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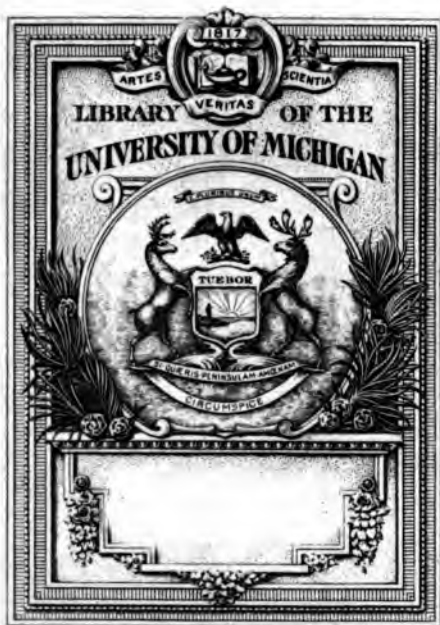
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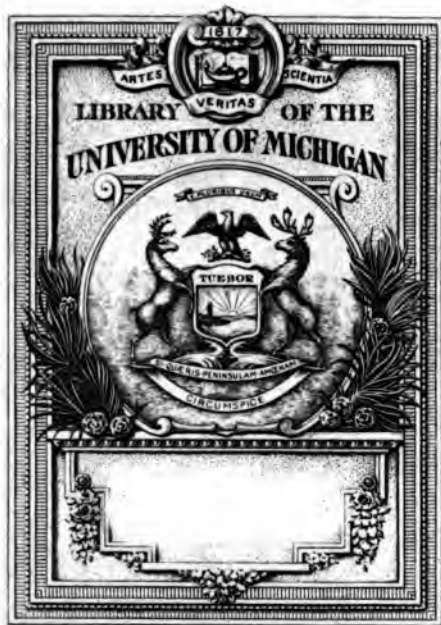
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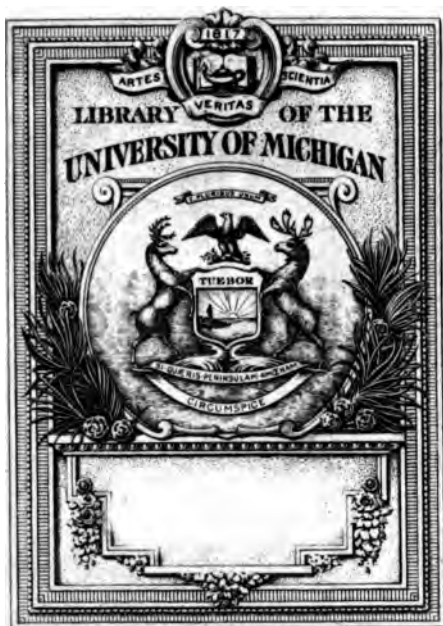
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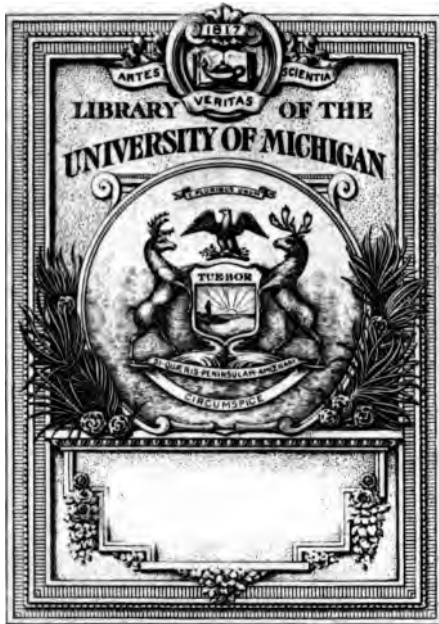
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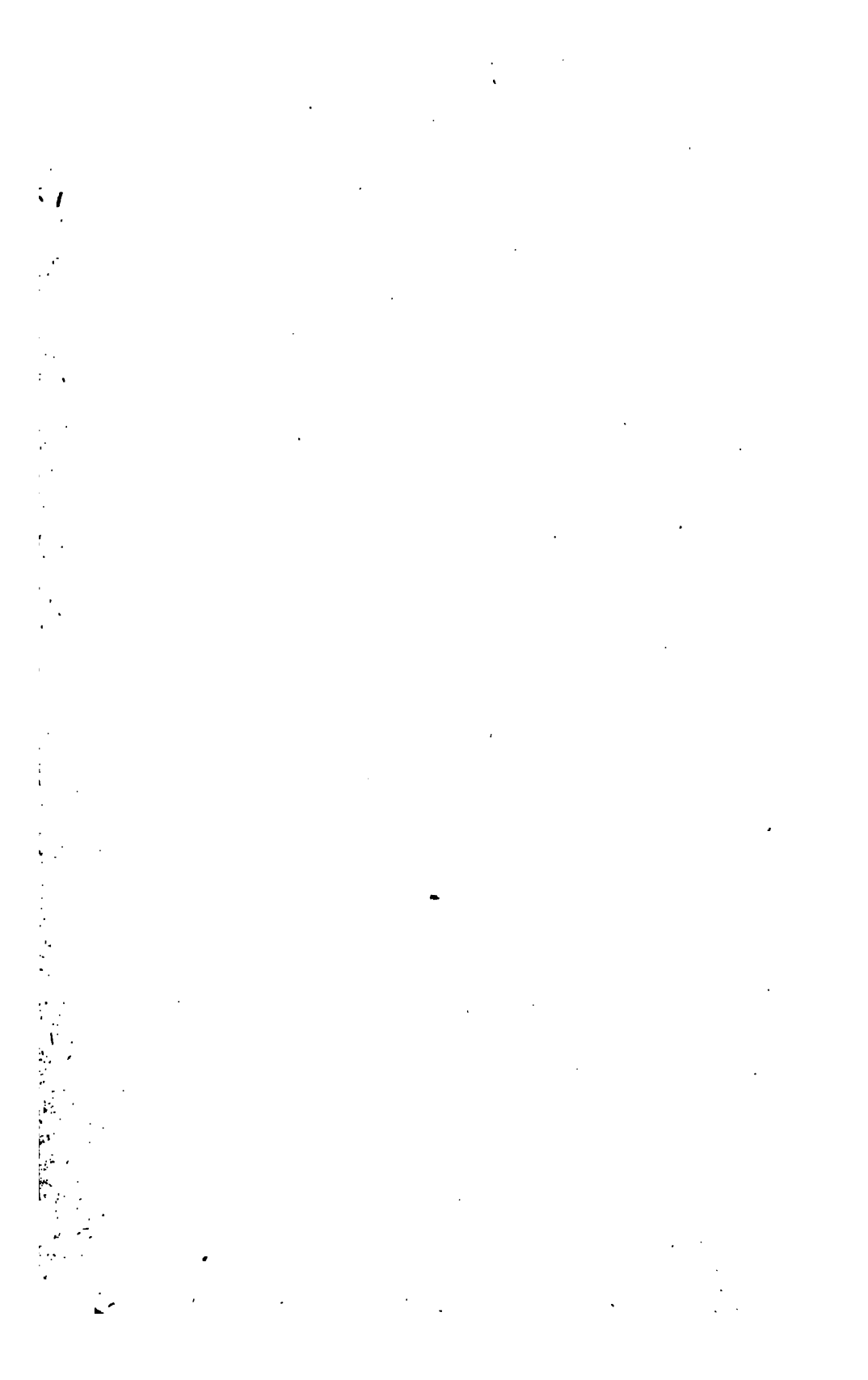
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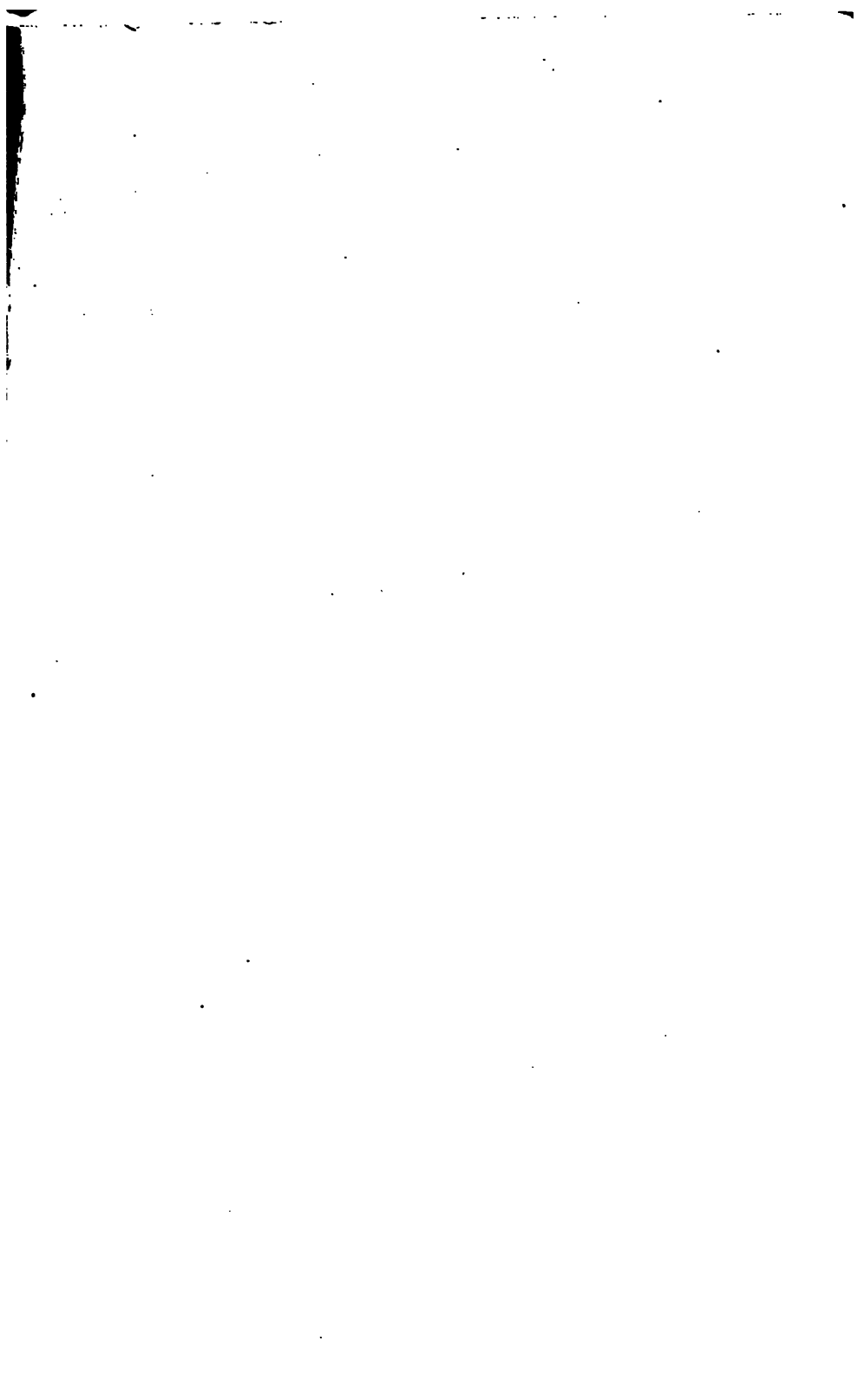




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# Louisiana Purchase Exposition

1904

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CANADA. *Map of the world*

ITS

HISTORY, PRODUCTIONS

AND

NATURAL RESOURCES

*Exchange of the Republic, L. C.*

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PREPARED BY

GEORGE JOHNSON, D.C.L., F.S.S. (HON.)

UNDER THE DIRECTION OF

THE HONOURABLE SYDNEY FISHER

MINISTER OF AGRICULTURE, CANADA

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DEPARTMENT OF AGRICULTURE OF CANADA, OTTAWA

1904

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TO THE HON. SYDNEY FISHER, M.P., P.C.,

*Minister of Agriculture and Statistics.*

Sir,—In preparing under your instructions a handbook of Canada for the Louisiana Purchase Exposition, 1904, I have endeavoured to give information about the Dominion which will be useful both to the student and to the general public, to those whose avocations lead them to gather facts for use in enlightened discussion, and to those who seek information for their own purposes.

The facts about Canada, as about any country, are best presented in a statistical form when the space at command is limited.

I have attempted to make such selection of facts as will illustrate the development of the country, chiefly during the period of the Union by virtue of which we became one country from the Atlantic to the Pacific.

I have the honour to be, Sir,

Your obedient servant,

GEORGE JOHNSON,

*Statistician, F.S.S. (hon.)*

Ottawa, Feby., 1904.



# CANADA

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## I.

### GEOGRAPHY.

Jacques Cartier, of St. Malo, sailed up "the great river" in 1534, gave it the name it bears, and wrote in his journal that the natives called the place, in which they had established themselves for the time being, *Canata*, the meaning of which, as subsequent investigations have shown, is "collection of wigwams."

In the slightly changed form, *Canada*, the word is now applied to that portion of the North American continent not included in the United States of North and Central America and Mexico.

This northern region, which faces three oceans, contains 3,745,574 square miles of continental area, including the Arctic Archipelago, the area of which has not been determined, but may be estimated at 500,000 square miles.

At different times in its history this country has been divided into Provinces and Districts. At present there are sixteen of these divisions. Eleven of them have, in part, water for their boundary; five are wholly in the interior.

Four of the eleven border on the Arctic Ocean. One looks out on the Pacific. Four are bounded on their seaward side by the Hudson Bay, and four are washed by the Atlantic Ocean and its great estuarial sea, the Gulf of St. Lawrence.

All the sixteen Provinces and Districts are well watered, the rivers and lakes of Canada being on a scale commensurate with the vastness of the country.

The River St. Lawrence penetrates the Provinces of Ontario and Quebec, in a southerly and westerly direction, for a navigable distance of over 2,300 miles from the ocean. It has tributary rivers, such as the Ottawa, with a total length of 780 miles, the St. Maurice, the Saguenay, the Manicouagan, the Trent, the du Loup, the Richelieu and many others.

The lacustrine expansions connected with the St. Lawrence and its tributaries are numerous, and many are of great size. Lake Superior has a water surface area of 31,800 square miles; Lake Huron 23,200; Erie 10,030; Ontario 7,260; Nepigon 1,450; Lake St John 366; Lake Simcoe 300; Lake St. Clair 445, and there are other smaller lakes, making up an area of over 75,000 square miles of Canadian lakes connected with the St. Lawrence.

The Provinces of the East, or the Acadian region, have rivers of large size. The St. John River drains an area of 26,000 square miles, one half of which is in the Canadian Province of New Brunswick. Other rivers of considerable magnitude are the Restigouche and the Miramichi.

West and north of the St. Lawrence River and its tributaries are many rivers of large size. In the Territories and Manitoba are the Mackenzie (2,400 miles in length), the Copper Mine and Great Fish Rivers, which flow into the Arctic Ocean; the Saskatchewan River (1,500 miles); the Red River and its tributary, the Assiniboine, which flow into Lake Winnipeg, discharging thence through the Nelson River and the Churchill; the Haye and other rivers, which flow into the Hudson Bay, draining into it the waters of an area estimated at 370,000 square miles. In British Columbia are the Fraser River and the Columbia (1,200 miles), and in the Yukon District is the Yukon River, which carries off the surplus waters of a great tract of country in Canada before flowing into the sea on the western side of the United States District of Alaska. Connected with these and other rivers are lakes of large size. Lake of the Woods (1,500 square miles), Lake Manitoba (1,900), Great Bear Lake (11,200), Great Slave Lake (10,100), Athabasca (4,400), Winnipeg Lake (9,400), Winnipegosis (2,030).

The principal Mountains of Canada are the Rocky Mountains in the west, which extend in Canada from the Arctic Ocean to the United States, and contain the highest peaks in Canada; among the chief being Mount Robson, 13,700 feet high.

From one of the mountain peaks of the Rockies water falls into streamlets that carry it into greater streams which find their way to the Arctic Ocean, to Hudson Bay and to the Pacific Ocean.

Further west than the Rocky Mountains range is the Coast range, and between these are several ranges, the Selkirk and the Gold being the principal.

Thus, in a general view, Canada consists of the mountainous region of the West, the prairie country between the Rockies and Hudson Bay, and the woodland region, comprising the Provinces of Ontario, Quebec, New Brunswick and Nova Scotia.

The width of these several belts east and west is: Mountain, 600 miles; Prairie, 1,000 miles; Woodland, 2,300 miles.

The area of 3,745,574 square miles is divided for purposes of administration into the following Provinces and Districts:—

PROVINCES AND DISTRICTS	Date of Organization or Admission	AREA, SQUARE MILES		
		Water	Land	Total
Original Confederation—				
Ontario .....	July 1, 1867	40,354	220,508	260,862
Quebec .....	" 1, 1867	10,117	341,756	351,873
Nova Scotia .....	" 1, 1867	360	21,068	21,428
New Brunswick .....	" 1, 1867	74	27,911	27,985
Provinces admitted—				
Manitoba .....	" 15, 1870	9,405	64,327	73,732
British Columbia .....	" 20, 1871	2,439	370,191	372,630
Prince Edward Island .....	" 1, 1873	.....	2,184	2,184
Districts created—				
Kewatin* .....	Apr. 12, 1876	13,419	456,997	470,416
Assiniboia .....	May 17, 1882	600	88,279	88,879
Saskatchewan .....	" 17, 1882	3,772	103,846	107,618
Alberta .....	" 17, 1882	362	101,521	101,883
Athabaska .....	" 17, 1882	8,805	243,160	251,965
Yukon* .....	June 13, 1898	649	196,327	196,976
Mackenzie* .....	Oct. 2, 1895	29,548	532,634	562,182
Ungava* .....	" 2, 1895	5,852	349,109	354,961
Franklin* .....	" 2, 1895	.....	500,000	500,000
Totals .....	.....	125,755	3,619,819	3,745,574

\* The boundaries of these districts were changed by Order in Council 18th Dec., 1897.

The Dominion is as large as the United States and the Dependencies of Hawaii and the Philippine Islands.

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## II.

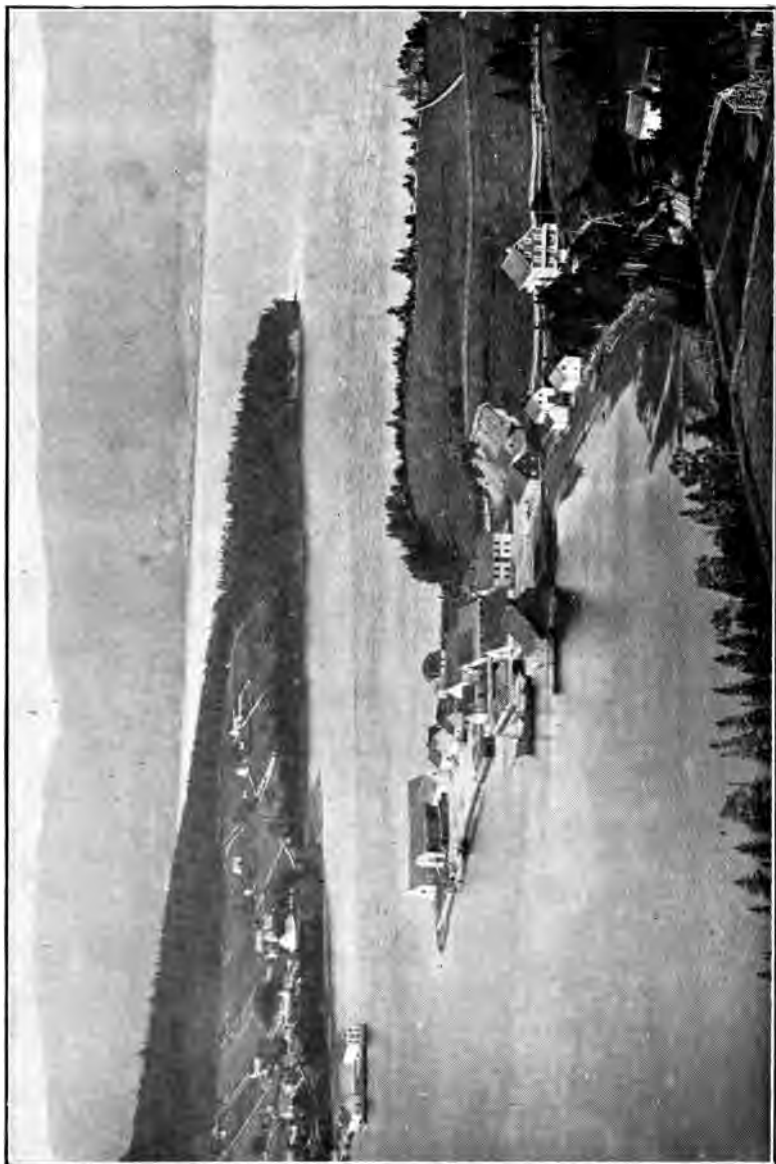
### HISTORICAL SKETCH OF CANADA.

There is so much that is unique in the history of Canada that the task of presenting an adequate conspectus of her past, within the narrow limits imposed, is far from being one easy of accomplishment. The most that can be done is to bring under review some of the leading incidents and personages and to indicate as far as possible their influence in moulding her history and determining the course of events.

The history of Canada may be divided into three periods: the first covering the discovery and exploration of the country; the second its occupation and settlement by the French; and the third its development as part of the British Empire.

#### **1st Period.—The Discovery and Exploration of Canada.**

The Norse Sagas have been recognized in recent years as possessed of undoubted value as historical works. "The narratives which tell us of Vinland and of Leif Eric's son are closely intertwined with the authentic history of Norway and Iceland." From these Sagas of the tenth and eleventh centuries comes the record of the earliest voyages of discovery on the north-eastern shores of this continent. The movement of population from Norway, after the naval battle of Hafursfiord in 872, resulted in giving Iceland in a few years a population of 50,000 souls. Among these was a settler named Gunnbjorn, who, in 876, was driven by a fierce western storm to Greenland, where he and his crew passed the winter, returning to Iceland in the following spring. The story of their adventures lingered among the firesides of the homes of Iceland for many a long year,



GASPÉ HARBOUR, GULF OF ST. LAWRENCE

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and after a century had passed, Eric the Red, being outlawed for killing a neighbour in a brawl, resolved to spend the years of his banishment in searching for the western land associated with Gunnbjorn's adventure. He left Iceland in 983, and in three years' time had explored the south-east side of Greenland and, following the shore round Cape Farewell, had examined a portion of the west side, where he found in one of its deep fiords a place for a home. Returning to Iceland he proved himself so good an emigration agent that he soon left with 25 vessels. He encountered storms, and lost eleven of his fleet. The remainder, carrying four or five hundred persons, arrived safely at the selected spot. The colony was successfully planted, and for four hundred years the descendants lived and laboured and loved on the west coast of the land Eric had named Greenland. During many years communication was constant between the colonists and the Mother Isle. Among those who accompanied Eric was one Herjulf, who, on one occasion, went to Iceland on a lengthened visit. His son, Bjarni, thought he, too, would cross over to Iceland to see his father. Landed there he found that his father had left for Greenland; sailing after him Bjarni was borne by contrary winds far to the south, making after many days an unknown land. He turned to the north, and in eight or ten days sighted the well-known fiord on the Greenland Coast.

Naturally there was much speculation about the unknown land Bjarni had seen, and some years after Leif, the son of Eric, sailed in the summer time of the year 1000 southward bound, and came to a barren land plentifully covered with flat rock. This land he called Heluland or Slate Land. Continuing his voyage of discovery, he arrived at a land covered with forest. The wooded coast he called Markland or Woodland. From this land he stood out to sea, and, driven before a north-easterly wind, came in sight of land. Following the coast, he came to a body of water connected with the ocean by a short river. Entering the lake he determined to winter there, and, as one of his men found

grapes in abundance, Eric called the place Vinland, and there spent the winter, returning with a cargo of lumber to Greenland the following year. The communication with a lumber country, thus opened, continued from year to year till, in the spring of 1007, Thorfinn Karlsefni resolved upon forming a colony in Vinland, and accordingly sailed thither. The colony, however, did not succeed, and the survivors returned to Greenland in 1012. The best authority, Dr. Storm, concludes after careful investigations that Vinland was that part of Canada known as Nova Scotia, and that these Norse Voyagers sailed along the Labrador coast, and the Newfoundland coast, and crossing the straits had attempted colonization in Acadia.

The practical results of these early voyages of discovery were of little value. The facts were in the Sagas; but Southern Europe, having little or no communication with the countries in the north, never learned of the existence of the New Continent. It was not till John and Sebastian Cabot, father and son, had persuaded Henry VII. to commission them to make a voyage of discovery by sailing westward that Vinland was rediscovered in 1497, the landfall being, as seems fully established, at Cape Breton. In the following year, Sebastian Cabot made another voyage, going into high latitudes for the purpose of discovering a north-west passage to the Indies. On this voyage he sailed as far north as Hudson Straits. Animated by his example, Gaspar Cortereal, a Portuguese gentleman, sailed along the eastern sea front of the country now called Canada, from Hudson Straits (which he named Rio Nevado --the "River of Snow") to the Bay of Fundy. It is claimed that he partially explored the Gulf of St. Lawrence, but of the result of his investigations no record remains. England and Portugal being thus connected by voyages of discovery with Canada, France was not far behind. The probable date of the first French expedition to Cape Breton is 1504. The French navigator Denys explored the great Gulf of St. Lawrence in 1506.

From that time onward the rich fisheries of the Newfoundland Banks and the shores of the Gulf became the magnet drawing the hardy Breton, Basque, Norman and West of England fishermen to our coasts. Cape Breton, a name published on the earliest maps, derived its name from the Breton fishermen, who thus began the long-continued custom of transferring the names of their Eastern homes to this continent.

None of the voyages thus taken, however, had any reference to the settlement of the country. It was reserved for France to make the first attempt in this direction, when, in the year 1518, the Baron de Lery fitted out an expedition with that end in view. Unfortunately the fates were not propitious to this venture, and beyond the landing of some horses on Sable Island, where they multiplied greatly and exist in droves to the present day, nothing was accomplished.

France had as yet done little in exploring or occupying any portion of this boundless continent, whose wealth was filling the coffers of her rivals, and Francis I. resolved to claim a share of the prize. "Shall the Kings of Spain and Portugal," he exclaimed, "divide an America between them? I would like to see the clause in father Adam's will bequeathing that vast inheritance to them." Under his direction, therefore, in 1524, Verrazano, a Florentine, was sent forth. He ranged the coast from Florida to 50 degrees north latitude, and annexed on behalf of France the entire region previously explored by the Cabots, designating it "New France." The rival claims arising from these explorations were the chief grounds of the long and bloody conflict which later on was waged between Great Britain and France for the possession of this magnificent region beyond the seas, and the maritime supremacy that went with it.

Thus fitfully and feebly were the first attempts to found settlements on the North American coasts carried on up to the close of the first quarter of the sixteenth century, and,

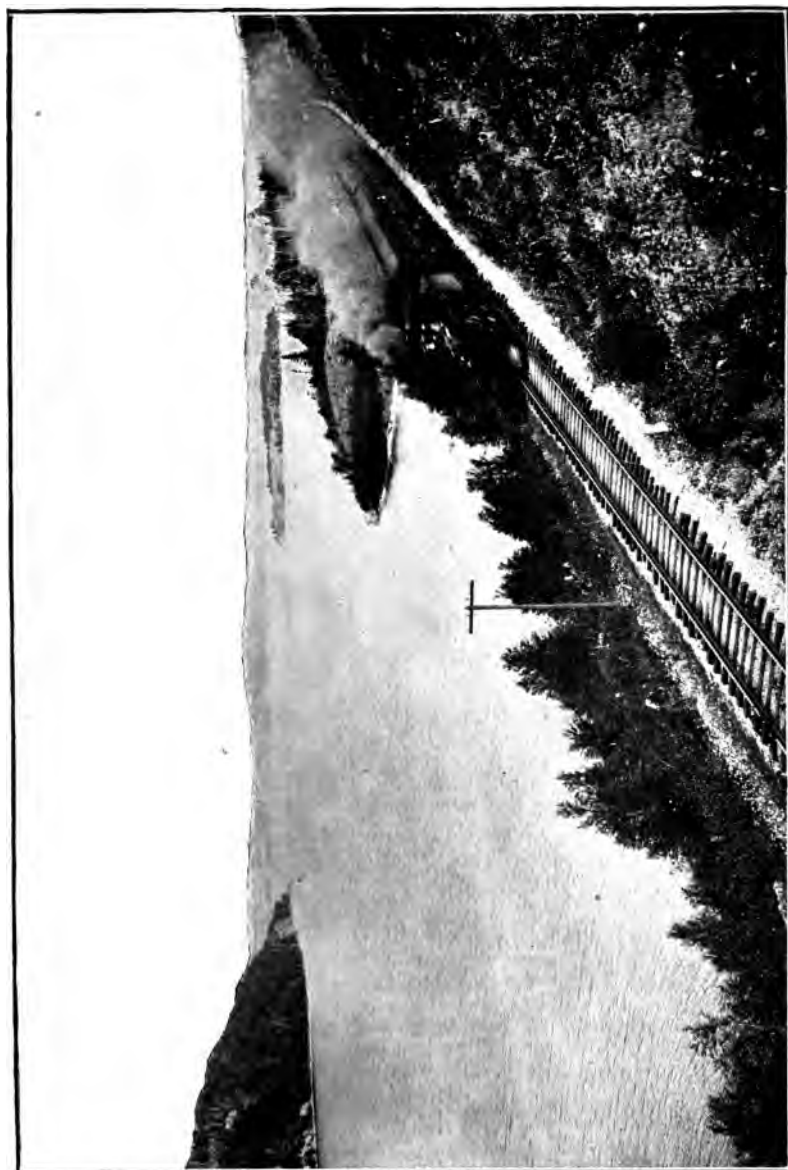
as we have seen, without anything practical or permanent being achieved.

## **2nd Period.—Occupation and Settlement by the French.**

In the year 1534 when France had somewhat rallied from the disaster inflicted upon her during recent wars, fresh enterprises were undertaken in the New World, and on the 20th April of that year the real discoverer of Canada proper, Jacques Cartier, a native of St. Malo, was sent out with two small vessels of about 60 tons each. Sailing through the Strait of Belle Isle, he scanned the barren coast of Labrador, and almost circumnavigated Newfoundland. Turning thence south-westward, he passed the Magdalen Islands, and on a glorious July day entered the large bay, for which the intense heat suggested the name of "des Chaleurs" it bears to this day. On the rocky headland of Gaspé he landed and, erecting a huge cross bearing the fleur-de-lis of France, took possession of the country in the name of his sovereign Francis I.

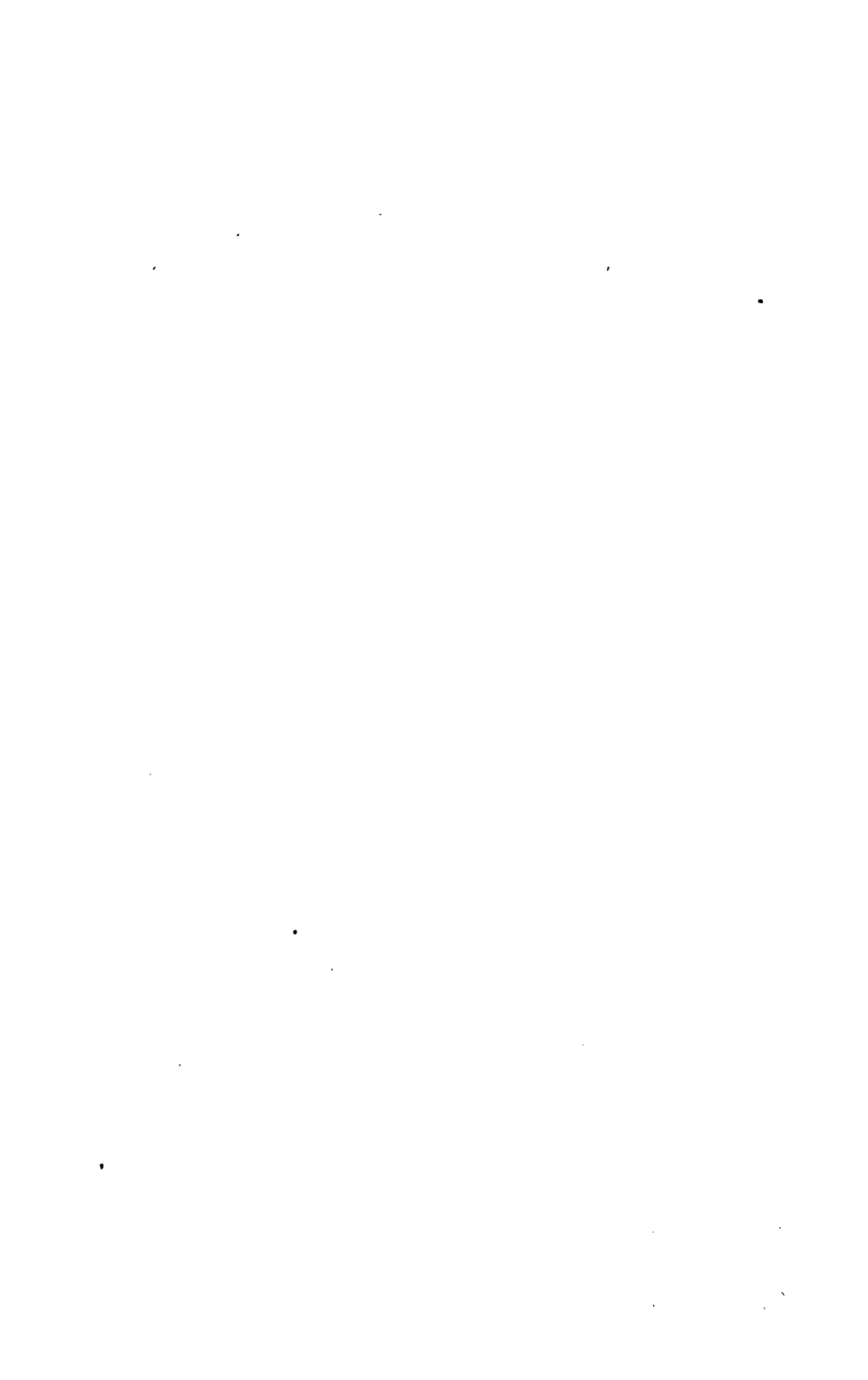
Learning from the natives of the existence of a great river leading so far up into the interior that "no man had ever traced it to its source," he sailed up the Gulf of St. Lawrence until he could see land on either side. But the season being well advanced, he deemed it prudent to go no further until he should return next summer.

Delighted with the report his faithful lieutenants brought back, the French king, in the following year, fitted Cartier out with three fine vessels, of which the largest was 120 tons burthen, and despatched him with the special blessing of the bishop of St. Malo and with a commission from himself to "form settlements in the country and open traffic with the native tribes." The little squadron reached the mouth of the St. Lawrence about the middle of July, and, the 10th of August being the festival of St. Lawrence, Cartier gave the name of that saint to the small bay in which he then was, since when it has extended to include the entire gulf and river.



BRAS D'OR LAKES, CAPE BRETON, NOVA SCOTIA

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Continuing up the noble stream, he came, on September 7th, to a fertile, vine-clad island, which he named the Isle of Bacchus. It is now the Island of Orleans. Here Donnacona, the Sachem of the Algonquin nation, made him a state visit, accompanied by no less than five hundred followers in twelve huge canoes; and seven days later, having made up his mind to winter in the country, Cartier anchored his fleet at the mouth of the St. Charles river, where stood the Indian town of Stadacona, beneath the high beetling promontory now crowned with the historic ramparts of Quebec.

Impatient to explore the river stretching out so grandly before him, Cartier advanced with fifty men in his smallest vessel. But the sand-bars of Lake St. Peter compelled him to take to his boats. In these he pressed onward, until on October 2nd he reached the populous Indian town of Hochelaga, nestling beneath the wood-crested height which with characteristic loyalty he called "Mont Royal," since anglicized into Montreal. The friendly natives thronged the shore by hundreds, and received the pale-faced strangers with manifestations of the utmost delight, loading their boats with lavish presents of corn and fish. From his kindly hosts, Cartier learned of the existence, far to the west and south, of inland seas, broad lands and mighty rivers, then an almost unbroken solitude, now the home of a prosperous people.

After three days of pleasant intercourse, Cartier returned to Stadacona and wintered there, his little force suffering severely from insufficient food and inadequate clothing, being also plagued with scurvy of a malignant type, whose violence neither processions, vows nor litanies availed to stay. The following spring he returned to France, taking with him, much against their will, King Donnacona and nine of his chiefs as living trophies of his expedition.

Five years elapsed before Cartier returned to Canada as Captain General and Master Pilot. Associated with him was the Sieur de Roberval, whom the French monarch had

created Lieutenant-General and Viceroi of his newly-acquired possessions. The natives were at first friendly as before, but became hostile on learning that Donnacona and his companions had not returned; and Cartier's treachery began to recoil upon his own head. Another gloomy winter was spent, and again the would-be colonists went back home disheartened, although Roberval, whom unforeseen obstacles had detained in France for a twelve months, meeting them at Newfoundland, tried hard to retain them. Roberval continued on his course, and wintered at Cape Rouge, whither, in 1543, Cartier was sent to carry the orders for his recall, and the latter, after enduring a third winter, left the country in the spring of 1544 never to return.

With the disastrous failure of all these early expeditions, the efforts of France to colonize Canada were suspended for a full half century, with the single exception of the Marquis de la Roche's quixotic attempt to settle Sable Island with a band of convicts selected from the royal prisons—an attempt, it need hardly be said, that had no other result than to furnish historians with a highly romantic episode, and a spot on that "dark isle of mournin'" with the name of the "French Gardens."

With the opening of the seventeenth century there appears upon the scene one of the most remarkable of the many remarkable men who have taken an active part in moulding the destinies of Canada. This was Samuel de Champlain, whose high qualities both as a sailor and soldier marked him out as one peculiarly fitted for the task of opening up New France to civilization. Accordingly in 1603 he was commissioned, in conjunction with Pontgrave, for this arduous enterprise, and his first voyage, which produced nothing but a cargo of furs, was made in that year. Two years later, however, he returned in connection with a much larger expedition, headed by the Sieur de Monts, who had obtained a patent of the vice-royalty of La Cadie or Acadie, now called Nova Scotia, and the first actual settlement by Europeans within the boundaries of the present Dominion of Canada was then (1605) made by de



Monts at Port Royal (now Annapolis Royal) in Nova Scotia, and there the first field of wheat ever sown by the hand of white man in all Canada was sown—winter wheat it was, for Poutrincourt says "it grew under the snow." The little colony here established, after a fitful existence of several years, was finally destroyed by the English under Argall, the bitter strife between the French and English nations, which disturbed the continent for one hundred and fifty years, there finding its beginning, and making, during its continuance, Port Royal famous as the most assaulted spot on this continent. It has been taken by force, five times by the English—by Argall in 1613, by Kirk in 1621, by Sedgwick in 1654, by Phipps in 1690 and by Nicholson in 1710. It was by them abandoned or restored to the French four times—by Argall in 1613, by the treaty of St. Germain in 1632, by treaty of Breda in 1667 and by treaty of Ryswick in 1697. It was unsuccessfully attacked by the English three times—by Church in 1694, by March in 1707, and by Wainwright also in 1707. It was unsuccessfully attacked by the French and Indians twice—in July, 1744, by Abbe de Loutre, and in September, 1744, by Duvivier. It was taken, sacked and abandoned twice, once by pirates in 1690 and once by United States revolutionary forces in 1781.

It may be considered the nursery from whose small but vigorous beginnings sprang the two branches of the two great races which after a hundred and fifty years of fierce fightings around Port Royal for supremacy through the arts of war, are now, and have been for a century and a third, joint proprietors of Canada, having settled down to nobler rivalries in the arts of peace, with the one common object of making the land they live in a shining example of the prosperity that surely comes from concord and well cemented union.

Passing from Acadia to Canada proper, we find Champlain in 1608 once more ascending the broad St. Lawrence, and on the 3rd of July, beneath the craggy heights of Quebec, laying the foundation of one of the most famous

cities of the new world. The colonists soon were comfortably housed, and the land cleared for tillage. Thenceforward, during many years, the history of Quebec was the history of Canada, and its annals contain little beyond the pathetic struggles of the colonists with the difficulties of their situation, and the dangers which constantly menaced them from their Indian foes. For the intense hostility of the Indians, the French were themselves wholly to blame. We have already seen how Cartier's treatment of Donnacona recoiled on him; and now Champlain, under stringency of circumstance through necessity of dividing the Indian tribes for his own preservation, incurred the implacable hatred of the powerful Iroquois nation, by joining forces with the Algonquins in an attack upon one of their strongholds. The temporary advantage thereby gained was dearly paid for by a century and a half of rapine, plunder and nameless barbarities.

The Prince of Conde, Admiral Montmorency, and the Duc de Ventadour became successively viceroys of Canada, but the valour, fidelity and zeal of Champlain commanded the confidence of them all. Dauntless and tireless, he explored the St. Lawrence and Ottawa Rivers, warred against the Indians, visited the mother country again and again in the interests of his beloved country, strengthened the defences of Quebec; in fact, was the heart and soul as well as the head of the entire enterprise. While he was Governor of Quebec, the little town endured the first of the six sieges it has experienced in its eventful history. It was invested by Sir David Kirk, acting under instructions from the English court, and starved into an honourable surrender in the year 1629. But it turning out that peace had been concluded between the nations before the surrender, by the treaty of St. Germain signed in 1632, the whole of Canada, Cape Breton and Acadie was restored to the French. Three years later, Champlain's busy life drew to a close, and on Christmas day the noble soul, whose character was more like that of knight-errant of mediæval romance than that of a practical soldier of the seventeenth



VIEW FROM BADDECK, CAPE BRETON

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century, passed peacefully away at the Castle of St. Louis, which he himself had built upon the summit of the cliffs of Quebec.

Champlain had many successors in the arduous office of governor of New France, but none of like spirit (until Frontenac came in 1672), and the colony grew very slowly, scarce one hundred Europeans being added to it during the five years succeeding Champlain's death, while in 1663, when the charter of the Hundred Associates, a company which promised much and performed little, was annulled, the total foreign population did not exceed two thousand souls.

The chief reason of this slow growth, as compared with the rapid advance made by the English colonies in Virginia and New England, was that, under Jesuit direction, far more interest was taken in the conversion of the savages than in the colonization of the country. From 1632 to 1682 priests of the Jesuit, Recollet and other orders, traversed the land, undaunted by trackless forests, terrible privations, merciless foes and appalling loneliness, pushing the work of the church wherever human beings were to be found and souls saved. The Recollets were the first of Europeans to pierce the wilderness lying between the St. Lawrence and the Bay of Fundy. Within five years of their coming we find their sandalled feet on the Nepisiguit and on the St. John, on Cape Sable and at Port Royal. When Champlain made his expedition to the Huron country the Recollet Father LeCaron went ahead of him in his zeal, and was the first to carry the cross to the tribes of the great Laurentian Lakes. The Jesuits were the pioneers of civilization in the far West. Their annual reports constitute a perfect mine of priceless information on early Canadian history. Conspicuous among them were Peres Hennepin, Lalemant, Jogues, Brebeuf, Chaminot, Marquette and Dablon, and many a priest heroically laid down his life rather than swerve aside, or turn back from the forward course he believed God had called him to pursue.

In the Spring of 1642 the foundations of Montreal, the future commercial metropolis of Canada, were laid by Maisonneuve with all the pious pomp and churchly ceremonial possible amidst such primitive surroundings, and thus onward into the heart of the country civilization slowly made its way, fighting with the relentless Indians for every foot of the passage.

In 1672 the Jesuit Pere Albanel crossed from the River St. Lawrence to the bottom of the Hudson Bay, and took formal possession for the King of France. Representatives of the King of England were there before him. In later times the question of priority of discovery was hotly debated.

