prove remunerative as soon as any development began.

Of all the unexplored region left on the earth's surface, there is none which offers a more enticing field for exploration, or more promise of practical reward to an enterprising traveller than the country drained by the tributaries of the Yukon and Mackenzie. With canoes in summer and dog-sleighs in winter, the whole district can be traversed with ease by a well-equipped party. There are several fur-trading posts where provisions can be obtained, while game and fish are so abundant that a winter's food can always be killed and frozen if it is found necessary to spend a winter far away from any supply point. The

sub-Arctic climate is essentially a healthy one, and the winters, though cold, are after all no worse than in Manitoba, and in the North, Nature has bestowed with a lavish hand the fuel she denied to the inhabitants of the prairie. For the sportsman and naturalist there is abundant occupation besides prospecting, and the perils incidental to the journey are such as have always proved attractive to the Anglo-Saxon's love of adventure. Fever and sickness from climatic causes are unknown, nor is there any discomfort from heat and thirst as in so many of the gold-producing countries. From an agricultural point of view, little can be said in favour of the region, but vegetables and hardy cereals can be raised in favoured localities for the supply of mining camps, and there are long stretches of grassy country affording good feed for cattle and horses.

It is a land with a great future, clear of native troubles, or political complications, and British Columbians have only themselves to blame if they fail to take advantage of the possibilities placed ready to their hands.

WARBURTON PIKE.

THE YUKON AND ITS AFFLUENTS.

In the following is contained a compilation of Mr. Ogilvie's report, describing the extent and character of navigation from the sources of the Yukon within Canadian territory.

For the purpose of navigation a description of the Lewes River begins at the head of Lake Bennett. Above that point, and between it and Lake Lindeman, there is only about three-quarters of a mile of river, which is not more than fifty or sixty yards wide, and two or three feet deep, and is so swift and rough that navigation is out of the question.

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Lake Lindeman is about five miles long and half a mile wide. It is deep enough for all ordinary purposes. Lake Bennett* is twenty-six and a quarter miles long, for the upper fourteen of which it is about half a mile wide.

The waters of the lake empty at the extreme north-east angle through a channel not more than one hundred yards wide, which soon expands into what Schwatka called Lake Nares.† Through this narrow channel there is quite a current, and more than seven feet of water, as a six-foot paddle and a foot of arm added to its length did not reach the bottom.

Lake Nares is only two and a half miles long, and its greatest width is about a mile; it is not deep, but is navigable for boats drawing five or six feet of water; it is separated from Lake Bennett by a shallow sandy point of not more than 200 yards in length.

Lake Nares flows through a narrow curved channel into Bove Lake (Schwatka). This channel is not more than 600 or 700 yards long, and the water in it appears to be sufficiently deep for boats that could navigate the lake.

Bove Lake (called Tagish Lake by Dr. Dawson) is about a mile wide for the first two miles of its length, when it is joined by what the miners have called the Windy Arm.

Ten miles from the head of the lake it is joined by the Taku Arm from the south.

Dr. Dawson includes Bove Lake and these two arms under the common name of Tagish Lake.

From the junction with the Taku Arm to the north end of the lake the distance is about six miles, the greater part being over two miles wide. The west side is very flat and shallow.

Where the river debouches from it, it is about 150 yards wide, and for a short distance not more than five or six feet deep. The depth is, however, soon increased to ten feet or more, and so continues down to what Schwatka calls Marsh Lake. The miners call it Mud Lake.

Marsh Lake is a little over nineteen miles long, and averages two miles in width. The piece of river connecting Tagish and Marsh Lakes is about five miles long, and averages 150 to 200 yards in width, and as already mentioned, is deep, except for a short distance at the head. The Lewes River, where it leaves Marsh Lake, is about 200 yards wide, and averages this width as far as the cañon.

From the head of Lake Bennett to the cañon the corrected distance is ninety-five miles, all of which is navigable for boats drawing five feet or more. Add to this the westerly arm of Lake Bennett, and the Takone or Windy Arm of Tagish Lake, each about fifteen miles in length, and the Taku Arm of the latter lake, of unknown length, but probably not less than thirty miles, and we have a stretch of water of upwards of one hundred miles in length, all easily navigable; and, as has been pointed out, easily connected with Taiya Inlet through the White Pass.

No streams of any importance enter any of these lakes so far as I know. The Taku Arm of Tagish Lake is, so far, with the exception of reports from In-

^{*} A small saw-mill has been erected as the head of Lake Bennett; lumber for boat buildbuilding sells at \$100 per M. Boats 25 feet long and 5 feet beam are \$60 each. Last year the ice broke up in the lake on the 12th June, but this season is earlier, and the boats are expected to go down the lake about the 1st of June.

[†] The connecting waters between Lake Bennett and Tagish Lake constitute what is now called Caribou Crossing.

dians, unknown. The cañon is five-eighths of a mile long, about 100 feet wide, with perpendicular banks of basaltic rock from sixty to 100 feet high. Below the cañon proper there is a stretch of rapids for about a mile; then about half a mile of smooth water, following which are the White Horse Rapids, which are three-eighths of a mile long, and unsafe for boats. The total fall in the cañon and succeeding rapids was measured and found to be thirty-two feet. Were it ever necessary to make this part of the river navigable it will be no easy task to overcome the obstacles at this point; but a tram or railway could, with very little difficulty, be constructed along the east side of the river past the cañon.

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For some distance below the White Horse Rapids the current is swift and the river wide, with many gravel bars. The reach between these rapids and Lake Labarge, a distance of twenty-seven and a-half miles, is all smooth water, with a strong current. The average width is about 150 yards. There is no impediment to navigation other than the swift current, and this is no stronger than on the lower part of the river, which is already navigated.

About midway in this stretch the Tahkeena River* joins the Lewes. This river is, apparently, about half the size of the latter.

Lake Labarge is thirty-one miles long. At the lower end of the lake there is a large valley extending northwards, which has evidently at one time been the outlet of the lake. The width of the Lewes River as it leaves the lake is the same as at its entrance, about 200 yards. The wind blows almost constantly down this lake, and in a high wind it gets very rough. The miners complain of much detention owing to this cause.

After leaving Lake Labarge the river, for a distance of about five miles, preserves a generally uniform width and an easy current of about four miles per hour. It then makes a short turn round a low gravel point, and flows in exactly the opposite of its general course for a mile when it again turns sharply to its general direction. The current around this curve and for some distance below it—in all four or five miles—is very swift. I timed it in several places, and found it from six to seven miles an hour. It then moderated to four or five, and continues so until the Teslintoo River is reached, thirty-two and seven-tenths miles from Lake Labarge. The average width of this part of the river is about 150 yards, and the depth is sufficient to afford passage for boats drawing at least five feet. It is, as a rule, crooked, and consequently a little difficult to navigate.

The Teslintoo† was so called by Dr. Dawson. It is called by the miners "Hootalinkwa" or Hootalinqua. The water of the Teslintoo is of a dark brown

Assuming this (the Teslintoo) as the main river, and adding its length to the Lewes-Yukon below the junction, gives upwards of 2,200 miles of river, fully two-thirds of which runs through a very mountainous country, without an impediment to navigation.

Some indefinite information was obtained as to the position of this river in the neighbourhood of Marsh Lake tending to show that the distance between them was only about thirty or forty miles.

^{*} The Tahkeena was formerly much used by the Chilkat Indians as a means of reaching the interior, but never by the miners, owing to the distance from the sea to its head.

† The limited amount of prospecting that has been done on this river is said to be very satisfactory, fine gold having been found in all parts of the river. The lack of supplies is the great drawback to its development, and this will not be overcome to any extent until by some means heavy freight can be brought over the coast range to the head of the river. Indeed, owing to the difficulties attending access and transportation, the great drawback to the entire Yukon District at present is the want of heavy mining machinery and the scarcity of supplies. The Government being aware of the requirements and possibilities of the country, has undertaken the task of making preliminary surveys for trails and railroads, and no doubt in the near future the avenue for better and quicker transportation facilities will be opened up.

Between the Teslintoo and the Big Salmon the distance is thirty-three and a-half miles, in which the Lewes preserves a generally uniform width and current. The Big Salmon I found to be about one hundred yards wide near the mouth, the depth not more than four or five feet, and the current, so far as could be seen, sluggish. None of the miners I met could give me any information concerning this stream; Dr. Dawson met a man who had spent most of the summer of 1887 prospecting on it. His opinion was that it might be navigable for small stern-wheel steamers for many miles.

Thirty-six and a quarter miles below the Big Salmon, the Little Salmonthe Daly of Schwatka-enters the Lewes. This river is about sixty yards wide at

the mouth, and not more than two or three feet in depth.

Eight miles below Little Salmon River, a large rock called the Eagle's Nest, stands up in a gravel slope on the easterly bank of the river.

Thirty-two miles below Eagle's Nest Rock, Nordenskiold River enters from

the west. It is an unimportant stream.

The Lewes, between the Little Salmon and the Nordenskiold, maintains a width of from 200 to 300 yards, with an occasional expansion where there are islands. It is serpentine in its course most of the way.

Below this to Five-Finger Rapids, so called from the fact that five large masses of rock stand in mid-channel, the river assumes its ordinary straightness

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Six miles below this, as already noticed, Rink Rapids are situated. They are of no great importance, the westerly half of the stream only being obstructed.

Below Five Finger Rapids about two miles a small stream enters from the It is called by Dr. Dawson Tatshun River.

Between Five Finger Rapids and Pelly River, fifty-eight and a half miles, no streams of any importance enter the Lewes.

About a mile below Rink Rapids the river spreads out into a lake-like exparse, with many islands; this continues for about three miles, when it contracts to something like the usual width; but bars and small islands are very numerous all the way to Pelly River. About five miles above Pelly River there is another lake-like expanse filled with islands.

About a mile below the Pelly, just at the ruins of Fort Selkirk, the Yukon was found to be 565 yards wide; about two-thirds being ten feet deep, with a

current of about four and three-quarter miles per hour.

Fort Selkirk is now a winter port for steamboats of the North American Transportation & Trading Company, plying the Yukon and its tributaries, which has established a number of posts on the river. There is also a trading post here owned by Harper, who was at one time of the firm of Harper & McQuestion,

Below Fort Selkirk, the Yukon River is from 500 to 600 yards broad, and

maintains this width down to White River, a distance of ninety-six miles

White River enters the main River from the west. The White River very probably flows over volcanic deposits, as its sediments would indicate; no doubt this would account for the discoloration of its waters. The volcanic ash appears to cover a great extent of the Upper Yukon basin drained by the Lewes and

Mr. Harper, of the firm of Harper, McQuestion & Co., went up this river with sleds in the fall of 1872 a distance of fifty or sixty miles. He describes it as possessing the same general features all the way up, with much clay soil along

Stewart River enters from the east in the middle of a wide valley, with low hills on both sides. The river half a mile or so above the mouth is 200 yards in The current is slack and the water shallow and clear, but dark coloured.