The occasion produced the man, and during the years of 1686-1697, Pierre Le Moyne, Sieur d'Iberville, a member of a family of fourteen children, three of whom were killed in service for their Prince and four of whom were governors of forts or provinces, began his remarkable career by crossing the wilderness between the St. Lawrence River and Hudson Bay and capturing Moose Factory from the English. He followed up his initial victory with such spirit that he fought many battles by land and by sea, one of the latter, that in Hudson Bay in 1697, being described by the best authorities, French and English, as the fiercest and bloodiest battle of the war. When in 1697 he finally left the Great Bay and returned to France he could tell of six forts and seven governors of the Hudson Bay Company captured by him, besides his exploits in New England, Acadia and Newfoundland.

In 1672, the same year in which Pere Albanel visited Hudson Bay, the Count de Frontenac was appointed Governor, and, next to Champlain, he is in every way the most conspicuous figure among the early holders of that office. The chief glory of his administration was the spirit of daring exploration and discovery by which it was characterized, the grandest achievement of all being the exploration of the Mississippi River and the Great West under Joliet, Marquette, La Salle and Hennepin. The sufferings

of the colonies from the Indians, more especially the Iroquois, were terrible during this period, and at times it seemed as if these would really succeed in driving the detested "pale faces" from the country. Then in 1688 came the breaking out of war between France and New England, leading to hostilities between the French and New England colonies. These were carried on with varying success until the two nations came to terms, and by the treaty of Ryswick (1697) restored to each other whatever conquests they had succeeded in making. The following year Frontenac died, and was succeeded by De Callieres.

After four years of peace, the war of the Spanish succession again involved England and France in bloody strife, which, of course, had to be shared by the colonies, and thenceforward until 1713, tragic scenes were enacted from the ocean-laved shores of Acadia to the pathless forests of the West, in which French, English and Indian warriors outvied one another in lust for blood.

By the Treaty of Utrecht (1713) the whole of Acadia, Newfoundland and Hudson Bay were given to England, in whose possession they have ever since remained.

During the long period of peace that now ensued, the population of Canada, which by a census taken in 1721 was found to be only 25,600, slowly increased, and its internal development made considerable progress. The cultivation of the soil, was, however, greatly neglected for the seductive fur trade, which possessed for the adventurous voyageur and coureur des bois a fascination that even its enormous profits did not wholly explain. Assuming the garb, these often assumed with it the social habits of the red men, living in their wigwams, marrying their daughters, and rearing a dusky brood of children from whom have descended the Metis or Half-breeds, of whom there are many representatives in our Western Provinces.

In 1744, the war of the Austrian succession once more involved the colonies in a series of hostilities, which were chiefly remarkable for the capture of the supposed impregnable fortress of Louisburg in Cape Breton by the

English under Pepperell (1745), and the first appearance of George Washington, "the father of his country," who was then a valued officer in the English colonies. The war terminated between the principals with the Treaty of Aix-la-Chapelle (1748), but this truce was regarded by both nations as only a breathing spell to prepare for the coming struggle that would decide the possession of the continent.

In 1754 the expected conflict opened with a brush between a small body of troops under Washington and a party of French soldiers under Jumonville at Fort Duquesne, Washington took the initiative, and, as Bancroft says, his command to "fire" "kindled the world into a flame." Then began that memorable war which, kindled among the forests of America, scattered its fires over the kingdoms of Europe and the sultry Empire of the Great Mogul—the war made glorious by the deaths of Wolfe and Montcalm, the victories of Frederick and the exploits of Clive; the war which controlled the destinies of America, and was first in the chain of events which led on to her revolution with all its vast and undeveloped consequences.

The fluctuating fortunes of that fearful conflict, as the tide of war ebbed and flowed over the plains, down the rivers and through the forests of New France, New England, and the West and South, we cannot follow. It is known in history as the seven years' war, lasting as it did from 1755 to 1763, and being concluded by the Treaty of Paris in the latter year. During its continuance, many battles and sieges of great interest and importance took place, and many leaders won undying fame for themselves by their splendid achievements, but transcending all other events in magnitude and far-reaching consequence, and towering high above all other men in the imperishable glory of their deeds, the siege of Quebec, and the rival commanders, Wolfe and Montcalm, seem by their vastness to fill the whole picture as one looks back upon it from these present days. On the 13th of September, 1759, Wolfe won Quebec on the fields of Abraham, and just one year later the capitulation of de Vaudreuil at Montreal before the





LAND OF EVANGELINE, NOVA SCOTIA





combined armies of Amherst, Haviland and Murray completed the English conquest of Canada; the entire continent, with the sole exception of the little islands of St. Pierre and Miquelon on the Newfoundland coast, passed into English hands. This brings us to our third period, viz. :—

### 3rd.—Conquest and Permanent Possession by the English.

Of the conquest we have already spoken at the close of the preceding period; it now remains to glance at the history of Canada since it has been a British possession.

A. de Celles, French Librarian of the Parliamentary Library, in making a comparison between the French of France and those of Canada, says : “First, we (French Canadians) have self-government in its entirety. Just as our Federal Government and our Provincial Administration are the expression of the vox populi in its fullest sense, so the County Council—an autonomous body created by the elective franchise—moves in the smaller sphere of local affairs. But this is not all ; the parish or village municipality, which also owes its existence to popular suffrage, is the starting point of the whole system and sets the machinery in motion. The county and parish or village council are but miniatures of the central power.”

Mr. Benjamin Sulte says “the conquest abolished the paper money of the old regime and substituted cash payments ; enabled the habitants, who formed nine-tenths of the population at the time, to purchase where they pleased and what they pleased, instead of being obliged to go to the Company’s or Government store ; gave greater freedom for trade and abolished unjust monopolies ; and paved the way for those Legislative measures which, at a subsequent date, conferred local self-government and schools upon the French subjects of Great Britain.”

The printing press was introduced into Canada a year after the Treaty of Paris was signed, that is in 1764, and the first printed matter published in Canada was the prospectus of the Quebec Gazette, a newspaper which continued in existence till 10 or 12 years ago.

While there was, as a matter of course, a good deal of friction between "the new subjects," as the French were called, and the British settlers or "old subjects," yet under the temperate and judicious guidance of General Murray and Sir Guy Carleton matters proceeded hopefully and the country entered upon a career of prosperity, rapidly increasing in population and wealth.

In the year 1774, what was known as the Quebec Act was passed by the British Parliament. It extended the bounds of the Province from Labrador to the Mississippi, from the Ohio to the watershed of Hudson Bay. It established the right of the French to the observance of the Roman Catholic religion without civil disability, and confirmed the tithes to the clergy, exempting, however, all Protestants from their payment. It restored the French civil code and established the English administration of law in criminal cases. Supreme authority was vested in the Governor and a Council of from 17 to 23 members, the latter being nominated by the Crown and consisting for the most part of persons of British birth.

This Act gave profound dissatisfaction, not only to the English-speaking minority in Canada, who considered that their rights had been ruthlessly sacrificed, but also to the American colonists, who complained bitterly over the transfer to Canada of the country north and west of the Ohio river, for which they had so long and variously struggled. Despite all protests and appeals, the Act, which naturally gave great delight to the French population, continued to be the rule of the province for seventeen years.

The colonists were now called upon to pass through another war period—bloody but brief—and this time with their own countrymen across the border. In the year following the passing of the Quebec Act, the long smouldering fires of secession in the American colonies burst into flame. On April 19th, 1775, the "minute men" of Concord and Lexington "fired the shot heard round the world," and the War of Independence began, which ended in the loss to England of some of her American colonies. One of the

first steps taken by the Secessionists was to capture Ticonderoga and Crown Point on Lake Champlain, and thus possess the gateway to Canada. Forts St. John and Chambly soon followed, and on the 12th November Montreal succumbed. But the tide turned, when, flushed with their first successes, the Americans essayed the capture of Quebec, two daring attempts resulting only in disastrous failure. On the 4th July, 1776, the revolting colonies declared their independence and the war closed on the 19th October, 1781, with the surrender of Cornwallis at Yorktown, Virginia.

By the terms of the treaty of peace signed at Versailles September 3rd, 1783, Canada was despoiled of the magnificent region lying between the Mississippi and the Ohio, and was divided from the new nation designated "the United States of America" by the great lakes, the St. Lawrence, the 49th parallel of N. latitude, and the highlands dividing the waters falling into the Atlantic from those emptying themselves into the St. Lawrence and the St. Croix Rivers.

Throughout all the secessionary movement, a considerable number of the American colonists had remained faithful to the Mother Country. At the close of the war it became painfully evident that there would be no peace for them within the boundaries of the United States. They found their property confiscated, their families ostracized and even their lives menaced. In this emergency, the British Parliament came to their aid. A sum exceeding three million pounds sterling was voted for the assistance of these United Empire loyalists, as they were proud to call themselves; transport ships were provided for their conveyance to Canada and every possible arrangements made for their domiciliation in the sea-board provinces, and in what is now the Province of Ontario. It is estimated that no less than 25,000 persons were thus induced to find refuge in the British colonies, where they proved of the utmost value in opening up and settling the country.

At that time (1784) the present province of Ontario was almost a wilderness. The entire European population is said to have been under 2,000, and these dwelt chiefly in the

vicinity of the fortified posts on the St. Lawrence, the Niagara and St. Clair rivers. On the other hand, the population of Lower Canada was about 120,000. In order, therefore, that the Western region might be developed, the Home Government offered generous grants of land to those who would settle there, besides assistance in the way of seed, stock and farming implements ; under these inducements, the wilderness soon began to make way for smiling farms, thriving settlements and waving fields of grain.

In 1786, Lord Dorchester (of whom we have already heard as Sir Guy Carleton) became Governor-General of British North America. The Canadian colonists now demanded the same constitutional privileges as were enjoyed in the maritime provinces, those latter having been organized in 1758-84, under special constitutional charters. The demand was met by the granting of the Habeas Corpus Act and of trial by jury in civil cases. But this did not content the Canadians, who asked also for an elective Legislative Assembly, and a larger measure of constitutional liberty. Accordingly in 1791 the Constitutional Bill was passed by the British government. It divided Canada into two provinces, known as Upper and Lower Canada. Each province received a separate Legislature, consisting of a Legislative Council appointed by the Crown, a Legislative Assembly elected by the people, and a governor appointed by the Crown and responsible only to it. The Assembly was elected for four years, and in it was vested the power of raising a revenue for roads, bridges, schools and similar public services. A body which soon became obnoxious to the people was the Executive Council. It consisted of salaried officials of the Crown and judges, who were the confidential advisers of the Governor, although not accountable for their acts either to him or to the Legislative Assembly. They generally held seats in the Legislative Council, and virtually controlled the legislation by their predominant, yet irresponsible, influence.

The new constitution, as Fox predicted, worked badly almost from the outset. The Legislative, and especially the

Executive, Councils became objects of popular jealousy, and questions of both church and state soon began to divide the people into parties and engender bitter political animosities.

The first Legislature of Lower Canada sat at Quebec in 1791, when that city contained about 7,000 inhabitants ; and the first Legislature of Upper Canada, at Newark, the present town of Niagara, in 1792, where it continued to sit until 1797, when it removed to York (now Toronto), which city had been founded by Governor Simcoe two years previously.

The progress of the country in trade and population, and the development of its resources were rapid. The tide of emigration steadily increased, the Irish troubles of '98, especially, leading many hardy settlers to seek new homes in the virgin wilds of Canada.

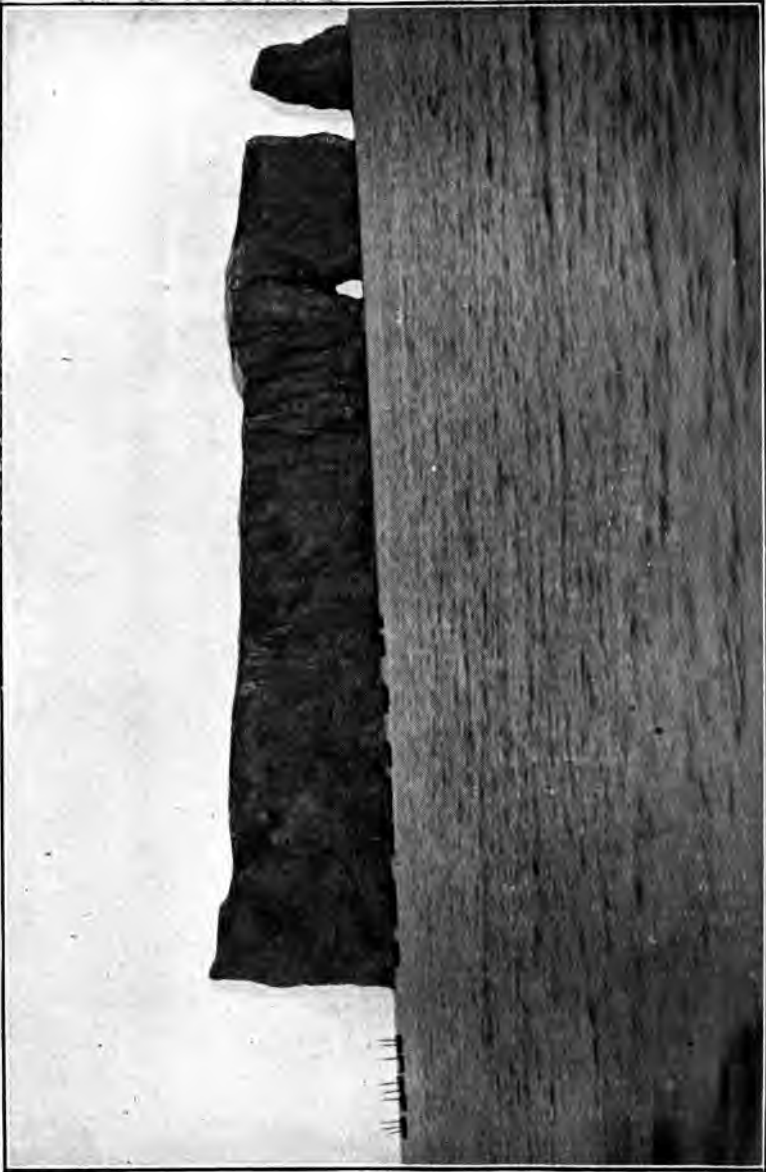
As the province increased in wealth and population, the evils of a practically irresponsible government began to be felt. The Executive Council, composed of the governor and five of his nominees, removable at his pleasure, gradually absorbed the whole administrative influence of the colony.

In the year 1812-14 the young auxiliary nation was called upon to undergo a severe ordeal through the United States declaring war against Great Britain partly because of sympathy with France and partly through misunderstandings between the two governments. The United States naturally selected Canada as the first object of their attack. The position of the two countries was very unequal. Canada was totally unprepared for the conflict. She had less than 6,000 troops to defend 1,500 miles of frontier. Her entire population was under 300,000, while that of the United States was eight millions. Despite this startling disparity, the Canadians, rallying as one man to the loyal support of their government, bore themselves so nobly throughout the two years' struggle which ensued, that when it ended the advantage lay clearly upon their side, and the victories of Queenston Heights and Chateauguay are to-day pointed to with the same patriotic pride as Britons take in Paardeberg or Frenchmen in Austerlitz.

At the close of the war, the domestic dissensions, suspended while all attention was concentrated upon the defence of the country, broke out afresh. In both Upper and Lower Canada the people began to assert themselves against the rule of the Executive Councils, and the breach between the two branches of the Legislature grew wider every day. Conflicting claims as to revenue and other matters also sprang up between the two provinces, to obviate which their union was suggested so far back as 1822, but then withdrawn in consequence of the intense opposition manifested by the French population of Lower Canada. In Lower Canada, Louis J. Papineau, and in Upper Canada, William Lyon Mackenzie, came forward as the champions of popular rights, and were after a time drawn into actual rebellion. The struggle for Responsible government, once entered upon, was never permitted to relax until at length, in 1840, acting upon the suggestions contained in the famous report of Lord Durham on the state of the Canadas, the Home Government determined upon the union of the two provinces and the acknowledgment in the new constitution of the principle of Responsible Government. Resolutions were passed by the Provincial Legislatures in favor of the scheme, and a bill based upon them passed the Imperial Parliament in 1840, and went into effect on the 6th February, 1841. On that day the provinces of Upper and Lower Canada were peacefully united under one administration, and responsible government was firmly established, the designations of the new period becoming Canada East and Canada West.

The Act of Union provided that there should be one Legislative Council and one Legislative Assembly in which each province should be equally represented. The Council was composed of twenty life members, appointed by the Crown; the Assembly, of eighty-four members, elected by the people. The Executive Council or Cabinet comprised eight members, and was responsible to the Legislature. It was presided over by the Governor-General, who held his appointment from the Crown. The control of all public





PERCÉ ROCK (THE PIERCED ROCK) GULF ST. LAWRENCE

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revenues was vested in the representatives of the people. In June, 1841, the first united Parliament met at Kingston. Three years later the seat of government was changed to Montreal, and on the destruction of the Parliament Buildings by a mob in 1849, it went to Toronto, remaining there till 1865, when it went to Quebec for a few years, becoming, in fact, an ambulatory Legislature, resting for a term in the capital of Canada West, and for another term in the capital of Canada East.

### CONFEDERATION.

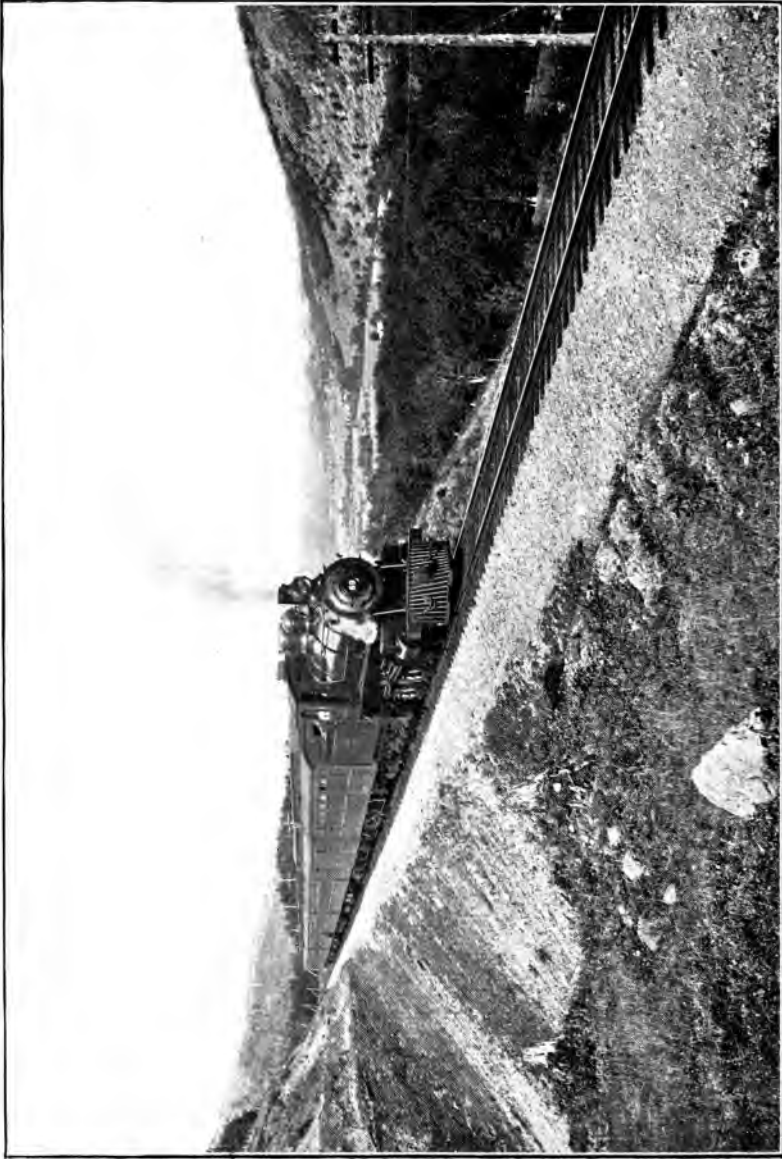
For many years after the year 1764 the Province of Canada remained separated from the other parts of British North America. Before the separation from Great Britain of the Colonies, that later formed the United States of North America, statesmen were found to advocate a union of the Colonies in some form of federal combination. After their independence had been secured, the New England and Southern States combined in a federal Union. The belief that this system was the best for countries of an extended area and sparse population was entertained by public men who remained true to the monarchical principles. Colonel Morse, who was appointed by the British Government to report on the best methods to be adopted in the changed condition of things consequent on the success of the American revolution, advocated, in 1783, a union of all British North America "for the preservation of the fragments of British power on this continent." The division of the Canadian Province into Upper and Lower, however, under the Constitutional Act of 1791, destroyed for a time the idea of union. Lower Canada, peopled largely by the French, desired to retain the laws respecting land and property to which the people had been used. Upper Canada, settled largely by United Empire Loyalists and people of the English-speaking race desired the laws to which they had been accustomed. There was no way to meet the views of both except by constituting two provinces where one had been.

So, for nearly a half century, the two provinces developed alongside of each other, each pursuing the course its own people deemed best.

In time the system of government which suited the infant Colonies gave evidence of being unsuited to their more developed state. A larger measure of self-government was demanded. Especially was it desired that Responsible Government should be introduced. In fact, the people believed that the British system in its entirety was best for them and that they were prepared for self-government to its fullest extent. Investigations by Lord Durham and other competent men convinced the Home Government that the time for consolidation had arrived. The Union Act of 1840 was the result, and in 1841 the two provinces, separated for 50 years, came together again, as we have seen. One of the most important Acts of the first Parliament was the Municipal Act, by which each township, county, town, village and city manages its own local affairs and has power to levy taxes for local improvements and local government.

The development of the United Province of Canada went steadily on. But in the evolution difficulties, internal and external, arose, partly in consequence of the more rapid growth of the western region, partly because of unsatisfactory trade relations with the United States. These difficulties were met by the Confederation of the four provinces, of Canada West, Canada East, New Brunswick and Nova Scotia, which had advanced together in knowledge of the principles of self-government and in practical experience of the application of these principles in the administration of public affairs.

The political training of the four provinces had brought them in the early sixties to the point where union became a necessity if further development and expansion were to be attained. In 1864 Lord Monck, then Governor-General of the two Canadas, communicated with the Lieutenant-Governors of the other provinces, with the result that a convention of Representatives met at Quebec, formulated a plan of union which secured the approval of the Legisla-



WENTWORTH VALLEY, NOVA SCOTIA

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tures of New Brunswick, Nova Scotia and Canada. The Parliament of Great Britain, as the Parliament of the Suzerain, passed the Act known as the Union Act of 1867, which is the Constitutional Act, under which, for a time, only the four provinces acted.

One of the first acts looking to expansion of the new Confederation was the acquisition by purchase of the rights of the Hudson's Bay Company in the territory obtained by them under their Charter granted to them by King Charles II. in 1670.

This acquired, the Province of Manitoba was constituted in July, 1870. British Columbia, offered Responsible Government and the Canadian Pacific Railway, entered the Confederation in 1871. Prince Edward Island joined in 1873, and the remaining portions of Rupert's Land were divided during the years 1876-1895 into districts named : Keewatin, Assiniboia, Saskatchewan, Alberta, Athabasca, Mackenzie, Yukon, Ungava and Franklin.

The process of development which had been the experience of the four original provinces, parties to the pact of Confederation in 1867, was closely followed in the new acquisitions. Manitoba and British Columbia received at once the boon of self-government in local affairs, being placed on an equality with the provinces in the east. The Northwest Territories were governed : 1st. By the Lieut.-Governor of Manitoba. 2nd. By a Lieut.-Governor and Executive Council, appointed after five years' experience of the personal rule of one man. 3rd. By a Lieut.-Governor and a Council, partly elected and partly nominated. 4th. By a Lieut.-Governor and an Advisory Council of four persons, selected by the Lieut.-Governor from the Legislative Assembly of 22 members, the Advisory Council acting on matters of finance, and holding office during pleasure. Legal experts were appointed by the Governor-in-Council to aid His Honour in legal questions. 5th. By a Lieut.-Governor and a Legislative Assembly with powers the same as those conferred on the other provinces under the Union Act of 1867, except the borrowing of money on the sole credit of the

Territories. The Executive consisted of the Lieut.-Governor and a committee of four selected by the Lieut.-Governor. 6th. By a Lieut.-Governor and an Executive Council selected by the Lieut.-Governor from the Legislative Assembly, the members selected having to be re-elected by the people on accepting office under the Crown. The last development, placing the Legislature of the Northwest Territories almost on an equality with the other Legislatures, was brought about in 27 years from the first organization of government. In these years the Northwest Territories passed from pupilage to the enjoyment of a large measure of home rule and responsible government. These Territories were unrepresented in the Federal Parliament till 1887, when, by Act of that Parliament, they were given two senators and four elected representatives.

Consequent upon the discovery of gold in the Yukon district, the judicial district of Yukon was established by Governor-General's Proclamation in 1897. The district was separated from the other provisional districts of the Northwest, and constituted a separate territory by Act of the Canadian Parliament, 1898, supplied with all the machinery required to enable the people to manage their own local affairs, through a Commissioner and Council of six, appointed by the Governor-in-Council. In 1899 the machinery was still further fitted for its work by the enlargement of the Council through the election of two representatives by the people. In 1902, to complete the system, and bring it in harmony with the several provincial systems, Yukon was given a representative in the Federal House of Commons, elected by its own people, and possessed of all the authority belonging to any other representative sitting in the House of Commons.

From one end of Canada to the other, during all the years that the people have been developing a system of government suiting themselves, the loyalty of all to the British Crown has been the supreme and central idea. The first minister of Canada, Sir Wilfrid Laurier, said in a speech delivered in Paris in August, 1897: "I love the France



which gave us being ; I love the England which gave us liberty." Sir George Cartier conveyed the same idea when he said he was an Englishman speaking French.

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### III.

#### CLIMATE.

The British Empire has an area, roughly speaking, of 12,000,000 square miles, of which one-third is in North America, one-third in the Antipodes, one-sixth in the temperate zone of Europe and Asia, and one-sixth within the tropics. If one portion of this great empire, enclosing within its ample bounds a fifth of the globe, has been decried because of its intense heat, and another on account of its aridity, Canada can claim to be the greatest sufferer of all from its association in the popular mind with intense cold ; "Siberian" and "Canadian" having long been interchangeable terms to denote the utmost severity of cold. The furs which have been distributed throughout England for generations from many a Canadian stream, forest or plain, the possession of one side of the north pole, and the ownership of the snow-capped Rocky Mountains, have contributed to give Canada an Arctic name and a hyperborean reputation by no means in accordance with actual facts.

When the French monarch signed the treaty which transferred Canada to Great Britain, he sought to lessen the importance of his rival's acquisition and to diminish the degree of the sacrifice the French nation was called upon to make, by exclaiming, while he signed, "after all, it's only a few square miles of snow." In official circles the expression found acceptance, and down to a comparatively recent date the French king's estimate continued to be the belief of the best informed in Europe. Not many years ago an eminent English statesman referred to Canada as "those huge ice-bound deserts of North America;" while the geographies of

the schools and the encyclopaedias of the libraries have invariably represented Canada as doomed in great part to eternal sterility from the severity of its climate.

Three decades ago a writer in Winsor's *Narrative and Critical History of North America*, dealing with the physiography of the continent, said : "The region north of the St. Lawrence and of the great lakes is not to be regarded as having any very great value from the forest resources it affords"; this assertion being based upon the belief in the common notions about the severity of the climate. Last year (1903) the United States were supplied largely from this same region with forest products to the value of nearly nineteen million dollars.

The expeditions sent to the north pole have had much to do with the continuance of these strange misconceptions which have persistently retained their position among the "facts" relating to Canada's climate. According to Parry, the cold of Melville Island was so intense that hot water allowed to fall from the topmast reached the deck as hail ; mercury could be fired as bullets from fowling pieces, and balls of frozen almond oil, when fired at planks, pierced them and fell to the ground unbroken.

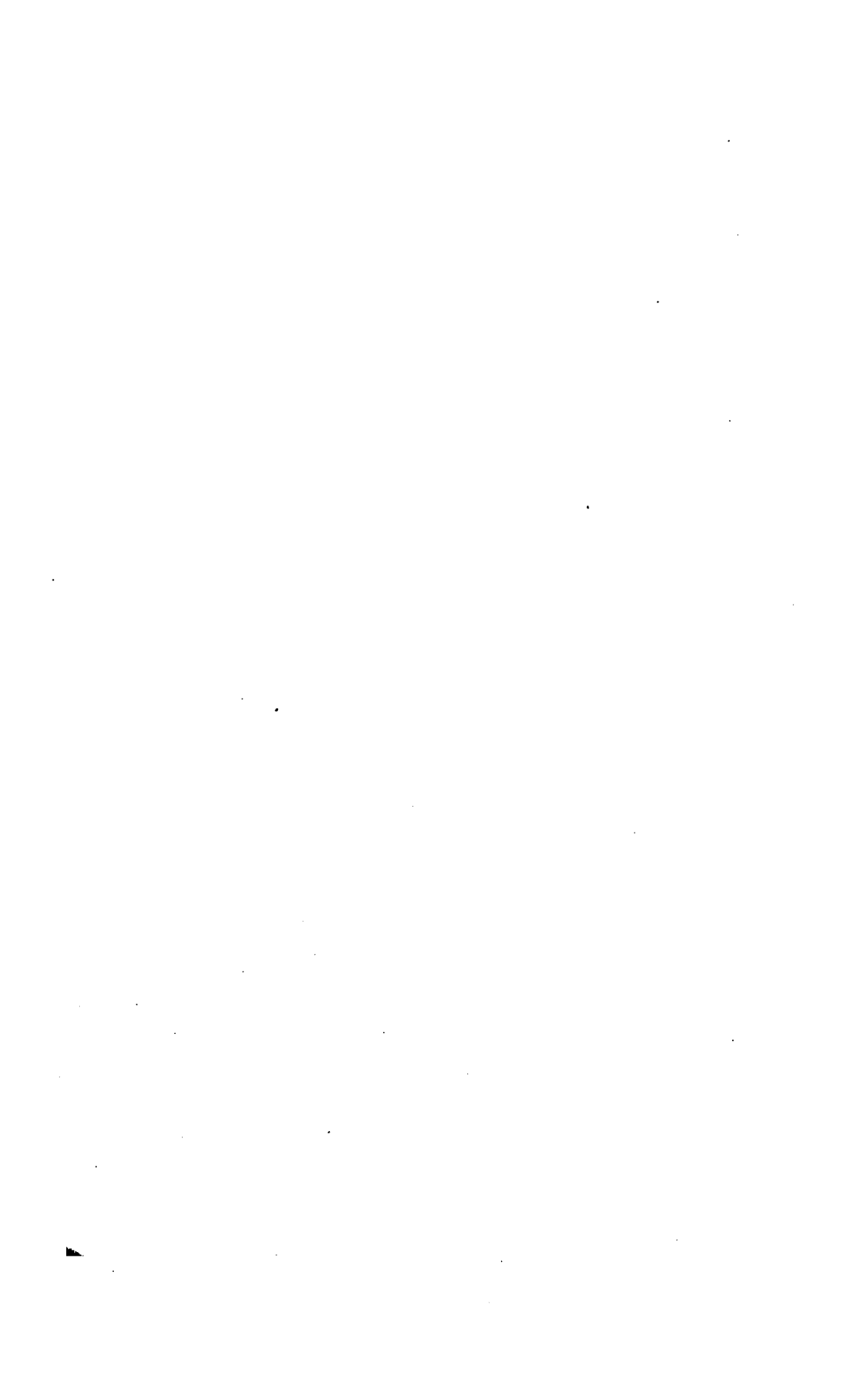
Many other similar accounts have been published by veracious navigators respecting the Arctic slope of the Dominion, and these have been applied by a sweeping generalization to the whole country till intensity of cold has been burned into the average European mind as the most striking characteristic of Canada.

It can no more be denied that there are regions of Canada where the frost never leaves the ground than it can be denied that there is a great American desert, stretching for several degrees of latitude between the Gulf of Mexico and the international boundary ; but the Dominion of Canada is so vast in extent that one part may be charged with perpetual snow, while another is bathed in almost perennial heat and sunshine. One part receives the cold atmosphere of the "Frozen Sea," another the humid air of the Atlantic, another the mild, genial breezes of the Pacific,



IN THE METAPEDIA VALLEY, NEW BRUNSWICK

UNIVERSITY OF TORONTO



and still a fourth has the surface of its soil baked by the heat of tropical waters. In the extreme northern parts, vegetation is so stunted that the highest tree does not reach a child's knee ; in the southern parts, vegetation is so luxurious that fruits and flowers grow with as much vigor as in Italy or the south of France.

Between these great extremes, all the cereals, grasses and flowers of temperate regions are found, and as we proceed northwards or southwards we meet an unbroken gradation of vegetation. This country has, in fact, all the climates of Europe from the Mediterranean to the Arctic Ocean ; as might be expected, seeing that it extends from the latitude of Rome, in Italy, to that of North Cape in Norway, and is of almost equal area.

Climate is an extremely complex matter, and one that depends on a singular variety of conditions. Of these, the most manifest and inclusive are heat, rain, cloud, wind and electrical conditions. They are, to a certain extent, dependent on each other, but ultimately they may be traced back to certain general causes, viz. : 1st, position in latitude ; 2nd, size and form of land ; 3rd, elevation above the sea ; 4th, form, position and elevation of neighbouring land ; 5th, nature and temperature of the nearest marine current ; 6th, position, distance and direction of the nearest continent.

These points have all to be fully studied, as much in dealing with the climate of Canada as in discussing that of any other country. It is clear that climate is not a question of latitude and longitude ; that the South is not necessarily warm and the North cold ; that the East wind does not always bring rheumatism ; that the South wind need not be hot, or the Southwest be accompanied by rain.

One good result has come from the long-endured slandering of our Canadian climate ; great attention has been given to meteorological investigations. The study of the science of climate has been stimulated by the determination of Canada to present facts in place of assertions and wanton aspersions. The Meteorological Service of Canada has 339 stations, at which weather observations are taken and ab-

stracts forwarded to the central office at Toronto. These stations are classified as chief stations, and stations of the first, second and third classes, according to the number and character of the observations taken. All Canadian reports are forwarded to the United States Weather Bureau at Washington, which office in return supplies reports from United States stations. There are in the Dominion some 73 stations at which storm signals are displayed, 31 being on the great lakes of Ontario, 40 on the Gulf of St. Lawrence and the Atlantic coast, and two on the Pacific coast. Daily, monthly, and yearly reports are published.

Great Britain is one of earth's most favoured regions for wheat growing. It has a summer of about 60 deg. to 62 deg. F. In the Northwest Territories the Dominion Government maintains 16 stations where the temperature is daily recorded. Ten of the sixteen showed a mean summer temperature of 60 deg. to 65 deg. F. for the year 1902.

In all these stations the agents of the Canadian Government are engaged studying daily, and almost hourly, the climate of the country at places as widely apart as the most easterly point of the southern shores of Hudson Straits, and Victoria in Vancouver Island. The records of the Hudson Bay forts have been searched for "weather notes." The narratives of travellers have been closely scanned for references to the climate.

From all these sources there is abundant evidence that Canada, climatically considered, is a country well fitted for Europeans.

Time has amply justified the conclusions of Malte Brun, "that Canada and the other British possessions in North America (now forming the Dominion), though apparently blessed with fewer physical advantages than the States to the south, contain a noble race, and are evidently reserved for a lofty destination. Everything there is in proper keeping for the development of the combined physical and mental energies of man. There are to be found at once the hardihood of character which conquers difficulties, the cli-

mate which stimulates exertion, and the natural advantages which reward enterprise. Nature has marked out this country for exalted destinies."

No one particular in her category of advantages is more effective as an instrument to enable Canada to take the position thus declared, by an eminent authority, to be her's in the future, than her climate.

Taking the conditions referred to as the true guides to climate, we find that a large portion of Canada is in latitudes which in Europe have proved the most favorable to the health of man. The mean temperature of the regions watered by the Moose and Abbitibi Rivers corresponds with the north of Europe, being 65 deg. F. The regions drained by the northern parts of the Ottawa and by the Saguenay and the northern parts of Nova Scotia correspond with the south coast of England, Paris, the middle of Germany, and the south of Russia, being 60 deg. F., while 65 deg. F. represents the summer temperature of the regions bordering upon the upper St. Lawrence Lakes, London, Toronto, Kingston, Montreal, the St. Lawrence to Quebec, and eastward to Fredericton, the capital of the province of New Brunswick.

Altitude more than latitude makes climate, and in this respect Canada occupies a position superior to most regions. According to Humboldt, Europe has a mean elevation of 671 feet, South America of 1,132, Asia of 1,151, and North America of 748 feet. The Canadian part of North America is placed at 300 feet.

The ascent from the ocean to Lake Superior does not average more than six inches in a mile, and even this ascent is not markedly noticeable till we proceed westward. Montreal, the head of ocean navigation, reached only after passing over several hundred miles of fresh surface water, is but eighteen feet above the level of the sea at low water, as it rolls under the lighter fresh water along the bed of its estuary.

The marine currents are singularly favourable to Canada. Along the Atlantic coast, the Gulf stream exerts its benign influences to such an extent that on Sable Island there are troops of wild ponies, the progenitors of which, some centuries ago, were shipwrecked and cast upon the island, and there successive generations, without shelter of any kind, have lived and multiplied. In Halifax, in the depth of winter, a dozen hours of south wind will mow down the snow-banks, as a mowing machine cuts down the ripened grass.

Along the Canadian littoral of the Pacific Ocean the Japanese current produces the same effect on the climate as the Gulf stream does in England. Vancouver Island is like the south of England, except that it has a greater summer heat with less humidity. In the vicinity of Victoria the highest temperature in the shade in July and August ranges from 80 to 90 deg. F., while the thermometer in winter seldom goes as low as 22 deg. below freezing point. New Westminster, in latitude 49 deg. 13 min., has a mean temperature for the year of 50 degrees. Pelee Island, Ontario, in latitude 41 deg. 50 min., has an annual mean temperature of 49 degrees. As respects the ocean currents, it may be said that they make a difference in the regions affected by them of 10 deg. of latitude.

East of the Rockies, Professor Macoun found a large area which had been previously described by travellers as the apex of the great American desert. He concluded after investigation that this region was not naturally sterile soil, but a dried and baked surface caused by influences operating for ages, the chief of which was the heat of the Gulf of Mexico borne by the winds therefrom, and losing their moisture while passing over the heated sand plains lying between the Gulf and Canada. Acting upon his conclusion he made an experiment, subsequently tried on a large scale by the managers of the Canadian Pacific Railway. The ground was broken up, and beneath the hardened surface was found a soil possessing in the highest degree the constituent elements of the best soil. It had been hermetically sealed, and thus prevented from wasting its sweetness on





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the desert air. The same influence, having its source in the Gulf of Mexico, combined, according to some observers, with the Chinook winds, operates upon the climate of that region—the ranching ground of Canada. In the district of Alberta, the winter climate is comparatively mild, not severe; blizzards are unknown, and stock winter in the open air and come out fat and in good condition in the spring. The census of 1901 showed that the Northwest Territories contained over a million head of live stock, valued at \$28,000,000. Since that date there has been a great development of that branch of agriculture. The reports from all are favourable as to the future, speaking well for the climate in mid-winter.

The great bodies of water which are a distinguishing feature of Canada also exert considerable influence on the climate. Hudson's Bay is 1,000 miles long by 600 wide, with an area of 444,000 square miles. Its temperature is 65 deg. F. during summer; in winter it is 3 deg. warmer than the waters of Lake Superior. The chain of fresh water lakes, which, almost without a break, extends between latitude 44.45 and latitude 51 north, and from longitude 75 to longitude 120, covers, together with the smaller lakes, an area of 130,000 square miles, and contains nearly one-half of all the fresh water on the surface of the globe. The moderating influences of these large bodies of water, which never freeze over, will be at once recognized.

In the older settled portions of Canada the undoubted experience is, that the climate has been modified by the decrease of the forest area and the draining of swamp lands. Malte Brun says "the same changes, as to climate, are taking place in Canada which were observed in Europe when the dark masses of the Hercynian forest were felled, and its morasses drained by the laborious arms of the Germans, and the climate, becoming more mild, has undergone a change of 8 deg. to 10 deg. on the average, since the efforts of European industry were first applied to the cultivation of the country."

The number of centenarians, especially among the Canadians of French descent, whose ancestors for ten generations have lived and died in Canada, attests the suitability of the climate to the European races ; as also do the facts that the weight of children at birth and the size at twenty-one years are far above the average of Europeans.

During the insurrectionary movement in the Canadian Northwest, in March, 1885, men and boys were marched from the Niagara peninsula, and from all the cities between London and Halifax, without any special selection. Five thousand troops, with another thousand employees of various kinds, travelled in open box-cars over the Canadian Pacific Railway, marched across the "gaps" in the then uncompleted railway, trudged through snow and slush by forced marches northwards from three points of the railway hundreds of miles distance from each other. They slept in tents without taking any extra precautions as regards health. Yet of the six thousand, during months exposed and going as far north as the 53rd parallel, not one man died from any disease traceable to the climate. There was complete immunity from disease.

But, says some one, "while this is all true as regards the effect of the climate on human life, is it not a fact that vegetable life suffers? Is it not a fact that throughout the whole of Canada, while the mean temperature is equal to that of Europe, there are summer frosts which seriously diminish the chances of success for agricultural operations?"

This question has also been made the subject of careful investigation.

Sir George Simpson says the vine is abundant on the Kaministiquia River, a tributary of Lake Superior from the northwest, where also the tomato has been found growing wild. He also states that, in his day, buffaloes roamed in countless herds in the region watered by the Saskatchewan. "The grass to feed them," says Sir George, "is rich and abundant, and the buffaloes winter there, together with the domestic animals taken thither for the use of the white man and the Indian."

Professor Macoun found the cucumber ripening in the Peace River district in August. In the valley of the Ottawa the grape flourishes, and the census returns show that the yield of grapes in Canada, which for the year 1880 was 3,896,508 pounds, and for the year 1890, 12,252,331 pounds, was for 1900, 24,302,634 pounds. If you look through the exhibits from Canada, you will find apples, pears, peaches, and other fruit, which suggest a fine climate, better for such fruit than that possessed by any other part of the British Empire, and, if the price paid for Canadian apples in the London market is good evidence, better than any part of the United States.

There is, beyond question, one drawback which, in the Northwestern Territories of Canada, though not to so great a degree as in the Western States to the south, makes the mean temperature of the summer lower than it would otherwise be, and at the same time destroys, to a certain extent, the accuracy of the deduction made from that mean temperature. That drawback is the occurrence in occasional years of a summer frost. Upon the fact of this occurrence, interested persons have commented on the climate for wheat raising. The experience of the early settlers in Ontario was similar to that of the early settlers in Manitoba. We never hear now of this as an objection to Ontario. Already in the Prairie Province early planting has to a very considerable extent overcome the objection, as the wheat reaches in such event a period in its growth which enables it to withstand the sudden lowering of the temperature. The hard Fyfe wheat has been a most successful seed.

With a splendid soil—an alluvial black loam with an average depth of 20 inches, resting on a subsoil of clay,—with an average yield, based on 18 years' reports, of 19 bushels to the acre, and with practically eight days in the week, owing to the length of time the sun is above the horizon in those higher latitudes, it may be counted a certainty that the energy and enterprise of the people will soon succeed in overcoming the one difficulty in the successful raising of wheat that has been experienced—a difficulty

moreover which only in occasional years presents itself. The exhibits of Manitoba wheat and other grains will speak for themselves as to quality ; the yield of the harvest of 1902, equal to over 100,000,000 bushels, of which 53,000,000 bushels were wheat, will show that Canada is destined to take high place among the world's grain-growers, especially so when it is recalled that the crop of 1890 was but  $26\frac{1}{4}$  million bushels, indicating an increase in a decade of nearly 300 per cent.

That the wheat growers are satisfied with their experience is seen in the fact that in Manitoba, the area sown in wheat in 1903 was double that of 1900, and that in Northern Alberta the acreage in grains in 1902 was more than double that of 1898.

The following table gives the average summer and yearly temperature at stations in the Dominion of Canada, with the latitude, longitude and height above the sea. The temperatures are derived from ten years' observations and over, whenever practicable :—

STATIONS	Latitude	Longitude	Height Above Sea	MEAN TEMPERATURE	
				Summer	Year
<b>British Columbia.</b>	° /	° /	ft.	°	°
Agassiz .....	49 14	121 31	52	60.8	47.8
Abbotsford .....	49 2	122 16	.....	61.5	48.4
Barkerville .....	53 2	121 35	4180	55.4	36.6
Carmanah, V. I. ....	48 25	124 18	130	55.9	47.2
Donald .....	51 28	117 11	2090	59.5	38.4
Duncan, V. I. ....	48 45	123 42	40	61.4	48.7
Enderby .....	50 32	119 7	1180	64.3	44.4
French Creek, V. I. ....	49 20	124 36	.....	61.0	47.6
Hazlemere .....	49 3	122 43	.....	60.3	48.4
Kamloops .....	50 41	120 29	1193	67.6	47.1
Kuper Island .....	48 58	123 38	.....	62.7	49.4
New Westminster .....	49 13	122 54	330	63.3	50.0
N. Nicomen .....	49 12	122 2	59	63.0	49.1
Nicola Lake .....	50 9	130 39	.....	61.9	42.2
Port Simpson .....	54 34	130 26	26	45.2	44.3
River's Inlet .....	51 39	127 19	20	57.9	45.7



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STATIONS	Latitude	Longitude	Height Above Sea	MEAN TEMPERATURE	
				Summer	Year
<b>BRITISH COLUMBIA—<i>Con.</i></b>	° /	° /	ft.	°	°
Spence's Bridge.....	50 23	121 20	770	70.2	48.8
Stuart's Lake.....	54 28	124 12	1800	54.3	33.2
Victoria, V.I.....	48 24	123 19	85	58.8	48.7
Vernon.....	50 14	119 15	1246	63.0	44.9
<b>N. W. Territories.</b>					
Battleford.....	52 41	108 20	1620	62.3	32.9
Banff.....	51 10	115 35	4542	54.6	34.6
Chaplin.....	50 27	106 4	2202	65.0	35.7
Calgary.....	51 2	114 2	3389	58.8	37.4
Edmonton.....	53 33	113 30	2158	59.3	35.9
Henrietta.....	51 22	108 30	.....	61.3	31.5
Indian Head.....	50 28	103 40	1924	62.9	38.0
Moose Jaw.....	50 21	105 35	1745	61.6	33.9
Medicine Hat.....	50 1	110 37	2161	63.7	39.9
Onikup.....	53 30	101 20	.....	60.0	30.0
Pincher Creek.....	49 ..	114 ..	3750	58.8	38.9
Parkland.....	51 15	102 14	.....	59.6	30.5
Prince Albert.....	53 10	106 0	1402	59.5	30.7
Qu'Appelle.....	50 30	103 47	2115	61.6	33.4
Regina.....	50 27	104 37	1885	62.7	32.5
Swift Current.....	50 20	107 45	2439	64.5	37.6
<b>Manitoba.</b>					
Aweme.....	49 43	99 33	.....	64.9	34.5
Brandon.....	49 51	99 57	1176	63.1	33.1
Barnardo (Russell).....	50 59	101 20	.....	59.4	30.3
Channel Island.....	52 18	97 23	710	62.7	30.9
Emerson.....	49 1	97 13	.....	64.2	35.3
Elkhorn.....	49 58	101 16	.....	61.9	32.8
Fort Osborne.....	49 53	97 11	.....	64.3	34.1
Hillview.....	49 54	100 35	.....	61.6	32.3
Minnedosa.....	50 10	99 48	.....	60.5	32.0
Portage la Prairie.....	49 57	98 1	830	64.2	35.2
Stony Mountain.....	50 5	97 12	803	64.1	32.9
Winnipeg.....	49 53	97 7	760	66.0	33.3
<b>Ontario.</b>					
Alton.....	43 51	80 5	1250	64.5	41.8
Bognor.....	44 40	80 50	.....	64.2	42.5
Beatrice.....	45 8	79 20	.....	62.3	39.5
Barrie.....	44 23	79 41	839	66.5	43.1
Brantford.....	43 10	80 21	750	67.5	45.1

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STATIONS	Latitude	Longitude	Height Above Sea	MEAN TEMPERATURE	
				Summer	Year
STARIO— <i>Con.</i>	° /	° /	ft.	°	°
Birnam .....	43 2	81 55	.....	66.2	44.6
Bancroft.....	45 1	77 50	.....	62.4	39.1
Cottam .....	42 7	82 45	.....	69.2	48.0
Collingwood .....	44 30	80 15	.....	65.1	43.7
Coldwater .....	44 38	79 40	.....	65.3	41.6
Clontarf .....	45 23	77 9	.....	64.5	40.9
Deseronto .....	44 11	77 4	64	66.7	43.6
Durham .....	44 10	80 50	.....	65.9	43.2
Elora .....	43 41	80 24	1274	64.6	42.3
Egremont .....	44 0	80 5	1450	62.5	40.3
Gravenhurst .....	44 54	19 20	770	64.8	41.4
Haileybury.....	47 29	78 39	687	62.9	37.3
Haliburton .....	45 1	78 28	.....	63.6	40.6
Hamilton .....	43 16	79 54	303	67.9	46.1
Kingston.....	44 13	76 29	285	66.3	43.4
London.....	42 59	81 12	808	67.7	45.7
Lucknow .....	43 56	81 30	.....	65.5	44.3
Lindsay.....	44 20	78 45	872	64.8	41.6
Lakefield .....	44 25	78 15	.....	66.5	42.3
Moose Factory.....	51 16	80 56	30	61.0	31.8
Mattawa .....	46 15	77 55	.....	62.9	32.8
North Bruce.....	44 23	81 25	.....	64.1	43.5
Niagara Falls.....	43 6	79 6	.....	67.7	45.9
Niagara .....	43 13	79 6	.....	68.7	47.4
Owen Sound .....	44 34	80 55	597	63.8	42.5
Orillia .....	44 34	79 24	.....	64.7	41.9
Ottawa.....	45 26	75 42	294	66.6	41.2
Port Stanley .....	42 40	81 13	592	66.4	45.5
Point Clark .....	44 5	81 44	595	63.8	43.6
Pelee Island .....	41 50	82 38	.....	72.4	49.0
Port Dover .....	42 27	80 13	635	66.6	46.0
Port Arthur .....	48 27	89 12	644	59.3	34.5
Parry Sound .....	45 15	89 0	635	63.5	40.6
Peterborough .....	44 17	78 10	722	67.4	43.2
Pembroke .....	45 50	77 7	380	66.6	40.5
Paris .....	43 12	80 25	840	67.6	45.4
Rockliffe .....	46 12	77 55	418	63.6	38.4
Savanna .....	48 55	90 18	1506	59.3	31.7
Saugeen .....	44 30	81 21	656	63.4	43.1
Sprucedale .....	45 30	79 40	.....	62.8	38.8
Stony Creek .....	43 13	79 45	292	69.0	47.0
Stratford .....	43 23	81 0	1191	64.9	43.4
St. Marys .....	43 15	81 11	1040	65.8	44.6
St. George.....	43 14	80 12	722	67.1	44.9
Toronto.....	43 39	79 24	350	65.4	44.2
Uplands .....	45 48	79 25	.....	61.4	38.1

STATIONS	Latitude	Longitude	Height Above Sea	MEAN TEMPERATURE	
				Summer	Year
<b>ONTARIO—<i>Con.</i></b>	° /	° /	ft.	°	°
White River .....	48 35	85 16	1252	58.2	32.4
Whiteside .....	45 0	79 30	.....	63.8	40.9
Windsor .....	42 19	83 2	.....	70.3	47.7
Welland .....	42 59	79 17	.....	67.7	45.6
Woodstock .....	43 8	80 47	980	66.2	44.3
<b>Quebec.</b>					
Brome .....	45 10	72 36	.....	63.8	40.1
Cranbourne .....	46 20	70 43	.....	60.6	36.0
Chicoutimi .....	48 25	71 5	150	62.3	35.9
Danville .....	45 47	72 1	.....	64.6	39.7
Father Point .....	48 31	68 19	20	55.3	34.6
Huntingdon .....	45 5	74 10	.....	65.5	40.6
Montreal .....	45 30	73 35	187	66.8	41.9
Quebec .....	46 48	71 13	296	63.6	38.5
Richmond .....	45 40	72 8	437	64.2	40.1
<b>New Brunswick.</b>					
Bathurst .....	47 39	65 42	.....	66.4	40.7
Chatham .....	47 3	65 29	21	63.4	39.4
Dalhousie .....	48 4	66 22	39	59.8	36.2
Fredericton .....	45 57	66 36	164	63.5	40.3
Grand Manan .....	44 47	66 46	49	59.4	42.7
Point Lepreaux .....	45 4	66 28	30	55.1	40.2
St. John .....	45 17	66 4	70	59.1	41.2
St. Andrews .....	.....	.....	.....	60.2	41.3
<b>Nova Scotia.</b>					
Digby .....	44 38	65 46	40	62.4	43.2
Halifax .....	44 3	63 36	97	62.4	43.7
Pictou .....	45 42	62 41	.....	64.6	43.1
Parrsboro .....	44 28	64 25	40	60.3	42.6
Sydney .....	46 10	60 10	55	60.7	41.7
Truro .....	45 22	63 18	73	61.7	41.9
Yarmouth .....	43 50	66 2	65	58.8	43.5
<b>P. E. Island.</b>					
Charlottetown .....	46 14	63 10	38	62.3	41.0
Georgetown .....	46 11	62 35	.....	62.6	41.9
Kilmahinning .....	46 48	64 2	.....	61.2	39.7

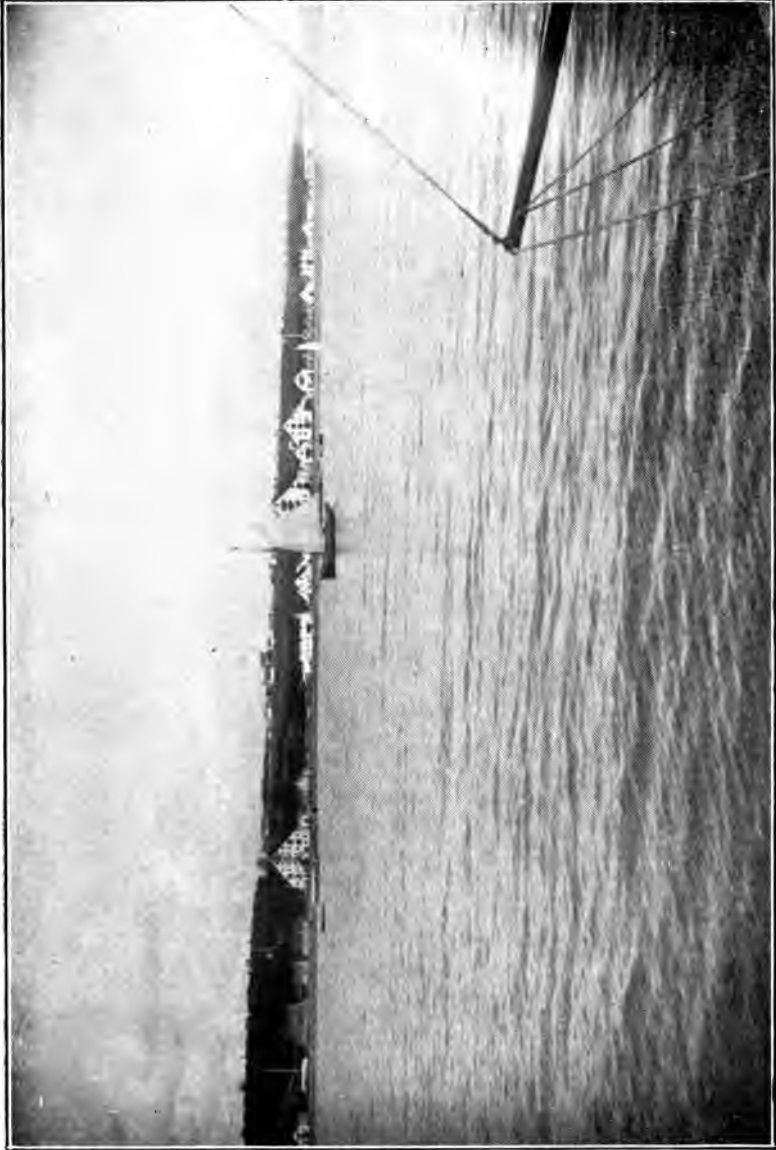
## IV.

## POPULATION.

**Indians.**

When the French, led by Champlain, in 1608, undertook to establish themselves on the slopes of the St. Lawrence at the point where the closing of the river suggested the appropriate name of Quebec—"the narrowing place"—to the Indians, they were the one European nationality here. Over the whole broad expanse of the continent the Indian roamed the supreme lord. These Indians might be divided practically into two—the Five Nation Indians and the others. Between these there were bitter feuds of long standing, so that the whole extent of the forest-covered area was the scene of battles and raids. Almost the first fact that forced itself on Champlain was that if he desired to obtain a footing on this continent for his colonists he must enter into friendly alliance with the Algonquins and espouse their deadly enmity with the Iroquois.

It is in these two great divisions of Indians that we must seek for the roots of the aboriginal people of the North American Continent. The two original groups are the Malay-Polynesian and the Turanian. These groups are both represented in Canada, the Algonquins belonging to the former, the Iroquois, the Tinnehs and Eskimos to the latter. Through the Algonquins, Canada's aborigines are connected with the people inhabiting the vast area from Malacca to New Zealand, and from Madagascar to the Sandwich and Easter Islands. Through the Iroquois they are connected with the Finnic, Turkic and Mongolic classes of Asian and European peoples. The two are distinct. The Algonquin languages differ radically from those of the Iroquois both in grammatical and in verbal forms. The flatter face, inferior stature and more delicately formed extremities of the Algonquin are in marked contrast with the muscular development of the Iroquois. The Iroquois is pre-eminently a landsman, a warrior, and a lover of manly sports, while the Algonquin loves the water, is unaggress-



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sive, and spends his spare time in idleness. Taciturnity, with all that it implies, such as the absence of humour, is characteristic of the Algonquin, but not of the Iroquois. The Iroquois was originally a sun worshipper, but such the Algonquin never was. In fact, these two families have nothing in common beyond the mere accident of condition and certain minor features of life resulting from mutual intercourse. The Algonquin and the Iroquois, who have jointly contributed to the portraiture of the ideal red man, are the representatives of two families as distinct as any that can be found outside the Aryan and Semitic areas of the old world.

The Indians of Canada, springing from two distinct ancestries, may be divided into four families : (a) the Innuits or Eskimo, (b) the Tinnehs, (c) the Algonquin and (d) the Huron-Iroquois.

The Innuits—meaning “the men,” their own name for themselves, “Eskimo” (raw meat eaters), being the term of derision conferred on them by the Algonquins—are the oldest of the aboriginal races in Canada. From a consideration of the many points of agreement between the cave men of France and Great Britain—the sewing needles, the necklaces and armlets of cut teeth, the daggers made from antlers, the talent for artistic sketching of men and beasts, and scenes in which men and beast figure, many palaeontologists are inclined to agree with Professor Boyd Dawkins that the Eskimos of to-day are the survivors of the race that made their homes in the pleistocene caves of Western Europe—an antiquity so great that in comparison with it the interval between the building of the Pyramids of Egypt and of the Eiffel tower shrinks into a point.

The Innuits inhabit the littoral of the northern fringe of Canada from Labrador and Ungava Bay to the boundary line between the Yukon Territory and Alaska. From the latter region along the whole coast line to Ungava Bay they all speak the same language, are characterized by the same intelligence and the same capacity to find the means of subsistence in a region in which white men, with all the re-

sources of civilization at their back, have experienced great difficulty in maintaining themselves in health and vigor. "They have much artistic capacity, and Arctic navigators have described with wonder the ease with which they have taken pencil and traced the shore lines." They are bold and daring on the water, attacking alone in their frail kayaks on the open sea the largest sea animals.

The Tinnehs, or Dene Dindjies, inhabit the valley of the Athabasca River, the Peace River district, the regions north of Great Bear Lake, to the south of the Innuits' ocean-washed belt of land, the mountains of the Mackenzie River, the slopes of the Rocky Mountains and almost the whole of the region west of the Rockies, including Vancouver and Queen Charlotte Islands, from which places they have poured in adventurous bands and taken possession of the country south of the Inuit territory.

Immediately south of these are the Algonquins, who, originating in the East, where they were next-door neighbours of the Innuits, pushed their way from the interior of Labrador and throughout the region between the Atlantic sea coast and Lake Superior to the southern regions of the Canadian Northwest, where, as Saulteux, Prairie Crees, Wood Crees, Blackfoot, Bloods and Piegans they have taken root and shown themselves in every way as vigorous as the more easterly stock from which they originally sprung. The Cree language is the typical language of this, the most widely distributed Indian race; including, in addition to the westerly tribes already enumerated, the Micmacs, Melicites and Abenakis of the Eastern Maritime region, the Naskapees and Montagnais of Labrador and Eastern Quebec, the Mississaugas, the Odjibwys and the numerous tribes of Western Quebec and Ontario which the French secured as allies in the "half-century of conflict." These tribes were great hunters, roamed over a vast extent of territory, and as warriors proved their capacity in many a border war during the long period when French and English strove with each other for supremacy in the waters of Acadia, in the pine forests



of Maine and Massachusetts, along the southern shores of the great Laurentian Lakes and by the side of the Mississippi River from source to mouth.

The Iroquois, the second great family, resembled the French and the English in their power to organize, to provide wise rules for government in peace or in war. There were five tribes at first, generally designated as the Mohawks, the Oneidas, the Onondagas, the Cayugas and the Senecas. Subsequently the Tuscaroras joined them and they became known as the Six Nations, or more often as the Iroquois. As such they held the balance of power between the French on the Lakes and the English on the Atlantic sea-board, playing one against the other with skill and securing for themselves the profitable work of middlemen in the fur trade with other tribes. There are scattered bands of the Huron-Iroquois, as the Hurons of Lorette, near Quebec city, those of Caugnawaga, Lake of the Two Mountains, St. Regis, and the Iroquois found in several places on the peninsula between Lakes St. Clair and Erie. These are east of Lake Superior. West are to be found the Assiniboines and the Sioux, belonging to the Dakotahs, and thus allied to the Iroquois as sprung from a common Turanian or Northern Asiatic origin.

In 1871, in the first census of the Dominion, the subject of the Indian population received careful attention. There were found to be 36 tribes, divided into Eskimo, 1; Dene-Dinjie, 19; Algonquins, 11; Huron-Iroquois, 5.

As regards numbers there were:

Of the Eskimo race .....	4,028
“ “ Dene-Dinjie .....	42,000
“ “ Algonquin .....	46,000
“ “ Huron-Iroquois .....	10,330
Total .....	102,358

As regards mode of living:

Chiefly by fishing .....	23,000
In camps by prairie hunting .....	18,000

In villages in settled districts .....	17,358
By families in the woods .....	44,000

As regards the general geographical distribution:

West of the Rockies .....	26,000
East of the Rockies .....	76,000

As regards political divisions:

Province of Prince Edward Island .....	323
“ “ Nova Scotia .....	1,666
“ “ New Brunswick .....	1,403
“ “ Quebec .....	6,988
“ “ Ontario .....	12,978
“ “ Manitoba .....	500
“ “ British Columbia .....	23,000
Rupert's Land .....	33,500
Labrador and the Arctic watershed .....	22,000

The census returns for 1901 give the number of Indians at 93,454, thus showing a decrease in the thirty years of 6,649.

The Report of the Superintendent of Indian Affairs for 1902 gives the total at 108,112, an increase of 5,754 in thirty years.

Taking the latter for purposes of comparison, the following are the increases and decreases in 1902, as compared with 1871 (by Provinces):—

	Increase.	Decrease.
Prince Edward Island .....	—	7
Nova Scotia .....	401	—
New Brunswick .....	241	—
Province of Quebec .....	3,854	—
Ontario .....	8,005	—
Manitoba .....	6,254	—
British Columbia .....	2,500	—
Northwest Territories .....	—	15,494
Total .....	21,255	15,501
Net increase .....	5,754	

These comparisons show that the Indians in the older provinces are increasing in population at such a rate as to more than an off-set to their decrease in the Northwest territories. During the thirty-one years the Indians of the plains have been brought within the sphere of civilization, and have suffered. The introduction of railways, the destruction of the larger game like the buffalo, and the restriction of the area of production of wild animals by settlement and by ranching grounds have been more powerful forces of depletion than the reproductive force of the race for growth. The change from the decrease of 6,649 in 1901 to the increase of 5,754 in 1902 shows that the decrease in the Northwest has been stayed, and that the system which has resulted so well in the older provinces is about to produce equally beneficial results under the new conditions of the Northwest Territories. Of the total, 2,084 are outside of treaty limits and are nomadic.

The Indians of Canada are in various stages of development. Some are polygamous, while some have adopted the civilization of the white population to such an extent as scarcely to be distinguished from them. Some would not know what a vote for a member of parliament means; others possess the electoral franchise and prize it highly. Some tribes are increasing in numbers and others are decreasing.

The returns as to Indians resident on reserves show their condition:—

	1902.
Number on reserves .....	86,028
Quantity of land cultivated, acres .....	112,804
New land cleared, acres .....	2,673,254
Value of farming implements .....\$	520,330
Number of live stock and poultry .....	156,188
Value of live stock and poultry .....\$	1,508,726
Hay crop for the year, tons .....	97,066
Grain crop for the year, bush. ....	717,903
Potatoes and other roots, bush. ....	504,472
Value of rifles, nets, traps, etc .....\$	526,536

	1902.
Value of household effects .....	\$ 894,680
Value of real and personal property ....	\$22,089,205
Wages earned by fishing .....	\$ 680,523
Wages earned by hunting .....	\$ 607,925
Wages earned by other industries .....	\$ 607,376
Total income .....	\$ 4,095,809

The Government of Canada have taken charge of the Indians. Like an army they have been, and are still in large numbers, fed and clothed by the Government. They are wards of the nation, but, unlike wards in most cases, they have never had any serious disagreements with their guardian. With their consent, their lands in many instances have been sold until an Indian Fund has accumulated amounting on 30th June, 1903, to \$4,705,130, the expenditure from which, charged principally to interest, was \$296,217. The expenditure from parliamentary appropriations was \$1,077,815. This amount was divided among the Indians of the several provinces as follows:—Ontario and Quebec, \$88,364; Nova Scotia, \$7,620; New Brunswick, \$16,891; Prince Edward Island, \$1,574; Manitoba and the Northwest, \$818,576; and British Columbia, \$138,216. The sum of \$44,214 was divided between Ontario, Quebec and the Maritime Provinces for expenditure on schools. This expenditure in the whole Dominion reached the sum of \$384,939.

Schools—day, boarding and industrial—have been established for the Indians, and now number 283, with 9,669 pupils on the rolls, and an average attendance of 6,054. The number of pupils in 1885 was 4,000. Of these 283 schools 100 were conducted by the Roman Catholic Church, 87 by Anglicans, 41 by Methodists, 14 by Presbyterians, and 41 were undenominational. In the older provinces many Indian children attend the day schools of the white communities in the vicinity of the reserves.

The census of religions for 1902 shows that there were 34,735 Indians Roman Catholics, 14,472 Anglicans, 11,106 Methodists, 1,375 Presbyterians, 1,059 Baptists, 692 other Christian creeds, and 12,155 pagans.

### The White Population.

The various settlements at Acadie, New England, Virginia and on the St. Lawrence in the first decade of the seventeenth century were effected with difficulty. Population was first attracted to this continent from Europe, and scattered settlements were formed from the Gulf of St. Lawrence to the Gulf of Mexico. These immigrants peopled the regions contiguous to the coast, and pushed their way slowly into the hinterland, in an ever-widening circumference. While this movement was in progress along the Atlantic coast, the descendants of the few hardy Norman emigrants, who had secured a foot-hold at the confluence of the Saguenay and St. Lawrence rivers, and there founded their first establishments on Canadian soil, pushed vigorously forward, exploring and settling the St. Lawrence and its tributary rivers and streams.

Two centres of population were thus formed on this continent. Sometimes an advantage secured by one centre attracted wanderers from the other. Thus the withdrawal of the United States—the second great country in area on this continent—from the British Empire, caused an extensive movement of population from the Atlantic sea-board, between the St. Croix and the Delaware rivers, to British territory, tens of thousands going from New York and other ports to Nova Scotia and New Brunswick by water, and thousands painfully forcing their way through forests to the then unoccupied regions north of Lakes Erie and Ontario.

The cession of Acadie to England by the French led to the dispersion of the French Acadians and their settlement in little communities from Maine to Louisiana. Some of the more northerly communities in after years attracted the French population of what is now the Province

of Quebec to the Eastern or New England States, where by the slow accretion of years there is at present a considerable number, chiefly employed in factories.

It is difficult to tell which of these two centres in the course of the years has the better succeeded in winning population from each other and from European countries. Up to 1840 the Canadian centre had obtained an absolutely larger number of European immigrants. Then came practically the opening up of the Western States, a region which began to attract attention in 1830. This fact, taken in connection with the movement of population from Ireland owing to famine, gave a greater impetus to the United States centre, and it rapidly passed the Canadian in the race for population. The attraction of new lands of reputed fertility were very great, and many thousands of Canadians passed over to the newly opened regions, the movement continuing for years. Canada's Northwest Territory, the counterpart, and in many respects the superior of the Western States, was locked up and was destined to remain locked up for thirty years, the Hudson Bay Company holding the key.

The territorial claims of this trading company were purchased by the Canadian Government in 1870, and Canada, to recover her lost headway, began at once to develop the new region, prosecuting the survey of lands with such energy that in ten years there were nearly 70,000,000 acres completely surveyed, to which since that date there have been added ten million acres, as demands arose. So that there are now over eighty-five million acres set out for settlement, giving 537,000 farms of 160 acres each.

In the meantime, for a whole generation population had spread throughout the Western States towards the Canadian boundary line. When the restraints to settlement were removed by the purchase of the territory, then began a movement of population from the United States to the Canadian Northwest, which, especially in recent years, has equalled in volume any of the many streams that in the



LOGS AT CANADIAN PACIFIC RY. BRIDGE, AT THREE RIVERS, P.Q.

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past, now moving in one direction and now in another, have helped to mix up the people on the border land of the two countries to the great advantage of both.

In 1800 the population of what is now known as Canada was under 400,000. According to the last census, taken in 1901, it was 5,371,315, showing the gain in the century to have been 5,000,000 on an original population of 400,000.

Canada begins the new century with the same number of inhabitants as the United States began the 19th century.

The main racial divisions in Canada are into French and English-speaking races. Of the former, in 1901 there were found to be within Canada 1,649,371, 80 per cent. of whom were massed within the bounds of the Province of Quebec.

The proportion of the French-speaking race is increasing in Quebec. It was 78.8 per cent. in the census of 1881, and 79.7 per cent. in that of 1891, and 80.18 in 1901—one and a third per cent. in twenty years.

The bilingual population, thus gathered together and seeking to accomplish the task of developing the vast country entrusted to them and of supplying it with all the paraphernalia of modern civilization, were at the last census found to be divided along lines now to be mentioned.

The population at the last census, which was taken on the 31st March, 1901, was 5,371,315. The proportion of the sexes calculated from the returns of the census of 1901 is 5,123 males to 4,877 females in each 10,000 of the population.

According to the same census, 87.00 per cent. of the inhabitants of Canada are native-born and 94.53 per cent. British-born, which, of course, includes the Canadian-born. The natives of Ireland numbered 101,629; of England, Wales and the Channel Islands, 201,285; and of Scotland, 83,631. Those born in the United States numbered 127,899, and those born in Germany, 27,300; natives of France numbered 7,944.

The religions of the people were: Protestants, 2,937,696; Roman Catholics, 2,229,600; Jews, 16,401; without creed and creed not given, 187,618.

The largest Protestant denominations were: Methodists, 916,886; Presbyterians, 842,442; Church of England, 680,620; Baptists, 316,477.

Classifying the population according to ages and denominating the classes as follows:—Infants, persons under one year old; children, from one to five years old; boys and girls, from 5 to 15 years; youths and maidens, from 15 to 20 years; young men and women, from 20 to 30 years; middle-aged men and women, from 30 to 50 years, and old men and women, 50 years and upwards, the following results are obtained:—

	1901	
	Males	Females
Infants .....	66,464	65,116
Children .....	257,832	253,573
Boys and Girls .....	606,808	589,430
Youths and Maidens .....	280,275	272,228
Young Men and Women .....	473,315	458,874
Middle-aged Men and Women .....	638,348	584,989
Old Men and Women .....	398,898	376,088
Not Given .....	29,768	19,311

Of the aged 39,539 were 80 years old and upwards, and of these 3,871 were 90 years old and upwards. These latter were:—Males, 1,779; females, 2,092.

By the census of 1901 in each group of 10,000 there were 6,175 single, 3,412 married and 413 widowed. Of the single, 3,256 were males, and 2,919 females. The males were divided into—1,537 under 21 years of age, 1,719 over 21 years; bachelors over 20 years, 1,000. Of the 2,919 females, 1,201 were under 15 years of age; 1,455 were of the reproductive age (15 to 45), and 263 were over 45 years.

The housing of the people of Canada required 1,028,892 houses, giving an average of 5.22 persons to the home.

As the average sized family in Canada was 5.02, practically every family in Canada had a home.

During recent years there has been a large addition to the population through immigration. Thus to the end of December, 1900, in the twelve months of the year, 29,197 persons arrived at our ocean ports and declared their intention to settle. Of these, 14,730 were bound to the Northwest, and of these 6,593 were Galicians. In addition to the 29,197 persons from over the sea, there were reported at Winnipeg 11,192 declared settlers from the United States during the twelve months, while west of Winnipeg, along the frontier of Manitoba and the Northwest Territories, 4,308 more arrived from the United States. These figures are exclusive of arrivals in the Yukon Territory.

In 1902, the total arrivals were 67,379 persons, of whom 13,095 were English, 2,853 Scotch, and 1,311 Irish. 26,388 persons came from the United States. In 1903, the arrivals numbered 128,364 persons, of whom 41,792 were from the British Isles and 49,473 from the United States.

The foreign-born population of Canada numbered, according to the last census, 278,449 persons.

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## V.

### THE CONSTITUTION OF CANADA.

The people of Canada during more than 100 years have actively exerted themselves to provide a form of government suited to their circumstances. The result of their efforts is embodied in the constitution which is set forth in the British North American Act, 1867, 30 Vic., cap. 3.

The executive government and authority is vested in the Sovereign of Great Britain and Ireland, who governs through the person of a Governor-General, appointed by him but paid by Canada.

By the adoption of this plan, the Canadian Constitution has become the very image and reflection of parliamentary government in England. The Governor, like the Sovereign whom he represents, holds himself aloof from and superior to political parties, and governs through constitutional advisers, who have acquired ascendancy in the Commons.

A Council, known as the King's Privy Council for Canada, taken only from members of the Dominion Parliament, forms a ministry which must possess the confidence of the majority in the House of Commons. The power of dismissing the ministry lies with the Governor-General.

The command of the Canadian military, both active and reserve, is vested in the King, who appoints an officer of no less rank than a Major-General, who is paid by Canada, and must be subject to the authority of the Minister of Militia. The seat of government is at Ottawa.

There is one Parliament for Canada, consisting of the King, an Upper House styled the Senate, and a Lower House styled the House of Commons.

The Senate consists of eighty-one members, appointed for life by the Governor in Council; twenty-four from Ontario, twenty-four from Quebec, ten each from Nova Scotia and New Brunswick, three from British Columbia, four each from Prince Edward Island and Manitoba, and two from the Northwest Territories. Each Senator must be not less than thirty years of age, a born or naturalized subject, and possessed of property in his own province, real or personal, of the value of \$4,000. He must continue to be a resident within the province for which he is appointed.

The House of Commons consists of 214 members, elected for five years (unless the House is sooner dissolved) on the basis of representation by population for the older provinces, the arrangement being that the Province of Quebec shall always have sixty-five members, and the other provinces proportionately to population according to the census, which is taken every ten years, the last being taken in 1901.

By provinces, under the latest rearrangement the 214 representatives in the Commons are apportioned as follows:—

86—Ontario,	}	Original provinces of the confederation.
65—Quebec,		
18—Nova Scotia,		
13—New Brunswick,		
4—Prince Edward Id.,	}	By terms of Statutes admitting them and amendments thereto.
10—Manitoba.		
7—British Columbia,		
10—N. W. Territories,		
1—Yukon.		

Bills for appropriating any part of the public revenue or imposing any tax or impost must originate in the House of Commons, but no such bill can be introduced unless recommended by message from the Governor-General.

The privileges and immunities of the Senate and the House of Commons are defined by the Parliament of Canada, but must not exceed those enjoyed by the Imperial House of Commons in 1867. The sittings are annual, but may be oftener.

The naturalization laws are as follows:—

1. Alien women married to British subjects become, ipso facto, naturalized British subjects.

2. Aliens, after three years' residence, bringing certificates of good character, on taking the oath of residence and allegiance before a judge, commissioner, or magistrate, and causing the same to be registered in a court of record, can have a certificate of naturalization given them, and enjoy all privileges of British subjects.

Voting in elections for representatives sitting in the Commons is by ballot.

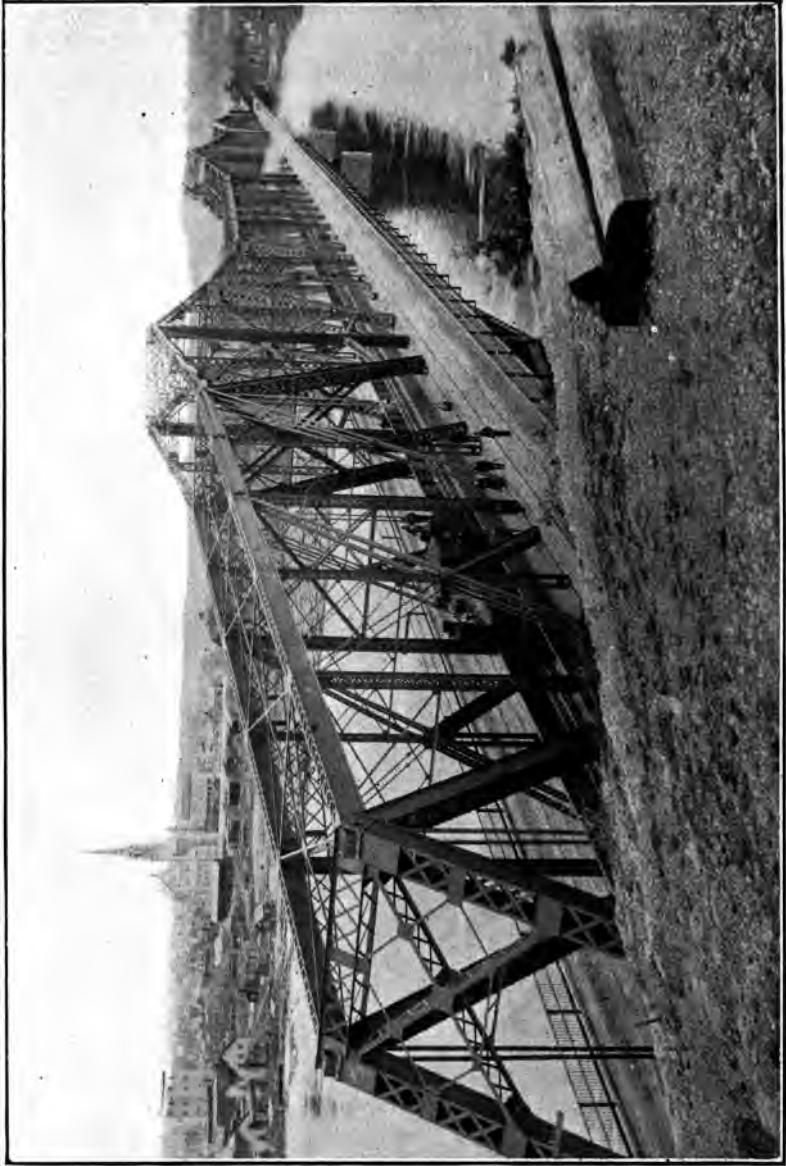
In addition to those of age (21 years), citizenship and sex (male), common to all voters in all the provinces, the qualifications of electors for representatives of the Dominion House of Commons are those which are adopted by the Legislatures of the several provinces for provincial

elections. In the provinces of Ontario, Manitoba, British Columbia, and the Northwest Territories, the qualification is practically residential manhood suffrage, with length of residence varying from six to twelve months—the shorter term being that of British Columbia, and the longer that of Manitoba and the Northwest Territories.

In the eastern provinces a more elaborate system is employed, based upon ownership of real property, position as teachers or clergymen, personal property, income, and residence, the length of the latter being one month in Quebec, and twelve months in Nova Scotia, Prince Edward Island, and New Brunswick.

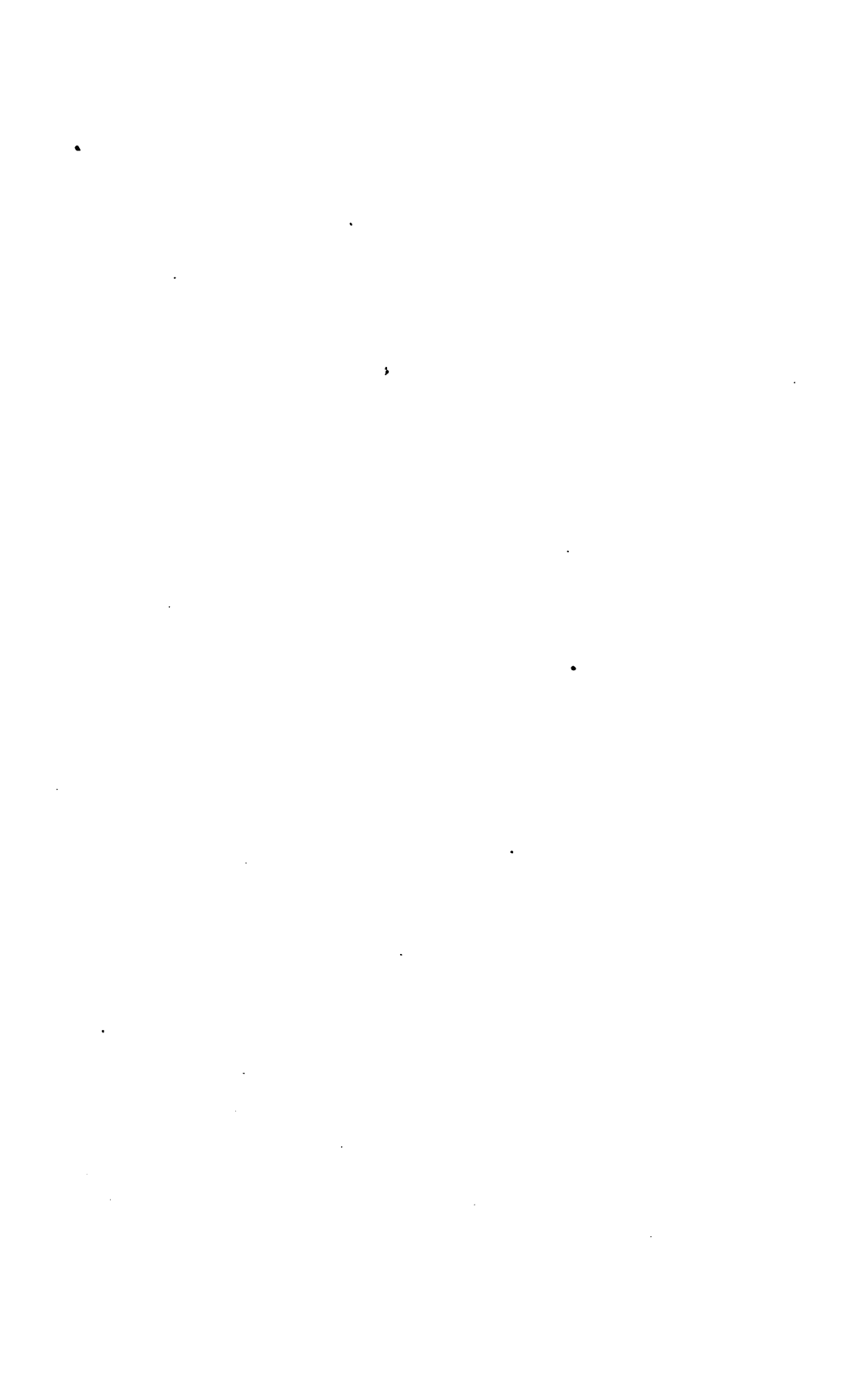
By the Act of Union the Dominion Government has control of all matters which by that Act are not specially delegated to the provinces. It has power to make laws for the peace and good government of the whole Dominion, as also to regulate:

1. Public debt and property.
2. Trade and commerce.
3. Indirect taxation.
4. Borrowing on the public credit.
5. The postal service.
6. The census and statistics.
7. Militia and defence.
8. Lighthouse and coast service.
9. Navigation and shipping.
10. Quarantine.
11. Fisheries.
12. Currency and banking.
13. Weights and measures.
14. Bankruptcy and insolvency.
15. Naturalization.
16. Marriage and divorce.
17. Penitentiaries.
18. Criminal law, including procedure in criminal cases.



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### Administration of Government.

The business of the country is transacted by the members of the Cabinet, each of whom, as a rule, presides over a department.

These departments are as follows:—

1. The Governor-General's office.
2. The Privy Council office, with charge of state papers and records of council.
3. The Department of the Minister of Justice and Attorney-General, including the management of penitentiaries.
4. The Department of Railways and Canals.
5. The Department of the Minister of Public Works, having control of all public works, other than railways and canals.
6. The Department of the Minister of the Interior, including: (a) Dominion Lands; (b) Geological Survey; (c) Indian Affairs and Immigration.
7. The Department of the Secretary of State, including: (a) official correspondence with the Governor-General's office and with the Lieutenant-Governors of the Provinces; (b) the printing and publishing of the Official Gazette; (c) the registration of all public legal documents; (d) the Government stationery and King's Printer's office.
8. The Department of the Minister of Marine and Fisheries, including: construction and maintenance of lighthouses; river police; revenue coast-guard; steam boat inspection; protection of fisheries and fish culture.
9. The Department of the Minister of Militia and Defence, including: militia, fortifications and military schools.
10. The Department of the Minister of Finance, including: Treasury board, government savings' banks, and Audit office.
11. The Department of the Minister of Customs.
12. The Department of the Minister of Inland Revenue, including: collection of the excise; canal and timber slide tolls; ferry dues and the carrying out of the Acts relating to the inspection of food, gas, weights and measures.

13. The Department of the Postmaster-General, including Post office savings' banks and the Labour Bureau.

14. The Department of the Minister of Agriculture, including: the Patent office; census and statistical office; quarantine and experimental farms and dairy interests.

15. The Department of the Minister of Trade and Commerce.

In addition to these there is a Department of Mounted Police, administered by the President of the Privy Council.

For the purpose of communicating directly with the Imperial Government, the Dominion has a resident representative in London called the High Commissioner for Canada.