From Stewart River to the site of Fort Reliance, seventy-three and a quarter

miles, the Yukon is broad and full of islands.

About thirteen miles below Stewart River a large valley joins that of the

river, but the stream occupying it is only a large creek.

Twenty-two and a half miles from Stewart River another and larger creek enters from the same side; it agrees with the descriptions of Sixty-mile Creek.

This stream is of no importance, except for what mineral wealth may be found

Six and a half miles above Fort Reliance the Thron-Diuckt River of the Indians (Deer River of Schwatka) enters from the east. It is a small river, about forty yards wide at the mouth, and shallow; the water is clear and transparent, and of beautiful blue colour. The Indians catch great numbers of salmon here. They had been fishing shortly before my arrival, and the river, for some distance up, was full of salmon traps.

A miner had prospected up this river for an estimated distance of forty

miles, in the season of 1887.

Twelve and a half miles below Fort Reliance, the Chandindu River, as

named by Schwatka, enters from the east.

Between Fort Reliance and Forty Mile River (called Cone Hill River by Schwatka) the Yukon assumes its normal appearance, having fewer islands and being narrower, averaging 400 to 600 yards wide, and the current being more regular. This stretch is forty-six miles long, but was estimated by the traders at forty, from which the Forty Mile River took its name.

Forty Mile River joins the main River from the west. It is as far up as the International Boundary, a distance of twenty-three miles. It is only a short distance across to the Tanana River-a large tributary of the Yukon-which is here described as an important stream. However, only about twenty-three miles of

Forty Mile River are in Canada.

Between Forty Mile River and the boundary line no stream of any size joins the Yukon. Coal Creek is five miles below Forty Mile, and comes in from the east. On it some extensive coal seams were seen.

The agricultural capabilities of the country along the river are not great, nor is the land which can be seen from the river of good quality.

When we consider further the unsuitable climatic conditions which prevail in the region, it may be said that as an agricultural district this portion of the

country will never be of value.

It is difficult to form an estimate of the total area of agricultural land seen, but it certainly bears a very small proportion to the remainder of the country. think ten townships, or 360 square miles, would be a very liberal estimate for all the places mentioned. This gives us 230,400 acres, or, say 1,000 farms. The available land on the affluents of the river would probably double this, or give 2,000 farms in that part of our territory, but on most of these the returns would be meagre

Without the discovery and development of large mineral wealth it is not likely that the slender agricultural resources of the region will ever attract attention, at least until the better parts of our territories are crowded. * *

The amount of timber for use in building and manufacturing in the district along the river is not at all important. There is a large extent of forest which would yield firewood, and timber for use in mines, but for the manufacture of lumber there is very little.

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[†] Sixty Mile Creek is about one hundred miles long, very crooked, with a swift current and many rapids, and is therefore not easy to ascend.

Miller, Glacier, Gold, Little Gold and Bedrock Creeks are all tributaries of Sixty Mile Some of the richest discoveries in gold so far made in the interior since 1894 have been upon then creeks, especially has this been the case upon the two first mentioned. There is a claim upon Miller Creek owned by Joseph Boudreau from which over \$100,000 worth of gold is said to have been taken out Freight for the mines is taken up Forty Mile Creek in summer for a distance of 30 miles then portaged across to the heads of Miller and Glacier Creeks. In the winter it is hauled in by dogs. The trip from Cudahy to the post at the mouth of Sixty Mile River is made by ascending Forty Mile River a small distance, making a short portage to Sixty Mile River and running down with its swift current. Coming back on the Yukon nearly the whole of the round trip is made down stream. Indian Creek enters the Yukon from the east about 30 miles below Sixty Mile. It is reported to be rich in gold, but owing to the scarcity of supplies its development has been retarded At the mouth of Sixty Mile Creek a townsite of that name is located, it is the head quarters for upwards of 100 miners, and where they more or less assemble in the winter months

Messrs. Harper & Co. have a trading post and a saw-mill on an island at the mouth of the creek, both of which are in charge of Mr. J. Leduc, one of the partners of the firm, and who was at one time in the employ of the Alaska Commercial Company.

† Dawson City is situated at the mouth of the Thron-Diuck, and although it was located only a few months ago, it is the scene of great activity. Very rich deposits of gold have been lately found on Bonanza Creek and other affluents of the Thron-Diuck.

MR. OGILVIE'S DESCRIPTION.

M. W.M. OGILVIE, whose name in connection with the Yukon is now a household word, delivered a lecture in Victoria on Friday evening, November 6th (1897), in Institute Hall, which was of special interest and value. As his statements on that occasion afford the very latest and most authentic information available, the author has utilized the report by condensation and making extracts therefrom, discarding other matter previously prepared, feeling sure that readers will recognize the greater value of information directly imparted by a gentleman whose knowledge of the country and whose probity and unselfish devotion to the interests of Canada in connection therewith, entitle his observations to every respect and consideration. Much of his lecture, dealing with the history of the Yukon discoveries, and other matters, though extremely interesting has been omitted for want of space. The question of routes is dealt with elsewhere, but his remarks in regard to several of them are inserted on account of the interest attaching to his statements.

THE ROUTES IN.

The route from Victoria and Vancouver to Alaska on an ocean steamer has been fully described elsewhere in the chapter entitled "The Coast Trip." From Victoria to Port Simpson is 635 miles and Port Simpson to the mouth of the Stickine via Wrangel is about 170 miles. From the mouth of the Stickine up the river to Telegraph Creek is 150 miles, the distance occupying about sixty hours. Mr. Ogilvie said:—

At the head of Teslin Lake we produce our whip-saws and commence lumber for boats, the process being somewhat difficult and tedious. The boats built, the trip down Teslin Lake, which is eighty miles long, begins, and we enter the The Hootalinqua Hootalinqua River. This river is marked on the map as being the Teslin, which is the Indian name for a fish caught in the lake. The Hootalinqua is about 125 miles long, making a distance of 1,160 miles from Victoria, or 1,600 miles in all to Dawson City. At two points, one near the head of the river and one quite a distance below, there are obstacles in the way of steamboat navigation at certain times of the year, during certain stages of the river. A few miles below the river broadens out into innumerable channels, until at last, at the lower end, it widens to two and a-half miles. If one of these channels were deepened out, a sufficient depth of water could be obtained to allow of a free passage for a steamer drawing three or four feet without difficulty.

of a free passage for a steamer drawing three or four feet without difficulty.

Speaking of the cañon and White Horse Rapids, Mr. Ogilvie says:—
Twenty-five miles from Marsh Lake we come to the cañon, where the river is very swift and passes between almost perpendicular walls. Running the cañon is easily practicable, provided the boat is kept in the very centre of the stream. Do this and the boat rides through safely. If not, she will be dashed against the side walls of basaltic rock and pounded to pieces. Below the cañon there is another rapid, which, however, offers no special obstacle to a man wanting to go through. Below that is what is known as the White Horse Rapids. Now, you can run the White Horse Rapids if you want

Rapids. Now, you can run the White Horse Rapids if you want to—at least, you can try. I don't. I traced up thirteen men who lost their lives in running this rapid in a single season. Below, at the Five Fingers, the river is partially dammed by a conglomerate rock standing like a pillar in the stream. Avoiding it, let the boat go easy and all will be well. Below this there is another rapid, and then the smooth and unhampered river, from which on everything is all right.

The middle of October, while at the mouth it is not open before the 1st of July, and navigation does not last longer than the 1st of October—that is, only from two and a half to three months—and it takes river steamers fourteen, fifteen and sixteen days to get up the river to Dawson. St. Michaels, the headquarters of the river boats, is eighty miles from the mouth of the river, and only in calm weather can the steamers cross that bit of open sea.

PROBABLE YIELD.

Bonanza and El Dorado, Creeks afford between them 278 claims; the several affluences will yield as many more, and all of these claims are good. I have no hesitation in saying that about a hundred of those on Bonanza will yield upwards of \$30,000,000. Claim 30 below, on El Dorado, will yield a million in itself, and ten others will yield from \$100,000 up. These two creeks will, I am quite confident, turn out from \$60,000,000 to \$75,000,000, and I can safely say that there is no other region in the world of the same extent that has afforded in the same length of time so many homestakes—fortunes enabling the owners to go home and enjoy the remainder of their days—considering the work that has to be done with very limited facilities, the scarcity of provisions and of labour, and that the crudest

appliances only are as yet available.

On Bear Creek, about seven or eight miles above that, good claims have been found, and on Gold Bottom, Hunker, Last Chance and Cripple Creeks. On Gold Bottom as high as \$15 to the pan has been taken, and on Hunker Creek

other Creeks. the same, and although we cannot say that they are as rich as El Dorado or Bonanza, they are richer than any other creeks known in that country. Then, thirty-five miles higher up the Klondyke, Too-Much-Gold Creek was found.

A fact I am now going to state to you, and one that is easily demonstrated, is that from Telegraph Creek northward to the boundary line, we have in the Dominion of Canada and in this Province an area of from 550 to 600 miles in length, and from ten to 150 miles in width, over the whole of which rich prospects have been found. We must have from 90,000 to 100,000 square miles, which, with proper care, judicious handling and better facilities for the transportation of food and utensils, will be the largest, as it is the richest, gold field the world has ever known

Stewart and Pelly, in the gold bearing zone, also give promising indications. Everywhere good pay has been found on the bars and there is no reason why when good pay has been found on the bars, the results should not be richer in the creeks. The Klondyke was prospected for forty miles up in 1887 without anything being found, and again in 1893 with a similar lack of result, but the difference is seen when the right course is taken and this was led up to by Robert Henderson,

QUARTZ LEDGES.

In regard to quartz claims, seven have already been located in the vicinity of Forty Mile and Dawson, and there is also a mountain of gold in the neighbourhood bearing ore yielding \$5.00 to \$7.00 a ton. The question to be considered is whether with that return it will pay to work it under the peculiar conditions which exist, and the enormous freight rates charged for the transportation of any-

thing of that kind. About forty miles up the river two claims have been located by an expert miner from the United States, one who has had considerable experience in Montana and other mineral States, and he assured me that the extent of the lode is such that these two claims are greater than any proposition in the world, going from \$3.00 to \$11 a ton. On Bear Creek a quartz claim was located last winter.

On Gold Bottom another claim has been located, and I have made a test of the ore. I had no sieve and had to employ a hand mortar, which you who know anything of the work will understand would not give the best results. The

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way a few fer grass, areas poorest result obtained, however, was \$100 to the ton, while the richest was \$1,000. Of course I do not know what the extent of the claim is, but the man who found it said that from the rock exposed, the deposit must be considerable in extent.

About thirty miles up the Klondyke another claim was located, and the man

swore that it was rich.

On El Dorado and Bonanza the gold obtained on the different benches has about the same value, that is, it has about the same degree of fineness, and is worth about \$16 per ounce, and as you go down the creek this value decreases

to about \$15.25. From that point, however, it increases again, and from this the inference appears to be plain that the same Lode. lode runs right across the region that these creeks cut through, which is proved still more surely by the fact that the value increases as you strike Hunker, and in the other direction Miller and Glacier. The nuggets found in El Dorado show no evidence of having travelled any great distance, and some I have are as rough as though they had been hammered out of the mother lode.

The mother lode is yet to be found in the ridges between the creeks, and when it is found it may be found to consist of several large lodes or a succession

of small ones that may not pay to work.

On Stewart and Pelly Rivers some prospecting has been done and gold found, and on the Hootalinqua in 1895 good pay was discovered and the richness of the gold increases as work is continued farther down. Some men, working fifteen feet down, found coarse gold, when the water drove them out and they had to abandon the work and come out determined to return; but they did not go back, as in the meantime the Klondyke excitement knocked that place out.

Gold has been found at the head of Lake Lebarge, on the stream flowing into the lake at this point; in fact there is gold everywhere in this zone, which is 500 miles long by 150 wide. Prospects, too, are to be found on the Dalton Trail on the other side of the river. It may be assumed that in all this country there is gold, while in this particular zone it is especially abundant. This zone lies outside of the Rocky Mountains and distant from them about 150 miles.

COAL AND COPPER.

Another product of the country that demands attention is copper. It is doubtless to be found somewhere in that district in great abundance, although the location of the main deposit has yet to be discovered. It comes from the vicinity of White River somewhere—just where has yet to be discovered. Silver has also been found, and lead, while to work our precious metals

Native Copper. we have coal in abundance. It is to be found in the Rocky Mountains or, rather, the ridge of high mountain running parallel to them in the interior. A deposit of coal in this range runs right through our territory. At two points near Forty Mile it also crops out, in one place only about forty feet from the River Yukon. Farther up the Yukon on one of its many smaller feeders, at Fifteen Mile Creek and on the head of the Thronda, there are also outcroppings of coal. On the branches of the Stewart and on some of the five fingers of the Yukon. coal is also exposed. In fact there is any amount of coal in the country with which to work our minerals when we can get in the necessary facilities.

TIMBER. —

Regarding the surface of the country and the difficulties of prospecting: Passing down the river in a boat one sees a succession of trees, ten, twelve, fourteen and sixteen inches in diameter, and he naturally comes to the conclusion that it is a well-timbered country. And so it is, along the margin of the river.

Not Much Timber.

But let him land and go inland and he will find the ground covered with what is locally known as nigger grass. This is a coarse grass which each year is killed and falls, tangling in such a way as to make pedestrian progress all but impossible, tripping one up every lew feet. It is, as might be imagined, a most difficult thing to walk through this grass, great areas of which are found all through the district. And where these areas are found the miners avoid them as they would a plague.

For the mest of the country the rocks are covered with one or two feet of moss—and underneath, the everlasting ice. On this a scrubby growth of trees is found, extending up to the mountains. It is this which appears to those passing

down the river in boats to be a continuation of the good timber seen along the banks. Timber that is fit for anything is scarce, Should Be Conserved. and we should husband it carefully. Our timber has built Circle City. Our timber has served all the purposes of the upper Yukon country. A large amount of timber is required, and what we have we should keep for our own use, particularly as the ground has to be burned to be worked.

Above the timber line you come to the bare rocks—the crests bare save where clothed with a growth of lichen on which the Caribou feed. There is no timber in the way here—no moss and no brush. The miners, in travelling, consequently keep as close to the top of the ridge as possible.

PROSPECTING.

Prospecting necessarily has to be reserved for the winter. First the moss has to be cleared away, and then the muck-or decayed rubbish and vegetable matter. The fire is applied to burn down to bed-rock. The frost in the ground

gives way before the fire, ten, twelve, or perhaps sixteen inches a day. The next day the fire has to be applied again, and so Burning the work proceeds until the bed-rock is reached. It may be twenty feet or so below the surface, in which case it is usually reached in about twenty days. Through this trees have been found in every position, as they have fallen and been preserved as sound as ever in the everlasting ice. Having burned down to bed-rock and found the paystreak, you start drifting.

If you have a depth of twenty feet you may be able to go down two feet and no further, and must put down another drift. Very few people have the good fortune to succeed with one shaft; prospecting holes as many as twenty or thirty must be dug until you cut the whole valley across before you find pay. The next

man may strike it at the first hole.

To give an instance: One man put down eleven holes and didn't find anything, and yet other men had confidence enough in the claim to pay \$2,500 for a half interest in it, knowing that the owner had put in eleven holes and found

nothing, a fact which will go to prove the character of the country. After you have worked until April or May the water begins Not Always to run, and the trouble is that the water accumulates and you cannot work, as it puts out the fires which have been used to thaw out and soften the ground. Then the timber is prepared and the sluice boxes put in.

A CONSERVATIVE ESTIMATE.

N the "Engineering and Mining Journal," New York, October 23rd, thereappears an article from H. Bratnober, which though expressing on the whole a conservative view, bears the character of being fairly and thoughtfully written, in keeping with the high character of the journal itself. It is as follows:

"I have just returned from the Klondyke goldfields, where I found a very good placer mining district. The formation of the country where the gold is deposited seems to be mica schist streaked with quartz, all carries a little gold, and

and it looks as though the gold was ground out of this formation The Formation. by glacial action. The gold-bearing quartz seems to lie in this schist, and it is all of very low grade. The formation, as far as I was able to investigate, seems to be about ten to fifteen miles in width. On either side of this there are q

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there seems to be a blocky diorite, which carries considerable quartz, and there are quartz veins running through it in every direction, but of no value.

"The country is covered with moss, and frozen to bed-rock, and no one knows how far beyond. There is very little wash, and especially on El Dorado Creek, where the glacier mud seems to have been frozen, and is found almost to the bed-rock. In sinking to bed-rock the shafts pass through this frozen dirt, and in many instances blue ice is found two and three feet thick in strata immediately above the bed-rock. In some places it is found near the surface. It is difficult and almost impossible to drift this ground in the summer season, as even

by close timbering, the thawing of the ice will cause the shaft to cave in. The method of working in the winter is the same as that used in Siberia, where the ground is frozen at a great depth. Fires are built underground, where they carry a breast of thirty or forty feet wide, and one burning along this length will thaw in about six or eight inches. The thawed dirt is then taken out, and another fire built. By this method they seem to get along very well. It is the usual custom to have two shafts, unconnected, so that while they are working in one shaft the fire may be burning in the other, so that the work of extracting the dirt may be continuously prosecuted.

"There will be a great deal of activity and a large amount of work done on Bonanza and El Dorado Creeks this winter. Most of the ground is worked on what they call a 'lay'—that is, the owner or owners of a claim 500 feet long give a party of two or three a lease of a piece of ground to drift out, the persons who work the ground receiving one-half of the gold taken out. On the richer claims it is often drifted out for forty per cent. of the yield. Nearly all the claims are worked under this method of leasing. Some of them are leased in sections to different parties, and the owner sits around watching the different sets of men working out his ground. By this system a great deal of Bonanza and El Dorado Creeks will be drifted out this winter. As some of these claims will have four or five sets of men working on them, their output will be large next year. The dirt taken out will be washed in May, June and July. There are very few summer diggings where they can shovel into sluices; therefore there will be but little gold taken out aside from the drifting process.

"Some of the claims are very rich, and the dirt will average \$1.00 or \$1.50 to the pan; that is to say, where the bed-rock is shaley. They take this up for nearly three feet in depth. Where there are no quartz stringers in the schist the bed-rock seems to be decomposed, and is quite soft. Such claims are not of much value, except that they about pay wages. The ground is very spotted. In some instances there are rich spots where \$40 or \$50 a pan have been obtained, but these are only phenomenal instances. We hear a great deal about them, but we never hear anything about the poor claims.

"But on the whole I consider the placers as very good diggings and a good many fortunes will be made. I estimate the output for 1898 will be in the neighbourhood of \$5,000,000. Of course this will depend somewhat on the success of the prospectors this winter. The country will be well prospected between now and next January, which is the best-time for that kind of work. It is almost impossible to get around in the hills in the summer on account of moss and swamps and the difficulty of taking along supplies.

Horses cannot be used, and the prospector can only go so far as he is able personally to carry his provisions. There is very little feed or grass to be had for animals of any kind. There was more feed on the Dalton Trail

than in any other part of the country I travelled through. The farther north one goes the less grass is found. There is an ample supply of men there to do all the work that can be furnished this winter, indeed, there will probably be some who will find it difficult to get work. Provisions will be scarce, but I do not think there will be any starvation. It will always be a difficult matter to supply that country with provisions by river transportation, as the seasons are so very short and the river in many places very shallow. It is only light draft steamers that can get up to Dawson, and, on account of the passes, there is difficulty in bringing supplies down the river.

"Hydraulic mining on the Klondyke is impossible on account of the frozen nature of the country. Quartz mining will also be impossible unless the veins are very rich. Labour will always be very high, and another great drawback is the fact that all the creeks freeze up solid in the winter, and there is no running water to be found anywhere. Fuel costs \$18 a cord, and labour is \$15 a day, and not very good labour at that.

"The sensational reports that have been so widely circulated will no doubt cause a great many people to start for that country next spring. It is estimated in Seattle and Tacoma that there will be from 50,000 to 100,000 people leave for the Yukon next year. If so, there will be a great deal of suffering and distress, and of course there will not be ten per cent. of that number who will get in. A large percentage of those who started to go in over the Dyea and Skagway trails turned around and came back in disgust. Some simply abandoned their outfits and walked back. I would advise only very robust young men to attempt to go into that country, and even then they should be somewhat used to that rough kind of life.