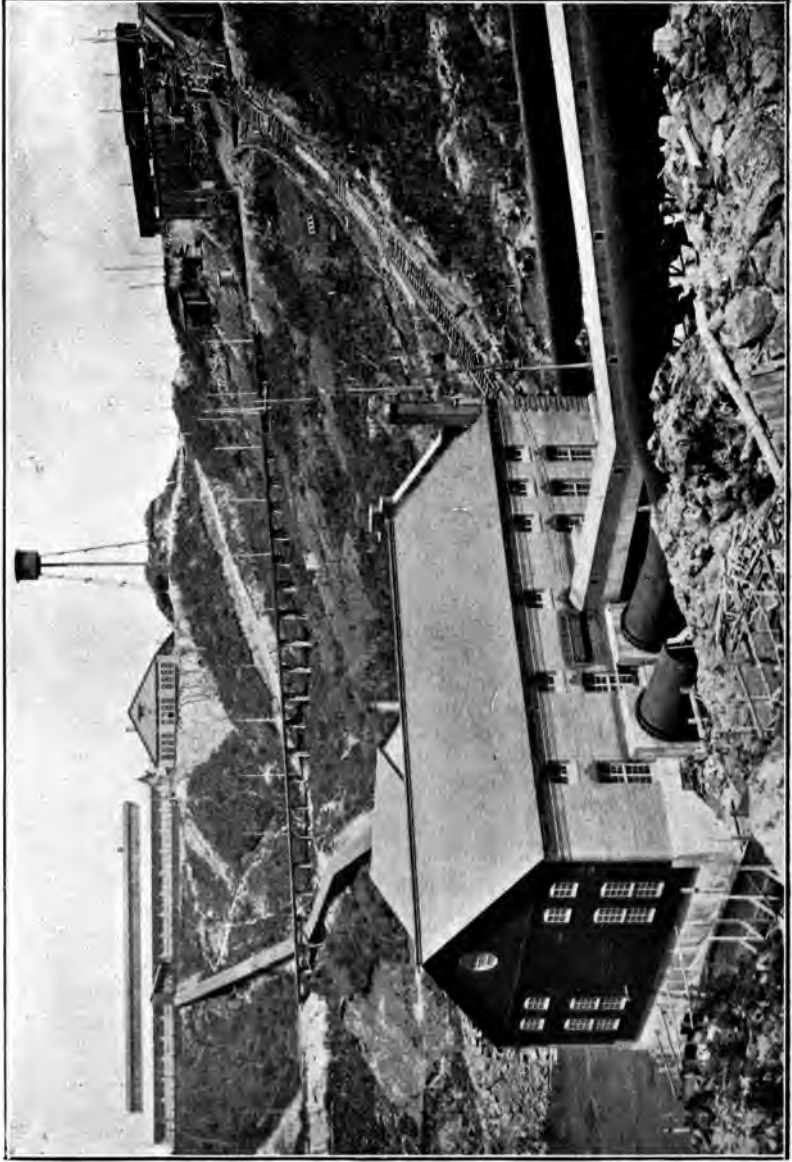
### Provincial Constitutions.

The Government of Canada appoints the Lieutenant-Governors, of whom there is one for each province, whose salary is paid by the Dominion Parliament.

Each province has its own elective assembly and administration with full power to regulate its own local affairs as set forth in the Confederation Act; to dispose of its own revenues and enact such laws as it may deem best for its own internal welfare, provided only such laws do not interfere with, and are not adverse to, the legislation of the Federal Parliament.

The Dominion Government assumed the debts existing at the time of the Union, agreeing at the same time to pay the provinces an annual subsidy, which is a grant equal to eighty cents a head of the population of the four provinces originally forming the Dominion, as ascertained by the census of 1861, except in the case of New Brunswick and Nova Scotia, where it was arranged that the subsidy should increase each decennial census till the population in each case reached 400,000.

Besides this subsidy there is given to each province an annual allowance for government, and also an annual allowance of interest on the amount of debt allowed, where the province has not reached the authorized debt.



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required for the use of the corporation; for appointing and paying pound-keepers, fence-viewers, overseers of highways, road-surveyors, road-commissioners, valuers; for granting money in aid of agricultural societies, mechanics' institutes, manufacturing establishments or road companies; for regulating driving on roads and bridges; egress from buildings, and making drains; for inflicting fines; for planting ornamental trees and prohibiting the sale of intoxicating liquor under the Temperance Acts passed by the Legislature.

In the completed form, as adopted by Ontario, Manitoba, British Columbia and other provinces, the whole municipal organization comprises (a) the townships, being rural districts of an area of eight or ten square miles; (b) villages with a population over 750; (c) towns with a population of over 2,000. Such of these as are comprised within a large district called a county constitute (d) the county municipality; (e) cities are established from the growth of towns when their population exceeds 15,000.

Taken in the large, it may be said that Canada is pre-eminently the land of self-government. The people have been trained for years in municipal government, and by it keep control of expenditure for municipal purposes as through the Provincial Legislature and the Federal Parliament they keep control of expenditures for provincial and general purposes.

## VI.

### THE LAND OF CANADA.

The land of Canada consists of granted and ungranted land. The ungranted land in the older provinces is the property of the provinces, and is disposed of by officials appointed for the purpose, in accordance with the provisions of statutes passed by the several Provincial Legislatures.

The ungranted land in Manitoba and the Northwest Territories belongs to the whole people of Canada, and is administered by the Federal Government.

The provinces retained possession of the lands belonging to them before Confederation. Manitoba, having no public lands at the time of its creation into a province, has since received from the Dominion Government a gift of swamp lands.

The provinces appoint all the officers required for the administration of justice, with the single exception of the judges.

They regulate:—1st, Education; 2nd, Asylums, hospitals, charities and eleemosynary institutions; 3rd, Common gaols, prisons and reformatories; 4th, Municipal institutions; 5th, Shop, tavern and other licenses; 6th, Local works; 7th, Solemnization of marriage; 8th, Property and civil rights; 9th, Administration of justice, so far as the constitution, maintenance and organization of provincial courts of both civil and criminal jurisdiction and the appointment of magistrates or justices of the peace, are concerned.

Emigration and immigration are subjects of both federal and provincial legislation, but provincial laws on the subject must not conflict with federal enactments.

The general principles of the Canadian Constitution are: representative government by ministers responsible to the people; a Federal government having charge of the general public good; and Provincial governments attending to local and provincial interests.

The provinces have not any power to organize and maintain a provincial military force, being in this respect unlike the States in the Union to the south; nor have they final legislation, the Dominion Government possessing, under the constitution, the power of veto.

Excepting in Prince Edward Island, municipal institutions have been adopted in all the Provinces of the Dominion, the germ of which is in the municipality. Several of these form a township, and these in turn are sub-divisions of the county. The council of each county, township, city, town and incorporated village has power to pass by-laws for obtaining such real and personal property as may be

supposed to be further divided into quarter-quarter-sections, or 40 acres, numbered as shown in the following diagram, and called legal sub-divisions :—

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	13	14	15	16	
W.	12	11	10	9	E.
	5	6	7	8	
	4	3	2	1	
		S.			

### Disposal of Dominion Lands.

In regard to their disposal the Dominion lands in Manitoba and the Northwest Territories may be considered as divided into two classes, viz. : Even-numbered and odd-numbered sections.

Within a certain area the even-numbered sections, (excepting those numbered 8 and 26, which are allotted to the Hudson's Bay Company), are open for homestead entry, and the odd-numbered ones, (excepting 11 and 29, which are School Sections), are held for sale, and also as land grants in aid of the construction of Colonization Railways.

The area in Manitoba and the Northwest Territories which has been alienated for actual settlement, under homestead entries, amounts to nearly 18 million acres. The area set out for settlement by the surveyors is 85,900,000 acres.

### Homesteads.

Any person, male or female, who is the sole head of a family, or any male who has attained the age of eighteen years, is entitled, on making application before the Local Agent of the District, in which the land he desires to be entered for is situated, and paying an office fee of ten dollars, to obtain homestead entry for any quantity of land not



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exceeding one quarter-section, or 160 acres, of the class of land open to such entry. This entry entitles the holder to occupy and cultivate the land to the exclusion of any other person, the title remaining in the Crown until the issue of patent for the land.

A settler who has been granted an entry for a homestead is required by the provisions of the Dominion Lands Act and the amendments thereto to perform the conditions connected therewith, under one of the following plans :—

(1) At least six months' residence upon and cultivation of the land in each year during the term of three years.

(2) If the father (or mother, if the father is deceased) of any person who is eligible to make a homestead entry under the provisions of this Act, resides upon a farm in the vicinity of the land entered for by such person as a homestead, the requirements of this Act as to residence prior to obtaining patent may be satisfied by such person residing with the father or mother.

(3) If a settler has obtained a patent for his homestead, or a certificate for the issue of such patent countersigned in the manner prescribed by this Act, and has obtained entry for a second homestead, the requirements of this Act as to residence prior to obtaining patent may be satisfied by residence upon the first homestead, if the second homestead is in the vicinity of the first homestead.

(4) If the settler has his permanent residence upon farming land owned by him in the vicinity\* of his homestead, the requirements of this Act as to residence may be satisfied by residence upon the said land.

In case a certain number of homestead settlers, embracing not less than twenty families, with a view to greater convenience in the establishment of schools and churches

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\*The term "vicinity," used above, is meant to indicate the same township or an adjoining or cornering township.

A settler who avails himself of the provisions of Clauses (2), (3) or (4) must cultivate 30 acres of his homestead, or substitute 20 head of stock, with buildings for their accommodation, and have besides 80 acres substantially fenced.

and for advantages of a similar nature, ask to be allowed to settle together in a hamlet or village, the Minister of the Interior may dispense with the condition of residence on the homestead, but the condition of cultivation must be carried out on each one. There are also provisions in the land laws for co-operative farming if undertaken by not less than ten persons.

A homestead entry is liable to be cancelled at any time that it is proved that the settler has not resided upon and cultivated his homestead for at least six months in any one year from the date of perfecting entry ; but in case of illness, properly vouched for, or in case of immigrants returning to their native land to bring out their families to their homesteads, or in other special cases, the Minister of the Interior may grant an extension of time during which the settler may be absent from his homestead, but such leave of absence will not count in the term of residence.

The privilege of homestead entry only applies to agricultural lands.

#### **Wood for Settlers.**

In townships which consist partly of prairie and partly of timber lands, the timber lands are, where it is considered expedient, divided into Wood Lots of not more than twenty acres and not less than ten acres, and any settler not having more than ten acres of wood land on his homestead quarter-section is entitled, on making application before the Local Agent, to be entered for one of such lots, the applicant paying the price fixed for the same, and on his fulfilling the requirements of the Act, in respect to his homestead, a patent shall issue to him for such wood lot.

The cancellation of the homestead entry also involves the cancellation of such wood lot, and the forfeiture of the purchase money for the same.

The settler is prohibited from selling, prior to the issue of patent, any of the timber on his land, or on the appurtenant wood lot, without permission from the Minister of the Interior, under penalty of fine or imprisonment, or both, as well as the forfeiture of his homestead rights.

### **Sales.**

The odd-numbered sections of Dominion lands, excepting School Sections and where they may be reserved as grants in aid of Colonization Railways, are open for purchase at such prices and on such terms and conditions as may be fixed from time to time by the Governor-in-Council.

### **Educational Endowment.**

The Parliament of Canada has made a liberal provision in aid of education in Manitoba and the Northwest Territories by setting apart Sections 11 and 29 in every township throughout the extent of the Dominion Lands as an endowment for such purpose. These sections are styled School Lands, and are administered by the Governor-in-Council through the Minister of the Interior. It is provided that they shall be disposed of by sale at public auction at an upset price fixed from time to time by the Governor-in-Council ; the moneys realized from such sales to be invested in Dominion securities, and the interest arising therefrom paid over to the Government of the Province or Territory within which the lands are situated, towards the support of the public schools therein.

### **Hudson's Bay Company's Sections.**

Sections 8 and 26 in every fifth township, that is, in townships 5, 10, 15, 20, 25, and so on, and Section 8 and three-quarters of Section 26 in all other townships are reserved to the Hudson's Bay Company, under the terms and conditions of the deed of surrender from the said Company to the Crown by which the Company is entitled to one-twentieth of the land within the "Fertile Belt," which is found to be satisfied by the allotment of the said sections.

### **Fuel for Settlers.**

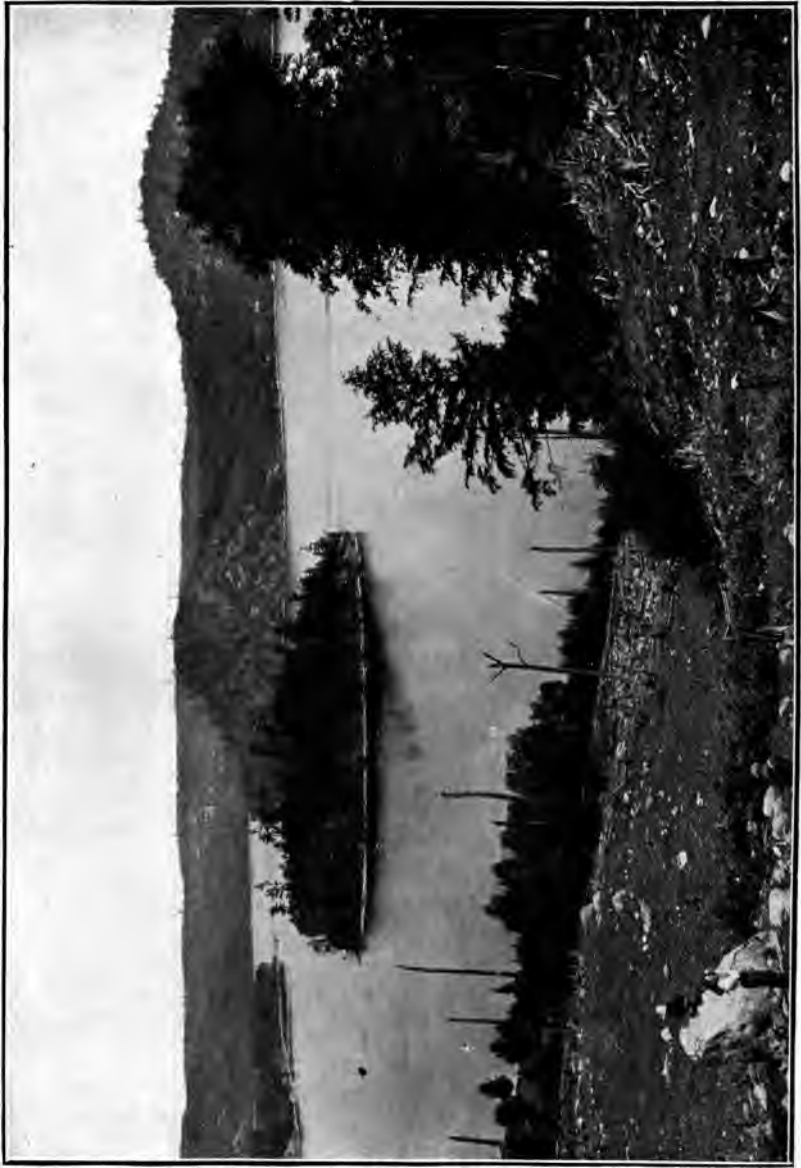
Settlers will experience no difficulty in obtaining a sufficient supply of fuel. In those portions of Manitoba and the Northwest Territories where wood is not found to any great

extent, nature has furnished coal as a substitute. In Southern Manitoba wood may be obtained from the Turtle Mountains, Brandon Hills, and along the banks of the Souris River ; the "Manitoba and Southwestern" railway furnishing the best possible access to the Souris coal fields, from which a considerable percentage of the fuel used in Southern Manitoba and at many points on the main line of the Canadian Pacific railway, as far east as Winnipeg and westward to Moose Jaw, is obtained.

In that portion of the Province of Manitoba lying north of the Assiniboine nearly every half section of land will be found to contain a certain quantity of wood and some parts of the tract are very thickly wooded. That portion of the District of Assiniboia which lies to the south of the Qu'Appelle and South Saskatchewan Rivers is fairly supplied with either wood or coal.

In Northern Alberta and for some distance to the east of the Rocky Mountains, and along the rivers in Southern Alberta, an abundant supply of timber for fuel is obtained, and throughout the whole of Alberta there is an abundant supply of coal, and at no point in it will a settler probably be more than forty or fifty miles from a coal mine, and 70 per cent. of the district would come within fifteen miles of one. The coals found in Alberta vary from a high-grade lignite up to the highest grade of anthracite, and the supply is inexhaustible, sufficient to supply the entire world for centuries. In addition to the regular largely operated collieries situated at Lethbridge, Canmore and Anthracite, there are scattered all through the district smaller mines, the output of which will vary from 100 to 5,000 tons per annum. These latter are operated by the settlers themselves to furnish coal to their neighbours, and the price varies from 50 cents to \$1.50 per ton at pit's mouth, the settlers teaming the coal to their residences.

At the points named the output is shipped partly to United States points, and partly to Canadian points as far east as Winnipeg and as far west as Vancouver, and the output is increasing rapidly.



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### Building Material.

In addition to small local mills at a few points in Southern Manitoba and the District of Assiniboia, there are mills situated on the Lake of the Woods, on Lakes Winnipeg, Manitoba, and Winnipegosis ; at Brandon, Prince Albert, Battleford, Edmonton and vicinity, Red Deer or the Bow River, at Calgary and other points. On Sheep Creek and the Old Man's River these sawmills have an output varying from 200,000 feet per annum up to ten or twelve million, and, in addition, lumber is brought into the Territories and Manitoba from British Columbia points, the price of said lumber varying from \$8 to \$30 per thousand, according to quality. Roofing material in the shape of shingles is worth about \$2 per thousand. The country is bountifully supplied with building material in the shape of limestone, sandstone, granite ; also clays for the manufacture of brick, cements, etc.

### Provincial Lands.

In the Province of Ontario it is provided that public lands which have been surveyed and are considered suitable for settlement and cultivation may be appropriated as free grants. Two hundred acres is the limit of the Act regulating the disposal of them as free grants. A single man over eighteen years of age, or a married man having no children under eighteen years of age residing with him, can obtain a grant of one hundred acres. The male head of a family, or the sole female head of a family having a child or children under eighteen years of age residing with him or her, may obtain a free grant of two hundred acres, and may also purchase an additional one hundred at the rate of 50 cents (2s) per acre.

The settlement duties required are as follows : To have at least fifteen acres cleared and under cultivation, of which two acres at least are to be cleared and cultivated annually during five years ; to have built a habitable house at least sixteen by twenty feet in size ; and to have actually and

continuously resided upon and cultivated the land for five years. The locatee is not bound to remain on the land all the time during the five years, but may be absent on business or at work for, in all, not more than six months in any one year. A locatee who purchases an additional one hundred acres under the regulations must, within five years from the date of sale, clear fifteen acres and cultivate the same before being entitled to a patent; but he is not required to build a house or reside on the purchased lot where he holds it in connection with a free grant.

In the Rainy River district, to the west of Lake Superior, consisting of well-watered, uncleared lands, free grants are made of one hundred and sixty acres to a head of a family having children under eighteen years of age residing with him (or her), and one hundred and twenty acres to a single man over eighteen years, or to a married man not having children under eighteen years residing with him; each person obtaining a free grant to have the privilege of purchasing eighty acres additional at the rate of \$1 per acre, payable in four annual instalments. The settlement duties are the same as set out above, excepting that only three years' residence is required. The soil of this district is a deep loam, and for an area of nearly a million acres is very fertile.

Outside of the free grant townships, uncleared land varies in price from 2 shillings to 40 shillings an acre, according to situation and soil. Cleared and improved farms can be bought at prices ranging from £4 to £10 an acre. The money can nearly always be paid in instalments covering several years.

The northern lands of the province have been explored within the past four years, and 60,000,000 acres of land opened up to settlers.

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In the Province of Quebec the Government have surveyed about seven million acres of Crown lands.

These lands purchased from the Government are to be paid for in the following manner: One-fifth of the purchase



money is required to be paid the day of sale, and the remainder in four equal annual instalments bearing interest at 6 per cent. But the prices at which these lands are sold are so low, viz.: from 1s 5d to 2s 5d, that these conditions are not very burdensome. The purchaser is required to take possession of the land sold within six months of the date of sale and to occupy it within two years. He must clear and have under crop, in the course of four years, ten acres for every hundred held by him, and erect a habitable house of the dimensions of at least sixteen feet by twenty.

In the Temiscamingue settlement north of the city of Ottawa, twenty-five townships have been surveyed, five of which have been opened for sale, subject to settlement and pine tree regulations, at fifty cents an acre, half cash and balance in two equal annual instalments with interest.

The settlement dues are actual residence on the land purchased for four years from the date of purchase, clearing and having under cultivation and crop at least 10 acres for every 100 acres, and building a habitable house 16 feet by 20 feet.

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In the Province of New Brunswick it is estimated that there are about 7,000,000 acres of ungranted land. Crown lands may be acquired for actual settlement. (1) One hundred acres are given to any settler over 18 years of age, not owning other land, who pays \$20 in cash or does work on the public roads, etc., equal to \$10 per annum for three years. Within two years a house 16 ft. by 20 ft. must be built, and two acres of land cleared. Continuous residence for three years from date of entry and the cultivation of 10 acres in that time are required.

(2) Single applications may be made for not more than 200 acres of Crown lands without conditions of settlement. These lands are put up at public auction at an upset price of \$1 an acre. Purchase money to be paid with application. Cost of survey to be paid by purchaser. The above sections apply only to lands fit for agricultural purposes. Lands well timbered are not sold outright.

In the Province of Nova Scotia there are nearly one and a half million acres of land belonging to the Crown, a considerable quantity of which is unsuited for cultivation. The price of Crown lands is \$40 per 100 acres. The distinction is made in the price between 100 acres and smaller lots, as the difference in cost of survey, defrayed by the Government, is very trifling. All minerals and ores are reserved to the Crown, except limestone, plaster and building materials.

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In the Province of British Columbia, the land and pre-emption laws are as follow : Every head of a family, widower or single man, eighteen years of age, being a British subject, born or naturalized, has the right to pre-empt a tract of land not exceeding 160 acres in extent, west of the "Cascade Range" of mountains ; or 320 acres east of these mountains. Personal residence during a period of two years, reasonable intervals of absence being permitted, and improvements to the average of \$2.50 per acre are necessary to complete the pre-emption right. Upon proof of these, the settler is entitled to claim his Crown Grant in freehold to the tract occupied and improved. The price to be paid is \$1 per acre, payable in four annual instalments, the first to be paid one year to the date of record. The patent will be granted upon proof by declaration, in writing, of the settler himself and two other persons, of occupation for two years from the date of pre-emption. No person can hold more than one pre-emption claim at a time.

Timber and hay lands may be leased from the Government. Timber lands pay a yearly rental of 15 cents per acre and a royalty of 50 cents per 1,000 feet on all logs cut.

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## VII.

### PUBLIC DEBT OF CANADA.

The public debt of the people of Canada in connection with the Federal Administration on the 1st July, 1903, was :



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Gross debt .....	\$361,344,098
Assets .....	99,737,109
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Net debt .....	\$261,606,989

The assets consist of amounts invested as sinking funds to meet borrowings ; debentures, etc. The sinking fund, (which bears interest) amounts to about 54 per cent. of the total assets.

The public debt was created at the time of the Union (1867)

(1) by the assumption of the debts of the several members of Federal Union amounting with revisions to .....

\$109,430,148

Since that time there has been spent on capital account :

(2) For canals .....	64,813,953
(3) For Railways .....	125,916,723
(4) For Northwest Territories .....	9,200,714
(5) For other Public Works & buildings	15,735,416

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\$325,096,954

Thus, over 63 million dollars beyond the amount of the net public debt have been expended by the people of Canada for public purposes.

The interest paid on the public debt averages \$2.47 per \$100. The improvement in the credit of the country is measured by the great decrease in the interest paid as compared with 1868, when the average interest was \$4.51 per \$100.

Besides the amounts expended on railways as above, the Government of Canada have for some years adopted the policy of giving bonuses to aid in the construction of railways, chiefly branches or feeders of the main lines. The amount thus granted to the 30th June, 1903, is \$52,031,000. This sum has been paid out of current receipts.

Analysis of the public debt contracted before confederation shows that of the total amount assumed by the Federal Government (\$109,430,148) the sum of \$63,635,092 was expended on public works ; \$52,944,175 being for railways and canals.

Thus the public debt has been created in large part by the expenditure required for the extension of the Dominion over all continental British North America, for improving the lines of intercommunication, for safeguarding the coasts and for facilitating the general business of the country.

Two other facts may be mentioned in this connection.

First, the ungranted and unpledged Crown lands belonging to the Dominion, if valued at \$1.00 an acre, would pay the whole public debt.

Second, the public buildings, the canals, the public railways, and the public lands, though their cost is included in the public debt, are not considered in the Public Accounts as assets to be placed against the debt.

In addition to the public debt of the General Government there are the debts of the several provinces. These amount (1902) in gross to the sum of \$71,629,540, divided among the provinces :

	Gross.	Net.
Quebec .....	\$36,075,660	\$22,129,875
Nova Scotia .....	3,766,300	2,355,074
New Brunswick .....	3,710,633	3,076,141
Manitoba .....	16,664,647	16,987,190
British Columbia .....	10,761,891	7,191,099
P. E. Island .....	650,409	438,477
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	\$71,629,540	\$52,178,056

The Province of Ontario's statement showed a surplus of assets over liabilities on 31st Dec., 1903, of \$2,549,164, her liabilities being for railway assistance given and amounting to \$4,022,810.

Of the public indebtedness of the Province of Quebec, \$12,414,888 represents assistance given to railways within the province, not included in the assets.

The current revenues of the Dominion of Canada are obtained : (a) from taxation ; (b) from receipts from lands, post office, railways, canals and other sources.

In the year ended 30th of June, 1903, the revenue was \$66,037,069 and the expenditure \$51,691,903.

Taking seven years, 1897-1903, the revenue has been \$352,758,820 and the expenditure \$311,378,730, the two balancing each other, with \$4,138,090 receipts more than expenditure.

The general balance sheet for the year ended June 30th, 1903, shows the following condition :

## RECEIPTS.

1. Consolidated Fund .....	\$ 66,037,069
2. Loans and Dominion Notes.....	30,079,313
3. Open Accounts .....	167,443,314
<b>Total.....</b>	<b>\$263,559,696</b>

## EXPENDITURES.

Consolidated Fund .....	\$ 51,691,903
Redemption .....	6,204,967
Open Accounts .....	205,662,826
<b>Total.....</b>	<b>\$263,559,696</b>

The actual sources of revenue and branches of expenditure comprised under the division called Consolidated Fund are :

## RECEIPTS.

## Taxation—

(a) Customs .....	\$37,001,727
(b) Internal Rev. ....	12,013,779
	<u>\$49,015,506</u>
Lands .....	1,695,592
Public Works and Post Office.....	11,486,334
Interest on Investments.....	2,020,953
Various .....	1,818,684
<b>Total.....</b>	<b>\$66,037,069</b>

## EXPENDITURE.

Public Debt, Interest Charges and Sinking Funds.	\$13,983,696
Subsidies to Provinces.....	4,402,503
Public Works .....	4,065,553
Militia and Defence .....	1,963,009
Collection of Revenues .....	14,041,041
Other Expenditure .....	13,236,101
Total.....	\$51,691,903

The amount of revenue obtained from taxation in 1902 was 74.8 per cent. of the whole. During the preceding 10 years it averaged 76.5 per cent.

The sources from which the several provinces derive their income are : Dominion Subsidy, Crown Lands, Succession Dues, Licenses, etc.

The expenditures are for Education, Maintenance of Public Institutions, Hospitals, Agriculture, Administration of Justice, Legislation, Civil Government, etc.

The Province of Ontario in 1902 received :

Dominion subsidy .....	\$1,196,873
Crown Lands, woods and forests, rents.....	1,474,480
Licenses .....	371,908
Interest .....	195,819
Succession duties .....	236,170
Other sources .....	815,833

Ontario expended on :

Civil Government and Legislation.....	425,925
Administration of Justice.....	432,754
Education .....	804,909
Public institutions and hospitals.....	1,079,921
Agriculture .....	234,340
Other expenses .....	1,367,155

The Province of Quebec received :

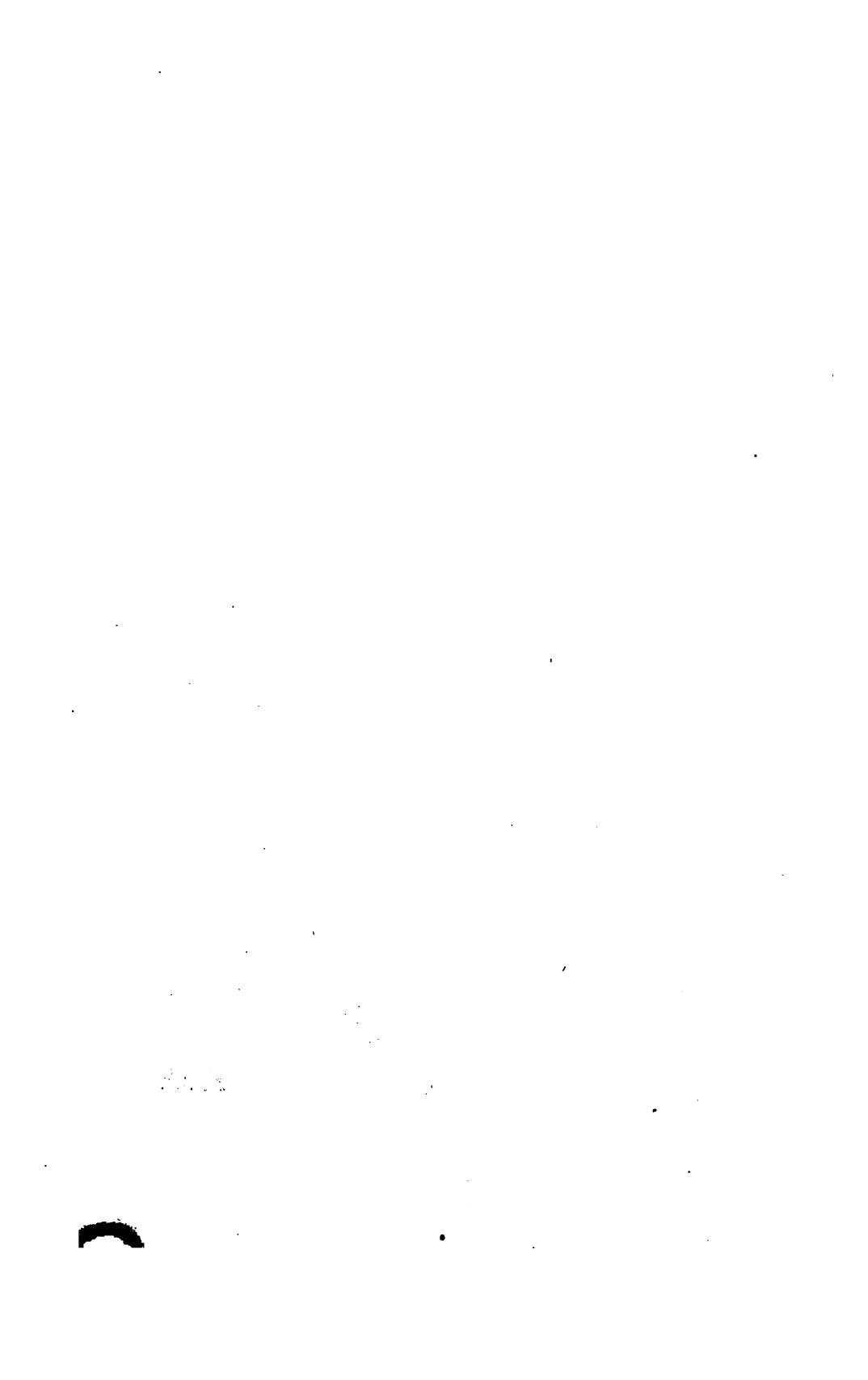
Dominion subsidies .....	1,086,714
Interest .....	192,392
Lands and forests .....	1,055,037
Licenses and tax on com. corporations .....	912,924
Succession dues.....	222,764
Other sources.....	1,045,339





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## Quebec expended on:

Interest, redemption of debt, sinking fund.....	\$1,541,068
Civil Government and Legislation.....	462,272
Administration of Justice .....	618,315
Public instruction .....	455,185
Agriculture .....	217,359
Colonization roads .....	112,540
Public works, buildings, asylums .....	538,229
Other expenses .....	545,709

## The Province of Nova Scotia received:

Subsidy from Federal Government.....	432,807
Mines .....	487,949
Succession dues .....	55,222
Crown lands .....	74,735
Other sources .....	99,504

## Nova Scotia expended:

Interest .....	156,625
Education .....	259,379
Hospitals and charities.....	140,573
Legislation and Civil Government.....	74,375
Road grants .....	94,478
Other expenses .....	361,973

## The Province of New Brunswick received:

Dominion subsidy .....	495,312
Lands and forests .....	175,280
Licenses (liquor) and taxes Incorp. Comps.....	48,205
Succession duties .....	16,935
Other sources .....	90,294

## New Brunswick expended:

Interest .....	132,147
Education .....	201,481
Asylums and hospitals .....	63,552
Legislation and Civil Government.....	51,744
Agriculture .....	31,488
Public works .....	194,350
Other .....	170,875

## The Province of Manitoba received:

Subsidy and interest on school funds.....	778,299
Lands and land fees.....	376,428
Licenses (liquor) .....	31,084
Interest .....	53,167
Succession duties .....	6,949
Other .....	197,329

## Manitoba expended:

Legislation .....	47,276
Education .....	281,856
Agriculture and Immigration.....	130,852
Administration of Justice.....	173,846
Public Works .....	220,629
Other .....	393,669

## British Columbia received:

Dominion subsidy .....	305,969
Land sales, leases, Royalty .....	292,453
Rev. from mines.....	390,100
Succession duties .....	64,057
Property taxes .....	270,754
Interest on investments .....	31,215
Licenses .....	62,341
Other .....	391,036

## British Columbia expended:

Interest, sinking funds, etc.....	421,544
Civil Government and Legislation .....	413,307
Public institutions, hospitals, etc.....	212,918
Administration of Justice.....	106,409
Education .....	365,922
Public works .....	902,855
Other .....	237,715

## Prince Edward Island received:

Dominion subsidy .....	211,932
Provincial land tax .....	34,883
Public lands .....	7,766
Income tax .....	8,441
Licenses .....	8,700
Road tax .....	14,910
Other sources .....	38,038

## Prince Edward Island expended:

Education .....	127,495
Interest and sinking fund .....	27,877
Legislation .....	7,722
Public works .....	63,110
Hospitals, asylums .....	30,920
Other .....	67,061

## VIII.

## EDUCATION.

Under the fundamental law of Canada the general subject of education is specially the care of the provinces; the rights and privileges of denominational and separate schools as existing prior to 1867 being carefully guarded.

The Provinces of Ontario and British Columbia have a Minister of Education and a general superintendent. In the Province of Quebec education is under the control of the Superintendent of Public Instruction, assisted by a council of 35 members, divided into committees for the management of the Roman Catholic and the Protestant Schools respectively. In Manitoba, New Brunswick and Northwest Territories the Executive, associating with them others not of the Executive, with a superintendent, have control. In Nova Scotia the Executive Council and a superintendent carry on the work. In Prince Edward Island the education is under the control of a board and a superintendent, both appointed by the Government.

The educational facilities for the aboriginal inhabitants of Canada are provided by the General Government of Canada, who are the guardians of the Indian tribes.

The Educational equipment of Canada consists of 17 universities, 20 colleges, 19 classical schools, 8 ladies' colleges, 1 academy, 23 denominational and private institutions not having degree-conferring powers; 350 boarding schools for young ladies. In addition to these there are 19,386 public and other schools, supported partly or wholly by the provinces.

In the universities, colleges and other higher institutions there are 20,000 students. In the young ladies' boarding schools 16,300, and in the public and other schools 1,100,000.

Taking the population of both sexes between the ages of 5 years and 20 years of age, 66 in every group of 100 are enrolled on the attendance books.

Five of the 17 universities are non-denominational, 3 are under the control of the Church of England, 4 under the Church of Rome, 1 under the Presbyterian Church, 2 under the Methodist Church, and 2 under the Baptist Church.

The largest university in Canada is the University of McGill, in Montreal. It owns property to the value of \$2,200,000, has an endowment of over \$3,000,000, and an income from endowments of \$346,000. 1,150 students are in attendance.

The University of Toronto has 1,322 students, an endowment of \$1,187,683, owns property to the value of \$1,457,339, and has an income of \$119,087.

In the Province of Ontario, under the University Federation Act of 1887, an uniform standard of higher education is sought in the union of the various denominational universities with the non-denominational University of Toronto.

Methodist, Presbyterian, Roman Catholic, Episcopalian Universities and Colleges and other institutions have thus federated and affiliated with the provincial institution.

The same policy has been pursued in other provinces. In the Province of Quebec the University of Laval, two branches (Roman Catholic) and McGill (non sectarian) are the centres around which the other institutions rally.

A statement of the possibilities, in the way of Education, though specially describing McGill University, will give a clear idea of the status of higher education in Canada and of the extent to which the people have endeavoured to secure the benefits of university education.

McGill University, Montreal, founded in 1814 by a wealthy citizen, has been enabled to reach its present high position among the universities of the world by private munificence. With a teaching staff of over 180 professors, lecturers and demonstrators, it affords advanced instruction to about 1,150 students in all the branches of higher university work, in Arts, Science—Pure and Applied—Law and Medicine. A Railway Department is being established



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in connection with the Faculty of Applied Science, and a Dental Department in connection with the Faculty of Medicine. It opens its courses in Arts and Pure Science to women on equal terms with men, and grants degrees of B.A., M.A., B.Sc., M.Sc., D.Sc., D.Litt., B.C.L., D.C.L., M.D. and C.M. The undergraduate course in Arts, Applied Science and Medicine, extends over four years; in Law, over three years. The buildings of the university occupy a beautiful site in the City of Montreal, and its unrivalled laboratories and equipment for research work, particularly in the Departments of Medicine, Biology, Physics, Chemistry, Civil, Mechanical and Electrical Engineering, and Mining and Metallurgy, are attracting students from all parts of the world. It possesses in addition a beautiful Library and Museum, and has recently provided a magnificent residential hall for its women-students, a step which will shortly be followed by the erection of residential halls for men. The university extends its influence to schools throughout Canada, and there are affiliated to it no less than four theological and three other colleges, situated at Quebec, Stanstead, and Vancouver.

For general education the several provinces allot a very considerable portion of the public revenue. The General Government spends several hundred thousands dollars annually on the education of the Indian children. The expenditure by the provinces for public schools in 1902 was 10,787,957 dollars, equal to \$2.01 per head of the whole population.

Excepting in the Province of British Columbia, the people of the several provinces contribute towards Education by direct taxation. Thus, of the total mentioned above, the Government grants amount to \$3,651,036, equal to nearly 34 per cent.

The grants by the several governments are equal to more than 25 per cent. of their total revenue.

To this extent the people and the governments cooperate to provide the children with educational facilities, and this they have done for years.

According to the latest returns there are 23,565 teachers connected with the public schools of Canada, a large proportion of whom are females. In the Province of Ontario, in 1885, 62 per cent. of the teachers of the public schools were females; in 1898, 70 per cent., and in 1901, 74 per cent.

In the cases of Manitoba and the Northwest, where the Federal Government owned the land, parliament, by one of the first Acts relating to the Northwest after the country had been acquired, set apart two out of every 36 sections of 640 acres each for school purposes.

In the Provinces of Ontario (partially) and Quebec (wholly), the public schools are divided on religious lines, there being in each public schools called Roman Catholic Separate Schools and Protestant Separate Schools.

In the Province of Ontario, 43,987 pupils are enrolled in the Separate Public Schools, and 414,619 in the General Public Schools.

In the Province of Quebec there is some commingling. In the main, however, the proportion is the same as the proportion of Protestants and Catholic in the general population.

In the other provinces the education laws recognize no division on those lines.

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## IX.

### CRIME IN CANADA.

During the twenty-seven years, 1876-1902, the functionaries of the courts or tribunals for the administration of justice in Canada have been called upon to supply the Department of Agriculture and Statistics with returns giving certain particulars respecting crime, in accordance with the requirements of the statute in such case provided.

The classification adopted is the general one—of indictable offences and summary convictions. The indictable offences are tried either by jury or (by consent) by Police or other Magistrate and under the Speedy Trials Act.

The statistics of the earlier years are not complete, since the work was new to the officials. The country has, however, a body of fairly accurate statistics relating to crime for the period 1883-1902.

This, though limited compared with the long-gathered statistics of crime in many other countries, possesses value in enabling us to determine the position of Canada in respect to crime.

Taking, however, the period 1891-1902 for our guidance through the labyrinths of criminality, we have for the twelve years 461,823 convictions for indictable and other offences. Of these 12 per cent. were for offences against the person; 11.8 per cent. for offences against property; 30.7 per cent. for drunkenness, and 45 per cent. for other crimes and misdemeanors, largely offences against order.

These totals show a yearly average of 38,500 convictions for offences of all kinds. In the year 1902 the convictions were 43,536. Both absolutely and relatively to population, punished crime in 1902 was higher than in 1901, or in any previous year of the period under review. But taking into account the great development of our mining population, this is not to be wondered at.

Of the 461,823 convictions, 62,866 were for indictable offences, the charges numbering 91,123; so that convictions formed 68.9 per cent. of the charges. This approximates closely to the ratio of the two countries from which the great bulk of our population springs.

In the first three years of the period under review the charges made of crimes and misdemeanors committed in connection with indictable offences averaged 6,266 a year. In the last three years they averaged 8,416, showing an increase in charges of indictable offences of 34.3 per cent. The convictions consequent on these charges averaged 4,215 and 5,722 respectively, an increase of 35.7 per cent. Convictions, therefore, increased at a greater rate than charges, showing either more care in preferring the charges, or stricter administration of the laws, or both.

Males convicted of indictable offences averaged 3,913 in the first three years and 5,360 in the last three years of the 12-year period, while females averaged 305 in the first, and 328 in the last term of three years. The proportion of the sexes in the first three-year period was 928 men to 72 women. In the fourth three-year period it was 945 men to 55 women. The proportion of women criminals is becoming less.

The number of persons convicted for the first time in the first three years of the 13-year period averaged 3,662, and in the last three-year term, 4,491. Relatively, these criminals were 85 per cent. of the total convictions in the first three years and 79 per cent. in the last three years.

Recidivists have increased, those convicted repeatedly forming 9.3 per cent. of the convicted in the last three years of the 13-year period, against 5.1 per cent. in the first three years; and those convicted twice forming 11.7 per cent., against 7.38. The increase is largely in the mining provinces of Nova Scotia and British Columbia and in the Province of Quebec.

According to occupations, the statistics warrant the following conclusions: 1st, that, compared with their numbers, the agricultural class contribute a very small percentage to the criminal class; 2nd, that the commercial class commit, more than their proportionate numbers warrant, crimes under the heads of offences against the person, and forgery, and offences against the currency; 3rd, that the domestic class commit crimes just about proportionately to their numbers; 4th, that the industrial class have less than their proportion in all the six divisions of crime except in offences against property with violence, where they slightly exceed their proportion; 5th, that the professional class have a much lower percentage of criminals than their proportionate share in the occupations would give; 6th, that labourers contribute more than their share to every class of crime, their percentages being—crime 38.3 per cent.; population, 12 per cent. With respect to this latter class,



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of the three years 1900-1-2 being 12,755. Taken in groups, in the first period there was one person convicted of drunkenness in each group of 406 of the whole population, and in the last-mentioned period (1891-2-3) one in each group of 421, so that the increase in the convictions fell behind the increase in population.

The amount of spirituous liquors, including wine and beer, consumed in Canada during the period 1891-2-3 averaged 4.32 gallons (Imperial) per head of the population. The average of the three years 1901-2-3 was 5.75 gallons. In the first period the average annual quantity of beer consumed per head was 3.60 gallons, and in 1901-2-3 it was 4.85 gallons, the consumption of spirits increasing from .73 gallons to .81.

All the foregoing statements serve to show that the authorities charged with the maintenance of law and order in Canada have the people well in hand, and that the people born in the country have less disposition to break into crime than the foreign population that finds its way into the Dominion.

It is, therefore, a good country for peaceable, law-abiding people to come to.

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## X.

### INDUSTRIES OF CANADA.

Dividing the industries of the country into the extractive and the constructive, we find that in the extractive industries of the country about 1,400 persons are engaged in every group of 10,000 persons and about 800 in the mechanical.

The development of Canada follows closely the continental lines, especially in the proportion of persons in the great divisions of labour.

it is true, however, that the proportion of crime belonging to them is somewhat less than it was, the first three-year period giving them 39.7 per cent. of the crime.

About 70 per cent. of the convicted were born in Canada. As the native population is 87 per cent. of the whole population, the criminals in Canada born outside of the Dominion are more numerous relatively than the native-born, forming but 13 per cent. of the population and supplying 30 per cent. of the criminals.

Those unable to read and write formed 20 per cent. of the criminals in the 1891-3 period and 12.3 per cent. in the 1900-1-2 period; those possessed of an elementary education were 71 per cent. of the whole in the first period and 77 per cent. in the second; and those having a superior education 2 per cent. These percentages are about the same as the proportions of persons unable to read or write and of persons having the ability, to the whole population.

Cities and towns furnish 77 per cent. of the criminal population of Canada, and the urban population is only 26 per cent. of the whole population.

The total number of persons charged with murder during the 23 (1880-1903) years is 589, and the convictions numbered 209. The acquittals were 64.5 per cent. of the charges. In the United Kingdom, France, Germany, Hungary, Italy, Spain, and Belgium, taken together, the acquittals are 64 per cent. of the charges in the case of the crime of murder.

In the same period there were 132 charges of attempts to murder. These resulted in 70 convictions, showing that the acquittals were 47 per cent. of the charges.

Of those convicted of murder, 127 were executed, the others being sentenced to imprisonment for life.

Drunkenness is strictly dealt with by the courts, the country having, as a whole, a strongly expressed sentiment against drunkenness.

There has been a slight increase in the number of arrests and convictions on account of drunkenness, the annual average of the three years 1891-2-3 being 12,056, and that

The soil is loamy and fertile. Until recently the chief farm products were oats, wheat, and potatoes, and smaller proportions of barley and buckwheat. Turnips and hay are also important crops. Cattle and sheep are kept in increasing numbers. Eggs also are produced in considerable quantities. Of recent years the farmers of the island have directed their attention to dairy products with great success, and during ten years have increased the annual value of their output of butter and cheese by nearly \$590,000.

Nova Scotia has an area of 13,483,671 acres; 5,080,900 acres are occupied. Of these, over 2,800,000 are woodland and forest; 730,146 acres are in crop, 1,135,246 acres in pasture, and 35,000 acres in orchards.

The principal crops in this province are oats, potatoes, barley, buckwheat, and hay.

The trade in cattle, sheep and swine is large, and the yearly output of cheese and butter has been much increased of recent years.

Fruit growing has also developed within recent times to a remarkable degree. The Annapolis and Cornwallis valleys are specially adapted by climate and situation for the growth of large fruits, and the choicest sorts of apples, pears, plums, and cherries are produced in abundance. In these valleys there are 450 square miles of land, every part of which is eminently suitable for fruit growing. During late years the output of apples for export has been from half to three-quarters of a million barrels. The total number of apple trees in the province in 1901 was 1,975,575.

The development in cheese and butter making is seen in the fact that during the past ten years the number of cheese and butter factories has more than doubled.

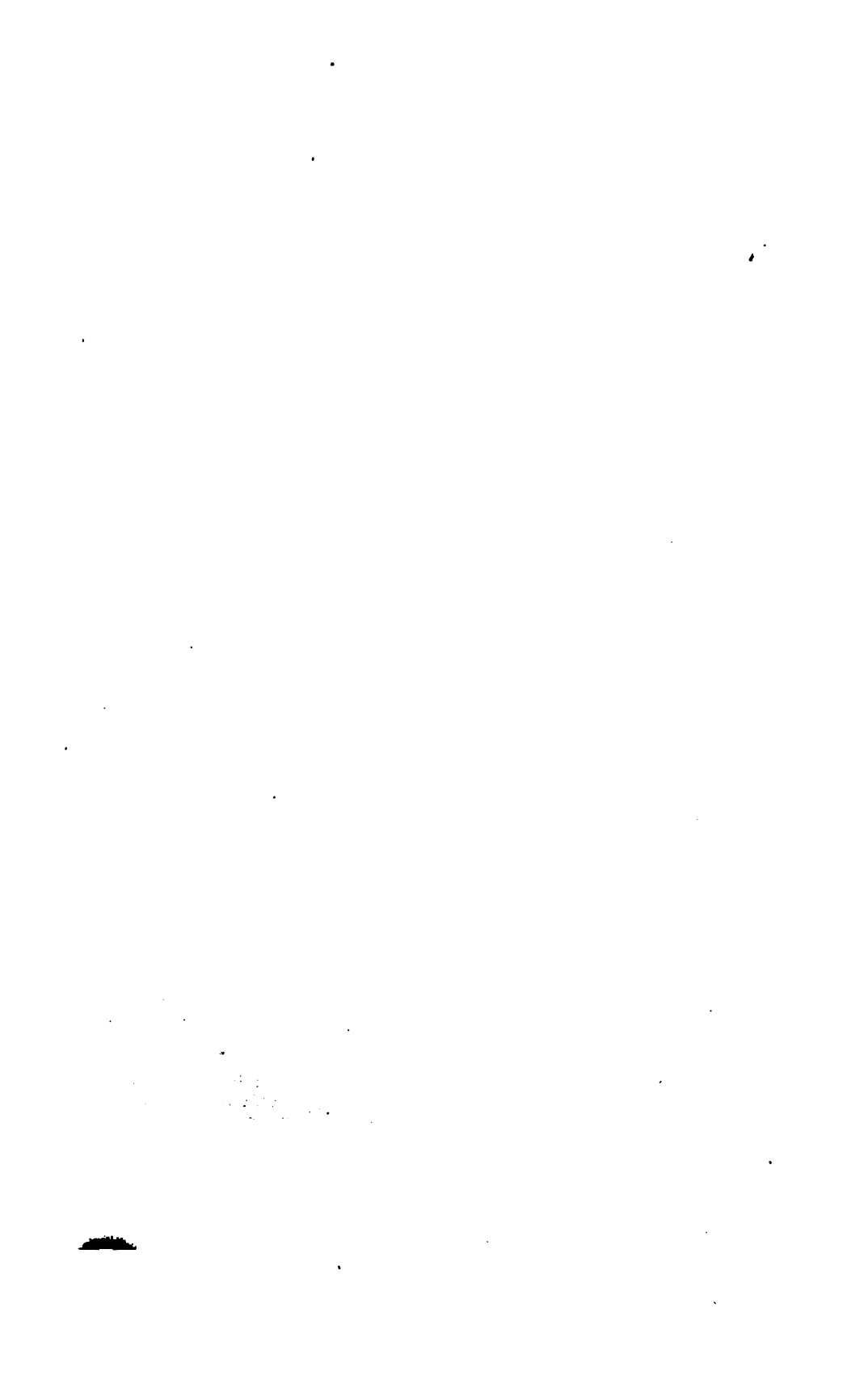
New Brunswick, which adjoins Prince Edward Island and Nova Scotia, has an area of 17,863,000 acres, of which 4,443,400 are occupied. Of the occupied land 1,897,417 acres are under crop, 689,681 in pasture, 2,561,500 woodland and forest, and 8,900 acres in orchards and gardens.





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Much of the land is rich and fertile, and when well cultivated yields good crops of grain.

Professor Johnston, F.R.S., of England, carefully examined into the capabilities of the soil of New Brunswick, and reported:—

“1st. The soil of New Brunswick is capable of producing food for a population of five or six millions. 2nd. In the capability of growing all the common crops on which man and beast depend the whole province, taken together, exceeds the most favored parts of New York State. 3rd. The climate is an exceedingly healthy one, and it does not prevent the soil from producing crops which, other things being equal, are not inferior in quality or quantity to those of average soils in England.”

Considerable attention has been given in recent years to dairying. During 10 years the cheese factories and creameries have increased from 10 to 68, most of the increase being due to development in the past five or six years.

The Province of Quebec has a land area of over 218,000,000 of acres, of which more than one-half is in forest and woodland. The surface is very varied, with ridges of mountains and lofty hills, diversified with rivers and lakes. About 22 1-2 million acres have been alienated by the Crown—one-half as seigniorial concessions and one-half to individuals. The climate varies much in different parts of the province, but the winter weather is steady and the atmosphere clear and bracing, with a good depth of snow, which gives excellent sleighing. The summer is warm and pleasant, and vegetation advances rapidly. Much of the country is well adapted for farming, the soil being loamy and fertile. The principal cereal crops are oats, peas, buckwheat, barley, rye, and maize. Potatoes and turnips are largely grown. Cattle are kept in increasing numbers, the number of milch cows being greater in 1891, according to the census of that year, than in 1871 by 35 per cent., and in 1901 greater than in 1891 by 40 per cent.

Tobacco is an important crop in the province. Fruits are grown readily in some of the more favored districts, and there are many good orchards in the valley of the St. Lawrence. Nowhere does the celebrated Fameuse apple reach so great perfection as on the island of Montreal, where also many varieties of pears and plums of fine flavour are grown. In the Eastern Townships fruit growing is carried on to a considerable extent.

As in the other provinces, so in Quebec respecting dairying, upon which much attention has been bestowed during the past ten years. In 1881 Quebec had 140 cheese factories and 22 creameries. In 1891 she had 617 cheese factories and 111 creameries. In 1901 there were 1,992, in all, showing an increase of 1,264 factories, while the value of products increased in the ten years from \$2,918,000 to \$12,874,370. The province has the largest butter factories in the Dominion.

Ontario has a land area of 142,000,000 acres (220,000 square miles), over 100,000 square miles being forest and woodland. By the census the total of improved lands in the province was 13,266,335 acres, of which 9,213,000 were under crops; 5,248,180 acres were in pasture, and 332,000 acres in gardens and orchards.

Ontario has a great variety of climate, the extremes both of winter and summer being tempered by the great lakes.

The following are the principal crops of 1902, with the quantity of each produced, being the average of 23 years:—Wheat, 26,000,000 bushels; oats, 72,412,000 bushels; maize, 21,800,000 bushels; peas, 13,550,000 bushels; barley, 24,380,000 bushels; potatoes, 18,230,000 bushels; turnips, 55,000,000 bushels; mangel wurtzels, 16,000,000 bushels; carrots, 3,600,000 bushels. The crop of hay and clover was 3,500,000 tons.

The crops for 1903 were:—Wheat, 21,900,000 bushels; barley, 24,380,000; oats, 110,228,103; peas, 8,924,650; beans, 978,246; rye, 2,070,768; buckwheat, 2,049,169;

potatoes, 16,676,447; carrots, 2,612,778; mangels, 41,768,239; turnips, 69,316,341; corn, 29,287,888; hay and clover, 4,336,562 tons.

Reducing the crops to tons, the result is an annual average of 11,714,112 tons during twenty-two years (1882-1903) and a crop of 15,177,572 tons for 1903, showing an increase of 30 per cent., and indicating that Ontario is a good farming country, and is improving as such year by year.

Fruit is grown to a very large extent in this province. The area in orchard, garden and vineyard given in the census returns was 338,000 acres.

From these were gathered 23,157,000 pounds of grapes and 13,631,000 bushels of apples, 540,000 bushels of peaches, and about a million bushels of pears, plums and other fruits.

The succeeding years have seen very considerable development in fruit culture. The yield of apples in 1903 was 43,700,000 bushels, and there were over 7,000,000 apple trees of bearing age, and nearly 2,000,000 not yet of bearing age.

The vineyards increased from 5,000 acres in 1890 to 15,269 in 1903.

In the Niagara peninsula and along the shores of the western part of Lake Erie peaches are successful, over a million and a quarter peach trees being planted.

Tomatoes are extensively grown, and the fruit canning business has developed into a large and flourishing industry.

Recently attention has been given to cultivation of tobacco, and it has been demonstrated that Canada will need but little of the weed beyond that grown in her own borders.

The live stock of the province also shows an increase, milch cows having increased in 1903 over 1899 by 75,634, and numbering in the latter year 1,050,108. Other horned cattle (not oxen) increased by 280,756, from 1,342,614 in 1899. Swine increased considerably, but the rapidly grow-

ing demand for Canadian bacon has prevented a great increase. Sheep have not held their own, though conditions are most favourable for this industry.

In the production of dairy articles the development has been great. The first factory making cheese was established in 1855—a second was started in 1856 and a third in 1860. In 1871 the province had 323 cheese factories and creameries. In 1881 23 creameries and 551 cheese factories, a total of 574. In 1891 45 creameries and 893 cheese factories, a total of 938. In 1901 there were 286 creameries and 1,167 cheese factories, a total of 1,453 establishments.

The number does not tell all the tale, the later factories being larger and better equipped than the earlier ones.

Adjoining the western extremity of Ontario is the Province of Manitoba, with an area of over 47 million acres. The surface is somewhat level, with stretches of prairie, intersected here and there by wide valleys, in which run small rivers and streams, the banks of the valleys being more or less fringed with trees. About forty per cent. of the whole province is forest and woodland. The greater part of the soil is composed of a deep rich vegetable mould of great fertility. The principal crop is wheat, of which 1,630,000 acres were sown in 1902, yielding 53,000,000 bushels, according to the statements of the Government officials. Oats yielded 34,500,000 bushels from 725,000 acres, and the total grain crop of the province for 1902 was 100,000,000 bushels.

The yield of potatoes is large, and considerable area is devoted to flax. The climate of Manitoba is warm in summer and very cold in winter, but the air is dry and bracing. Winter usually sets in by the latter part of November and is nearly over by the end of March, although frosts occur frequently at nights for several weeks later.

The quantities of cheese and butter made in the province have increased very much. In 1881 there were no returns of cheese factories or creameries. In 1891 there were reported 8 creameries and 23 cheese factories, and in



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1901, 26 creameries and 43 cheese factories—a condition which indicates a development of more than twice that of 1891.

The indications all point to Manitoba becoming a great cattle raising region.

Westward from Manitoba are the four provisional territories of the Canadian Northwest. Assiniboia has a total area of 88,880 square miles; Saskatchewan of 107,618 square miles; Alberta, 101,883, and Athabasca, 251,965 square miles.

These great divisions, extending from the western boundary of Manitoba to the Rocky Mountains, are partly traversed by railways, which have opened up the country for settlement. A comparatively small population is scattered over this immense area, containing over 350,000,000 acres, a large portion of which could be utilized for farming purposes.

To 1900 about 7,000,000 acres have been transferred to farmers, and under 1,000,000 are occupied by ranches. Settlement has gone on very rapidly during recent years. The wheat produced in the Northwest Territories in 1902 was nearly 14,000,000 bushels.

Broad and level or rolling plains characterize the Territories along their southern boundaries, and a wide belt lying north of the 49th parallel, extending from about the 102nd parallel of west longitude to the base of the Rocky Mountains, has a dry climate, caused probably by the hot winds which blow northward from the great American desert. This portion of the Territories is estimated to contain nearly 65,000,000 acres. The soil of this more or less arid region is, as a whole, of a very fertile character, consisting mainly of a rich alluvial loam, broken in places by tracts of sand and gravelly ridges. The annual rainfall over this dry region varies at different points from seven to fourteen inches, the mean of the whole area being 9.50 inches, the larger part of which falls in May, June and July. With some additional water, supplied by artificial means, much of this land produces good crops. At the close of the season

of 1901 there were 170 irrigation ditches and canals in operation in southern Alberta and western Assiniboia, with a total length of 470 miles. These have a carrying capacity sufficient to irrigate 614,684 acres. The results which have followed have been most encouraging. There is now no reason to doubt that through irrigation a large portion of Alberta and Assiniboia will be rendered fruitful every year.

The following describes the irrigation operations of the Canadian Pacific Ry. Company. The block of land is about three millions of acres in extent, lying east of Calgary. The soil in this vast area is first class, but during the greater number of the years the rainfall is not sufficient to supply the needed quantity of transpiration to mature the crops. The water for irrigation in this block is taken from the Bow River near Calgary in a main canal having a bed width of 60 feet and a water depth of 10 feet. This main canal is about 20 miles long, and from it the water is distributed through subsidiary canals, which will ultimately reach several hundred miles in length. About one-half of the block, or fifteen hundred thousand acres, can be irrigated, the remaining half being devoted to grazing and dairy farming.

Beyond the spent force of the hot currents of air, beginning from 125 to 175 miles north of the International boundary, immense districts, partly wooded and well watered, are found ; the soil is wonderfully rich and fertile, with conditions favorable for mixed farming and especially for the raising of cattle and for dairying. There the natural grasses grow far more luxuriantly than on the open prairie southward, while the belts and clumps of woods, interspersed with stretches of open country, afford favourable conditions for the growing of grain, with good shelter for stock. The climate in the Territories north of the dry belt is much like that of Manitoba, and spring opens about the same time from the Red River to the Athabasca.

In 1881 the Northwest Territories had no creameries and no cheese factories. In 1891 the census enumeration found

three creameries and four cheese factories. In 1900 there were 23 creameries and cheese factories with an output of \$121,000.

Further information about the Northwest Territories can be obtained from the pamphlets published by the Department of Interior, Ottawa, Canada.

British Columbia, the Pacific Ocean Province of the Dominion, is 372,630 square miles in extent. West of the coast range the climate is mild and genial, much like that of many parts of England, where the holly, laurel, rhododendron and the yew flourish with the apple, pear, plum, cherry and in some districts the peach and grape. In those parts of the province between the Coast range and the Rockies are many fine valleys, more or less utilized for farming and ranching. In some of these the rain-fall is not sufficient to admit of the successful cultivation of crops without irrigation ; there are, however, many mountain streams available for this purpose, and on some of the ranches very fine crops of grain are grown, and excellent fruits, especially apples. The farm lands occupied amount to one and a half million acres, and the fruit trees planted include 220,684 apple trees of bearing age, the total of all kinds being 567,762 trees.

### Fisheries.

The second of the extractive industries mentioned on page 82 is the fisheries. These are the largest in the world, embracing over 5,600 miles of sea coast on the Atlantic and 7,080 on the Pacific Oceans, in addition to inland seas, innumerable lakes and a great number of rivers.

With regard to their value, statistics prove it to be fully in proportion to their extent. The products of our fisheries, exported and sold on the Dominion markets in 1902, amounted to \$22,000,000 ; but this by no means represents the value of the total catch, for in Canada the home consumption is very great—100 pounds per inhabitant being calculated to 30 pounds in England. As the fisheries extend throughout the length and breadth of the Dominion,

almost every settler is afforded an opportunity for catching fish for domestic use. This renders it impossible to give full returns of the whole catch. It is approximately estimated that the value of the home consumption last year was \$15,000,000, giving a total of thirty-seven million dollars as the yield, exclusive of the catch by foreign fishermen.

Professor Prince has summarized the fisheries of Canada :

(1) The Atlantic division from the Bay of Fundy to the Coast of Labrador, embracing deep sea and inshore fisheries, cod, mackerel, haddock, halibut, herring, hake, lobster, oyster, seal and white whale fisheries. Annual value \$12,000,000.

(2) The estuarine and inland waters of Nova Scotia, New Brunswick, Prince Edward Island and Quebec, including fisheries for salmon, shad, gaspereaux, striped bass, smelt, and (in the lakes) land-locked salmon, lake trout, maskinonge, etc., of the annual value of \$2,500,000.

(3) The great lakes of the St. Lawrence and tributary waters. Lake whitefish, great lake trout, lesser whitefish, sturgeon, pike, perch (pickerel), black bass, brook trout, maskinonge, pike and numerous carps. Value, \$2,500,000.

(4) Great Northwest lakes, including Manitoba, yielding lake white fish, sturgeon, pike, perch, tullibee, pike and gold eye. Value, including newly developed caviere and sturgeon sounds industries, \$1,000,000.

(5) Pacific interior or Rocky Mountain plateau, comprising little developed fisheries, land-locked Pacific salmon, lake white fish, lake trout, river trout, and numerous cyprinoids, none of them identical with eastern species.

(6) Pacific Coast fisheries. Halibut, black cod, oolachan, anchovy, herring, smelt, and at least seven different species of Pacific salmon abound.

(7) Hudson Bay and peri-Arctic area. Whale, walrus, sea-trout, pike, sturgeon and possibly salmon, cod and shad, occur in these vast waters, Hudson Bay being an immense pocket 1,000 miles in length and 600 in width. The richest whaling grounds in the world are in this region.

## OFFICIAL VALUATION OF THE YIELD OF THE FISHERIES BY PROVINCES:

PROVINCE	1892	1902
Nova Scotia.....	\$ 6,340,724	\$ 7,351,753
New Brunswick.....	3,203,922	3,912,514
Prince Edward Island.....	1,179,857	887,024
British Columbia.....	2,849,484	5,284,824
Quebec.....	2,236,732	2,059,175
Ontario.....	2,042,198	1,265,706
Manitoba and Northwest Territories.....	1,088,254	1,198,437
Total.....	\$18,941,171	\$21,959,433

The values of the yield of some of the principal fish in 1902 are:—Cod, \$4,015,978; Herring, \$1,723,098; Lobsters, \$3,133,737; Salmon, \$4,335,040; Mackerel, \$839,368; Haddock, \$599,237; Trout, \$637,210; Sardines, \$382,326; Whitefish, \$810,873; Sturgeon, \$575,441.

THE DESTINATION AND VALUE OF CANADIAN FISH EXPORTS  
FOR 1893 AND 1903.

NAME OF COUNTRY	1893	1903
United States.....	\$3,504,205	\$ 3,775,815
British Empire.....	3,559,573	5,213,456
South and Central America.....	411,806	666,271
Italy.....	86,888	129,333
West Indies other than British.....	986,891	782,470
Portugal.....	61,935	91,212
France.....	125,189	703,138
Norway and Sweden.....	.....	61,479
Other countries.....	6,563	377,021
Total.....	\$8,743,050	\$11,800,195

Much attention has of late years been given to the development of the fisheries. The Federal Government has granted a yearly sum of \$150,000 or \$160,000 as a bounty, to be divided among the vessels, boats and men engaged in the prosecution of the fisheries. The results which have followed the policy are an increase in the number and a great improvement in the build and outfit of the fishing vessels.

In 1885, after the system had been in operation a couple of years, the number of men engaged in the fishing industry was 59,493, the number of vessels 1,177, with a tonnage of 48,728 tons and a value of \$2,021,633. The number of boats was 28,472, with a value of \$852,257; the number of fathoms of nets used was 3,014,384 and their value \$1,219,284. The total value of vessels, boats, nets, weirs, lobster traps, fish-houses, piers, sailing and steam smacks, connected with the fisheries amounting to \$6,697,459. In 1902 the number of men was 77,801; of vessels 1,296; tonnage 49,888; number of boats 41,667, and fathoms of nets, 5,623,700, the total amount invested being \$11,305,959.

The number of men employed increased by one-third. The tonnage of the vessels and the number increased somewhat. The number of boats increased by over 46 per cent., and the value of the plant used in connection with fishing increased by about 70 per cent.

The number of men employed in vessels decreased by 416; the number of men employed in boats increased by 15,396.

The development therefore has been in the direction of boat fishing.

The Dominion Government has provided fish breeding establishments, of which there are 16 in different parts of the country. From these, since 1874, when the policy of developing the fisheries by means of these establishments was expanded, there have been 3,391 million of fry distributed—an annual average of 117 million. During the five years, 1894-98, the annual distribution averaged 231 million.

The distribution has consisted of white fish, lobster, Atlantic salmon, Great Lake trout and sockeye salmon.

The fry distributed in 1902 consisted of salmon...	26,235,000
Lake trout .....	2,500,000
Lake white fish .....	108,000,000
Lobsters .....	120,000,000

Considerable attention is given to the cultivation of the oyster, and everything possible is done to maintain and expand the fisheries of Canada.

An intelligence bureau, with 55 reporting stations distributed along the coast of the Maritime Provinces, gives timely warning to the fishermen of a strike in of fish, of the weather, and of other facts, early information about which is important to success.

Bait cold storage is also provided, and has proved a success in the Province of Nova Scotia and on Prince Edward Island.

### Lumber Industry.

The third great industry mentioned is the lumbering.

The forests of Eastern Canada formerly extended in an almost unbroken stretch from the Atlantic Ocean to the head of Lake Superior, a distance of over 2,000 miles.

The great plains of the Northwest always, within the memory of man, have been sparsely lumbered. On the Pacific slopes of the Rocky Mountains, down to the shores of the ocean, there are mammoth trees that can favorably compare with the growth of any region on the globe. From the earliest days of its occupation by the French, the forest wealth of the country washed by the St. Lawrence River engaged the attention of the Home Governments, who saw therein vast resources available for their naval yards, and they drew from these forests large numbers of masts and spars and issued stringent regulations for the preservation of the standing oak.

When the country was ceded to the British Government but little attention was at first paid to its vast lumber supply, owing to the fact that almost the whole of the Baltic trade was carried in British bottoms, and that the lumber of Northern Europe provided an unfailling and profitable return freight for the shipping thus engaged. When, however, the troubles of the Napoleonic era began, and especially when the continental blockade was enforced, the lumber supplies of the Baltic became uncertain and insufficient. It was then that the lumber importers of Great Britain turned their attention to the North American colonies, and found there not only all the lumber they required, but

occupation for the vast fleet of vessels lying unemployed in their harbors. Thus we find that, while in the year 1800 only some 2,600 loads (equal to 52 tons) of lumber reached Great Britain, in 1810 there were 125,300 loads, and in 1820 about 308,000 loads.

When the war duties imposed on wood of European growth were gradually reduced it was feared that the Canadian product would no longer be able to hold its position in the English market, handicapped as it was by the short season of navigation and the heavy charges for ocean freight and insurance then current. These fears, however, proved groundless, as the following figures show:—

1850	exported to the United Kingdom	1,052,817	loads.
1859	“ “ “	1,248,069	“
1872	“ “ “	1,211,772	“
1881	“ “ “	1,301,301	“
1891	“ “ “	1,044,641	“
1902	“ “ “	1,733,291	“

These figures represent years of normal trade; for the timber trade, like every other, has its periods of depression and inflation.

A noticeable feature in these returns is the steady decline in the quantity of square timber exported to England and a corresponding increase in the quantity of sawn or manufactured woods. Thus in the first year of Confederation (1867) the exports of timber from Canada formed 42 per cent. of the exported timber and manufactured wood. In 1902 it formed but 7 per cent. of the two classes.

This is entirely in favour of the Canadian limit-holder and his employees, the greater labour expended on the manufacture being beneficial both to the capital and to the labour of Canada.

During the early part of the century the export lumber trade of Canada was confined to the United Kingdom and the West Indies. A great change, however, has taken place. The pine lands of the North Eastern and Western





MOUNT MACDONALD, "ROCKIES," B.C.



States of the United States have become depleted and unable to meet the requirements of the trade in those States. The result is that the resources of Canada have been drawn upon to such an extent that during the period of Confederation (1868-1903) the exports to the United States form a total of 362 million dollars, an average of \$10,000,000 a year, the average of the first ten years being \$8,100,000, and for the last \$13,900,000; showing an increasing reliance upon the forest wealth of Canada.

Timber was long the staple article of Canada's export trade, but with the development of the country it now ranks after the products of the farm.

Taking logs, lumber and other products of the forest, the total exports in 1868 amounted to \$18,800,000, and in 1903 to \$36,430,000. In the same years the exports of Canadian farm products increased from \$19,700,000 to \$114,500,000.

While the lumber interest does not occupy, relatively, the important position it did in the export trade of the country, it yet forms an important addition to the revenues and wealth of the country. In addition to the very large sums invested in timber limits, the capital invested in saw-mills and in other industries having wood for their chief raw material, amounts to nearly \$120,000,000, paying wages of over thirty million dollars a year and having an annual output of one hundred and twenty-five million dollars.

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The forest wealth of Canada is very great. Taken with exports, the per capita consumption is about 300 cubic feet a year. For many years the pine saw logs floated down to and past Ottawa on the Ottawa River have numbered nearly four million annually. The production in the census year 1901 of logs, pine, spruce and other, was 33,538,000 standard logs—each having 100 feet board measure. The total value of the raw products of the forest in the census year 1891 was over \$80,000,000, or about \$16 per head of the population.

Since that census there has been practically a revolution in the lumbering industry, especially in the relative value of spruce. The development of the demand for wood pulp has given to Canada's spruce trees a value that, considering the vast area over which the spruce extends, is largely beyond the value of the pine trees.

In pulp mills in 1891, Canada had invested about \$2,800,000. In 1903 the amount invested was about \$15,000,000. The total production in 1891 was about \$1,000,000. In 1902 the total value of the output was \$4,383,182. Several of the pulp mills have been transformed into paper making establishments. Of the thirty-five mills, nine manufacture sulphite pulp and four soda pulp, and four make both chemical and mechanical.

The forests of Canada contain pine, spruce and hemlock, oak, elm, maple, beech, birch, butternut, hickory, basswood, cherry, etc. The area of distribution is large, nearly 38 per cent. of the whole area of Canada being forest; larger, therefore, than most of the countries of Europe, the forest area of France being not more than 18 per cent. of the whole area of France.

British Columbia is thought to possess the greatest compact reserve of timber in the world. The coast, as far north as Alaska, is heavily timbered, the forest line following the indents and river valleys and fringing the mountain sides. The wooded area is estimated at 285,000 square miles, and includes many kinds of timber. The Douglas spruce is the show tree of British Columbia and indeed of Canada.

Of the 340 species of trees found on the North American Continent, 123 grow in Canada, 94 occurring east of the Rocky Mountains and 29 on the Pacific coast.

In addition to the forest belt which is in the provinces of Nova Scotia, New Brunswick, Southern Quebec, Southern Ontario, Manitoba and British Columbia, there is the great Northern forest of Canada which stretches from the Straits of Belle-Isle round by the southern end of James Bay, to

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Alaska, a distance of about 4,000 miles, with a breadth of some 700 miles. Of this northern fringe, Dr. Robert Bell, Assistant Director of the Geological Survey, says:—

“This vast forest has everywhere the same characteristics. The trees, as a rule, are not large, and they consist essentially of the following nine species:—Black and white spruce, Banksian pine, larch, balsam fir, aspen, balsam poplar, canoe birch, bird cherry, white cedar, white and red pine; black ash and rowan occur sparingly in the southern part of this belt.”

With such large areas of forest, Canadians in the past have given little attention to reproduction, believing that nature can hold her own against the forces of destruction. The general conclusion is that the forces of protection and reproduction are now practically as powerful as those of destruction.

Dr. Bell, already quoted, says:—

“The dead trunks of the larger trees generally stand for many years after a great fire. In the summer following one of these conflagrations the blackened ground becomes partly covered by a growth of herbaceous plants, berry bushes and shoots from the roots and butts of deciduous trees which have retained some vitality, besides numerous small seedling trees. The huckleberry bushes, which are very common for the first few years, especially on rocky, silicious ground, bear abundant crops of fruit. They have sprung from large old roots, which are almost everywhere present in the thick woods, although their tops are quite inconspicuous, and bear few or no berries. In 15 or 20 years the ground is covered with poplars, birches, willows, etc., to a height of about thirty feet. By this time the dead trunks of the old brule have lost most of their branches and the smaller ones have fallen down. If we look under this growth, we shall discover many healthy young conifers overshadowed by the more rapidly growing deciduous trees. At the end of about fifty years the conifers are everywhere

showing their heads in the form of sharp apicés, their dark color contrasting strongly with the lighter shades of the other trees. In the race to get above the deciduous trees they develop tall trunks with the branches high up. In one hundred years the poplars are dying and falling down, and the canoe-birch has attained maturity and soon after shows signs of old age. Meantime the older conifers have overtopped the other trees, and given a new character to the general appearance of the forest. The younger conifers of various ages which have been springing up from seed every year take possession of the ground left by the decay of the first occupants, and in about 150 years the forest has again become almost entirely coniferous. Such is the rotation of crops of trees which is perpetually going on in these regions. Perhaps one-third of the whole area consists of 'second growths' of less than 50 years, one-third of trees from 50 to 100 years old, while the remaining third may be 100 years and upwards."

### **Mining.**

The fourth great industry referred to on page 82 as extractive industries is that of mining. The census returns give the number of miners employed in 1890 at 13,417, exclusive of officials and quarrymen.

This was an increase of 6,876 over the number given by the census of 1881, and indicated a very great development in the mining industries of the country. The census of 1901 showed a still greater development in the mineral wealth of the Dominion, the number of miners given being 38,077, not including those of the Yukon, where the mining population may be said to embrace one in every five of the population.

Separated into provinces these miners were found as follows. In

	1901	1891	Increase
British Columbia .....	9,863	4,591	5,272
Manitoba .....	600	9	591
New Brunswick .....	936	97	839
Nova Scotia .....	11,400	5,660	5,740
Ontario .....	8,971	1,034	7,937
Prince Edward Island .....	96	18	78
Quebec .....	5,120	1,534	3,586
Northwest Territories .....	1,091	474	617
<b>Total.....</b>	<b>38,077</b>	<b>13,417</b>	<b>24,660</b>

The number of miners indicates with accuracy the portions of the Dominion whose mineral wealth has been exploited and partially developed. Nova Scotia and British Columbia have been for years pre-eminently the mining sections, as will be seen from the fact that over 76 per cent. of the miners found occupation in those two provinces in 1891. The census returns for 1901 indicate, however, that the other provinces have made more rapid strides than the two, since in 1901 they had over 41 per cent. of the miners, as against 23 1-2 per cent. in 1891.

The development of mining since 1891 has been more rapid than previously. Greater care has been bestowed on the management of the mines. Skill in administration and skilled labor have been brought to bear upon the mining industry with important results. Thus, in 1888, the number of tons of coal raised in Nova Scotia, per man employed, was 339, in 1894 it was 370 tons and in 1903 it was 473 tons.

The annual returns to the geological survey give the value of the minerals produced in the Dominion since 1886.

The total since 1886, including 1903, amounts to \$307,654,000.

The development may be judged by the average of three year periods.

1886-88 Annual Average.....	\$11,355,500
1889-91 " " .....	16,584,627
1892-94 " " .....	18,532,452
1895-97 " " .....	23,995,525
1898-01 " " .....	50,928,725
1902-03 (2 years) Annual Average.....	63,596,154

Dividing the totals into metallic and non-metallic, we have:—

—	1886-1888	1889-1891	1892-1894
Metallic .....	2,275,225	4,095,815	4,339,247
Non-Metallic .....	8,830,280	12,205,485	14,273,204

—	1895-1897	1899-1901	1902-1903
Metallic .....	9,329,909	37,333,569	34,680,585
Non-Metallic .....	14,415,615	22,633,724	29,118,038

Since 1886-8 metallic have gained .....\$32,405,360

Since 1886-8 non-metallic have gained..\$20,287,758

The greatest gain has been, therefore, in the output of metallic minerals.

Of these the most important are:—Copper, which has risen from an average value of \$454,629 in 1886 to \$5,728,267 in 1903; gold, from \$1,202,563 to \$18,834,490; lead, from \$12,230 to \$762,660; nickel, from nothing to \$5,026,000, and silver from \$317,932 to \$1,700,779.

In the non-metallic group the greatest gains are:—Coal, from \$5,000,000 to \$15,957,946; graphite from nothing to \$33,500; mica, from \$29,677 to \$159,473; natural gas, from nothing to \$268,000.

The mineral wealth of Canada is so great that an American authority, referring to it, says:—"To particularize the undeveloped wealth of this northern land would require volumes."

As might be expected from her vast areas and from her varied geological formations, Canada is marvellously rich in minerals, the chief of which of economic importance, according to the reports of the Geological Survey, are classed as follows:—





1. Metals and their Ores.
2. Minerals used in certain manufactures.
3. Minerals used in Agriculture.
4. Minerals used as Pigments.
5. Combustible and Carbonaceous materials.
6. Refractory minerals.
7. Minerals applicable to Building.
8. Minerals for grinding and polishing.
9. Minerals applicable to miscellaneous purposes.

Metals and their ores.—Sir William Dawson, writing on the Iron and Coal of Nova Scotia, says:—"It is a remark often made that the iron ores of Canada, rich and magnificent though they are, suffer in their practical value on account of their distance from the mineral fuel required in so great quantity whenever smelting processes are undertaken on a large scale. To a certain extent better means of communication and larger and more economical working must remove this disadvantage. It should, however, be borne in mind that the great iron deposits of Nova Scotia, equal in extent and value to any others in the Dominion, are not so situated; but are in close proximity to some of the greatest coal fields in the world."

During recent years business men have appreciated the importance of the iron deposits of the eastern part of the Dominion. Smelting works have been erected at a large cost in Sydney, Cape Breton, in close proximity to the famous coal areas and to the great limestone deposits of the same island.

The active works in Canada are (1) the Nova Scotia Steel Company's blast furnace of Ferrona, Nova Scotia; (2) The Hamilton Steel and Iron Company; (3) The Canada Iron Furnace Company, Midland; (4) The Dominion Iron and Steel Company's works at Sydney, Cape Breton; (5) The Canada Iron Furnace Company, Radnor; (6) Deseronto Iron Company's works; (7) The Drummondville Furnaces; (8) The Londonderry Nova Scotia Iron Works. The united investment at these works amounts to \$35,000,000.

The Dominion, in 1900, made and imported 167,169 tons of pig iron, iron kentledge and scrap. Of this amount, 101,839 tons, or 61 per cent., were made in Canada. In 1902, the total quantity was 384,718 tons, of which 89 per cent. was home made.

When Canada began seriously to develop the iron wealth, she offered a bounty of \$1.50 per ton upon all pig iron manufactured in Canada. This was in 1883. Since then various changes have been made in the amount of bounty and the method of its application. The result, however, is the gradual development of the iron industry. In 1884 the imported pig iron was 64 per cent. of the whole consumed. In 1902 the imported pig iron was only 11 per cent. of the whole consumption.

Magnetic ores occur abundantly throughout the several counties of Ontario; and the Legislature of the province has set aside the sum of \$125,000 as an Iron Mining Fund, out of which the Provincial Treasurer is authorized to pay \$1.00 per ton of pig metal product of iron ores raised, mined or smelted in Ontario.

Hematite iron ores are found in all parts of Canada. Geologically, Canada's hematites have a wide range in time. They are found in the Laurentian, Huronian, Lower and Upper Silurian, Devonian, Carboniferous and Lias formations.

In New Brunswick large deposits of hematite ore are found near Woodstock, and the iron produced is remarkable for its great hardness and strength. When converted into wrought iron, it is pronounced, on the authority of Sir William Fairbairn, to be specially adapted for the plating of ironclad vessels. It is also admirably adapted for steel.

Chromic Iron ores and Titanic iron ores are found in different parts of Quebec. Since these chromic fields were opened, there have been shipped about 12,000 tons of chromite.

Limonite and bog iron ores are also widely distributed.

Clay iron-stones are found in rocks of various ages in all the provinces. Those of the Tertiary Age occur in the



LAKE ROSSEAU, MUSKOKA LAKES, ONTARIO



lignite-bearing strata, west of Red River. Of these, Dr. George M. Dawson, Director of the Geological Survey, writes :—"Should these ores ever come to be worked, limestone for use as a flux could be obtained in considerable quantities from the boulders of silurian age which strew the plains."

A score of miles up the St. Maurice River, P.Q., is Lac a la Tortue, a body of water 4 miles long by 1 1-4 wide. It occupies the centre of a large area of swamp land, largely composed of sand. These sandy lands produce a rank vegetation which, decaying, furnishes organic acids in solution in the waters draining into the lake. As these waters percolate through the sand, they come in contact with the iron rust in the sand, dissolve it and carry it into the lake. The air in contact with the surface of the lake turns the protosalt into a persalt, which, being insoluble in water, forms a film upon the surface, and at length sinks to the bottom, and there forms "cake" ore. This is gathered and conveyed to the Radnor furnaces, and being smelted with charcoal produces, when mixed with bog and magnetic ores, a charcoal iron of the very best kind; of course, the lake is constantly receiving fresh accretions of iron, the chemical processes going on without cessation. It is thus a continually replenished iron mine.

The iron ores of British Columbia are abundant; Dr. George M. Dawson, C.M.G., describes the bed on Texada Island as a very rich magnetic ore assaying 68.4 of iron, and a very low percentage of phosphorus and other impurities, with only 20 miles of the navigable waters of the Strait of Georgia between it and the Comox coal field, and both the iron and the coal close to the water's edge.

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Lead.—The chief ore of lead found in Canada is the sulphuret or galena. At Thunder Bay and the Nepigon region to the north of Lake Superior very numerous and valuable veins of ore are found.

The statistics of export sufficiently indicate the extent of the development and the provinces in which that development has taken place.

In 1890 the quantity mined in Canada was 10,500 lbs. In 1890-1-2 it has risen to an average of nearly 70,000,000 lbs. In 1890 the value of lead and manufactures of lead imported was \$342,580, and in 1903 it was \$164,392.

British Columbia is the great source of lead for Canada. It is there mined chiefly as an ore of silver. Small veins occur in the Provinces of Ontario, Nova Scotia and New Brunswick.

Copper.—This occurs in Canada in the forms of native or metallic copper and of the sulphuretted ores. The former is confined principally to the rocks of the upper copper-bearing series on Lake Superior. The latter are widely diffused. In Ontario, on the north-eastern shore of Lake Huron, extensive veins of rich copper ores have been mined for years, often with great profit. On Lake Superior the native copper, which has been so extensively and profitably worked on the Michigan shore, also exists in large quantities on the Canadian shore.

In Quebec and the other Eastern provinces, especially in Cape Breton Island, deposits of copper have been found and in many cases mined. In the Eastern Townships of Quebec, the copper occurs in small quantities in the pyrites mined chiefly for the production of sulphuric acid.

In the Province of Ontario, the nickel copper mines of the Sudbury district are the chief source of copper.

British Columbia has only recently come into the field as a copper producer. Its copper comes mainly from the Nelson mining district of West Kootenay. The real value of the ore lies in the gold and silver it contains. A few hundred tons of fair copper ore have been shipped from Texada Island.

In a paper read before the Institute of Mining Engineers in September, 1899, Mr. Wm. M. Brewer says:—"It may

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be safely said that the western portion of Vancouver Island presents to-day features of great promise so far as copper deposits are concerned."

The export tables of the Dominion show that since Confederation 80,086 tons of fine copper and 136,000 tons of copper ore have been exported. The value of the whole is over \$19,000,000, an average of \$530,000 a year. In the year 1903, the value of the export was \$2,907,394, thus showing the development that has taken place of recent years.

Nickel.—Canada has but one serious rival in the production of this metal—the French colony of New Caledonia. The deposit in Sudbury, Ontario, is nickeliferous pyrrhotite, and the discovery was made by the navvies of the Canadian Pacific Railway, while making a cutting through a small hill. Since work began, thirteen years ago, 67,000,000 pounds have been extracted, an average of over 5,000,000 pounds a year. The extent of the development that has taken place may be measured by the fact that the output in 1903 amounted to over 12,500,000 pounds. As a result of the construction of the Canadian Pacific Railway and the consequent discovery of the Sudbury deposit, over thirty million dollars of this scarce metal have been taken out.

Gold.—This metal has been found in almost all of the Provinces and Territories of Canada. Practically, however, its production is limited to the Provinces of Nova Scotia and British Columbia and the new district of Yukon, which, containing the Klondike region, has sprung to the front within the past few years.

Of the \$200,000,000 of gold which Canada has contributed to the world's store, British Columbia's share is 80 million dollars, Nova Scotia's 16 1-2 million, Ontario's 2 million, Quebec 290,000, the remainder coming from the Northwest Territories, and chiefly from Yukon district.

In the Province of Nova Scotia gold mining has been a very steady industry, the annual average output since the discovery, in 1862, being \$400,000, growing to \$556,000 average of five years, 1899-1903.

The gold produced in Nova Scotia is by quartz mining, no placers of any importance having been discovered.