"I have no doubt that other paying gulches will be discovered this winter, and for a good many winters to come. I travelled overland 300 miles from salt water to the Yukon River, and there is gold to be found over the entire distance. This indicates that there is a large gold-bearing country not only in the North-West Territory, but in Alaska as well. So no one need be in a great rush, for fear they will get left. There is enough country to last for years to meet the desire of all who wish to go there and prospect. Generally, the country is healthful. The lack of drainage makes Dawson a less healthy place than it would otherwise be. It is built on a big moss flat, and in the summer time is wet and swampy, although only a few inches of the frozen surface thaws out."

OUTPUT OF GOLD, 1896.

I N its souvenir edition, January, 1897, the Alaska "Mining Record" gives some statistics which may be regarded as fairly approximate of the yield of Alaska and Yukon for 1896. At the time of publication, however, the news of the Klondyke discoveries had not yet reached the Coast, and the yield of that district is not included, which would swell the amount by another million. It says:—

"The output of the mines of Alaska is difficult of estimation. The vastness of the mining territory, the extremely migratory characteristic of its population, and the entire absence of reports and statistics from a great part of the smaller camps render it a very difficult matter to arrive at a statement approximating correctness except by careful study and watchful attention to every detail. The following estimate is the result of just such work, and is believed to be as nearly corre

Nowell Go Berner's Ba Alaska-Trea Alaska Con Bald Eagle Ebner Gold Juneau Min Jualin Gold Alaska Will Green mine

Total outpu Lituya Bay Cook's Inle Birch Creek Other Yuke From sever arrastras

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A "Battle rival standard." interest, an rivalry as to

A War of Ways.

for outfittin have no me subjects is dispute suffi come.

In the British Col purposes of thousand me the country means. To the situation

nearly correct as possible and still represent, fully yet conservatively, the production of gold in Alaska during 1896:—

Nowell Gold Mining Co., 35 stamps	\$160,000
Berner's Bay Mining & Milling Co., 40 stamps	125,000
Alaska-Treadwell Gold Mining Co., 240 stamps	800,000
Alaska-Mexican Gold Mining Co., 120 stamps	450,000
Alaska Commercial Co., 40 stamps	500,000
Bald Eagle Mining Co., 4 stamps	200,000
Ebner Gold Mining Co., 10 stamps	35,000
Juneau Mining Co., 30 stamps	35,000
Jualin Gold Mining Co., 10 stamps	20,000
Alaska Willoughby Gold Mining Co., 10 stamps	15,000
Green mine, Norton Sound, 10 stamps	15,000
Total output of quartz mines	2,355,000
Lituya Bay placer mines	15,000
Cook's Inlet placer mines	175,000
Birch Creek district, Yukon mines	1,300,000
Other Yukon districts	800,000
From several small creeks in various parts of the territory, worked by	
arrastras	25,000
	-
Total output	4,670,000

ROUTES INTO KLONDYKE.

A BOUT fifty years ago in England there was started what was known as the "Battle of the Gauges," being a struggle between Stephenson and Brunell, rival railway engineers, as to the width of gauge to be established as a standard. The strife waxed so warm as to excite widespread, even national, interest, and the expression to which it gave rise has become historical. The rivalry as to routes to the Klondyke from the keenness with which the issues are

contested, is likely to be known to posterity as "The War of the Ways," and will rank in importance with the "Battle of the Gauges," or even the more absorbing topic as to the best point for outfitting for the Yukon, also likely, under some euphonious catch-title, to have no mean place in history. The literature to which the consideration of these subjects is contributing will in all probability be voluminous enough, and the dispute sufficiently protracted, to influence the minds of several generations to come.

In the chapter on "Railways" the matter of routes through the interior of British Columbia has been discussed from a railway point of view, not for the purposes of recommending them for immediate use, involving as they do a thousand miles or more of land travel by pack trail; and any person familiar with the country and the requirements in the way of supplies will understand what that neans. To those who have had no experience it would take too long to explain the situation fully and satisfactorily. The best advice to them is, briefly, "Don't."

If they do, they will know much better later on why this advice is tendered. Until railways are built, so as to compete successfully as to time and comfort, it will be found to be wisdom to take one of the established routes, preferably through Canadian territory, the greater part of which will be by water. Transportation companies will concentrate their efforts to develop these to the greatest possible extent, within the time available, and therefore the best possible facilities will be provided at the cheapest rate.

In what follows, all the present and prospective routes are discussed as a matter of public interest and to afford information; but it must be remembered that the prospective routes have yet to be surveyed and to some extent explored in order to obtain the definite and detailed knowledge necessary to decide as to their respective merits. There are many conditions and circumstances to take into account, and ultimately the routes of travel will shape themselves, following the lines of the greatest development. In the meantime, no matter how excellent the routes may be naturally, land travel n offer but few inducements.

While on the subject of interior travel it may be pointed out that there are two main routes, at an average distance of about 100 miles apart, through parallel valleys which extend practically throughout British Columbia in the general direction of the Coast line. One is the continuation of the Canoe River Valley, following the Parsnip and Fraser Rivers and on through the Peace River country to Fort Pelly. The other is indicated in the line of travel from Kamloops via the Clearwater and Quesnelle, following the old Telegraph Trail, and including in its extent the Stickine-Teslin route. Or the same may be reached by starting from Ashcroft. The routes in question may

be made interchangeable at Giscombe Portage, where all the lines from the south converge, and where there will be a place of importance in the future railway economy of the Province. It may be added that a line from Edmonton through Yellow Head Pass would contribute to the importance of these natural great highways, and render unnecessary the independent northern roads projected from that point. A glance at the map will show how remarkably all the natural southern ways lead to Giscombe Portage; and further it would appear that Nature had set great store by the Yukon from the fact that in a still more comprehensive sense all roads lead to it.

A number of other possible routes could be indicated. One from Fort Steele northward to Canoe River, and another through West Kootenay via Revelstoke following the Columbia River, are both ntaural highways. again, on the Mainland Coast, there are several good passes into the Interior not referred to, notably the one through the Bella Coola Valley; and several more routes are talked about as being feasible from points through or leading from Alaska territory. One of these is near Mount St. Elias, and another from the head of Alice Arm. For practical purposes, however, the routes that will be utilized next season will be the ones that have already been in use, to which will be added, perhaps, the most important of all, viz: the Stickine River and Teslin Lake

route.

Those who propose going into the Yukon should not be deceived by the advertised advantages of prospective routes, which though ever so good for the purposes of building railways in the future are not and have not been used for regular traffic. At most they have been used as miners' trails by slow stages, and would be extremely disappointing to those who expected and were anxious to reach the Klondyke quickly.

STICKINE-TESLIN ROUTE.

The mouth of the Stikine River is seven miles from Fort Wrangel and is navigable for flat-bottomed steamers as far as Telegraph Creek, 150 miles. From Telegraph Creek to Teslin Lake overland is between 135 and 150 miles. The route is then continued by Teslin Lake and the Hootalingua River. The Teslin Lake is eighty miles long and the Hootalingua 125 Distances. miles long. Mr. Ogilvie states that the natural food supply for horses or cattle, from information received by him, was not more than sufficient to feed a couple of hundred head, so that for any considerable number it would be necessary to carry sufficient food to obviate risk.

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As little information has been published regarding the proposed route by way of the Stickine and Teslin route the following particulars may be of interest. The old route follows the Dease Lake Trail to the mouth of the Tahl-tan River, then up the Tahl-tan Valley to Agnell's Mountain, then by an easy grade for three miles up the mountain to the Great Basin that extends to Teslin Lake. As the result of recent exploration it is proposed to make a cut-off which begins at a point in the Tahl-tan Valley about twenty-three miles from Tele-

a Cut-off. graph Creek running in a southeasterly direction over the divide striking Telegraph Creek at its source, then following that stream to the settlement at its mouth. The first seven and a-half miles of the trail from Telegraph Creek follows on a fairly easy grade through thick brush and smaller timber, with considerable side hill, where a good deal of grading will be necessary. A fairly good pack trail has also been opened up by the Provincial Government and an endeavour is being made to complete a sleigh road to the top of the hill, from where the present trail runs along a steep side hill for five miles, then runs down the north side to the divide for eight miles to the west branch of the Tahl-tan River which is fordable all the year except during spring freshets. From the west branch the trail runs over a low divide three and a-half miles to the main Tahl-tan. None of the foregoing sections present any serious difficulties and the trail has been put in good condition for temporary purposes to the foot of Agnell's Mountain, a distance of about forty miles. From the point where the trail strikes the main Tahl-tan it runs through a valley averaging half a mile in width for twenty miles to the foot of Agnell's. This section of the trail requires little work to put it in first-class condition. About three miles from this point the trail begins the ascent to Agnell's Mountain to the point where it reaches the summit at an altitude of 4,200

Agnell's Mountain. feet, the altitude of the base being 1,800 feet, with possibilities of a fair grade to the top. It is possible, however, that this mountain can be avoided by leaving the Tahl-tan Valley at a point about twelve miles back from the foot of the hills and running in a northerly direction, striking the present trail thirty miles beyond the top of the mountain, cutting off twelve miles and securing a good grade. The distance to the Nahlin River to the top of Agnell's Mountain is about sixty miles. The trail runs along a wide valley, no serious obstacles being encountered. There is considerable moss along the trail which has a depth of from two to three feet in places, and patches of it holding water, but in most cases there is good bottom of apparently glacial moraines. These patches may be easily corduroyed as there is plenty of timber along the trail, or in many cases may be avoided altogether. It would be neces-

Towards
Testin Lake.

Testin Lake Leaving this river it is not fordable during high water.

Testin Lake.

Testin Lake.

Testin Lake.

Testin Lake.

Testin Lake Leaving this river it is necessary to climb a high bluff, there being, however, an easy and cheap grade.

From the top of the top of a miles. This and another similar stretch of one and three-quarter miles, two miles farther on, require corduroying.

Beyond the bad ground the trail strikes Spruce Mountain and gradually winds along to the top of it, which, however, it is possible may also be avoided by making a detour.

The distance from the northern extremity of Spruce Mountain to Lake Teslin is about thirty miles, which can be covered without serious obstacles.

It is understood that a very good sleighing road can be obtained from Agnell's Mountain to Lake Teslin by one of two available routes.

It is understood from reliable sources, confirming what has already been stated, that a cut-off from fifteen to twenty miles can be made by leaving the old trail on the watershed between the Tahl-tan and Takou and bearing to the eastward and passing over the divide between the Tahl-tan and Dudedonta, a branch of the Takou, into the great bunch-grass valley lying between Level, Kowkitzie, Haits and Spruce Mountains over an elevation something less than the route now followed, which passes over Kowkitzie into the same valley; and also that a route avoiding Spruce Mountain can be found by following up the Nahlin after crossing to its right bank to a point where the foothills of Level Mountain will be struck, and thence along these foothills over a good, dry road bed to Teslin Lake. This route is somewhat longer than over Spruce Mountain, but avoids the great

elevation and the many swamps and morasses to be drained and corduroyed by the present route. It would be much cheaper as a consequence than the present route, which, however, could be utilized as the ground thaws out in June. Grass will be fairly good by May.

For the improvement of the Stickine for navigation some expenditure will be

necessary on the part of the Dominion.

Both the Dominion and Provincial Governments have explored the route and very full information will be forthcoming later on. The Provincial Government has expended between \$4,000 and \$5,000 in opening up and improving the trail from Telegraph Creek to Teslin Lake during the present year and it is not unlikely that the Dominion and Provincial Governments will co-operate in developing the route over which a large traffic is anticipated during 1898. During the last session of Parliament a charter was obtained for a railway and a land subsidy of 5,200 acres per mile granted. Several companies are promoting lines of railway on this route.

The links in the Stickine route about which information has been wanting are the Hootalinqua River and the Teslin Lake. Regarding the first, the Provincial Government dispatched Engineer Hamlin to report on its navigability.

rincial Government dispatched Engineer Hamlin to report on its navigability.

From information recently received of an official character it has been ascertained that the Hootalinqua is a beautiful sheet of water 180 feet wide at its narrowest point and four feet deep at lowest water with no rapids. This information is of the most important character, as it sets at rest a doubt and renders the whole water course from the head proposed waggon road or railway to Dawson City easily navigable. There can be but little doubt about the navigability of Teslin Lake.

TAKU PASS.

This route leads from the head of Taku Inlet twenty-eight miles from Juneau to Teslin Lake, and is estimated to be 140 miles overland, the rest of the route being the same as that via the Stickine River. Prof. King estimates the altitude of Taku Pass as between 3,000 and 4,000 feet. At the last session of Parliament a charter was obtained for a railway over this route and a land grant of 5,200 acres per mile in aid of the same.

Taku Inlet is about eighteen miles long and heads in a glacier of the same name, which keeps the Inlet almost full of ice. The icebergs acted upon by winds and tides render the Inlet almost useless as a harbour. Taku River which empties into the Inlet about two miles below the glacier runs over a wide valley and is full of sand bars, rendering it doubtful for steamboat navigation. During June and July a steamer might make her way to the first forks, some sixty miles. From the Forks the route follows the left hand, or Nakinah branch, past the mouth of the Slocoh branch, joining from the west, up which there is a route over which the Indians travel to Tagish Lake. The Indians report it as an easy route with low summits to cross. About eleven miles above the mouth of the Slocoh the route leaves the Nakinah and goes up the valley of a small stream

Slocoh the route leaves the Nakinah and goes up the valley of a small stream which flows through a rocky defile. This, followed about four miles, turns sharp to the right and ascends the valley of another small stream four miles to the summit. There would be difficulty in constructing a railway up to this point, but from here to Teslin Lake, between fifty and sixty miles, it would be a favourable route. This route follows to the head of Teslin Lake, from which point it is one with the Stickine-Teslin line.

WHITE PASS.

The White Pass commences at Skagway Bay at the head of Lynn Canal, at which point ocean steamers tay call and where a wharf has been built for the accommodation of shipping. Although this route was badly blocked during the present year and was overcome with great hardship it presents no real difficulties for the construction of a permanent waggon road or a railway.

A Practicable Route. A first-class waggon road, it is said, can be built for from \$150,000 to \$250,000 following the bed of the Skagway River itself, and it is understood that an American company intend taking the matter in hand at once. As the Skagway route has been much discussed, a few particulars will

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not be amiss. The first four miles is an easy water grade to Four-Mile Flat, to Porcupine Creek, up and down the side hill, is five miles; from there it is three miles to the first bridge on the Skagway River; it is swampy for a mile and a-half to two miles to the second bridge; from there to the third bridge, one and a-half miles, there are some hills and swamp land; to the Crossing by the Skagway is three-quarters of a mile on foot, but by the trail for pack animals it is three miles along what is known as "Bad Hill." From the Crossing to the Summit is three-quarters of a mile, and from the Summit to Lake Bennett twenty-two miles. The trail leads along the southern side of Summit Lake, five miles, and Middle Lake, five miles, crossing between Middle Lake and Shallow Lakes to Government House, and from there touching Lake Lindeman to Lake Bennett. It is an easy grade from the Summit, but a good deal of swamp and meadow land intervenes, and the trail is rough. From Government House it is one mile to Shallow Lake and six miles to Too-chi Lake, but the river from Too-chi and Taku Lake is not navigable for laden boats. A charter was obtained

Railway Charter. Lake is not nauigable for laden boats. A charter was obtained at last session of the Provincial Parliament by the British Columbia Yukon Railway Company for a railway through the White Pass to the northern boundary of the Province, and a land grant of 5,200 acres per mile. A charter was also obtained from the Dominion Parliament at its last session for a line of railway from the northern boundary of the Province to Fort Selkirk. The Company in question built the wharf at Skagway and the trail via the White Pass over the proposed route of railway. During the present year it was the principal route of travel into the Yukon, but owing to the sudden rush became badly blocked, and soon became almost impassable.

DYEA OR CHILKOOT.

From Dyea landing to the Cañon is eleven miles, practically on the level of the Dyea River flats; from the Cañon to Sheep Camp is a hilly trail five miles long, reasonably passable. Up to the Scales, three miles, is steep and rough and the trail bad. From the Scales to the Summit, which is at an altitude of 3,700 feet, is a distance of three-quarters of a mile, very steep and impassable for pack animals. The distances, with bad trails all the way, with the exception of the last mile, upon which waggons are used from the Summit are as follows: To Crater Lake, three-quarters of a mile; Crater Lake, two miles; to Portage, two and a-half miles; to Lake Lindeman, five miles; to Lake Bennett, one mile. This is an old Indian route, and Indians at present do the greater part of the packing; but a wire tramway has been erected to haul goods to the Summit and in this way transportation will be greatly facilitated.

DALTON TRAIL OR CHILCAT ROUTE.

The Chilcat route is otherwise known as Dalton's Trail, being the route first used by Mr. Dalton in going into the Yukon. There are two ways of utilizing it, one from Haines' Mission on the east side of Chilcat Inlet, and the other from Pyramid Harbour on the west side, the latter way being generally chosen as being the more convenient. Not much has heretofore been Straight known of this trail, but from information recently obtained it is overland. ascertained to be a favourable route. It goes in a straight line to the Pelly River via Dalton's house, a distance of three hundred miles. The altitude is about 3,000 feet at the highest point, which is seventy-five miles from the coast. Dalton's trading post is twenty-five miles farther on. From there to the Pelly is two hundred miles. Mr. Dalton took in a number of bands of cattle this way, feed being supplied by bunch-grass obtained in places along the way. Mr. Ogilvie says this route passes over a nice undulating plain, well-timbered in the valleys and with grass on the slopes. It has recently been used by the miners going in and coming out of the Yukon. There is also what is known as the Indian Trail in a parallel direction, but about which little, if anything, is known to white men.

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VIA YUKON RIVER.	VIA KITIMAT INLET.
Miles. Victoria to Dawson City (Klondyke) via St. Michael, about4,425	Victoria to Kitimat Inlet 450 Kitimat Inlet to Skeena River
VIA DYEA.	Skeena Crossing to West Fork Naas
Miles.	River 85
Victoria to Dyea	West Fork Naas River to Forks Is- coot River 90
Dyea to Tagish Lake 72.25	Forks of Iscoot to Telegraph Creek 110
To Head of March Lake 4.90 Foot of March Lake 19.06	Telegraph Creek to Teslin Lake 150
Head of Miles Canon 25.73	Teslin Lake to Dawson City: 584
Foot of Miles Canon	Total
Head of White Horse Rapids 1.39	
Foot of White Horse Rapids38 Tahkeena River 14.59	TAKU INLET. Miles.
Head of Lake Le Barge 13.15	Victoria to head of Taku Inlet 1,050
Foot of Lake Le Barge 31.15	Taku Inlet to Teslin Lake 100
Teslintoo River 31.66	Teslin Lake to Dawson City 584
Big Salmon River	Total
Five Finger Rapids 59.29	
Pelly River	ALICE ARM ROUTE.
White River 95.82	Wiles. Victoria to head of Alice Arm 750
Stewart River 9.80 Sixty Mile Creek 21.50	Alice Arm to Forks of Naas River. 20
Dawson City 45.29	Naas River to Forks of Iscoot River. 90
	Forks of Iscoot River to Dawson
Total1,575.70	City 846
DALTON TRAIL.	Total
Miles.	VIA BUTE INLET.
Victoria to head of Chilcat Inlet 1,000	Victoria to Waddington Harbour 130
Head of Chilcat Inlet to Fort Sel- kirk 300	Waddington Harbour to Telegraph
Fort Selkirk to Dawson City 140	Trail 215
	Telegraph Trail to Fort Fraser 90 Fort Fraser to Hazelton 170
Total	Hazelton to Naas 80
VIA SKAGWAY.	Naas River to Forks Iscoot River 90
Miles.	Forks Iscoot River to Dawson City 846
Victoria to Skagway 995	Total
Skagway to Tagish Lake 70	
Tagish Lake to Dawson City 502	VIA ASHCROFT.
Total	Ashcroft to Quesnelle 200
10001	Quesnelle to Fort Fraser 120
VIA STICKINE RIVER.	Fort Fraser to Dawson
Miles.	Total
Victoria to Wrangel (Ocean Steam-	KAMLOOPS (VIA QUESNELLE).
Wrangel to Telegraph Creek (river	Miles.
Wrangel to Telegraph Creek (river steamers)	Kamloops to Mouth of Clearwater. 65
Telegraph Creek to Teslin Lake	Clearwater to Mahood Lake 30
(Trail)	Mahood Lake to Bridge Creek 55
Teslin Lake to Dawson City, (Klondyke), (boat) 584	Quesnelle to Dawson City
- 504	
Total	Total

KAMLOOPS (VIA TETE JEUNE	GOLDEN AND DONALD.
CACHE).	Golden to Boar (on C.P.R.) 30 Beaver to Canoe River Mouth 60
Kamloops to Tete Jeune Cache 170	Canoe River Mouth to Dawson City 1,365
Tete Jeune Cache to Summit Lake (Giscombe Portage) 170	Total
Summit Lake to Findley Rapids 135 Findley Rapids to Liard River 340	OSOYOOS (VIA KAMLOOPS).
Liard River to Junction Dease and Frances Rivers 60	Osoyoos to Kamloops (via Vernon) 155 Kamloops to Dawson City (via Tete
Junction Dease and Frances Rivers to Frances Lake 120	Jeune Cache)
Frances Lake to Fort Pelly 120 Fort Pelly to Dawson City 340	Total
Total	EDMONTON (VIA TETE JEUNE CACHE).
REVELSTOKE (VIA CANOE RIVER).	Miles.
Miles.	Edmonton to Pembina River 60 Pembina River to McLeod River 110
Revelstoke to Canoe River (via Columbia)	McLeod River to Jaspar House 210 Jaspar House to Yellow Head Pass. 3
Canoe River to Tete Jeune Cache . 80 Tete Jeune Cache to Dawson City 1,285	Yellow Head Pass to Tete Jeune Cache
Total1,440	Total1,710
EDMONTON VIA M	ACKENZIE BIVER

EDMONTON VIA MACKENZIE RIVER.