In earlier years the quartz seldom ran below \$12 per ton. From 1862 to 1903, 1,554,308 tons of quartz have been crushed, showing the production of gold to be at the rate of \$10.50 per ton. In 1903 the value was \$5.17 per ton. The cause of this is that the extraction of gold is carried on more scientifically and economically now than it was in the early years, and that thus it has become profitable to treat low grade ores.

In the Province of Quebec not much mining for gold has been performed.

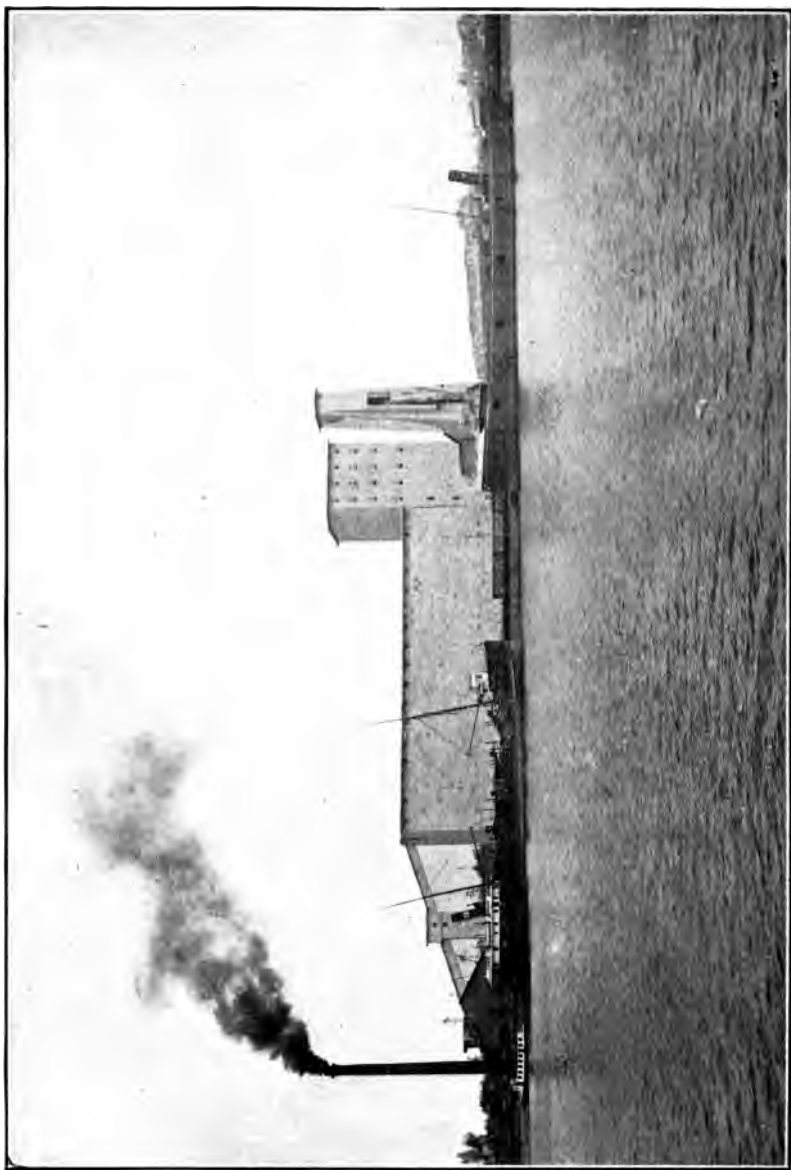
While gold has been produced in Ontario for several years, it is only since the establishment of the Bureau of Mines that any well-directed effort has been made. In 1891 the value of the gold reported found in Ontario was only \$2,000. In 1899 the output reached high-water mark, and the value of the product was \$424,568. In 1902 the product was valued at \$229,828. Much developmental work has been done during the past year, and reports are favourable for a large increase.

In the Saskatchewan District of the Northwest Territories a small quantity of gold is obtained from the bars in the Saskatchewan river, near Edmonton. The amount varies from year to year, the highest being \$55,000. The total thus procured since 1887 is \$282,946.

British Columbia has been a producer of gold since 1862. The earlier years were prolific of gold yield. There was a decrease in the production from 1882, and the lowest point was reached in 1893, when the product of the year had a value of \$379,000. A change came, and production increased rapidly. The million dollar mark was reached in 1895. The two million dollar mark in 1897; the four million in 1899; the five million in 1901, and the six million in 1903.

The Yukon District of the Northwest Territories has been yielding gold since 1885. It is only, however, within a very recent period that the gold deposits of the Klondike





DEPOT HARBOUR, CANADA ATLANTIC RY.



section have attracted the attention of the world. The value of the product sprung from \$300,000 in 1897 to an average for the past four years of \$17,000,000 a year.

Full particulars respecting the gold deposits of Canada can be obtained from the Department of the Interior, Ottawa, for the Northwest Territories and from the several Provincial Governments, whose offices are:—In Nova Scotia, at Halifax ; in Québec, at the City of Québec ; in Ontario, at Toronto, and in British Columbia, at Victoria.

Silver.—The two Provinces of Ontario and Québec are producers of silver in small quantities. The Province of British Columbia is the chief producer.

In the "seventies" Ontario produced from a mine on Silver Islet, near the mouth of Thunder Bay, Lake Superior, a considerable quantity of silver.

In British Columbia silver was produced at the rate of a few thousand ounces a year. It was, however, in 1895 that the production went over a million ounces. The returns of the Dominion Geological Survey give the production of 1901 at 5,151,333 ounces. The total production of the province from 1887 to 1901 amounted to 27,870,892 ounces. The total production of the three provinces in the same period was 31,934,607 ounces.

Other metals.—Among other metals found in Canada are cobalt, zinc and platinum.

Of minerals used in certain chemical manufactures, Canada has iron pyrites, chromium, magnesia, manganese, titanium and molybdenum.

Of minerals used in agriculture, apatite, gypsum, marl and salt are widely diffused.

Gypsum is found in great abundance in Ontario, the outcrop extending from Niagara River to Lake Huron for 150 miles. In Québec the supplies come mainly from the Magdalen Islands. Extensive and practically inexhaustible beds are found in New Brunswick and Nova Scotia.

The salt produced in the Dominion is almost all manufactured in the Province of Ontario. The salt beds of southwestern Ontario cover an area of 2,000 square miles.

They were discovered first at Goderich, in 1865, in boring for petroleum, and since then wells have been sunk at a dozen other places. In Kincardine the upper bed is reached at about 900 feet from the surface; in Goderich at 1,000 feet; in Courtright at 1,600 feet. A well drilled in Windsor in 1892 yielded salt at a little over 1,127 feet. Subsequently another well was drilled by the same company—the Canadian Pacific Railway Company—near the first. In each case the company drilled through 40 feet of rock salt, then encountered rock 23 to 30 feet thick, then a second layer of salt 23 feet thick, then rock 5 feet thick, and then 38 feet of salt.

Among minerals used for pigments are iron ochres, which are found and extensively manufactured in Quebec and Ontario, and in smaller quantities in the eastern provinces.

Sulphate of barytes is also widely distributed.

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The fifth subdivision includes combustible and carbonaceous materials.

The coal areas of Canada are estimated at 97,200 square miles, not including areas in the far north—known, but as yet undeveloped. These are:—

1. The coal fields of Nova Scotia and New Brunswick.
2. Those of the Northwest Territories.
3. Those of the Rocky Mountains.
4. Those of British Columbia.

The coal areas of Nova Scotia and New Brunswick cover about 18,000 square miles. The productive areas are divided into

- (a) The Cape Breton area.
- (b) The Pictou area.
- (c) The Cumberland area.

These are all in the Province of Nova Scotia, New Brunswick containing seams of sufficient magnitude to be worked, but nothing has yet been done to develop them.

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The known productive coal fields of Nova Scotia occupy an area of about 690 square miles, of which the Sydney and Cumberland fields comprise 650 square miles, the remainder being divided between the Pictou and the smaller fields of Antigonish and Cape Breton. The number of collieries is as follows:—

Cumberland, 6, viz.:—Joggins, Minudie, Chignecto, Fundy, Scotia and Springhill.

Pictou, 3, viz.:—Intercolonial, Marsh and Acadia.

Cape Breton, 8, viz.:—Cape Breton, Dominion, Sydney, North Sydney, Mabou, Port Hood, Inverness Railway and Gowrie and Blockhouse,

The sales from all in 1903 amounted to 4,621,074 tons, of which over 70 per cent. came from the Cape Breton collieries, the remainder being chiefly distributed between the Pictou and the Cumberland collieries, in the proportion of 13 per cent. from the first named and 11 per cent. from the second.

During twenty-five years the total output of the coal mines of Nova Scotia has been 60,000,000 tons, an average of 2,380,000 tons per annum. The output of 1903 was 5,255,247 tons.

The Dominion Coal Company have begun operations on a large scale for the manufacture of iron and steel, and these will result in an immense development in the production of coal.

The seams in the Cape Breton basin vary in thickness from 5 to 9 feet. In the Pictou basin they vary from 6 feet to 34 feet 7 inches in thickness.

Taking one analysis from each coal field in Nova Scotia, we have—

	MINES		
	Sydney, C. B.	Intercolonial, Pictou	Spring Hill, Cumberland
	p. c.	p. c.	p. c.
Moisture .....	1.54	1.52	3.66
Volatile combustion .....	36.30	29.40	28.55
Fixed carbon .....	57.01	60.08	62.78
Ash .....	5.08	9.00	4.32

The coal found in Nova Scotia is bituminous, and is in nearly all cases coking. It is a true coal from the middle or productive measures of the carboniferous division. All the Nova Scotia coal fields are on tide water.

There are no coal measures from New Brunswick westward until Manitoba is reached.

Of the Manitoba and Northwest Territories, the late Dr. Geo. M. Dawson, Director of Geological Survey, says:—

“The known areas of true and lignite coals of the best quality extend along the base of the Rocky Mountains from the 49th parallel to the vicinity of Peace River, a distance of 500 miles, with an average width of, say, 100 miles, giving a total area of 50,000 square miles. It is not intended to affirm that the whole of this area is continuously underlain by coal, but outcrops of coal are so general throughout it that, taken in connection with the character and regularity of the strata, it may be stated with safety that it is throughout a coal field. An additional area stretching eastward as far as the Souris River and Turtle Mountains yields lignites only, but these, often of very good quality and well fitted for local uses, may be roughly estimated at 15,000 square miles.”

The third coal area of Canada is that in the Rocky Mountains. This, though small as measured by miles, contains much coal of the best quality. One of these areas has been found to hold several seams of anthracite of very good quality. Those in the Cascades Basin have an area of sixty square miles. The small coal area of Crow's Nest Pass is very rich.

From the Territories the coal accounted for as produced was 456,000 tons in 1898, of which 20,000 tons were anthracite.

The fourth area is that of the Pacific Coast. Vancouver Island contains two productive coal areas—Nanaimo and Comox, the first about 200 and the second 300 square miles in extent. A very rough approximation gives 800 square miles as the extent of the coal areas (chiefly anthracite) of Queen Charlotte Islands.

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In quality the Vancouver Island bituminous coals are found to be superior for all practical purposes to any other coals on the Pacific Coast. They rank in San Francisco with the West Hartley coals. These widely-spread coal deposits on Vancouver Island entitle the Province to be called the Britain of the North Pacific.

The output of the coal mines of British Columbia, beginning in 1874 with 90,000 tons, has steadily increased, and in 1903 was 1,660,000 tons.

In the Comox district the productive measures show ten seams of coal with a total of 29 feet 3 inches, the thickest seam being 10 feet.

The character of the coal is evidenced by the following average analysis of the nine mines in the Crow's Nest field, and of 13 mines on Vancouver Island:—

	Crow's Nest.	Vancouver Island.
Molsture .....	.91	1.55
Volatile combustive .....	19.01	31.70
Fixed carbon .....	69.94	52.72
Ash .....	9.83	10.24

Asbestos.—The asbestos deposits of Canada are found in the rock group known as the serpentines, occurring in many parts of the Dominion. In the Eastern Townships of the Province of Quebec large workable deposits are located, and there the chief mining operations are carried on. The production has steadily increased. In 1880 the output was 380 tons, valued at \$24,700. In 1903 the export of asbestos and asbestic was 30,661 tons, valued at \$955,405. Mr. R. W. Ells, LL.D., of the Canadian Geological Survey, has issued recently a pamphlet on Asbestos in Canada.

Next in order are the refractory minerals. Canada has of these: plumbago, mica, soapstone, and sandstone.

The plumbago is a pure crystalline, and is widely distributed. The others mentioned are very generally distributed.

Materials for brick, pottery and glass abound. Limestone for common lime is abundant, as also are aigillaceous limestones and domites yielding good hydraulic cement.

Grinding and polishing materials are found in all the provinces. Corundum has been found recently in considerable quantity, and the Ontario Bureau of Mines (Report for 1897) published a report of forty or fifty pages on the subject of corundum in that province.

Of building stones, Canada possesses an abundance. Granite, comparing favorably with the best granites of other countries, is found in many localities. Sandstones of various colors and textures abound. The collection of marbles in the Geological Museum at Ottawa indicates a profusion of all kinds. Flagstones, roofing slates, lithographic stones, etc., are abundant and of good quality.

Agates, amethysts and jasper are found in the Lake Superior region and in other parts of Canada.

There are numerous mineral springs in different parts of Canada, and mineral waters are bottled, nearly a million dollars of output being reported in the census.

### **Manufactures.**

The constructive industries of Canada have been developed to a very considerable degree.

When Canada presented herself before the world in the Paris Exhibition of 1855 she could only tell of 28 or 30 different manufactures established in the country. There were saw mills, grist mills, carding mills, woollen mills, distilleries, tanneries, breweries and foundries of small size and number. The others were still fewer and smaller. The best that the Hand Book of 1855 could say was that the most important of the manufactures was that of shipbuilding, the number of ships built in Quebec city, the chief seat of the industry, having been 48 in 1853, valued at \$ 2,500,000 ; that the St. Maurice River iron mines employed 300 hands; that considerable progress had been made in the development of manufactures requiring iron and steel for their bases, such as locomotives, carriages, edge tools, agricultural implements, etc.: that cotton manufacture was very small; that woollens were made on a somewhat extensive scale; that 1,631 saw mills were producing 722,-

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600,000 feet of lumber per annum, and that grist mills numbered under 1,200, requiring a capital of \$5,000,000.

The whole industrial class numbered a little over 71,000.

By the year 1891 the 30 different manufactures of 1851 had expanded into 300, and the number of the industrial class into 370,000.

The census returns of 1891 show that the number of manufacturing and mechanical establishments increased from 49,722 in 1881 to 75,968 in 1891, an increase of 53 per cent.; that the capital invested increased from \$164,958,000 to \$354,621,000, an increase of 115 per cent., and that the value of the output increased from \$309,700,000 to \$476,200,000, an increase of 53 per cent., notwithstanding the very great drop in prices between 1881 and 1891.

The census of 1901 was taken on a different plan, only those industrial establishments employing five or more hands being taken by the agents of the department in charge of the census. The result of a comparison on this basis is that, while the number of establishments having five hands and over shows, as compared with 1891, a decrease, the total annual output of finished material shows an increase of \$94,216,092, the figures being \$453,298,728 in 1901 and \$359,082,636 in 1891.

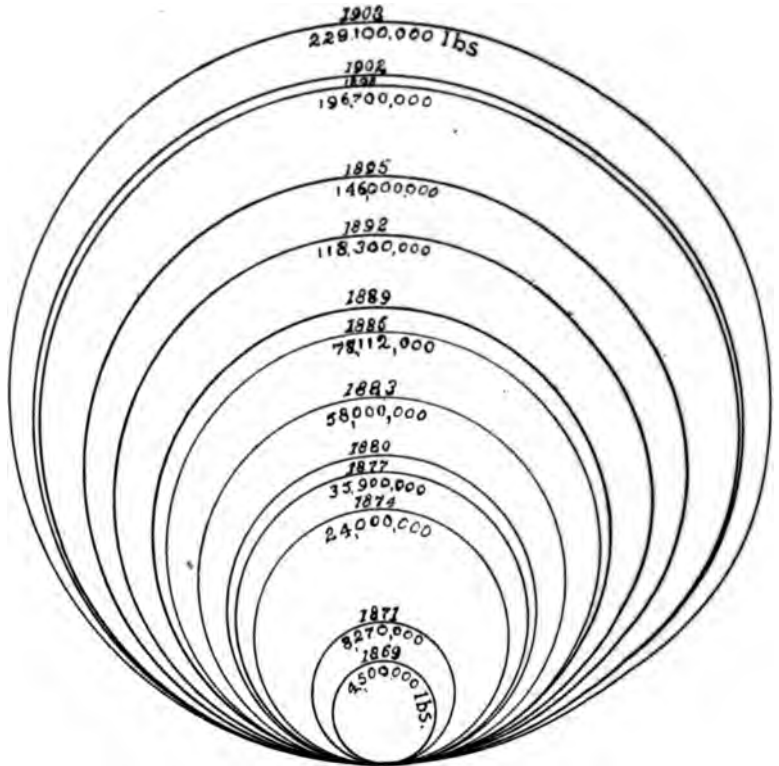
Under the stimulus of the abrogation of the Reciprocity Treaty of 1854 the cheese industry had a rapid development.

As is natural in a country so largely a wooded country, the manufacturing industries connected with wood form a large proportion of the total. The capital invested in these amounted to 28 per cent. of the total capital invested in manufacturing in 1891, and to 25 per cent. in 1901.

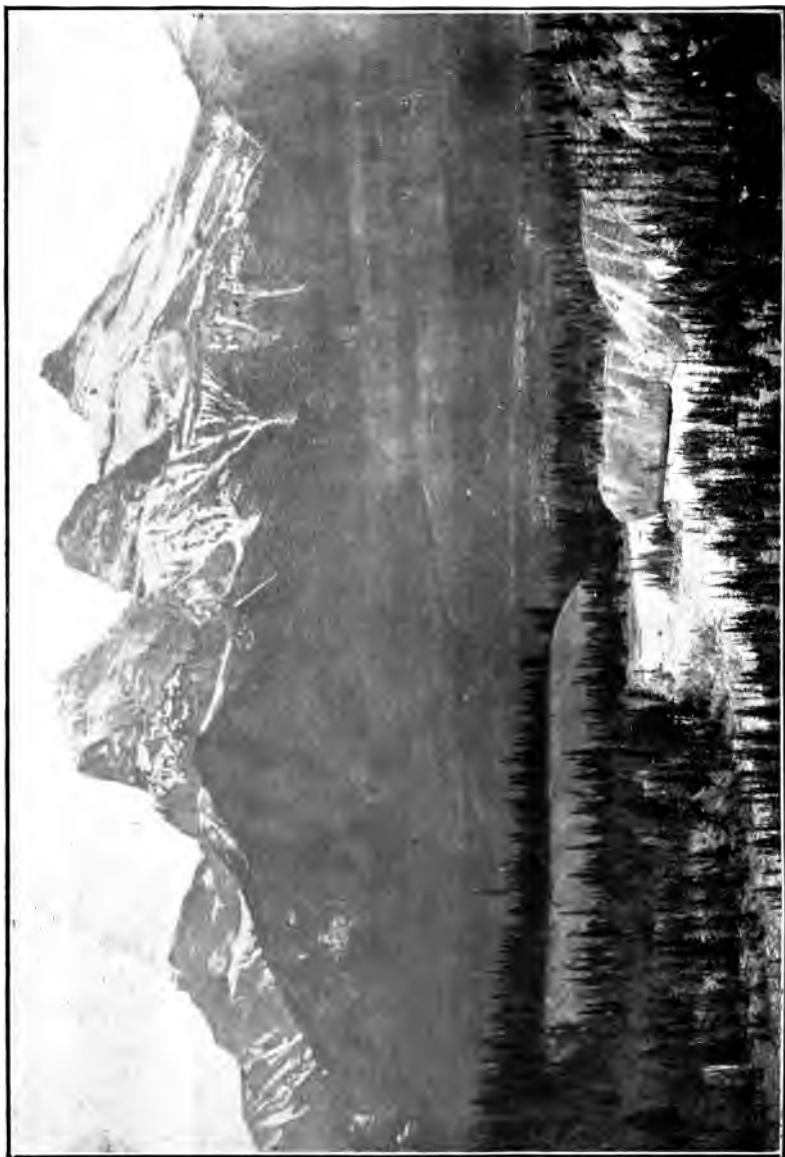
The development of manufactures connected with foods is also a natural development.

The only return in 1855 in this connection was that of grist mills, with a capital of \$5,000,000. Bakeries were few and far between, the bread used being mostly home made.

## DEVELOPMENT OF EXPORTS OF CHEESE FROM CANADA



Total Value of Cheese Exports of Canada, 1869-1903..... \$319,360,000



THE THREE SISTERS, ALBERTA, N.W.T.



There were no cheese factories, and but little cheese was made in the homes of Canada, the census returns of 1851 giving a total of 4,182,000 pounds as the year's make of home-made. Much of the cheese consumed was imported from the United States. The factory-made article was added to the home-made, and the total of the two in 1890 was 114,982,000 pounds, or nearly thirty times the amount of 1851. In 1900 the joint produce was 227,905,250 pounds, or fifty-seven times the produce of 1851. From being dependent on the United States for its cheese, Canada is now the largest exporter among the world's countries, our exports in 1903 having been 230,000,000 pounds.

In 1891 the total capital invested in manufactures having vegetable and animal foods for their bases was \$42,700,000, flour and grist mills having increased their capital from the amount already given for 1851 to over \$23,000,000. In 1900 the capital employed in these industries, taking only establishments with five hands and over, was over 50 million dollars.

The canning industries are of comparatively recent growth. Still, in 1891 the capital invested in canning industries was about \$9,000,000. This amount has been largely increased since then.

In printing and publishing, bank note engraving and the like, the capital invested in 1891 amounted to \$10,500,000; in carriage making to nearly \$11,000,000; in drinks and stimulants, to nearly \$27,500,000; breweries having a capital of \$8,533,000, and sugar refineries nearly \$6,000,000. The census of 1901, with the limitation already mentioned, showed an increase of capital invested in these industries of 46 per cent.

There was a great growth in the number of establishments for the preparation of aerated waters, the value of the out-put for the year being over three-quarters of a million dollars. In the manufacture of tobacco, cigars, etc., the sum of over 7 million dollars was invested in 1901.

In the manufacture of leather, boots and shoes, harness, there has been a great development, the capital employed in 1891 being returned at nearly \$22,000,000.

Our largest cities and towns had been lighted with gas some years before the Paris Exhibition of 1855 took place, but the use of gas was only beginning to become general. Of course the application of electricity was unknown. By the census of 1891 the capital invested in lighting appliances was \$21,335,000, an increase during the decennial period 1881-91 of \$13,500,000. Returns for the year 1903 show that the country has over 50 million dollars invested in electric light and power plants.

In the manufacture of textile fabrics and dress materials, Canada could not do very much in the earlier exhibitions. Since then there has been great improvement, and the total capital invested in 1900 in these branches was \$55,744,000, of which \$18,300,000 was in cotton mills and \$10,500,000 in woollen mills.

Divided somewhat empirically into classes, the census of 1901 gives the following results (factories employing five hands and upwards):—

Articles.	Capital.	Wage Earners.	Value of Product.
Arms and ammunition....	1,675,675	611	1,054,000
Books, printing, &c.....	17,235,971	10,724	13,796,151
Carriages, &c. ....	14,941,702	14,453	19,420,999
Chemicals, &c. ....	4,607,778	1,837	5,017,750
Drinks and stimulants...	39,340,286	11,275	36,034,328
Fibrous material — Twine, &c. ....	3,901,905	2,621	4,211,806
Foods, vegetable — Grist mills, &c. ....	24,781,251	15,705	47,492,461
Foods, animal — Factory cheese, &c. ....	13,896,363	18,030	31,951,369
Furniture, houses and buildings .....	22,409,724	17,163	24,988,932
Gold and silver .....	2,260,430	1,544	2,491,622
Leather, boots and shoes, &c. ....	21,558,894	19,332	34,853,019

Articles.	Capital.	Wage Earners.	Value of Product.
Lighting — Gas, electric light .....	27,632,868	4,810	11,817,374
Machines, tools, &c.....	78,032,672	39,076	61,879,939
Matters, animal — Brush and broom works, &c..	3,085,130	1,364	3,325,159
Matters, vegetable—Boxes, cardboard, &c., log products, &c. ....	84,492,298	66,650	72,203,699
Mathematical instruments	115,700	140	199,750
Musical instruments .....	4,290,847	2,669	3,380,727
Ships and boats .....	3,297,914	2,587	2,043,668
Stone, clay and glass....	7,117,245	9,370	5,820,544
Textile fabrics and dress	55,743,839	62,588	61,822,170
Miscellaneous .....	10,945,213	4,351	9,993,261

The above enumeration is not taken in on the same basis as is the census of the United States. It is limited to industrial establishments having five hands or more.

The factory life of the Dominion includes over 11,000 establishments, employing 306,900 wage earners. The average annual wage paid in 1900 was \$287 per wage earner.

In the main the development of our manufacturing and mechanical industries has followed the lines suggested by our development of the extractive industries and by the growing wealth of the country.

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## XI.

### TRANSPORT SERVICE.

From the development of our industries of the field, the forest, the mine, the waters and the workshop, necessarily has sprung the development of our means of transport, for the purposes of distribution.

In the early stages of Canadian life the St. Lawrence River, from Montreal to its mouth, supplied the facilities for transport. When, however, the early policy of concentration gave way to the policy of expansion, the obstacles

to rapid transportation began to be wearisome. The portages were improved, the rapids reduced, where practicable, and the class of boats changed for the better.

As settlement increased the high roads of the country were opened and improved. A regular system was adopted for the purpose, and for years the river and the roads were the only means of communication. Soon the idea of improving the river by means of canals took root. Nature had rendered the St. Lawrence navigable to Quebec for ships of the largest size. Vessels of 500 or 600 tons burden could go as far as Montreal, but beyond that were the St. Louis Rapids, which put an end to further progress. Beyond the St. Louis Rapids large vessels could sail up for some distance—to encounter, however, forty miles of rapids before Kingston, at the foot of Lake Ontario, could be reached. It was plain sailing over the great lake, but between Lake Ontario and Lake Erie there was a distance of 27 miles, in the course of which the ascent was 300 feet, and the frowning front of Niagara Falls intervened. After entering Lake Erie the Durham boat had free course through Lakes Erie, Huron and Michigan, but the way to Lake Superior was barred by the Sault Ste. Marie.

These several obstacles the Canadian people determined to overcome, so that from the western feeders of Lake Superior freighting of supplies could be carried on without interruption.

The first efforts resulted in artificial water ways to overcome the rapids immediately above the Lachine Rapids—the Cedar, Cascades and Coteau. These, begun in 1779 and finished in 1781, sufficed for a time.

But these were merely efforts of the 'prentice hand of Canada.

Within a few years an elaborate canal system was evolved. It included within its comprehensive grasp (a) the improvement of the St. Lawrence River, (b) of the Ottawa River, (c) of the Rideau River, (d) of the Richelieu River and Lake Champlain, and (e) later on, the completion of a canal in the Island of Cape Breton.





MOUNT STEPHEN, "ROCKIES," B.C.



Connected with the St. Lawrence River there are 73 miles of canal—supplied with 49 locks of various dimensions, those in the line of direct navigation being from 270 x 45 feet to 900 x 60 feet in length and breadth, with a depth on the sills from 14 to 20 feet, the greater number of the locks being of the standard size, 270 x 45 feet, and 14 feet deep.

The work of completing this system of canals has been going on for many years, the canal to overcome the Lachine Rapids, near Montreal, having been begun in 1821, and the Welland Canal, to overcome Niagara Falls, in 1824.

In connection with this canal development it was resolved to provide a submerged canal between Quebec and Montreal, in order to overcome the shoals, of which there were in the aggregate nearly 50 miles, divided among 30 different places, the widest being in Lake St. Peter (17.47 miles). These shoals were composed of gravel, sand, clay, boulders and shale rock.

This work was begun in 1844. By 1860 the increase of depth effected was 9 feet, giving a 20 feet channel to Montreal. By 1878 the depth was 22 feet ; by 1882 it was 25 feet ; by the end of 1888 it was 27 1-2 feet. It is now practically 30 feet deep and 500 feet wide.

The total cost, including the expenditure on the abandoned straight channel to 31st December, 1903, amounts to \$5,620,000, and the total quantity of dredged matter to 36,700,000 cubic yards.

This work has made Montreal remarkable, from the fact that it is a fresh water seaport, frequented by the largest craft, 986 miles inland from the Atlantic, 250 miles above salt water, and nearly 100 miles above tidal influences. In the bottom of a lake, whose water was from 11 to 18 feet deep upon the flats, a submerged canal has been excavated entirely by steam, 17 miles long, and with sides in the worst places over 18 feet high.

The growth of the shipping of Montreal has kept pace with the development of the channel. In 1850 the number of vessels arrived from sea was 210, of an average ton-

nage of 220. In 1880 the number increased to 710 vessels and the average tonnage to 900 tons. In 1890 the vessels entered and left in one year numbered 776, and the average tonnage was 1,630 tons. In 1900 the vessels at the port entered and left were 850, with a total tonnage of 2,068,313, an average of 2,550 tons. In 1903 the vessels entered and cleared numbered 862, with a total tonnage of 2,312,970 tons, an average of 2,690 tons per vessel; the largest vessel entered having a tonnage of 6,802 tons.

Montreal thus leads the Atlantic ports of this continent in average size, the Port of New York coming next, with an average sized ocean-going vessel in 1903 of 2,360 tons, and Philadelphia with an 1,800 ton vessel for its average size.

In actual sea-going tonnage entered, Montreal rivals Baltimore, and is only exceeded by New York, Boston, Philadelphia, and New Orleans.

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The most recent expansions of the St. Lawrence River canal system are the Sault Ste. Marie and Soulanges Canals.

The first named connects Lakes Superior and Huron, and is necessary because of the difference of 18 feet between the levels of the lakes. At this place the first canal built was in the year 1797 by the Northwest Fur Company, to enable them to carry their furs and supplies to and from the Indian country of the Northwest. The first canal was 40 feet long and 9 feet wide, and had a total lift of 9 feet, and the boats were towed from the end of the lock up a sluice-way by oxen the remainder of the distance to Lake Superior. This canal had the first lock ever built on the North American Continent. The site upon which this primitive lock was built is preserved and used as a fish pond, and the oaken floor is as good apparently as it was when laid over a hundred years ago. Locks of various sizes have been built from time to time, and now there are three locks in operation, two on the United States side and one on the Canadian. The larger one on the United States

side is 800 feet long and 100 feet wide. The Canadian lock is 900 feet long and 60 wide, and is said to be the longest lock in the world. Both the Canadian and the United States locks can pass vessels drawing 20 feet of water.

The business accommodated by these canals is very considerable. Indeed, few persons have any idea of the extent of the business served by the canals at the Sault Ste. Marie.

The Suez Canal is the highway for Europe and Asia. Through it pass ships flying the British, the German, the Dutch, the French, the Austro-Hungarian, the Russian, the Italian, the Norwegian, the Spanish, the United States, the Portuguese, the Japanese and other flags. In 1902 the Suez Canal was used by 3,708 vessels, having a tonnage of 11,248,413 tons net.

Through the canals of the Sault Ste. Marie in the same year (1902) there passed 22,659 vessels, having a registered tonnage of 31,955,580 registered tons.

The Canadian Sault Canal is operated by electricity, and, in consequence, the average time of making a lockage, including all delays to vessels in this lock, is fourteen minutes and fourteen seconds.

The total cost of building the Canadian canal at Sault Ste. Marie is \$4,216,529.

Since it was opened the Canadian "Soo" has carried of wheat, grain and flour, during the first seven years an average of 19,140,000 bushels a year. During the two years 1902 and 1903 it carried an average yearly of 42,217,500 bushels of flour, grain and wheat.

The Soulanges Canal, opened in the autumn of 1899, is 14 miles long. The rise of 82½ feet between Lake St. Louis and Lake St. Francis is overcome by four locks. Three of these, each of 23 1-3 feet lift, occur in the first mile from the Ottawa River. Then there is a reach of some two and a half miles to the fourth lock, which has a lift of 12 or 13 feet to low water level of Lake St. Francis. The canal is, for purposes of navigation, a straight line throughout. Electricity is used as the motive power.

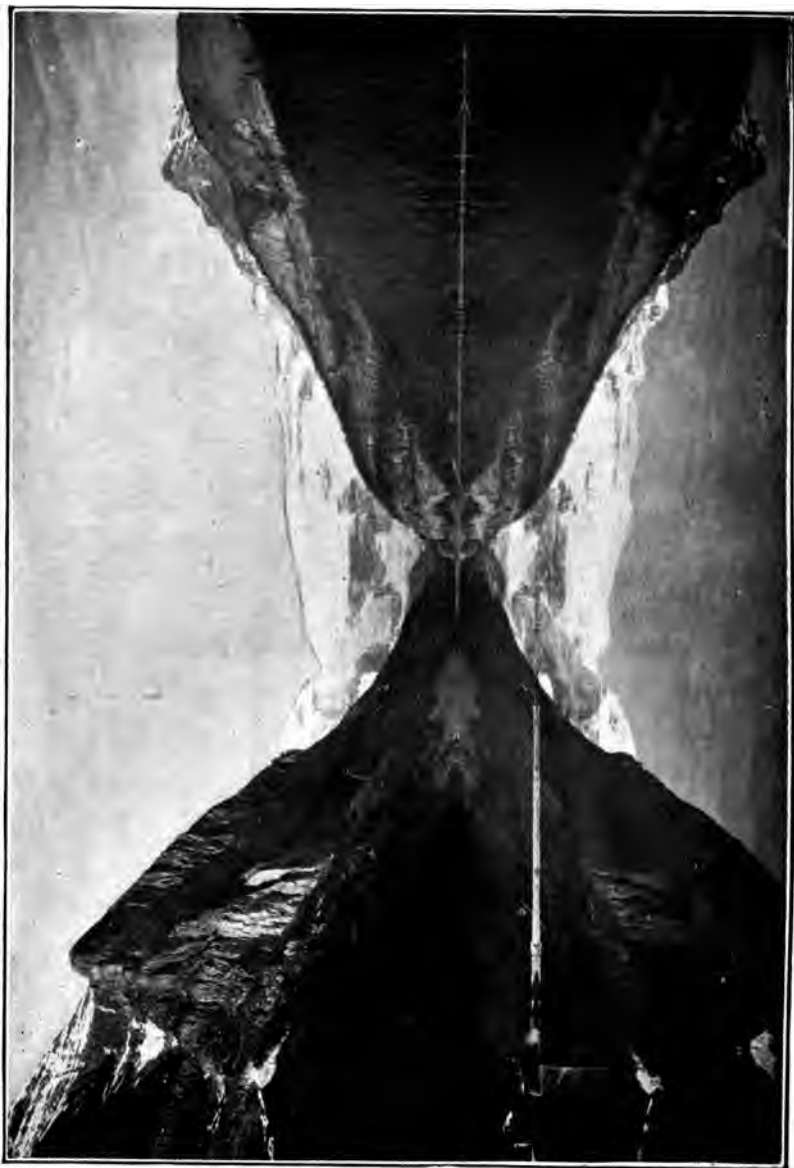
The amount of earth and rock removed to make this canal was about eight million cubic yards.

The other canals of this system have been brought into unison with the general scheme.

The Welland Canal lifts vessels of 255 to 260 feet in length from Lake Ontario to Lake Erie, a lift of 327 feet. Begun in 1824, opened partially in 1829, and wholly in 1832, its enlargement was begun in 1841 owing to the fact that the size of vessels had so increased that more than one-half the vessels navigating the lakes were unable to pass through the canal. The first enlargement was no sooner completed than it was found necessary to increase the depth of water, as the vessels continued to increase in size. In 1859, the St. Lawrence route not maintaining its share of the Western trade, and of the grain trade in particular, inquiries were instituted into the causes of diversion to rival routes. The result was a second enlargement. The canal has now twenty-six locks of the standard size—270 by 45 feet, with 14 feet of water on the sills.

The Ottawa and Rideau Canal system has for its object the connecting of Montreal by the way of the Ottawa and the Rideau Rivers with Kingston at the foot of Lake Ontario. The total distance from Kingston to Montreal by this route is 245 miles. The larger locks are 200 by 45 feet and the smaller 134 by 32 feet. These canals were originally constructed to afford an interior line of water communication. The highest point is the Rideau Lake, which is 292 feet above the level of the Ottawa at the outlet of the canal.

The Richelieu and Lake Champlain system commences at Sorel at the confluence of the Rivers St. Lawrence and Richelieu, 46 miles below Montreal, and extends along the latter river to the basin of Chambly; thence by the Chambly Canal to St. Johns; thence to Lake Champlain, at the southern end of which connection is made by the Champlain Canal with the Hudson River, by which the city of New York on the Atlantic seaboard is reached. The Chambly Canal is 12 miles long.



REFLECTIONS ON LAKE LOUISE, LAGGAN, ALBERTA





It will thus be seen that by the canal system of Canada, as originally sketched, it was proposed : 1st, to form an interior route of transport from Montreal to Lake Ontario adapted for the conveyance of troops and munitions of war ; 2nd, to overcome obstacles in the St. Lawrence and thus give continuous safe water communication between the grain-growing regions of the great Laurentian Lakes and Montreal ; 3rd, to make Montreal a port for ocean steamships of the largest size ; and 4th, to bring Montreal and New York into communication with each other by means of water transport.

The total amount expended on the construction of our canals to 30th June, 1903, is \$86,560,000. If to this sum is added the cost of the submerged canal between Montreal and Quebec, the total amount expended in the effort to supplement our waterways as means of communication is over 92 million dollars.

The number of vessels passing through our canals in 1899 was 29,680, with a total tonnage of 7,594,303 tons, or 1,644,000 tons less than passed through the Suez Canal in the year 1898.

The proportions of freight carried, taking the Welland Canal as the standard, are : Forest products, 14 per cent. ; farm products, 50 per cent. ; merchandise and manufactures, 36 per cent.

There are affluents of the St. Lawrence which have either not needed canal aid or but to a small extent. Thus the Saguenay is one of the tributary streams of the great river. It is navigable for the largest vessels for nearly ninety miles. The Ottawa River is opened by means of St. Anne's Lock, one-eighth of a mile in length, and thence forms a water thoroughfare for a distance of more than 200 miles for vessels 200 feet long by 45 in breadth.

### Railways.

It was early felt that railways were needed in addition to canals. In 1832 a charter was obtained from the Legislature of French Canada for a railway to connect the

waters of the St. Lawrence, near Montreal, with those of Lake Champlain, by taking the base line of an isosceles triangle, instead of the two water sides up to that time used, thus securing speedier communication between Montreal and New York by a mixed water and rail route. It was opened in 1836, horses being used at first and locomotives in the following year. Two railways were incorporated in 1834 in Upper Canada.

In Nova Scotia a railway was built in 1839 to connect the coal fields of Pictou with the loading grounds on the Gulf of St. Lawrence.

It was, however, in the year 1851 that the country began to feel the need for a comprehensive system of railways. In that year an Act was passed by the Legislature of the Province of Canada making provision for the construction of a main trunk line through the two Canadas. In the same year delegates from the British North American provinces went to England to arrange for the construction of a railway from Quebec to St. John and Halifax, and in that year the construction of a railway through British territory to the Pacific Ocean was brought before the Legislature.

In 1855 there were 563 miles of railway in what is now the Dominion of Canada. The Grand Trunk Company had also constructed 292 miles in the United States to connect Montreal and Portland. It was therefore with promise for the future rather than actual fulfilment that Canada presented herself at the Paris Exhibition of 1855. Work went on slowly at first. By 1865 the 563 miles had become 1,290 miles, and in 1867 there were about 2,000 miles of railway in the country. The union of the four provinces of Upper and Lower Canada, Nova Scotia and New Brunswick took place in 1867. In the next decade there was an addition of 3,218 miles. By 1887 the added miles were 8,575, and in 1903 the total miles of track laid were 19,077.

Since 1867 the 2,000 miles with which Canada began her existence as a Dominion have increased over nine times.

Down to the consummation of the union the several provinces had expended \$150,000,000 for railways, of which

Government had contributed \$31,400,000 ; other sources, \$118,600,000. Since that time the Federal or general Government has contributed \$152,000,000, and other sources \$845,000,000, making a total expended for railways of \$1,146,500,000, towards which the Government of the Dominion has contributed 16 per cent., including the Government railways, the cost of which amounts to \$70,860,000.

In addition, the general Government has given large grants of land, amounting in the aggregate to about 57,000,000 acres, of which the grant to the C.P.R. was on final adjustment 18,200,000 acres. For this expenditure of over \$1,100,000,000 the several provinces have (1903) :

	Miles	Square Miles of Land Area to Each Mile of Railway.
Ontario .. .. .	7,142	30.7
Quebec .. .. .	3,492	97.8
New Brunswick .. .. .	1,445	19.3
Nova Scotia .. .. .	1,050	20.0
Prince Edward Island .. .. .	210	9.5
Manitoba .. .. .	2,225	29.0
Northwest Territories (4) .. .. .	2,094	25.6
British Columbia .. .. .	1,421	26.0
Total .. .. .	19,079	

Taking population and railway mileage, the western portions of the Dominion have a larger railway mileage in proportion to population than the older provinces.

Thus, British Columbia, the four Territories and Manitoba have 12 per cent. of the population and 30 per cent. of the whole railway mileage, while Ontario, Quebec and the Maritime Provinces, with 88 per cent. of the population, have a little under 70 per cent. of the railway mileage.

The reason for this difference is that the railways in the newer portions of the Dominion have been built as a means

of transporting settlers and opening up the country, while in the older and better settled provinces railways have followed settlement instead of preceding population.

This accounts in a measure for the large amount of assistance in money and lands the Government has given to the railways, in addition to the cost of construction of railways owned and operated by the Government.

From the square miles of area to each mile of railway in existence, it will be seen that Canada has by no means completed her railway development, but as population increases will find herself constantly forced to provide more mileage.

It is difficult even now for the existing railways to carry to the seaboard the surplus grain crop of Manitoba within the season, and so keenly is this seen by our public men that one of the important measures before the Federal Parliament during this (1904) session is a Grand Trunk Pacific Railway from the Pacific Coast to the Atlantic, with a more northerly route than that taken by the Canadian Pacific Railway. Within a short time Canada will have three transcontinental lines.

In 1855 there was no connected system of railways in actual use. It was in the brains of our public men, ready to be turned into iron and steel as soon as the men and money could be found.

In 1867 things were not much better. Still, the work done began to show. Four hundred and ninety-one locomotives were needed for the 2,089 miles of railway then in running order. There was an equipment of nearly 8,000 cars of all kinds. The passengers carried numbered 2,784,600, and the freight carried amounted to 2,272,000 tons. The revenue had reached the respectable sum of \$12,000,000, and the expenditure was about \$8,000,000.

The average charge per passenger was \$1.63, and per ton of freight \$3.19. For this charge of \$1.63 the passenger was somewhat roughly transported from one chief town to the other, without any conveniences of any kind. Iron rails were used. There was but a single track on the road-beds, and the cars bumped from one rail to the next as if each rail



BOW RIVER FALLS, BANFF, ALBERTA



was protesting against receiving the burden from its predecessor. The train started with a jerk that nearly separated the head from the body, and stopped with a jolt that threatened a frequent and sudden farewell of the upper half of the spinal column from the lower, to the destruction of the vital forces necessary for animal existence.

In 1903 the passengers carried numbered 22,150,000, and the freight carried amounted to 47,400,000 tons. The revenue of the railways was \$96,100,000, and the working expenditures were \$67,481,500.

Nowadays the passenger is comfortably housed, fed and otherwise provided for at a considerably lower rate of charge. He travels on a smooth road-bed, laid with steel rails connected in the most up-to-date way. He hardly notices that the train has started or has stopped, except by means of the sense of sight. He leaves Montreal or Ottawa in the evening, goes to bed, and wakes up in the morning in Toronto or well on his way to St. John. The speed has been developed in strict ratio to the improvement in other respects. Some of the more important railways between centres of population give the public an average annual speed of 45 miles an hour for the passenger trains. Several have an annual average of 40, of 35, of 30 miles an hour.