The Mackenzie route to the Yukon is almost entirely by water. Starting from Edmonton there is a waggon road to the Athabasca River and from that point to Smith's Landing there is navigation for boats with no portaging. At Smith's Landing a sixteen-mile portage has to be made to Fort Smith, on account of the rapids. From Fort Smith to the confluence of the Peel and Mackenzie Rivers (1,200 miles) there are no difficulties to be er countered, but from this point there is a portage sixty miles long over the divide to the head waters of the Porcupine River. Once on the Porcupine there is a good water way to any part of the Yukon. Be it remembered, however, that the Porcupine joins the Yukon about 300 miles below the Klondyke

gold fields and this distance would be up stream.

The Mackenzie route is the old Hudson's Bay Company's trunk line that has been in use for over a century, and the Company has small freight steamers which ply back and forwards between the portage points but do not carry passengers. The distances are given below:—

			files.
	Edmonton to Athabasca Landing		90
,	Grand Rapids to Fort McMurray		87
	Port McMurray to Smith's Landing		287
	Smith's Landing to Fort Smith		16
	Fort Smith to Fort Resolution		194
	Fort Resolution to Fort Providence		168
	Fort Providence to Fort Simpson		161
	Fort Simpson to Fort Wrigley		136
	Fort Wrigley to Fort Norman		184
	Fort Norman to Fort Good Hope		174
	Fort Good Hope to Fort Macpherson		250
	Fort Macpherson to Lapierre's House		60
	Lapierre's House to the Porcupine		30
	Porcupine to the Yukon		400
	m A.	-	-
	Total		2,394

EDMONTON VIA LIARD.

On the Liard Route there are no high or dangerous mountains to cross. The country for the most part is open with good grass and a portion of the way is by water which is navigable. Starting from Calgary the 200 miles between that point and Edmonton is travelled by rail, thence to peace River Crossing (260 miles) by pack trail and waggon road. Crossing the Peace River by boat a good trail leads to Pine River (100 miles), and for the next 140 miles to Nelson River

trail leads to Pine River (100 miles), and for the next 140 miles to Nelson River
the country is said to be practicable for horses. Thence to
Liard Route.

Liard Route.

Good grass and timber the mouth of the Dease River is reached (160 miles).

From Dease River to the Pelly is a distance of 170 miles, including a long portage over the watershed between the Pelly and the Liard. This distance was traversed by Professor Dawson in 1887 and is described as a rolling country with

The Pelly River is one of the main branches of the Yukon and when this point is reached the remainder of the journey is all down stream to the gold fields. The distance to the Klondyke is 420 miles and with the exception of two

short rapids affords good navigation. Distances:-

사람이 자기를 하면 어느 가게 되고 있었다. 이렇게 이렇게 이렇게 이렇게 되었다면 하는데 되었다면 하는데 하는데 하는데 아니라	les.
Edmonton to Peace River Crossing	260
Peace River to Nelson Forks	240
Nelson to Junction of Liard	120
Up Liard to Dease River	160
Dease River to Pelly River	170
Pelly River to Junction of Lewes	220
Lewes River to Klondyke	200
	370

The Liard way is a practicable railway route, and could be utilized for driving in cattle in easy stages, but under present circumstances for reaching the gold fields quickly could not be recommended. The Upper Liard is described by Dr. Dawson as a shallow, treacherous river and unsuitable for navigation, even in small boats.

OUTFITTING AND EXPENSES.

W HAT it will cost to outfit for, and take a man to, Klondyke depends very much on the man, and the length of his pocket book. Assuming, however, that he possesses ordinary common sense and a fair amount of physical stamina, and has not any money to throw away, landed in one of the Coast cities of British Columbia he can outfit with provisions for one year and the other necessary supplies and reach the mines for from \$250 to \$300 and still have some money in his pocket to come and go on. He will be safer, of course, with \$500. The methods and experience of old miners are the best basis for working on, and inexperienced persons should follow their advice. A veteran prospector never carries an ounce more than he actually requires and never omits an item that will be useful. Individual requirements always vary, and no two miners take exactly the same articles or exactly the same quantities of supplies; but nine-tenths of their outfit will be similar. The requirements of different localities also vary, and only experience can teach a man to

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adjust himself to his wants in any direction. The mistake which "tenderfeet," the name for "new hands," make is invariably that of taking too much, if indeed,

they do not take the wrong kinds of things. It may be stated as absolutely safe advice to prospective gold-seekers to come to the city from which they intend to take their departure, free-handed, and buy their complete outfits at that point. They will find all they require and just what they require at the cheapest rates in the stocks of merchants who make outfitting their business and who know the requirements, many of them, by their own personal experience or by dealing regularly with miners.

Below is given a list of supplies made up by a local firm of merchants in the trade. There are a number of such lists, but while they vary slightly in details, they substantially agree as to the main requirements. This particular outfit is quoted at \$178, upon which, of course, there is no duty to pay. It could probably be safely reduced so as to cost not more than \$150, and the weight to between 1,100 and 1,200 pounds.

SUPPLIES AND TOOLS NECESSARY FOR ONE MAN FOR ONE YEAR.

I Bar Castile Soap. 400 lbs Flour, best Hungarian. 50 "Sugar. 1 Fry Pan. 1 Axe and Handle Bars Laundry Soap. 200 " Bacon. doz Extract of Beef. Spare Axe Handle. Claw Hammer. 100 " Beans. Box Candles. Tin Matches. 50 " Oat Meal. Hatchet. 50 " Rice. 50 " Corn Meal. Medicine Chest. Jack Plane Brace and Set of Bits. Hand Saw. I Tent 10x12, 2ft. wall 10 oz. 25 " Split Peas. Duck. I Sheet Steel Stove & Pipes. Flat Files, 3 Taper Files. Draw Knife. " Dried Fruits. 75 "Tea, t lb packets. 16 " Coffee, 2 lb tins. 30 " Butter. I Packing Strap. I Emery Stone.
20 lbs Wire Nails, assorted.
10 "Pitch.
5 "Oakum. 200 Feet Rope, %.
2 Agate pails, 6 qt. and 8 qt.
1 Agate Plate.
1 Agate Mug. 25 " Evaporated Onions. 50 " Potatoes 12 " Soup Vege-I Agate Sauce Pan. I Agate Dish Pan. Whip Saw. Strap, Pick. Shovel. tables. 2 doz Condensed Milk. Agate Tea Pot. 20 lbs Salt. Agate Coffee Pot. Gold Pan. I Sleigh. Knife and Fork. lb Pepper. doz Yeast Cakes. "Baking Powder. Butcher Knife. 2 Spoons, 1 Tea, 1 Table. 1 Basting Spoon. Total Weight, 1,430 pounds.

FARES AND EXPENSES.

The least number of days actually required for the journey from New York or Montreal to the Klondyke is from twenty-five to thirty.

The fares are as follows: From New York or Montreal to Victoria, \$62.75; Colonist sleeping car, \$8.00; Pullman sleeper, \$20.00; meals in dining car, cost

Solonist sleeping car, \$8.00; Pullman sleeper, \$20.00; meals in dining car, cost \$12.00; and stops are made at stations along the route where meals may be had from twenty-five cents up. The steamer rate from Victoria to Skagway is \$40.00 first-class and cabin, and \$30.00 second-class and cabin.

The distance between New York and Victoria is 3,008 miles, and between Victoria and Skagway, 1,000 miles. From Montreal to Victoria is 2,970 miles. Steamer takes five days to make the trip between Victoria and Skagway.

Steamer takes five days to make the trip between Victoria and Skagway.

Steerage rates on the steamer to Lynn Canal are about \$30. As regular rates by the Stickine will have not yet been established it is not possible to quote. Owing to improved transportation likely to be effected via the White Pass and Skagway Trails it is not improbable that goods will be taken over at the rate of

five cents per pound next season, and the difficulties and expense encountered this year are not likely to be continued. Early in the season the trip over the Pass may be made by dog sleds. A dog and sled outfit costs from \$150 to \$500. Arrived at the lakes boats have to be obtained, which involves either considerable labour to build or expense to purchase. Boats are purchased according to demand for from \$75 to \$200. The rest of the way is plain sailing.

However, a determined man, willing to work and careful of expense, will get through with but little purchased assistance. He must, too, avoid the pitfalls which gamblers and sharpers set for the unwary and mind his own business strictly. With his own tools and supplies he can get along without adventitious aids. Saloons and faro tables need form no part of his daily routine. An important consideration may be here noted, that two or three or more men going together will travel much cheaper and in every way mere advantageously than one. Much of the outfit can be used in common, and in a variety of ways they can be of assistance to each other. One at least of the party should, if possible, be an experienced miner or prospector. In this way \$500 between two men would go as

far as \$300 or \$350 with one man.

Wages at Dawson during 1897 averaged from \$15 to \$20 a day for miners and mechanics got \$1.50 an hour. Joseph Ladue's book on the Klondyke states that board may be had at restaurants for \$2.00 and \$3.00 a day.

The following is a list of prices current in Dawson City during 1897:

Flour per 100 fbs., \$12 to \$120; moose ham per fb., \$1 to \$2; Caribou meat per fb., 65c.; beans per fb., 10c.; rice per fb., 25c. to 75c.; sugar per fb., 25c.; bacon per fb., 40c. to 80c.; butter per roll, \$1.50 to \$2.50; eggs per doz., \$1.50 to

Various \$3; better eggs per doz., \$1.50 to \$2.50; eggs per doz., \$1.50 to \$2.50; better eggs per doz., \$2; salmon each, \$1 to \$1.50; potatoes per fb., 50c to \$2.25; dried fruits per fb., 35c; canned fruits, 50c to \$2.25; lemons each, 20c. to 25c.; oranges each, 50c.; tobacco per fb., \$1.50 to \$2; liquors per drink, 50c.; shovels, \$2.50 to \$18; picks, \$5 to \$7; coal oil per gallon, \$1 to \$2.50; overalls, \$1.50; underwear, per suit, \$5 to \$7.50; shoes, \$5 to \$8; rubber boots, \$1.50 to \$18. Various

YUKON MINING REGULATIONS.

The Dominion Government mining regulations, in force in the Northwest Territory, including the Canadian Yukon, will be found on the back of the map of that district, accompanying this volume.

ERRATA.

That mistakes will occur in a volume containing so much and varied information is almost unavoidable; and it is not the intention to call special attention to those which have been detected in the foregoing pages. There are, however, several requiring correction. On page 18, in "A Group of pioneers," "H. Dallas" should read A. G. Dallas; and on page 278, "A branch of Cherries" and a "Bunch of Plums "have been transposed, and "bunch" should read "branch." The following side notes have been wrongly inserted: Page 56, "rates of benefit" should read "ratio of benefit;" page 169, "no different conclusion" should read, "no definite conclusion;" page 236, "Free Growth" should read "Tree Growth."

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OFFICIAL CHANGES.

SINCE the foregoing was in type, Hon. T. R. McInnes, Senator, has been appointed Lieutenant-Governor, vice Hon. E. Dewdney, whose term of office has expired; and W. Templeman Esq., managing editor of the "Times," has been created Senator in the stead of Hon. Mr. McInnes. The retirement of Hon. J. F. McCreight from the Supreme Court Bench is also announced. Paulus Æ. Irving, Esq., barrister, Victoria, is regarded as likely to be his successor.

ILLUSTRATIONS.

OWING to limited space, a list of all the illustrations is not given. There are, however, over eighty full pages of these, with numerous smaller ones distributed through the letter press. An endeavour has been made to illustrate all phases of life in the Province. Many of the plates, as will be apparent, are of the finest quality, having been executed by some of the best firms in America. The author has no doubt that the effort to produce a series of high-class and representative pictures will have due appreciation.

YEAR BOOK MAPS.

ACCOMPANYING the YEAR BOOK will be found, under separate cover, a series of specially prepared maps, lithographic diagrams and illustrations.

The maps embrace the District of Kootenay, the Canadian Yukon territory and the Province of British Columbia, containing all the latest information with the various railway and other routes, present and prospective, indicated. These have been prepared at very considerable expense and with very great care, and the publisher expresses the hope that they will be found as useful as intended.

NEW FINDS IN OMINECA.

SINCE the foregoing has been in type, news has reached the Minister of Mines, accompanied by samples of quartz, of the discovery of extensive bodies of free milling ore in the Omineca District. These are reported to be of immense width and exposed for miles. Owing to the remoteness of the finds, they cannot at present be utilized, but the existence of minerals in such large deposits is indicative of the future greatness of the Northern interior, and is another proof of the vast extent and wide distribution of the precious metals in British Columbia.

CONCLUSION.

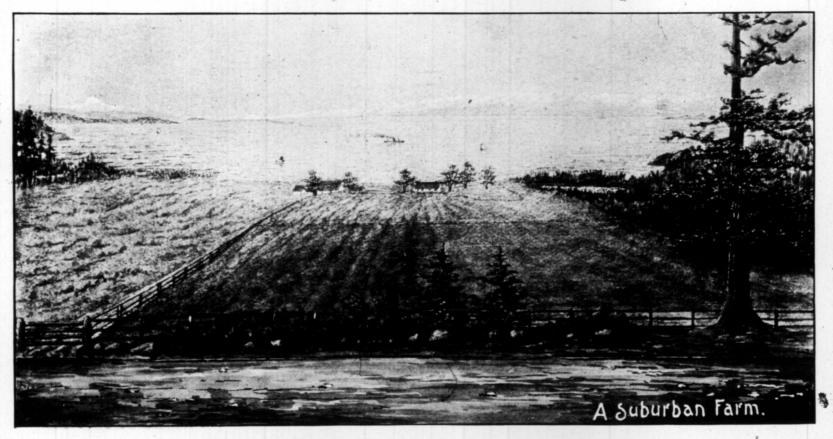
IT is not without mingled feelings that the conclusion of the Year Book is reached and the author bids adieu to his readers for the nonce. It is pleasurable to know that an undertaking involving so much labour is completed; and, on the other hand, there is occasion for regret that it has been necessary to have excluded so much that it would have been desirable to include. It is a stage of the work where one realizes how much easier it is to write a book of 1,000 pages than one of 500. A great deal, of necessity, has been omitted, which was prepared and in type, and which, if circumstances permit, will find a place in a future issue.

No one is more conscious of the defects of the present volume than the author, and a glance over its pages reveals the fact that despite all reasonable care, by some oversight which baffles understanding, "clerical errors" exist—errors of type, construction and fact. The only apology that is offered is the pressure under which much of the work was accomplished. The hope is cherished, however, that readers will not be unappreciative of the character of the informa-

tion afforded, or disappointed as to its extent.

In the preparation of the work the author has placed himself under obligation to so many friends and various authorities that it might appear invidious to acknowledge the assistance rendered by some of these without giving a complete list. The latter, however, is quite out of the question. At the risk of offending others, reference is due to Dr. C. F. Newcombe, Victoria; Capt. Walbran, Commander of the steamship "Quadra"; Mr. J. W. McKay, of the Indian Office; Sir Henry P. P. Crease, whose interesting chapter on the early settlement of the Province was by an inadvertance left uncredited; Mr. John Fannin, Curator of the Provincial Museum; Hon. E. Dewdney, Lieutenant-Governor; Hon. D. W. Higgins, Speaker of the Legislature; Mr. R. B. Mc-Micking, Electrician, Victoria; R. M. Palmer, of the Department of Agriculture; Dr. Fletcher, Naturalist, Ottawa; Prof. Macoun, Ottawa; Mr. F. J. L. Tytler, Government Engineer, for information regarding dyking enterprises and photographs of the Fraser Valley; Lt.-Col. Wolfenden, Queen's Printer; Mr. R. T. Elliott, Barrister, whose services in connection with the digest of laws were invaluable; Prof. Chas Hill-Tout, Vancouver; Mr. F. Elworthy, Secretary of the Board of Trade; Mr. W. P. Burdis, Vancouver; Mr. John Grant, Victoria; Mr. Warburton Pike, the explorer of Barren Lands fame; Dr. Pope, Superintendent of Education; and various public officials, Provincial and Dominion. Special acknowledgment is due to Mr. W. A. Carlyle, Provincial Mineralogist; Dr. Dawson, Director of the Geological Survey, and Mr. Wm. Ogilvie, who, personally and through the pages of their reports contributed largely to the information contained herein, and also to the officials of the Lands and Works Department for valuable assistance. To all of these the author feels deeply grateful. Nor would it be less than ingratitude to refer to the Premier of the Province and the other members of the Executive who have from the outset extended cordial cocperation and assistance.