The Canadian Pacific Railway carries passengers from Montreal to Vancouver, on the Pacific Ocean, 2,906 miles, in 100 hours—notwithstanding that 600 miles of mountainous region are included.

For freight trains the annual average of all the railways of Canada in 1903 was 17 miles, the highest averages being 35, 34, 30, 27, 26 and 20 miles.

In 1903 the equipment of the railways included 2,587 locomotives, larger and more powerful than the 491 that sufficed in 1867; and 90,000 cars of all kinds—beyond comparison superior to the 8,000 in use in 1867.

In addition, the railways of to-day are provided with snow ploughs and flangers which reduce to a minimum the liability of detention during the winter months.

The people used the railways for passenger traffic at the rate of 8,000 in every 10,000 of the population in 1867. In 1903 they used the steam railways so much that every 10,000 of the people had taken 40,000 passages.

In addition to this use of the steam driven railway car the people of Canada have 759 miles in all of electric railway, and this method of transport they utilized in 1903 to such an extent that about one hundred and fifty-five million passengers were carried, which is equal to thirty-one passages for every man, woman and child in Canada. Thus every person in Canada averages thirty-five passages a year by steam or electrical car.

The railway system of Canada consists of 165 railways. By process of absorption and assimilation, twenty-five of these have been amalgamated and form the Grand Trunk Railway System. The consolidation of twenty-seven railways has produced the Canadian Pacific Railway System. The remaining 113 have consolidated more or less, so that, taken together, there are 83 separate and distinct railway organizations, employing 2,578 locomotives and 90,000 cars of all kinds, passenger, freight, refrigerator, etc.

Thirty-five railways, not included in the above, employ electricity as the motive power. These are used chiefly in the cities and towns, though in some instances in Western Ontario they are employed in transporting passengers through rural districts.

The Canadian Pacific Railway has a mileage of 7,439 miles ; the Grand Trunk, 3,162 ; the Intercolonial Railway of 1,310 miles, and the others of over 7,000 miles.

The Canadian Government's railways, generally called the Intercolonial, are the only railways owned and operated by Government, the others being company-managed railways. The Government railways cost \$80,000,000 for construction and equipment, and have been run at a net expenditure greater than receipts amounting to \$12,330,000, equivalent to an average loss of \$342,500 a year.

Their value, however, has more than compensated for this charge upon the revenue. Like a river, they have de-



veloped the regions through which they pass, and have been a great factor in the increase of internal trade, which hardly existed before the Union in 1867, and is now, taking Ontario and Quebec Provinces as one, over \$150,000,000 a year. Ontario and Quebec have, with the other provinces East and West, this exchange of commodities, almost non-existent thirty-two years ago.

### Shipping.

The third of the great arms of trade as a distributor is the shipping of a country.

Canada employs in her over-sea trade a tonnage of 15,841,175 tons of shipping. In the distribution of the products of Canada and the United States, by means of the Great Laurentian Lakes and the rivers connected with them, there were employed 17,813,868 tons in 1903.

In addition to the shipping employed for over-sea and lake transport between other countries and Canada, there is the shipping employed in the coasting trade of the country. This shipping carries goods from port to port within Canada, and is called coasting, though the word by no means expresses all that is meant to be conveyed. Thus, a vessel going from Yarmouth, Nova Scotia, to Boston, across the mouth of the Bay of Fundy, is classed as engaged in the ocean or over-sea trade, while a vessel going from Quebec or Montreal to Vancouver or Victoria, in British Columbia, and having to go round Cape Horn, is classed as a coaster. The tonnage engaged in the coasting trade of Canada amounted in 1903 to 44,990,358 tons. Thus, for the water-borne trade of Canada in 1903 there were required 78,645,401 tons of shipping.

The growth of each of the three branches is a fair index of the development of Canada. In 1868 the tonnage required to carry on our business of an international character between other countries and ourselves over the ocean amounted to 4,320,000 registered tons ; in 1900, to 14,175,200

tons ; in 1903, 15,841,175 tons. The tonnage on the Great Lakes, carrying the trade between Canada and the United States, amounted to 8,663,500 tons in 1868, to 12,739,000 tons in 1900, and to 17,813,868 tons in 1903. The demands of the coasting trade required 8,000,000 tons of shipping in 1868 ; 33,631,730 tons in 1900, and nearly 45 million tons in 1903.

Since 1876 the tonnage of the shipping required to do the water-borne business of Canada has increased from 20,212,138 tons to 78,645,401 tons in 1903. The increase is divided : (1st) increase of tons employed in over-sea carrying trade, 169.6 per cent. ; (2nd) increase of tons employed in inland lakes and rivers in carrying between Canada and the United States, 345.3 per cent. ; (3rd) increase of tonnage employed in the coasting trade, 336.7 per cent.

The growth of the internal trade is indicated but partially by the tonnage engaged in the coasting trade, since, on account of the construction of the Canadian Government and the Canadian Pacific Railways, connecting Montreal and Quebec with Halifax and St. John, a large amount of freight that would go by vessel is carried by car, nearly one-half of the freights of the Government Railway connecting Nova Scotia and New Brunswick with Montreal consisting of coal and lumber.

The Dominion stands seventh on the list of countries owning shipping, Great Britain, the United States, Germany, Norway and France, in the order named, being ahead of Canada.

For many years Canada made rapid strides in ownership of vessels, and in 1878 reached her highest point, having in that year 1,333,015 tons of shipping on her registry books.

During previous years the tonnage of vessels built in Canadian shipyards was as high as 191,000 registered tons in 1874. Since that year there has been a decrease, till, in 1896, it fell to 16,146 tons. In 1898 there was a slight revival, the tonnage of new shipping built amounting to 24,522 tons. This was offset to a certain extent by the sale to other countries of 17,210 tons.



ENTRANCE TO ROCKIES, NEAR GAP, ALBERTA

UNIVERSITY OF



The reason for the almost complete cessation of the shipbuilding industry is, of course, the change from wooden to iron and steel ships. The reasons for the very great decrease in tonnage owned in Canada are the cessation of building and the sale to other countries, principally Norway.

The country has set itself energetically to work to remedy this state of things. At the base is the development of the iron industry by the encouragement of the manufacture of pig iron. This has been so successfully prosecuted that instead of the proportion of home-made pig being 36 per cent. of the whole consumption, as it was in 1884, it has been in recent years from 75 to 88 per cent. of the whole.

In the meantime large and well placed steel works are approaching completion near the ancient site of Louisburg in Cape Breton—the beginning of an effort to adapt ourselves to the changed conditions which have rendered our forests useless for shipbuilding purposes.

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## XII.

### BANKS, ETC.

Having dealt with the arms of trade, we come now to the auxiliaries to the transport service.

These consist of facilities for safe, speedy and cheap conduct of business, and include banks, telegraphs, telephones, post offices, navigation securities and insurance.

For the disposal of the business transactions of the country, internal and external, there are thirty-five banks with a capital paid up of \$76,453,125. In addition they have accumulated earnings, called reserves, amounting to nearly 48 million dollars. The system adopted in Canada is head offices with branches.

Thus, the thirty-five main banks have 1,046 branches spread all over the country, there being 491 in Ontario, 183 in Quebec, 98 in Nova Scotia, 45 in New Brunswick, 87 in Manitoba, 50 in British Columbia, 11 in Prince Edward Island, and 81 in the Northwest Territories. The Bank of Montreal, with head office in Montreal, has a total of 58 branches, 27 in Ontario, 5 each in Quebec and Nova Scotia, 4 in New Brunswick, 3 in Manitoba, 8 in British Columbia and 6 in the Northwest Territories.

These branches are in constant communication with the head office, and thus the General Manager is kept in touch with the trade movements of all sections of the country.

The basis of the banking system is gold and Dominion notes.

The several Acts relating to the subject require that the general Government, to whom banking and currency are allotted by the fundamental Act of Union, shall hold (1) 15 per cent. of \$30,000,000 in gold ; (2) 10 per cent. additional either in gold or Dominion securities guaranteed by the Imperial Government ; and (3) gold, dollar for dollar, of any excess of issue over \$30,000,000.

Holding these securities, the Federal Government may issue Dominion notes redeemable at certain points, and these the banks must hold to a certain amount. In addition, the banks must hold a certain amount of gold.

Thus prepared, the banks may issue notes for not less than \$5 to the amount of the unimpaired paid up capital.

To further protect the note holders, the banks have to deposit with the Government an amount equal to 5 per cent. of their note circulation to form a fund for the security of the note holders, who are further secured by a provision requiring that the notes of a suspended bank shall bear interest at 6 per cent. till the public is notified that the notes can be redeemed.

The Dominion has a monopoly of the \$1, \$2 and \$4 notes.

The circulation on February 29th, 1904, of all denominations, was : Dominion notes, \$40,702,434 ; bank notes, \$55,412,598. Against the Dominion note circulation, the

Government held of specie \$39,000,000 and guaranteed debentures \$9,446,667, in all \$48,500,000, while the banks had \$14,500,000 in specie and \$29,000,000 in Dominion notes, in all \$43,500,000. Thus, at the base of the system is the sum of \$53,500,000 in gold, supplemented by guaranteed debentures of a face value equal to about \$10,000,000.

The banks have assets on the whole equal to considerably more than the liabilities, the latter being, in a ten year period, 80 per cent. of the assets.

The public use these banks for deposits and for discounts. The discounts, representing the assistance the banks give to the business men, are a fair gauge of the business activity.

The following table shows the development of the banking business in Canada :—

	1868	1878	1888	1898	1903
Discounts.	\$ 52,299,050	\$119,682,659	\$141,002,373	\$223,806,320	\$472,019,689
Deposits..	83,653,594	70,856,253	125,136,473	236,161,062	424,167,148

In addition to their paid up capital, the banks have developed a rest, being amounts earned but not paid out in dividends. The amendment to the Bank Act requiring the statements of the amounts at rest was passed in 1883, and in 1887 the amount was \$17,883,000, increased in 1898 to \$30,000,000, and attaining the figure of \$47,762,000 in 1903. The banking capital employed in Canada is therefore really over \$118,000,000.

The business of the banks as represented by the transactions of the clearing houses is shown to be large. Montreal was the ninth city on this continent in respect to the extent of the bank cheques.

The Canadian system works well, providing an elastic currency, which responds to the calls of the community in harvest time and retreats within the banks as soon as there is a redundancy.

In addition to supplying the loans needed by the business men of Canada, the Canadian banks loan to the business men of the United States, Cuba and other countries from \$25,000,000 to \$30,000,000.

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In addition to banking facilities, the country has felt the need for further facilities in the transference of money. The government has accepted its duty, and has provided the public with a system of money orders and of registering letters which greatly facilitates the operations of business.

The number of registered letters sent by the post office authorities in 1903 was 5,470,600, against 704,700 in 1868.

In 1868 the business transacted by the 515 money order offices in Canada amounted to \$3,443,461, of which 2,950,763 was payable in Canada, \$393,118 in other countries, and \$90,580 received from other countries.

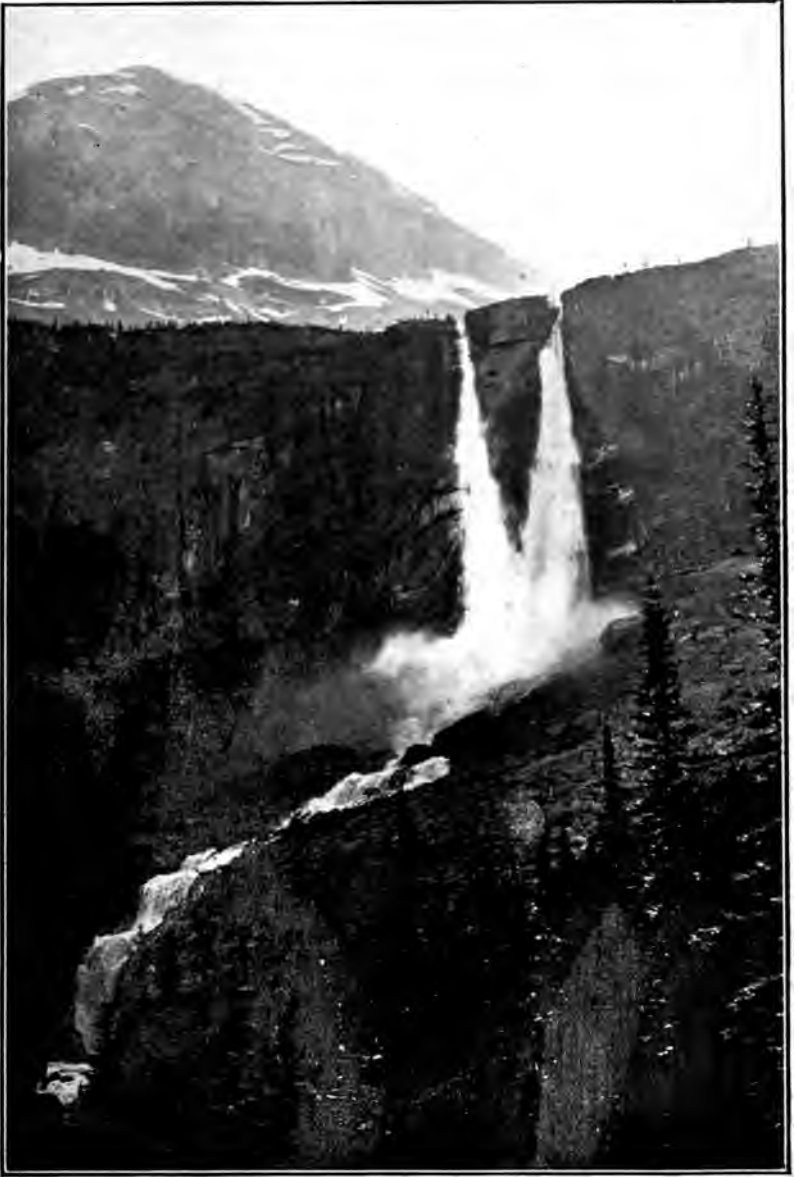
In 1903 there were 2,125 money order offices, and the total volume of transactions was \$31,472,720, of which 20,761,078 represented business done within Canada, 5,140,000 business initiated in Canada and paid in other countries, and \$4,604,000 business initiated in other countries and paid in Canada.

By countries, the United States and other foreign countries in 1903 received and sent \$8,331,077, the transactions between Canada and the United States representing 7,466,257 of that amount. The Mother Country and other parts of the British Empire received and sent \$2,412,850.

The business done with the United States by this medium is divided into : Canada receiving from the United States \$3,783,900 and sending \$3,682,300.

A Postal Note system was inaugurated in 1898. These notes are given for small sums up to \$5.00, beginning with 5 cents. They offer a cheap and convenient means of transmitting small amounts through the mails. The total





TWIN FALLS, NEAR FIELD, B.C.

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number of these notes sent in 1903 was 1,196,563, and the value was \$2,046,100. Odd cents are made up by affixing postage stamps. These notes can be obtained at 6,200 of the 10,150 post offices in the Dominion.

Banks and express companies also issue notes payable in Canada and outside countries, the rates of the express companies being from 3 cents for \$3.00 to 30 cents for \$75.00 to \$100.00.

The facilities for the transmission of money are therefore ample, and equal to the smaller operations of trade as well as to the largest financial movements.

### Telegraphs and Telephones.

Further to assist the business and add to the convenience of the people, the country is well supplied with the telegraph and the telephone systems.

The telegraph system is in the hands of companies, the Government only owning and operating those lines which have been built in furtherance of the public service between places where the traffic could not be expected to be sufficient to compensate private outlay, but where public interests require that there shall be communication, especially in connection with the signal and other stations established by the Marine Department along the shores of the Gulf of St. Lawrence, the Maritime Provinces and British Columbia and the more distant portions of the Northwest Territories.

The total number of land lines and of cables owned by the Government in 1903 was 6,293 miles, 397 miles being cables.

In British Columbia and the Yukon Territory the Government has 3,000 miles in operation. The remaining mileage is divided among the Great Lakes, the Gulf of St. Lawrence, the Bay of Fundy and the north shore of the Lower St. Lawrence River.

The Government lines are used by the Government for purposes connected with quarantine, the fisheries and the fisheries protection service. Daily reports are sent from the stations in connection with the fisheries of the several Eastern Provinces to one central station, where the movements of the fish are charted, and then telegraphed to the principal fishing localities of the provinces.

The companies between them own over 30,000 miles of telegraph line and 90,000 miles of wire ; have 2,700 offices and send and receive five and a half million messages. The accommodation thus afforded is equal to any country, Canada having a telegraph office for each group of 2,026 persons, while the United States has one for each group of 3,349, Great Britain one to every 3,834, France one to every 3,273, and Germany one to every 2,842.

The telephone system is under the control of companies, 62 of which fairly enough cover the ground. The returns from 50 of these show that in 1902 there were 1,800 offices, 70,721 sets of instruments, 135,861 miles of wire on 16,000 miles of poles, and that the number of messages sent was about 212 millions. The telephone system is largely utilized throughout Canada in the rural districts, the farmers by means of it being put in close touch with the markets, to their very great benefit.

### Insurance.

When men have ships at sea or valuable buildings on land, or families they wish to provide for, and are able to afford the expenditure, they effect insurance, fire, marine, life, accident, etc.

In many respects, therefore, insurance is a test of advancement.

The companies doing business in insurance in Canada are obliged to procure a license from the Dominion authorities authorizing them to transact business. Before the license can be issued, securities to the amount of \$50,000 if

a Canadian company, and \$100,000 if incorporated outside of Canada, must be deposited with the Government to ensure the performance of their obligations by the companies. The amounts so deposited form a total of nearly \$50,000,000, four-fifths of which is for the security of persons holding life insurance.

The Superintendent of Insurance had (1902) 104 companies\* under his supervision.

50	of these do	Life insurance business.
5	“	Life insurance (assessment plan).
38	“	Fire insurance business.
4	“	Inland marine “
2	“	Ocean marine “
9	“	Accident insurance “
5	“	Guarantee “ “
1	“	Steam boiler “ “
4	“	Plate glass “ “
1	“	Burglary guarantee insurance business.
3	“	Registered mail insurance business.
10	“	Sickness insurance business.

It was not till 1804 that Canadians deemed themselves wealthy enough to secure insurance against fire.

The first company to offer insurance against fire to the people of Canada was the Phoenix of London, which began business in Halifax in 1804. The first bill relating to fire insurance in Ontario—then Upper Canada—was passed in 1831.

In the first year of Confederation, year ended June 30th, 1868, the amount at risk in the several companies reporting to the Dominion Government was equal to \$56 per head of the then population. In 1871 it was \$65; in 1881, \$107; in 1891, \$158, and in 1901, \$194. The total amount at risk increased from \$188,000,000 in 1869, to \$1,140,813,000 on 1st January, 1904.

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\* Some of these do more than one kind of insurance business.

The companies doing active Fire Insurance business in Canada number 36; of which 9 were Canadian, 19 British, and 8 United States. These companies have received in premiums during 31 years (1871-1902) :—

Canadian companies .....	\$ 40,069,814
United Kingdom .....	117,197,682
United States .....	19,802,946
Total.....	<u>\$177,070,442</u>

They have paid for losses : Canadian companies, \$27,438,818 ; United Kingdom companies, \$79,689,802 ; United States companies, \$13,217,634 ; a total of \$120,346,254. The losses paid amount to 68 per cent. of the premiums. In one year (1877) a fire nearly destroyed the city of St. John, and in that year the losses paid were \$4,727,000 more than the premiums received. In 1900 a fire swept over a large part of Hull and part of the city of Ottawa ; the insurance companies paid for losses incurred \$3,660,000.

In 1881 the average amount of fire insurance on the occupied houses of the land was \$626 ; in 1891 it was \$865, and in 1901 it was \$875. It will thus be seen that the use of fire insurance is very general.

In 1903 Life Insurance business was transacted by 51 active companies, 21 Canadian, 15 United Kingdom, and 15 United States.

The total amount in force at the end of 1903 was \$548,436,200, which was an increase for the year of \$40,000,000, the new business in 1903 amounting to \$91,500,000.

The total amount effected in 1869 was \$12,854,132, so that since Confederation the life insurance effected per annum has increased eight times. In the same period the total amount of life insurance in force increased from \$35,700,000 in 1869 to \$548,436,000, or nearly 16 times.

This has not been occasioned by an increase in the amount of insurance effected per individual so much as it



MOUNT RUNDLE, BANFF, AND CANADIAN PACIFIC RY. HOTEL





has been by the more general employment of life insurance. In 1878 there were 50,781 policies in force, having an average value of \$1,670; in 1902 there were 299,511 policies in force, with an average value of \$1,745.

The development of the insurance business in all its branches is a fair index of the development of Canada in all the ways in which the growth of nations expresses itself. In 1869 the total premiums paid by the people for the various forms of protection of life and property the subject of insurance were under four million dollars. In 1902 the amount paid in premiums was 31 million dollars.

Since Confederation the people of Canada have indulged largely in the luxury of insurance in all its forms, having paid in all 430 million dollars in the form of premiums.

The amounts deposited by the companies with the Government and with trustees for the protection of assurers made up at the end of 1902 the sum of \$46,523,210, distributed: Fire and Inland Marine, \$7,071,700; Life, \$38,330,300; Accident, Guarantee, etc., \$1,121,204.

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For the protection of the shipping that resorts to our harbors, and for the development of the St. Lawrence River as a route to the interior of this continent, and as part of the great Canadian highway between Europe and Asia, the country has supplied itself with securities to navigation rendering the several approaches to Canada from the Atlantic and from the Pacific Oceans as safe as the approaches to any of the great ocean terminals in any part of the world.

The light-house system of Canada is free for all nations without payment of dues of any kind. It is extensive, rapidly expanding, and is maintained in a high degree of efficiency.

In 1867 there were 108 light stations, 227 light-houses, and two fog whistles in the Dominion, as then constituted. In 1903 there were 754 light stations, 963 light-houses;

fog whistles, bells, fog horns, etc., etc., 94. The whole number of persons engaged in the outside service looking after the "lights of Canada" was 2,027.

With this staff, and at an average expenditure of about one million dollars a year, the ports and harbors of the sea coasts, the rivers and the Great Lakes are looked after, and rendered safe for the mariner in storm or fog. There are 3,200 miles of sea coast and 2,600 miles of inland coast provided with fog whistles, bell buoys, automatic buoys, ordinary buoys and beacons. Steel coast-buoys have been substituted for the ancient wooden ones, and the districts buoyed number about 340, with 3,600 buoys.

Gas buoys are provided in the St. Lawrence, in Pelee Passage, Lake Erie, and in Parry Sound.

Twelve or fifteen steamers are employed in this service, and they are constantly on the move examining the buoys, visiting the light-houses and the humane establishments, and inspecting the lifeboat stations.

Of course many thousands of miles of Canada's coast line included in the Hudson Bay line and other parts have not been lighted, the requirements of navigation not yet embracing these regions.

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### XIII.

#### TRADE AND COMMERCE.

The Canadian fiscal year ends on the 30th June. During the 36 years of Confederation, from 1868 to 1903, both years included, the total export and import trade of Canada was \$7,296,565,753, making an average of \$202,682,400 a year. The total external trade for the year ended 30th June, 1903, was \$467,064,685, an increase of 135 per cent. over the average.

The progressive development of the external trade is seen in the following figures :

Annual average for 10 years, 1868-1877.....	\$176,014,619
"                    "                    1878-1887.....	195,384,782
Year 1898-1900 (3 years) .....	335,884,728
Year 1901-3 (3 years) .....	425,959,428

During the first ten years the total trade averaged \$47.80 per head; in the second period, \$44.51; in the third period, \$46.47; in 1898-1900, \$63.85; and in 1901-3 it was \$77.50.

The imports during the first ten years averaged \$27.06 per head; during the second, \$24.15; during the third, \$24.28. In 1898-1900 they were \$31.23 per head, and in 1901-3, \$39.32 per head.

The dutiable imports averaged \$17.26 per head in the first ten years, \$18.11 in the second, and \$15.65 in the third of the decades. In 1898-1900 they were \$18.72 per head and in 1901-3 \$23.67. The imports free from duty averaged \$9.81 per head in the first ten years, \$6.04 in the second, and \$8.63 in the third. In 1898-1900 they were \$11.40 per head, and in 1901-3 \$14.52.

The percentage of dutiable imports to the total was, in the first period, 66.2 per cent.; in the second, 75.9 per cent.; in the third. In 1898-1900 they were \$11.40 per head, and in 1901-3 it was 60 per cent.

Dividing the articles imported into classes, the results of analysis for the past 18 years are :

Annual average 15 years, 1886-1900, compared with annual average for 3 years, 1901-2-3 :

A—Articles of food and animals, annual average,	
"                    "                    1886-1900.....	\$21,008,093
"                    "                    1901-1903.....	29,197,711
B—Articles in a crude condition which enter the various processes of home industry,	
"                    "                    1886-1900.....	23,976,460
"                    "                    1901-1903.....	40,852,280
C—Articles wholly or partially manufactured for use as materials in the manufactures and mechanical arts ....	
"                    "                    1886-1900.....	19,664,500
"                    "                    1901-1903.....	39,582,467

D—Articles manufactured and ready for consumption	1886-1900	41,114,772
“ “ “	1901-1903	75,596,123
E—Articles of voluntary use, luxuries, &c.,	1886-1900	9,857,145
“ “ “	1901-1903	14,436,288
In the 1st class (A) the free goods averaged,		
15 years	1886-1900	8,767,350
	1901-1903	9,510,271
In the 2nd class (B) the free goods averaged,		
15 years	1886-1900	19,113,157
	1901-1903	33,652,981
In the 3rd class (C)	“ “	
15 years		7,424,205
	1901-1903	19,420,735
In the 4th class (D)	“ “	
15 years		6,207,923
	1901-1903	15,835,847
In the 5th class (E)	“ “	
15 years		518,043
	3 years, 1901-1903	770,593

The customs duties are levied on the invoice value of the articles.

By classes these duties are :

Class A—Customs duties, annual average, 15 yrs.	\$3,639,622
“ “ 1901-1903	5,486,019
Class B—Customs duties, annual average, 15 yrs.	1,089,444
“ “ 1901-1903	1,771,943
Class C—Customs duties, annual average, 15 yrs.	2,952,242
“ “ 1901-1903	4,021,635
Class D—Customs duties, annual average, 15 yrs.	9,590,070
“ “ 1901-1903	14,504,165
Class E—Customs duties, annual average, 15 yrs.	4,792,744
“ “ 1901-1903	7,463,863

The principal articles imported in Class A are bread-stuffs, fruits, provisions, sugars, tea.

The principal articles in Class B are coal, cotton, wool, drugs and dyes, fur skins, hides, ores of metals, hemp (undressed), logs (round and manufactured), timber, crude rubber, seeds, raw silk, unmanufactured tobacco and raw wool.

The principal imports under Class C are brass, cement, copper, cottons, drugs and chemicals, furs, iron and steel,



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jute, cloth and yarn, lead, leather, lumber and timber, marblé, metals, oils, paints and colors, plaits (straw), potash, India rubber (elastic webbing), salt, stone, wood, woollen goods, and zinc.

The principal articles in Class D are agricultural implements, printed books and periodicals, brass manufactures, brooms and brushes, buttons, carriages, waggons, bicycles, clocks and clock cases, combs, copper manufactures, corks, cottons, earthenware and china, electric meters and motors fishinglines and twines, fur (manufactured), flax, hemp and jute manufactures, gloves and mitts, gunpowder and other explosives, gutta percha manufactures, hats, caps and bonnets, iron and steel manufactures, lead manufactures, leather manufactures, metal manufactures, optical instruments, paper manufactures, printing presses, ships' boilers, soap, telephone instruments, twines, watches, webbing, wood manufactures and woollen manufactures.

In Class E the principal imports are ale, beer and porter, carpets, uncoloured cotton fabrics, curtains, fancy goods, gold and silver manufactures, jewellery, musical instruments, paintings, drawings and engravings, silk manufactures, spirits and wines and manufactured tobacco.

Comparing the results obtained from the compilation of these tables with those obtained by a similar division of the imports of the United States, it is found as follows :

PER CENT. OF EACH CLASS TO TOTAL IMPORTS.  
AVERAGE OF FIVE YEARS.

	United States	Canada
A. Articles of food and animals.....	25.31	16.23
B. " in crude state.....	35.20	20.06
C. " wholly or partially manufactured.	9.40	19.49
D.....	16.46	36.84
E.....	13.63	7.38

This analysis shows that Canada is less dependent than the United States on outside countries for articles of food and animals, that she buys from outside countries more articles in a wholly or partially manufactured state for use as materials for manufacturing, and less of articles in a crude state for manufacturing purposes. This fact, combined with the fact that Canada imports of Class D a much larger proportion than the United States indicates that the Dominion has not reached the high state of development as a manufacturing country attained by the United States. The gradual increase in the proportion of crude and partially manufactured articles shows that the country is following the same lines as the United States, and is slowly but surely becoming a self-supporting country.

The countries from which Canada chiefly imports what she wants are : Great Britain and other parts of the British Empire and the United States. From these two countries Canada obtained in 1903 for home consumption \$202,615,195, leaving \$31,175,050 for all other countries to supply. Germany supplied \$12,282,637; France, \$6,580,029, and all other countries, \$12,312,384, of which amount China, Japan, Belgium, Spain, Italy and Argentina sent \$6,996,957.

In the ten year period, 1893 to 1903, the countries from which Canada imported stood relatively as follows :

1893	Imported from British Empire.....	37.73	per cent
1893	“ “ Foreign Countries.....	62.27	“
1903	“ “ British Empire.....	27.00	“
1903	“ “ Foreign Countries.....	73.00	“

In 1897 the Dominion of Canada provided a preferential tariff, under which goods coming from Great Britain and some other Treaty Powers should be admitted at a lower rate than those of other countries. The Parliament of Canada in 1898 made a change in the preferential tariff clause, by which imports from Great Britain, the British West Indies and other portions of the Empire, come into Canada on payment of a duty of customs 25 per cent. less than that levied on foreign countries. This came into



operation on 1st August, 1898. Subsequently the preference was enlarged to 33 1-3 per cent. The results have been highly satisfactory.

The purchases of Canada from the Mother Country, which had fallen in 1897 to under 30 million dollars, from 68½ millions in 1873, rapidly increased. In 1901 they were 43 million dollars; in 1902, \$49,200,000, and in 1903 nearly 59 million, a rate of increase which leads to the belief that in the near future the palmiest period of the past will be surpassed.

The total export trade of the Dominion during the period 1868-1903 (inclusive) amounts to \$3,895,626,927, including domestic and foreign produce and coin and bullion. Of this amount \$355,736,926 represents foreign exports and \$191,447,418 coin and bullion and short returns, leaving \$3,348,442,583 as the domestic export of Canada to be analyzed.

This export trade is divided as under :

Export of the Mine.....	\$ 287,178,413
“ “ Fisheries.....	282,781,455
“ “ Forest.....	880,284,770
“ Animals.....	958,707,222
“ Agriculture.....	702,228,193
“ Manufactures.....	225,129,441
“ Miscellaneous.....	12,133,119
Total .....	<u>\$3,348,442,583</u>

Taking them in their several branches, mines contributed 8.6 per cent.; fisheries, 8.4 per cent.; forest, 26.3 per cent.; animals and their products, 28.6 per cent.; agriculture, 20.9 per cent.; manufactures, 6.7 per cent.

The exports of the products of the mine show a large increase during recent years. The Dominion began its life with an export of a million and a quarter dollars of mineral products. It did not get above 6 millions till 1895. In the last three years the annual average export has been over 35 million dollars.

The exports of the fisheries have increased, the yearly average of the past 36 years being 8 millions of dollars, and the average for the last two years of the series \$12,970,000.

The exportable surplus of the forest assets of the Dominion averages for 36 years \$24,450,000 a year. The largest year in the record is 1903, when the exports attained the value of \$36,400,000.

Manufactures indicate first that the exportable surplus in 36 years was \$225,130,000, and, second, that this exportable surplus has increased rapidly during recent years. The exports of the workshops of Canada formed 6.7 per cent. of the total of the exports in that period. They formed 11.3 per cent. of the exports of the last three years, showing a considerable gain in volume.

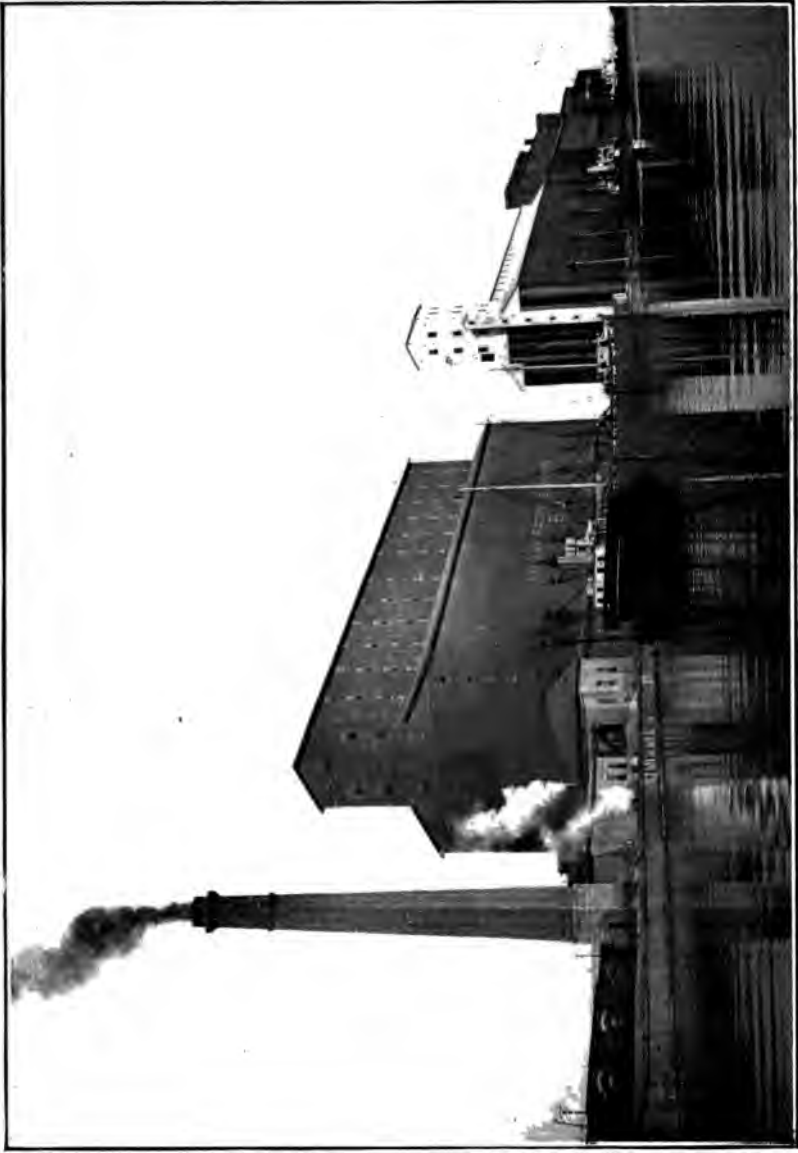
The largest exportable surplus Canada has is that drawn from the operations of the farmers in the two branches of live stock and produce of the fields, orchards and gardens.

These two branches supply \$1,660,935,415 of the total exports of Canada during 36 years. Thus during this period within a fraction of one half of the surplus available for export has come from the labours of the farmers of the Dominion, numbering (by last census) 487,133. During the last three years of the 36 year period the exports of the farm have somewhat receded from their earlier position, and form under 40 per cent. of the whole exports, the exports of the mine, the fisheries, the forest and the workshop forming a larger proportion than in the earlier years.

The specific articles connected with the farm which show great increase in exports are (1) provisions, which increased as under:—

#### Export of Provisions.

1868 .....	\$ 3,862,682
1878 .....	8,174,236
1888 .....	12,895,939
1898 .....	29,712,973
1903 .....	50,463,125



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The second list of specific articles which show great increase are grains and products of grains, as follows:—

#### Export of Canadian Grains and Grain Products.

1868 .....	\$12,131,705
1878 .....	16,471,657
1888 .....	11,919,379
1898 .....	29,440,569
1903 .....	34,491,782

Another class of exports of the farm which has developed rapidly is fruits.

#### Export of Canadian Fruits.

1868 .....	\$ 87,333
1878 .....	149,333
1888 .....	857,995
1898 .....	1,709,360
1903 .....	3,691,214

This business is as yet in its infancy. There were, according to the census of 1901, of fruit trees of various kinds 21,278,465, of which 15 millions were apple trees. Of the total, 6,304,402, or about 30 per cent., were not of bearing age.

In the exports of provisions that of cheese stands high. Great Britain imports over 300 million pounds weight, and Canada supplies over 77 per cent. of the whole.

In a general way it may be stated that about half of Canada's exports are from the farm, over one quarter from the forest, and the remainder from the mines, the fisheries and the workshops.

With respect to the destinations of these exports, the United Kingdom has taken during the 36 years close to 60 per cent., with an upward tendency. The United States took in 1868 55 per cent. of our exports; in 1878, 36 per

cent.; in 1888, 49 per cent.; in 1898, 27 per cent., and in 1903, 31 per cent. Other countries beginning in 1868 with 10 per cent. have continued to receive about the same percentage of our exports.

Taking the British Empire, the average percentage of exports from the Canadian portion to the others is 62 per cent.

The growth of the external trade of Canada is seen in the following comparison:—

**Relative Percentage of Growth of Trade of the Under-mentioned Countries for Seven Years (1895-1902).**

	Increase.	Percentage of Growth.
Canada (1896-1903) .....	\$227,896,905	103.45
Japan .....	129,359,208	97.20
Cape Colony .....	76,294,709	43.55
United States (a) (1896-03)	775,058,014	47.18
Italy .....	197,468,942	45.99
Germany .....	683,111,578	38.59
Belguim .....	206,037,529	34.84
Argentina .....	65,004,094	31.31
Switzerland .....	81,755,424	26.82
United Kingdom .....	822,453,702	26.29
France .....	300,875,900	21.98

(a) *Includes total imports, not imports for home consumption only.*

Note.—Imports for home consumption and exports of domestic merchandise in all cases unless otherwise stated.

The exports of Canada were equal to \$17.72 per head of the population in 1869; to \$19.44 per head in 1878; to \$31.57 per head in 1898, and to \$40.85 per head in 1903.

## XIV.

## THE CITIES OF CANADA.

The following are the cities and towns of the Dominion of Canada having, according to the census of 1901, a population of 5,000 and upwards. For purposes of comparison the populations by the previous census-takings are given. Wherever necessary the annexations of territory have been taken into account, so as to give for each census-taking as exact a comparison as is possible:—

	1871	1881	1891	1901
Barrie .....	3,398	4,854	5,550	5,949
Belleville .....	7,305	9,516	9,916	9,117
Berlin .....	2,743	4,054	7,425	9,747
Brandon .....			3,778	5,380
Brantford .....	8,107	9,616	12,753	16,619
Brockville .....	5,102	7,609	8,791	8,940
Chatham .....	5,873	7,873	9,052	9,068
Charlottetown .....	8,807	11,485	11,373	12,080
Collingwood .....	2,829	4,445	4,939	5,755
Cornwall .....	2,033	4,468	6,805	6,704
Dawson City .....				9,142
Fredericton .....	6,006	6,218	6,502	7,117
Galt .....	3,827	5,187	7,535	7,866
Glace Bay .....			2,459	6,945
Guelph .....	6,878	9,890	10,537	11,496
Halifax .....	29,582	36,100	38,437	40,832
Hamilton .....	26,880	36,661	48,959	52,634
Hull .....	3,800	6,890	11,264	13,993
Kingston .....	12,407	14,091	19,263	17,961
Lachine .....	1,696	2,406	3,761	5,561
Levis .....	6,691	7,597	7,301	7,783
Lindsay .....	4,049	5,080	6,081	7,003
London .....	18,000	26,266	31,977	37,981
Mile Rnd. ....	800	1,537	3,537	10,933
Moncton .....	600	5,032	8,762	9,026
Montreal .....	115,000	155,238	219,616	267,730
Nanaimo .....				6,130
Nelson .....				5,273
New Westminster .....		1,500	6,678	6,499
Ottawa .....	24,141	31,307	44,154	59,928
Owen Sound .....	3,369	4,426	7,497	8,776
Pembroke .....	1,508	2,820	4,401	5,156
Peterborough .....	4,611	6,812	9,717	11,239

	1871	1881	1891	1901
Quebec.....	59,699	62,446	63,090	68,840
Rat Portage.....			1,806	5,202
Rossland.....				6,159
Ste. Cunegonde.....	1,500	4,849	9,291	10,912
St. Catharines.....	7,864	9,631	9,170	9,946
St. Henri.....	2,815	6,415	13,413	21,192
St. Hyacinthe.....	3,746	5,321	7,016	9,210
St. John.....	41,325	41,353	39,179	40,711
St. Thomas.....	2,197	8,367	10,366	11,485
Sarnia.....	2,929	3,874	6,692	8,176
Sault Ste. Marie.....	879	780	2,414	7,169
Sherbrooke.....	4,432	7,227	10,110	11,765
Smith's Falls.....	1,150	2,087	3,864	5,155
Sorel.....	5,636	5,791	6,669	7,057
Springhill.....			4,813	5,178
Stratford.....	4,313	8,239	9,500	9,959
Sydney.....			2,427	9,909
Toronto.....	59,000	96,196	181,215	208,040
Three Rivers.....	7,570	8,670	8,334	9,981
Toronto Junction.....				6,091
Truro.....		3,461	5,102	5,993
Valleyfield.....	1,800	3,906	5,515	11,055
Vancouver.....			13,709	26,133
Victoria.....	3,270	5,925	16,841	20,816
Westmount.....	200	884	3,076	8,856
Windsor.....	4,253	6,561	10,322	12,153
Winnipeg.....	241	7,985	25,639	42,340
Woodstock, Ont.....	3,982	5,373	8,612	8,833
Yarmouth.....	2,500	3,485	6,089	6,430

## MONTREAL.

is the chief city of Canada. It is built upon a series of terraces, marking the former levels of the river, and is nearly four miles long by two broad. Mount Royal, which rises 700 feet above the river level, forms a magnificent background to the busy city. Its hotels and public buildings are fine, and Dr. W. H. Russell years ago pronounced its quays "imperial in their proportions."

Fourteen lines of steamships trade regularly to the port.