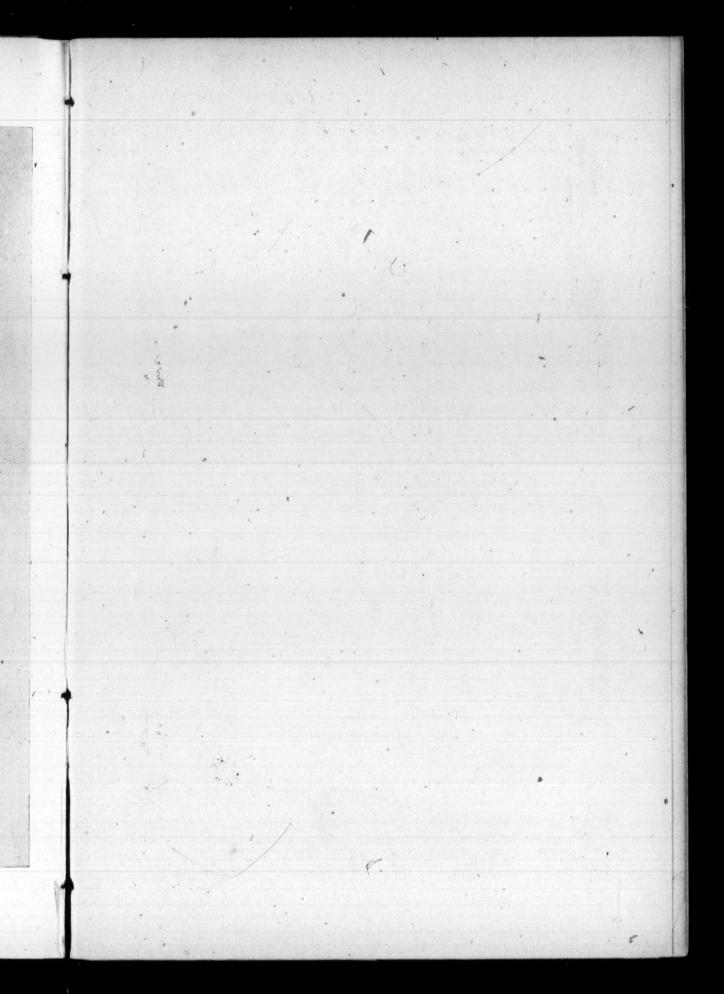


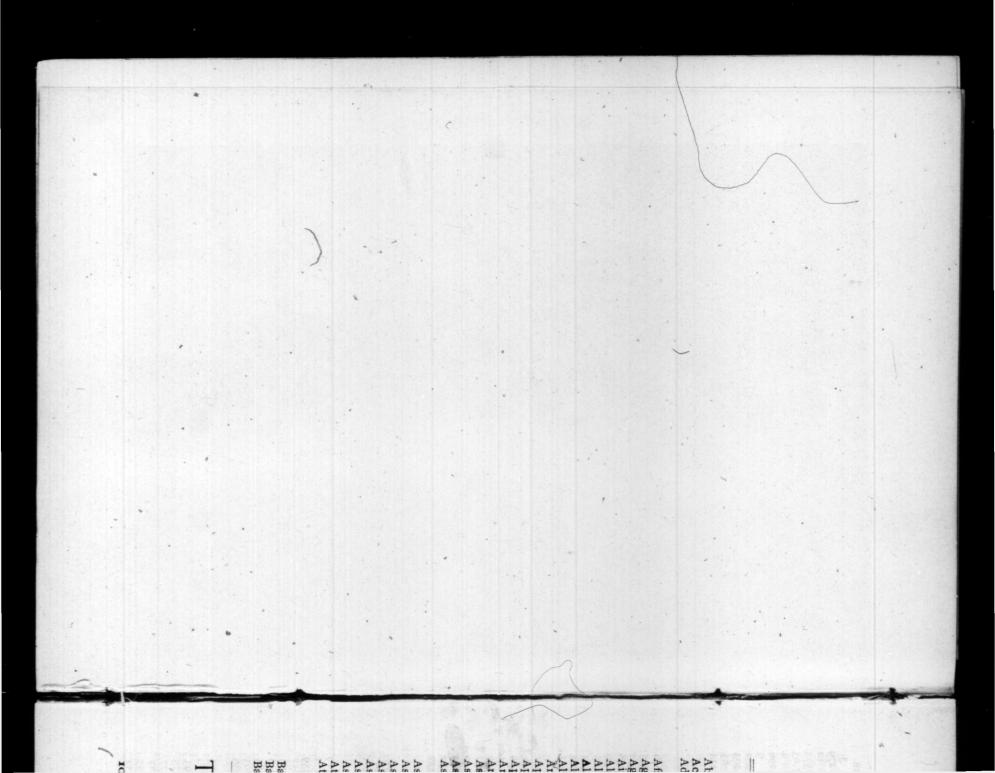
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(The property of Dr. John Duncan, Victoria.)



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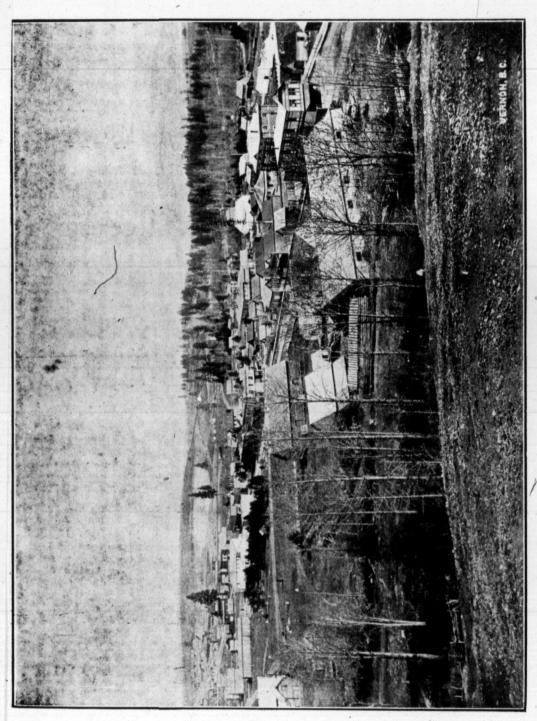
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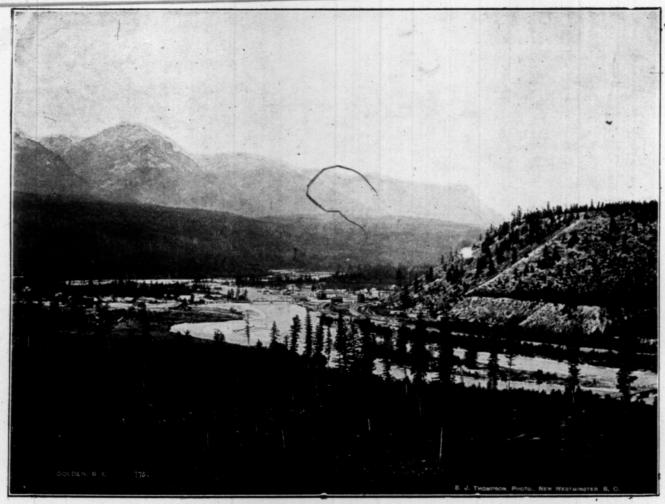
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Statistics and General Information:

Secretary Bureau of Statistics; or by application to Hon.
Minister of Immigration, Victoria, B.C.; or to Agent
General for British Columbia, 39 Victoria Street,
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TIME TABLE NO. 29-Takes effect December 24th, 1896.

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NEW WESTMINSTER ROUTE.

Leave Victoria for New Westminster, Ladner's Landing and Lulu Island—Sunday at 23 o'clock; Wednesdays and Fridays at 7 o'clock, Sunday's steamer to New West-minster connects with C.P.R. train No. 2

going East Monday. For Plumper Pass—Wednesdays and Fridays at

7 o'clock. For Moresby and Pender Islands—Friday at -

Leave New Westminster for Victoria—Monday, at 13.15 o'clock; Thursday and Saturday at 7 o'clock.

For Plumper Pass-Thursday and Saturday at -

For Pender and Moresby Islands-Thursday at o'clock.

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Steamships of this Company will leave for Fort Simpson and intermediate ports, via Van-couver, the 1st and 15th of each month at 8 o'clock. When sufficient inducements offer, will extend trips to West Coast points and Queen Charlotte Islands.

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Steamer Rainbow leaves Vancouver on Mondays and Thursdays for Loughboro Inlet, Shoal Bay, Yexada Island and way ports, connect-ing with S.S. Charmer for Victoria.

TEXADA ISLAND ROUTE.

Steamer Maude leaves Victoria for Texada Island, via Nanaimo, every Friday at 8 p.m.

BARCLAY SOUND ROUTE.

Steamer Willapa leaves Victoria for Alberni and Sound ports the 10th, 20th and 30th of each

The Company reserves the right of changing this Time Table at any time without notifica-

IRVING, Manager.

Victoria, January 1st,

G. A. CARLETON, Gen. Agent.

Notice to Joint Stock Companies

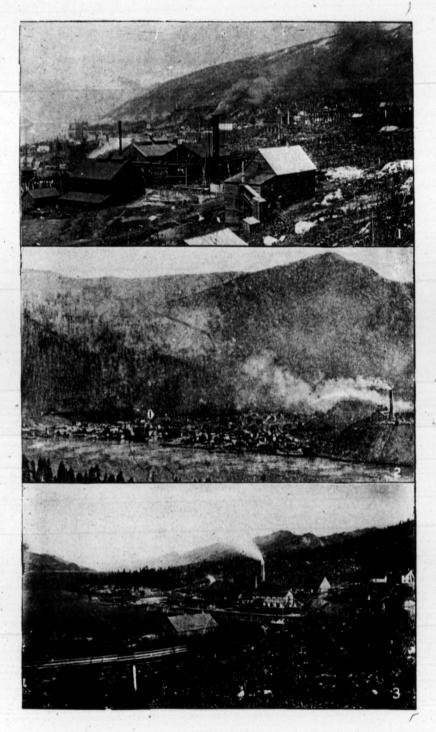
THE following section, numbered 161, of the "Companies' Act, 1897," relative to the issue of a free miner's certificate is published for the information of JOINT STOCK COMPANIES.

JAMES BAKER,

Minister of Mines.

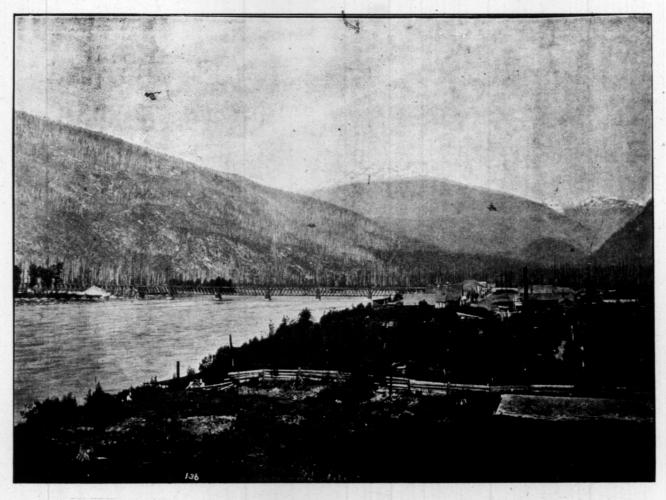
Provincial Secretary's Office, 14th May, 1897.

161. Notwithstanding anything to the contrary in section 4 of the "Mineral Act, 1896," or section 4 of the "Placer Mining Act, 1891," or elsewhere in the said Acts or other mining laws of the Province, no free miner's certificate shall be issued to a Joint Stock Company for a longer period than one year, and such certificate shall date from the 30th day of June in each year; and every free miner's certificate held by a Joint Stock Company at the passing of this Act shall be valid and existing until and shall expire on the 30th day of June, 1897. Upon applying to renew any such certificate on or before said 30th day of June, the Joint Stock Company shall be entitled to a rebate of a proportionate amount of the fee paid for a certificate heretofore issued according to the further time for which it would but for this section have been valid.



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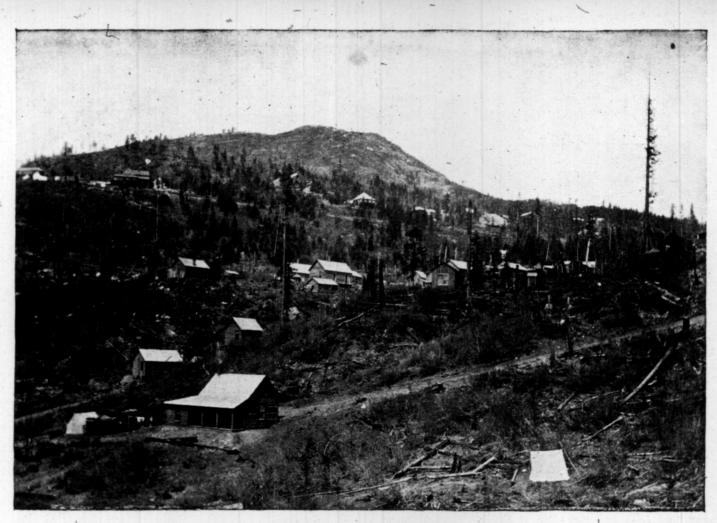
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