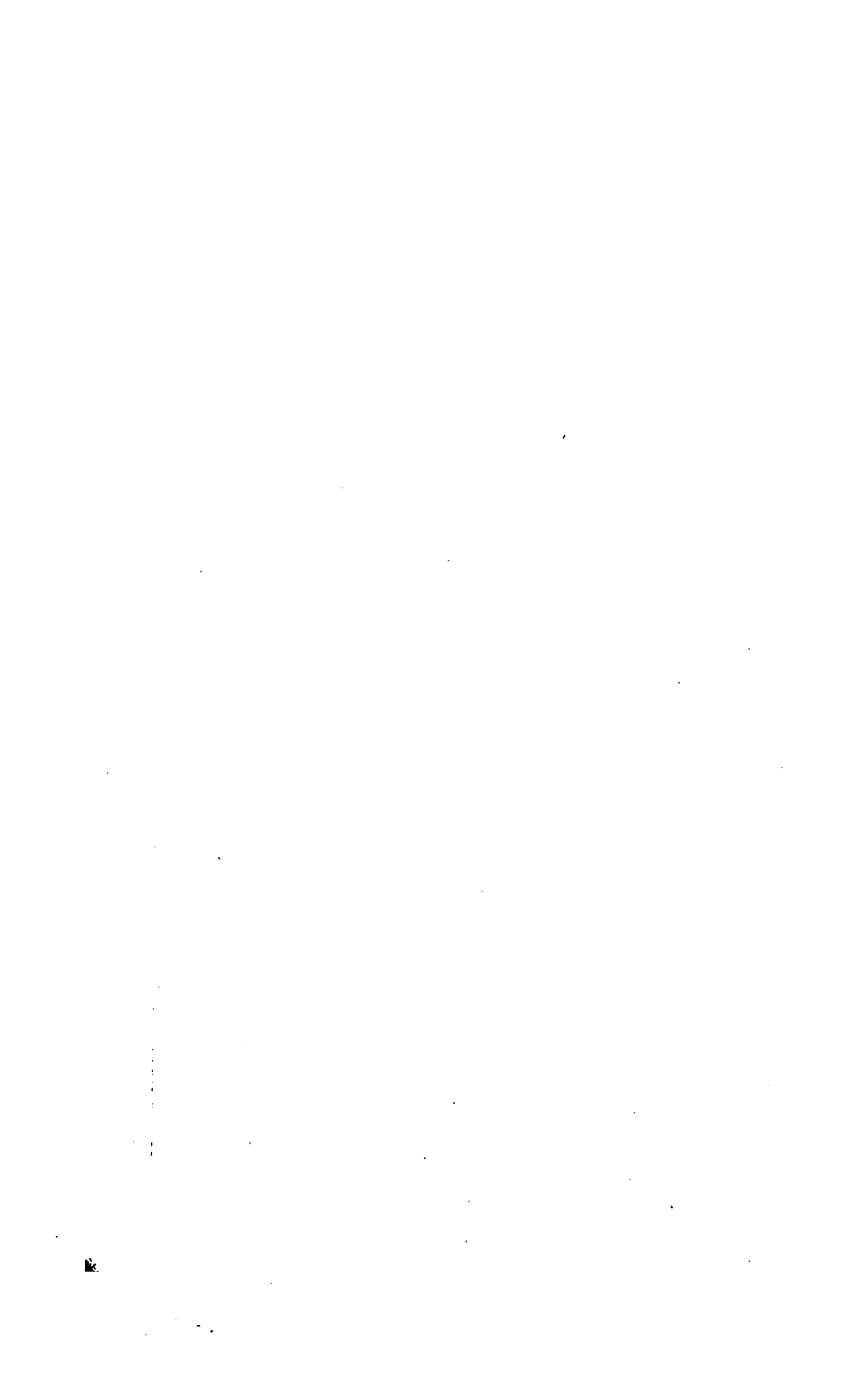






HOPE PEAKS, BRITISH COLUMBIA

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OF



The statistics of the business of the port are as follow:—

Years	Sea-Going Vessels Arrived	Total Tonnage	Merchandise Exported	Merchandise Imported
1850.....	211	46,156	\$ 1,744,772	\$ 7,174,780
1880.....	710	628,271	30,234,904	37,103,869
1885.....	629	683,854	25,274,898	37,403,250
1890.....	746	930,332	32,027,176	45,159,124
1895.....	640	1,069,386	40,348,197	41,996,686
1900.....	726	1,393,886	65,314,197	68,550,993
1903.....	802	1,890,904	105,841,034	93,183,449

Montreal is the centre of the great railway systems of Canada. The Grand Trunk, Canadian Pacific and Canadian Government railways have their headquarters in this city. The Central Vermont and South-Eastern railways connect the two systems first mentioned with the railways of the Eastern and Central United States. Besides these, there are several minor roads centreing there, ten railway lines in all converging on Montreal. It is the most important manufacturing city in the Dominion, having large and varied industries, which give employment to many thousands of artisans.

## TORONTO

is the largest city on the Canadian side of the great lakes. It is the seat of the law courts, and the centre of education for the great Province of Ontario. Entered by six railways, converging from different points of the compass, possessing a fine harbour, situated in the centre of a rich agricultural district, and being at once the religious, educational, political, literary, legal, and commercial centre of the most populous province of the Federation, it has advanced with great rapidity. Its population in 1901 was 208,040. Its growth is manifest by the returns. The value of assessed property in 1878 was \$49,053,765; for 1886 it was \$72,721,559, and for 1901, \$130,400,000.

## QUEBEC.

The city of Quebec is passing through a period in its history, such as all the old garrison towns of Canada have passed through since the withdrawal of British troops. In addition, it has had to experience the sharp rivalry of Montreal, made the keener in consequence of the improvement of the channel between the two cities. The effects were seen in the small increase in the population in 1891, compared with the previous census taking. The construction of railways, and the development of manufactures and interprovincial trade during the last twelve or fifteen years, have given the Ancient Capital a fresh start. The extent to which it has suffered through the successful absorption of its trade by Montreal may be judged by the fact that, while in 1876 the tonnage entered outwards for sea was 711,386 tons, in 1903 it was but 546,173 tons; Montreal in the same years increasing from 368,925 tons in 1876 to 1,891,000 tons in 1903. The Canadian Pacific Railway has extended its facilities to Quebec, thus connecting it directly with the great Northwest by rail.

## OTHER CITIES.

The chief cities in the Maritime Provinces are Halifax and St. John. Both are fine ocean ports. The harbour of Halifax is pronounced the finest among the great harbours of the Empire. It is easy of access for ships of every class, and capacious enough to afford anchorage for the navies of all Europe. It runs inland over fifteen miles, and, after passing the city, suddenly expands into Bedford Basin, a beautiful sheet of water, covering an area of nine square miles, completely land-locked. Halifax is the chief naval station of British North America, and the only eastern city now occupied by Imperial troops. The city and harbor are protected by eleven different fortifications, armed with powerful batteries. Large stores of munitions of war of

all kinds, including torpedoes, are kept there by the Imperial Government. It has of late years made rapid strides in manufacturing. St. John, the commercial capital of the Province of New Brunswick, is admirably situated at the mouth of the River St. John, has a harbour open all the year round, regular steam communication with all parts, and railways running east, west and north. It has extensive maritime and manufacturing interests, and is the centre of the lumber trade of the country watered by the St. John River. It suffered severely in 1877 from a fire which reduced the business portion to ashes, but with characteristic energy the people set to work to rebuild their city, and it now forms an active, progressive community. The population of Halifax and of St. John is about the same—each 42,000.

According to the census of 1901 Hamilton was the fifth most populous city of Canada. It is one of the most rapidly growing and enterprising cities in the Dominion, beautifully situated on the south-western curve of Burlington Bay, at the western extremity of Lake Ontario, and has superior facilities for becoming a large manufacturing city, being accessible from all points by railway and lake navigation, and being situated in the centre of the finest grain-producing region of Ontario. In 1901 it had an assessed value of \$27,100,000.

London, the westernmost city in Ontario, is splendidly situated on the River Thames, in the County of Middlesex. Sixty years ago its present site was a wilderness; now it is a fine city, regularly laid out, having wide streets well built upon with handsome buildings, with an assessed value of \$17,300,000. It has good railway communication with all parts of Canada. The aim of its founders was to reproduce in Canada the names associated with the London. Accordingly, it has its Pall Mall, Oxford, Waterloo, and Clarence Streets; Westminster and Blackfriars Bridges. London (Canada) is surrounded by a rich agricultural country, furnishing it with a large trade in wheat and other produce.

within its borders are numerous manufactories, mills, machine shops, foundries, breweries, banks, asylums, colleges, etc.

Ottawa, the seat of the Federal Government, is the entrepot of the great lumber trade of the Ottawa River and its tributaries, and on the piling grounds around the Chaudiere Falls there is always a stock of lumber estimated at 125,000,000 feet. To keep these filled to their fullest capacity a number of mills cluster around the falls, employing, some of them, over a thousand men; supplied with the best machinery; lighted with powerful electric lights, by the aid of which work during the season is maintained without ceasing both day and night. The extent of the lumber trade of this region, of which Ottawa is the centre, may be estimated by the fact that, during the past sixteen years, an annual average of 3,785,000 pine logs has passed down from the Upper Ottawa and its tributaries. The city itself is also lighted by electricity. Its population is over 60,000, and the assessed value in 1901 was \$25,100,000.

The buildings belonging to the Federal Government are the chief attraction of Ottawa; the main one, situated on a high bluff which juts out into the Ottawa river, is the Parliamentary. It contains the Senate Chamber and House of Commons. The dimensions of these halls are the same as those of the House of Lords, viz., 80 by 45 feet; they are lighted by the electric light. The whole building, which is 500 feet in length, is constructed of a light-colored sandstone, the walls and arches being relieved with cut stone dressings of sandstone, and with red sandstone. The library, a circular building, constructed after the plan of the library of the British Museum, has a dome 90 feet high, and is in the rear of the central tower, which is 250 feet high.

Separated from the main building, and distant from either end about a hundred yards, are two departmental buildings, each with a front of 375 feet in length. The growth of departmental business, occasioned by the development of the Northwest, has rendered necessary the con-



EMERALD LAKE, NEAR FIELD, B.C.





struction of a third departmental building, which has a front of 287 feet in length. The buildings together cover about four acres and cost over \$5,000,000.

Ottawa is well connected with the rest of the Dominion by railways, which run in every direction, north, south, east and west. As illustrative of the extent of country governed from Ottawa, the distance of some of the cities and towns of Canada from the capital may be given:—Battleford (Northwest Territories), 2,328 miles; Calgary (Northwest Territories), 2,141; Winnipeg (Manitoba), 1,302; Victoria (British Columbia), 2,871; Toronto, 261; London, 377. These are western cities. Turning eastward, Halifax is 978 miles distant from Ottawa; St. John 835; Charlottetown (Prince Edward Island), 1,060; Montreal, 120; and Quebec, 279 miles. By the aid of railways and telegraph lines, cities as far apart as Charlottetown and Victoria are within hailing distance of the Capital.

Victoria, the capital of British Columbia, is a thriving city with a winter population of 24,000. The seal-fur, salmon canning, fish and lumber trades have been greatly developed during recent years, and the harbours of Victoria and Esquimalt are thronged with shipping to an extent unknown a few years ago—an earnest of the business that will be done there in the near future. The scenery is marvellously fine; the climate salubrious, and sport abundant. It boasts of being the most English town in Canada. It has direct steam communication with San Francisco. A submarine cable across the Gulf of Georgia connects it with the main land, and thence with the other Canadian cities. The telephone system and electric light have been introduced, as is the case in most of the cities of Canada. The assessed value of the city is about 21 million dollars.

Vancouver is one of the rapidly growing cities of the west coast. In 1886 it was practically non-existent. In 1889 it had a population of 5,000 and an assessed value of property of \$2,639,077. In 1901 the population was 26,133, and its assessed value over 18 million dollars.

Rossland is another of the rapidly growing towns of the mining regions of Canada. It was a town of 1,000 inhabitants in 1895 and in 1901 it had a population of 6,159 with an assessed value of over two million dollars.

The city of Winnipeg is of recent growth. Its population in 1871 was 241; in 1881, 7,985; in 1891, 25,600, and in 1901, 42,340.

The city is lighted by electricity and gas. It has good banking facilities, hotel accommodation, street cars, and complete water and drainage systems. The main street, 100 feet wide, is paved with cedar blocks, over two miles in length, and is one of the handsomest streets in Canada. The city, like nearly all Canadian cities, is provided with the electric fire alarm system, and the equipment of the fire brigade is complete.

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## XV.

### NEWSPAPERS.

There may have been a printing press in Canada before the country was ceded to Great Britain in 1763. If there was, it was here only temporarily, and was taken back to France before the English took possession.

There was a printing press in Halifax, Nova Scotia, and from it a newspaper was issued early in 1752. In Quebec the first published newspaper was issued in mid-summer, 1764. New Brunswick followed in 1785; Prince Edward Island in 1791. Upper Canada (now Ontario) did not rejoice in a newspaper till 1793. British Columbia sought enlightenment from newspapers first in 1858; the Northwest Territories in 1850, and Manitoba in 1872. The Yukon Territory had papers for the first time in 1898—the “Klondike Nugget” and the “Midnight Sun.”

In 1855 there were about 100 publications in the shape of periodicals and political newspapers, of which about 30 were published in Lower Canada, and the others in the several provinces now constituting the Dominion, by far the greater number in Upper Canada, now Ontario.

The census of Canada for 1851 gives the number of compositors at 900. The census of 1891 gives the number at 6,550.

In 1885 Canada had 646 newspapers and periodicals published within her borders.

Of the 646 papers published in 1885, daily were 71; tri-weekly, semi, bi, and weekly, 484; semi-monthly, 13, and monthly, 73.

In 1900 the total periodical press equipment of the country was 1,251 publications. Of these 117 were issued daily or oftener, 866 were semi, bi, and weekly papers, and 254 were semi-monthly and monthly.

In 1885 there were 7 journals published in German, 51 (of which 15 were daily) in French, the remainder being in English. In 1898 there were 98 (of which 8 were daily) published in French, 9 published in German, 1 in Danish, 1 in Swedish, 3 in Icelandic, 1 in Gaelic, 1 in Chinook, and 1 which employs three languages, Cree (Indian) French and English.

According to provinces the number of newspapers and periodicals were:—

	1885	1901	Increase
Ontario .....	396	679	283
Quebec .....	113	195	82
Nova Scotia .....	46	87	41
New Brunswick .....	38	53	15
Manitoba .....	28	99	71
Prince Edward Island .....	11	18	7
British Columbia .....	8	66	58
Northwest Territories .....	6	54	48
<b>Total .....</b>	<b>646</b>	<b>1251</b>	<b>605</b>

Naturally the increase in the newer provinces is proportionately greater than in the older.

The provinces of Ontario and Quebec hold relatively nearly the same position as they did in 1885.

Taken by area Prince Edward Island is the best newspaper cultivated province in the Dominion, since she has one for every 111 square miles of territory. Nova Scotia comes next with one periodical for every 337 square miles. New Brunswick has one for each 530 square miles; Manitoba one for each 640; Ontario one for each 800 square miles; Quebec one for each 1,776 square miles. British Columbia has 6,000 square miles for each journal; the Yukon 32,700 square miles.

Taking population for a basis of comparison, Ontario began the present century with 1 periodical for each 3,200 of her population; Quebec with 1 for each 8,355 of her people; Manitoba one for each 2,464; Nova Scotia one for each group of 5,280; New Brunswick one for every 6,247; Prince Edward Island one for each 5,736, and British Columbia one for each 300—Manitoba and British Columbia thus standing at the head. The journals published in the English language in the Province of Quebec numbered 104, viz., 8 daily, 54 weekly, 7 semi-weekly, 32 monthlies and 3 quarterlies. Counting daily and weekly editions as separate publications, there were 95 French papers in the Province of Quebec, viz., 53 weeklies, 4 semi and 2 tri-weeklies, 7 daily, 24 monthly and 6 semi-monthlies. Almost every province had one or more papers published in the French language, and in all there were 107 printed in French in the Dominion, or about 8 per cent. of all the periodical press. There were in other languages 19 papers—Danish, German, Gaelic, Icelandic and Swedish, and one in Chinook and one in Indian, by name "Ongwe Onew." One hundred and six journals encourage the faithful to good denominational works. Besides these strictly denominational works, there were 30 which deal with religious questions without refer-



CATHEDRAL PEAK, ROCKY MOUNTAINS

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The waters of Canada teem with wild fowl in the spring and autumn, especially during the latter season, when migrating to winter quarters in the South; and, as to the finny tribe, nowhere else on the American side of the Atlantic can such fishing be had as the various provinces of the Dominion afford.

To present to view as concisely as possible the advantages Canada offers to the sportsman, it will be well to give a description of the various kinds of animals and of the chief hunting grounds.

Of wild animals, then, there are the panther, wild cat, lynx, fox, wolf, bear, moose, cariboo, elk, deer, antelope, mountain goat, mountain sheep, musk ox, buffalo, squirrel, marmot, hare, rabbit, porcupine, raccoon and badger. Of fur-bearing animals there are the fisher, sable, weasel, ermine, mink, wolverine, otter, shunk, beaver, and, on the sea coast, the seal.

Of feathered game, there are grouse (known here as partridge), prairie fowl, quail, geese, ducks, swans, brant, curlew, snipe, woodcock, plover, pigeon, cranes; whilst of hawks, eagles, owls, crows, and other carrion birds there are many varieties. Of smaller birds, beautiful either in plumage or for song, there is a vast abundance during the summer, and the ornithologist may revel to his heart's content in collecting specimens of great beauty.

Of fish there are, in the bays and harbours of the coast, mackerel, herring, cod, haddock, halibut (a species of enormous turbot), hake, pollock, shad, smelt, and eels, whilst of shellfish and lobsters there is an abundant supply. The rivers connecting with the sea on both the Atlantic and Pacific coast contain splendid salmon trout, whitefish, maskinonge, pike, pike-perch or dore, perch, bass, sturgeon, and a variety of smaller fish, and all the mountain streams are alive with brook trout.

Reptile life is not largely developed in Canada, a fact due, probably, to the long period of cold weather prevalent, and, apart from rattlesnakes, which are now comparatively rare, there are no poisonous snakes of any consequence.

Lizards are not numerous, and attain no great size, but frogs and toads are abundant. The Menobranchus of the great lakes, a peculiar water lizard with external gills, and a similar reptile, the Siredon, in the lakes of the Northwest, are remarkable species of this class of animal life. Leeches infest the streams, especially in the Northwest, where they cause much inconvenience to explorers, surveyors, and others who have to travel over swampy ground and through shallow pools.

Insect life is very abundant during the warm season, the butterflies being beautiful in colour, and the beetles remarkable for their marking and brilliant hues. Years ago the locust and grasshopper of the Far West, at certain recurring periods, swarmed in such myriads as to be a terror to the district they invaded. Bred for the most part in the arid central desert, as soon as they obtain their wings they took the course of the wind in their flight, and carried devastation wherever they settled. During recent years there has not been a recurrence of this plague of the past. Mosquitoes are the chief insect tormentors, but their attacks end with the dry heat of summer, although they are always present in damp places. A large fly, known as "the bulldog," is troublesome, but not abundant, and flying ants are apt to prove very annoying to the traveller over the Western plains.

Space is too limited to give more than a passing notice to the larger animals respectively, and the description is not written for scientific instruction, but simply for general information.

The American panther, cougar, or catamount, corresponds very nearly to the puma of South America. It was known to the early discoverers of the New World as the American lion, and was formerly abundant, but is fast disappearing before civilization. It is now heard of only occasionally, and then only when an unusually severe winter deprives it of its prey and drives it out of the tangled

swamps or the northern solitudes. It is a dangerous animal to encounter, and when pursued will take refuge in a tree, when it is apt to spring upon the hunter or his dogs.

The wild cat and lynx are fast disappearing in the older provinces, but are common in the Far West, especially in the country bordering on the Peace River.

Foxes are abundant everywhere, the common, or red fox, being of little value, while the cross or silver foxes are highly prized, especially the latter. They are shot or trapped indiscriminately, but there are several well-organized hunt clubs in the Dominion, with their packs of hounds, who carry on the good old sport. The kennels at Montreal are especially worthy of notice, and the sportsman paying them a visit is certain to receive a cordial welcome.

Wolves in the older provinces are only found on the outskirts of settlements, but, unless met with in packs, in winter, they are great cowards. The grey wolf is a strong, powerful animal and very cunning. In the Northwest they are found on the prairie, around the willow thickets and hiding in the long prairie dodging grass, but are abundant in the great northern forest, where deer are to be found. The prairie wolf or coyotte is a smaller animal and very cowardly. It is common all through the prairie country, and it may be seen, frequently in groups on a distant hill top, or heard around the camp at night. Its skin makes a useful addition to a settler's cabin, and is also a handsome trophy when dressed as a rug.

Although bears are plentiful in many parts of Canada, they are seldom seen (being nocturnal in their habits) except by the hunters. The black bear, the commonest of the tribe, is perfectly harmless, and never attacks man unless wounded. Its food consists of berries and larvae of insects and ants ; it plays havoc in a field of oats when ripe, in which, when feeding, it is easily shot. Its skin is much sought after, and bear's meat is frequently exposed in our markets for sale in winter.

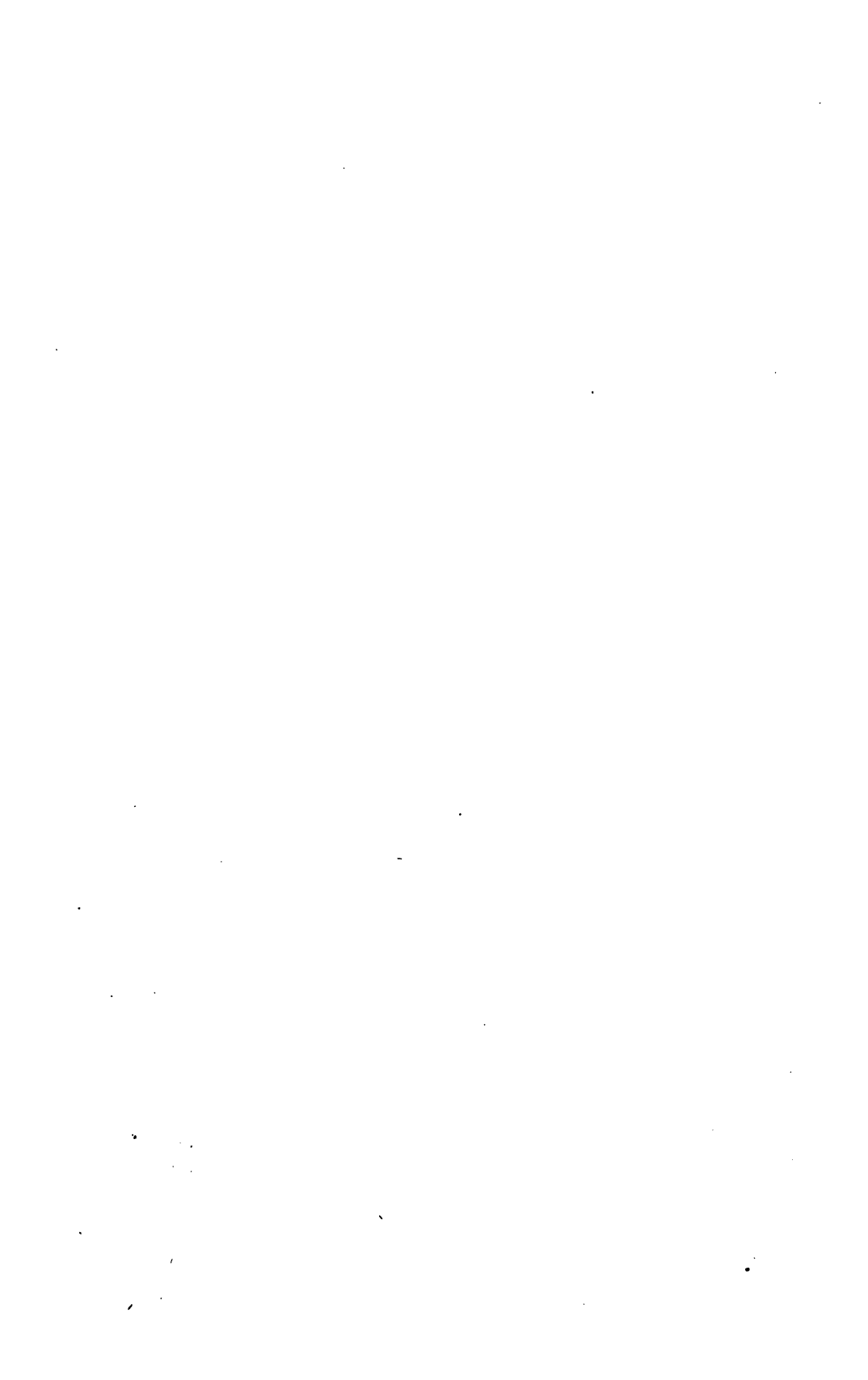
The grizzly bear makes his home in the Rocky Mountains, whence he sallies forth on the plains, and is the most





BOW RIVER AND CASCADE MOUNTAIN, BANFF, ALBERTA

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OF



ferocious and dangerous of his tribe, being possessed of amazing strength and activity, attaining a weight when full grown of from 600 to 700 pounds. He is unable to climb trees like other bears, and when pursued turns and shows a most determined fight. Great skill is required in the pursuit of this animal, but the danger of the chase renders the sport most exciting. There is a species of bear met with in the barren grounds of the Northwest and in the Peace River district known as the Cinnamon bear, very similar to the black bear in habits and size. It is comparatively rare.

The deer family include the most important of our large game animals, of which the Moose is by far the largest, standing as high as a horse. Hunting moose is an art, as the long snout and ears of this animal give it most acute powers of hearing and a very fine sense of smell. Its gigantic horns are well known and in constant demand, and its flesh is considered a great delicacy.

The elk, stag, or wapiti, formerly distributed all over Canada, is now extinct in the older provinces, but is found in Southern Manitoba, and is yet abundant in the Peace River district, but is fast disappearing with the advance of civilization. Its fine branching horns make a splendid trophy, but they prove a most formidable weapon of defence when the animal is brought to bay.

The red deer is abundant, except in old settled districts where no forests are left, and its pursuit affords great sport to the huntsman. Indiscriminate slaughter, till within the last few years, threatened its extermination, but stringent laws for the observance of the close season are making the deer more plentiful.

The black-tailed, or mule deer, is met with in the bush country of the Northwest, but is rare and difficult of access.

Deer-shooting in season can be had in almost any part of Canada, provided guides are procured.

The cariboo, or reindeer, is the fleetest, wildest and most shy of all the deer tribe.

The woodland Cariboo is abundant in Labrador, and may be found in considerable numbers in New Brunswick. In the adjoining Province of Nova Scotia, their numbers are gradually decreasing, their stronghold now being confined to the Cobequid Mountains and the uplands of Cape Breton. Proceeding westwards, it is found in Gaspé and the south-western portions of Quebec, and in the northern districts back of the Ottawa and St. Lawrence Rivers, whence it ranges as far as the southern limits of Hudson Bay, where it is succeeded by another species known as the barren ground reindeer, or cariboo. This is a smaller animal, seldom exceeding 150 pounds in weight, whilst large specimens of the woodland cariboo weigh upwards of 400 pounds.

The Mountain Goat is common in the Rocky Mountains above the tree line, but as winter sets in, it comes down to the lower grounds. Its long white wool is silky and beautiful. Professor Macoun speaks of them as being numerous on Mount Selwyn, and agile in jumping from crag to crag. In Bow River Pass they are abundant. This animal must be stalked with great caution, its habits being very much like those of the chamois in Switzerland.

The American big-horn, or Rocky Mountain sheep, is confined entirely to the mountain ranges of the far West, where it dwells secure amongst the high cliffs, leaping unscathed from crag to crag. It is exceedingly wary and difficult of approach, and has to be stalked with even more precaution than the stag. The horns on the male are so large at the base that they cover all the upper portion of the head down nearly to a level with the eyes, and the skull is exceedingly strong. The horns and head not infrequently weigh over 50 pounds.

The Antelope is the fleetest of all Canadian mammals, and when at rest is beautiful and gracefully statuesque. It is essentially a dweller in the open country, and is rapidly disappearing before the advance of settlement. It can easily outrun a horse, but after running some time it will stop suddenly, and, if the hunter hides, it will return and fall an easy prey. It is sometimes hunted with greyhounds, but

more frequently stalked. Great caution and patience are required, as its eyesight is so keen that all the sportsman's care is needed to approach it.

The Musk Ox is found only in the northern part of the Dominion, stretching from the waters of North Hudson's Bay to the Arctic Ocean. It is the size of a small ox, has very short legs, and yet is fleet of foot. Its fleece may almost be called double, with long surface hair, under which is close and fine wool. As a robe, the musk ox skin is preferable to that of the buffalo, of which it has taken the place.

The Bison, or Buffalo, in former times, was met with from the eastern boundary of Manitoba to the Rocky Mountains, and from the international boundary to Peace River. Before the advent of the white man, it roamed in countless thousands over the western plains, but to-day it is practically extinct. Like the Indian, it has retreated before civilization, and the shrill whistle of the locomotive, shrieking across the prairie, has sounded the death-knell of the large game of the West.

Of smaller animals, the sportsman can always find an abundance. In the older provinces squirrel shooting affords considerable sport, the black and gray species being there in good condition.

Rabbits are also abundant everywhere ; but, unlike the English rabbit, they do not burrow, lying hid under logs and stumps or ank herbage, whence they are started by dogs. In winter they change their grey coat to one of white fur, corresponding with the snow. This animal is really a hare in its habits, but only the size of an English rabbit. The country, especially in the North-West, seems alive with them in some years, while in others they are scarcely seen.

On the western plains and near the Rocky Mountains, the prairie hare, or jack rabbit, is found, corresponding closely to the English hare and about the same size.

In the older provinces the raccoon, which was once very abundant, is now scarce, and were it not for its nocturnal habits, would long ago have become almost extinct. Coon

hunting with dogs, on a moonlight night, on the edge of a grain field, where these animals resort to feed, affords great sport.

Of the marmot tribe, the ground hog is abundant on the edges of the clearings, and on the prairies gophers and prairie dogs are very common. The holes made by the latter are a source of annoyance to the rider, often causing as much inconvenience as those of the badger.

The latter is only met with in the far West, and is unknown in the old provinces. It is very shy, but at the same time inquisitive, peeping out of its hole, in which it takes refuge, to ascertain the cause of its fright.

Porcupines, an enlarged species of the English hedgehog, are met with, more or less, everywhere in warm slopes and thickets, and, like their English congeners, are slow in their movements.

The fur-bearing animals are generally regarded as the peculiar property of the trappers and Indians, and although steadily sought after, are yet more or less abundant.

The wolverine is scarce and rapidly disappearing. Its skin is a handsome trophy, the animal being the size of a large dog.

The beaver is only to be found far from man's improvements, but, in the Peace River district they are yet to be found in colonies, and their dams are stated by explorers through that part of the country to be the cause of the excessive floods that occur there. Many small lakes owe their existence to these dams.

Closely allied to the beaver but widely different in their habits are the musk-rats, common in all ponds, marshes and rivers from one end of Canada to the other. A very large business is done in musk-rat skins, and, although persistently hunted and trapped, its great fecundity saves the race from extinction.

The above short sketch of the mammals has been given, as the larger animals are more generally inquired after than



FALLS IN SUN DANCE CANON, BANFF, ALBERTA







small game. To enumerate the feathered or finny tribe would fill a volume, but it may safely be averred that no country offers a greater variety of ducks than Canada.

Swans breed only in the far North, and are seen only when migrating.

The goose breeds on the northern lakes. Teal are abundant. Bitterns are common along the grassy marshes and sedgy banks of the rivers. Heron are not uncommon, and in Manitoba and the Northwest pelicans are abundant. Of the grouse, plover, woodcock, snipe and smaller game, due mention will be made in describing presently the hunting grounds of the various provinces.

The same remarks apply to the fish of the Dominion, their name being legion, and every river, lake and pool teems with some kind or another which will afford sport either to the troller, fly-fisher or angler.

The hunting grounds of the various provinces may now be shortly treated of respectively.

Nova Scotia is more celebrated for moose and salmon than the other kinds of game that are found in the sister provinces. Moose are plentiful although constantly hunted, and afford rare sport for British officers quartered at Halifax. The neighbourhood of the chain of lakes between Annapolis and Liverpool, and the Petite and the Garden rivers is claimed as one of the best hunting grounds, whilst the Indian guides, necessary for the full enjoyment of sport, know all other likely grounds. Cariboo are found in the Cobequid Mountain district. Grouse are plentiful all through the province, but the finest shooting is woodcock, which are found in great numbers. Snipe are tolerably abundant, and salmon abound in all the rivers, whilst the number of trout will surprise the fisherman unaccustomed to Canadian streams.

The principal attractions of New Brunswick for the sportsman are moose, cariboo, salmon and the St. Croix trout or land-locked salmon. Moose are not nearly as abundant as in former years, and can only be found by parties visiting the province enlisting an old hunter in their

cause. The great Tantamar marsh in the south-eastern part of the province has the reputation of being a splendid snipe ground, while the Restigouche is equally celebrated for the quantity of wild fowl, especially geese, that visit it.

The fishing in the New Brunswick rivers is especially good. The Nipisiguit, Miramichi, Restigouche, St. John, and others afford the salmon fisher glorious sport. A pilgrimage to the Restigouche would afford sufficient material to keep his memory busy for years to come. A well-known American sportsman writes that "the northern countries of the province that border on the Bay of Chaleur, afford unquestionably the best field for sportsmen to be found in America east of the Rocky Mountains." In the St. Croix and its splendid chain of lakes trout abound, and are of a kind peculiar to it, known as "land-locked salmon." Whether in reality a different species or a degenerated salmon is an open question, but they are very gamey, afford first rate sport, and are excellent eating. Easy of access, and in a beautiful region of the country, St. Croix is a favourite with tourists.

The Province of Quebec affords excellent shooting in many parts; swans, geese, ducks, grouse, woodcock and snipe, moose, cariboo, salmon, and trout are found in abundance in their several localities. The chase of the two former is only pursued during the winter, is hardy and exhilarating, but real, downright hard work, and repays the toil. In the rivers emptying into the River and Gulf of St. Lawrence, the lordly salmon is to be found, and the fly or any other fishing is simply superb. In the River St. Lawrence are localities noted as the resort of wild swans, geese and ducks, snipe and plover, curlew and sea-fowl of every kind, while the forests all through the province teem with grouse, and the woodland openings and swampy thickets harbor countless woodcock in their season. The large amount of unsettled country in the province tends to keep up the abundance of game, in which the more settled portions of Canada are deficient.

The Province of Ontario is so varied in its different districts that what applies to one portion is perhaps the opposite of another. Where settlement has advanced, game has disappeared before it, but there are large tracts of the country yet remaining clothed with the virgin forest, only visited by the lumberman, in which game of all kinds abounds. The Ottawa district is yet one of these, as well as Nipissing and Muskoka, although the Canadian Pacific Railway and its connecting lines are now opening these regions for settlement, and a few years hence may class them only as amongst the localities that once held game. Moose are met with on the Dumoine and Coulonge rivers, and in the backwoods of the head waters of the Ottawa river, whilst deer are plentiful; duck and grouse shooting is good, with a fair show of woodcock and snipe, and the waters teem with maskinonge, pickerel and bass. In all the rivers tributary to the Ottawa on its north shore, and in the lakes which lie scattered everywhere in its vicinity, trout are plentiful. In central Ontario, in the Old Frontenac or Kingston district there is still good sport to be had among the ducks, grouse and snipe, though not equal to former years. The country in its rear, being rocky or marshy, and unsuited for farming, still abounds with deer, and is a favorite hunting ground, especially along the Opeongo and Hastings section. At the Thousand Islands, a long stretch of the St. Lawrence river, unsurpassed for beauty, and a favorite summer resort, splendid trolling is afforded for bass and maskinonge, to say nothing of fishing for smaller fry. Rice Lake, in the rear of Cobourg, and the neighbouring lakes are famous for maskinonge and bass and the innumerable quantity of wild ducks that resort there to feed upon the vast fields of wild rice which abound along those waters. The Holland marsh, between Toronto and Collingwood, is famous for snipe, plover and duck. In its vicinity, in years gone by, was one of the famous pigeon roosts, or places where the wild pigeons flocked to breed in thousands, whence they made their daily incursions into the surrounding country for food. This has, however,

disappeared, though stragglers occasionally return to the roost, but the mighty flocks of pigeons have emigrated to South America. In autumn these birds are to be found scattered in small flocks along the edges of clearings, feeding on grain fields, but their numbers are very limited and yearly becoming less. On Lake Erie, Long Point and Point Pelee, the St. Clair flats, on the western boundary, and Baptiste Creek, are admirable ducking grounds. Long Point, averaging eight miles in breadth and projecting some twenty miles into the lake, with wide fringes of marsh on both sides, in which wild rice is the chief growth, is controlled by a club of sportsmen, who keep it strictly preserved, and thus have it well stocked with game. Quails have been introduced with grouse on the higher ground, and wild turkeys have, of late years, been introduced, which are thriving on the ridge of land, running the length of the Point, crowded with oak, maple, cherry, elm, and chestnut trees, affording a splendid cover for this noble bird. The only localities in Canada, apart from this, where the wild turkey yet remains are in the counties of Essex and Kent, and there they are rare. In the early days of settlement, the whole western peninsula of Ontario abounded with the turkey, and the peculiar growth of the woodlands there, comparatively free from underbrush, afforded magnificent sport. Proceeding northwards along Lake Huron, along whose shores curlew, plover, and water-fowl abound, the Manitoulin Islands still afford good shooting and fishing in the waters round them. At the Straits of Mackinaw and Sault Ste. Marie splendid fishing can be had, the salmon trout of Lakes Huron and Superior attaining a very large size, whilst all the rivers running into the Georgian Bay and Lake Superior teem with trout, and are a favourite resort. Whenever the country is in a state of nature, the sportsman must rough it and live under canvas, laying in before he starts his necessary camp furniture and provisions. All along Lake Superior the rivers and streams running into it, especially the Nepigon, are a paradise for trout fishermen, and seem still to possess as many fish as



GLACIAL LAKE, CATARACT PASS, ROCKY MOUNTAINS

countless thousands, an evidence of which is given in the fact of many thousand geese being killed and preserved for winter use every autumn at the Hudson Bay Post, Fort Chippewayan. At the same place no less than 25,000 whitefish are dried every year for winter use, such as are not required as rations for the men being fed to the train dogs. The country here is described as park-like, the undulating plains being dotted with groves of trees.

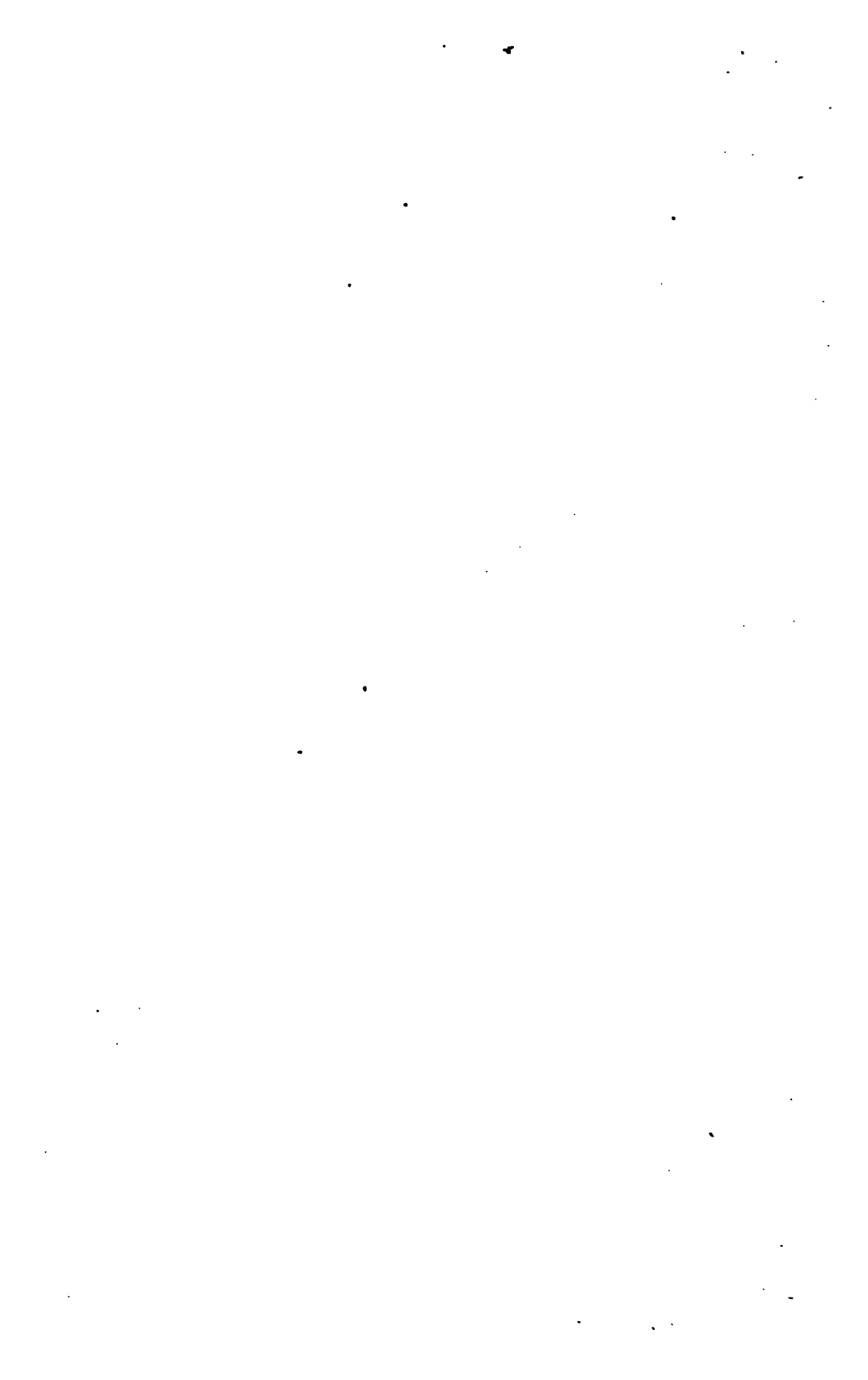
Within the Rocky Mountains, besides fishing, hunting the Bighorn and the Rocky Mountain goat will give exciting sport. In spring and summer the males form separate bands of from three to twenty, and feed along the edges of glaciers, or rest among the castle-like crags of the high summits. Whether quietly feeding or scaling the wild cliffs, their noble forms and the beauty of their movements never fail to strike the beholder with lively admiration. In the months of November and December all flock together, male and female, old and young. Wary in the extreme, they are most difficult to approach, and it is only by exercising all the stratagems of a hunter that a shot can be fired at them. Man's incursions in the mountains are making the animals more wary every year, and were it not for the inaccessible places they are able to scale, and the giddy heights they fearlessly tread, where men cannot follow, their days would be soon numbered and they would become like the buffalo, an animal of history.

In British Columbia, the general aspect of the country naturally impresses the sportsman that it is a land abounding with game. The rugged mountain ranges are wooded on their slopes, and have in their embrace, lakes, swamps and natural meadows; lakes of all sizes, from the little pond to the body of crystal-like water 100 miles long, often linked by streams, lake after lake turning and twisting to find an outlet to the ocean, generally through one or other of the larger rivers of the province, all abounding with fish. On the low lands and near the coast in the winter the black-tail deer is numerous. This animal frequents the dense coniferous forests of the Pacific coast, delighting in their dark

and damp recesses. It is seldom found far from timber or from some thick covert into which it can retreat. To the northward, where it has been but little hunted as yet it comes down frequently to the salt water to feed on a species of sea weed cast up on the shore, and the Indians kill many, so feeding, by stealing up within shot in their light canoes. Deer are abundant on the islands and among the mountains of the coast, but there are great areas of territory where, owing to the thick and tangled character of the undergrowth, stalking is out of the question, because of the impossibility of noiseless progress through the thickets. The elk is abundant on the coast line of the mainland, especially east of the Cascade range. Grouse are found everywhere, both on the mainland and the island, frequenting the thick fern and the pine lands, the willow grouse much resembling the English partridge. Prairie fowl are plentiful in the valleys of the east Cascade region, and occasionally the rare game bird, the large sage hen or "cock of the plains," may be found above Osoyoos. Ducks, geese, snipe and pigeon are everywhere, the mouth of the Fraser River especially being a great resort for wild-fowl. The valleys of the Thompson, Okonagon, and Cache Creek afford good sport for the rifle and the gun, and, in the mountain districts, bears may be had with the aid of a guide and experienced hunter. The grizzly and cinnamon bear, with wolves and lynx, can be hunted, but the sport is by no means free from danger, and considerable roughing must be encountered by the hunter.

Salmon in British Columbia are far more numerous than in the Atlantic Provinces of the Dominion, coming up from the sea in millions; this is no exaggeration. Six species are said to exist in the waters of the Pacific Coast, four of which are excellent and of great commercial importance.

On the Fraser, the Skeena, and the Bass rivers large canneries are located. Trout abounds in all the lakes and streams, and whitefish are common in the lakes in the middle and northern interior of the provinces. Smelts of





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