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THE OFFICIAL HANDBOOK
OF PRESENT CONDITIONS AND
RECENT PROGRESS

Our Empire is an
institution held together
by no artificial frontiers,
by no subtle political
mechanism, but by the
simple tie of common
loyalty to one Crown
and to many millions
of fellow-subjects.

Bessborough 431.



*His Excellency the Earl of Bessborough, G.C.M.G.
Governor General of the Dominion of Canada*

CANADA 1932

THE OFFICIAL HANDBOOK OF PRESENT CONDITIONS AND RECENT PROGRESS

PUBLISHED BY AUTHORITY OF THE HON. H.H. STEVENS, M.P.
MINISTER OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS
OTTAWA — CANADA

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CONTENTS

	PAGE
FOREWORD.....	5
INTRODUCTION—Review of 1931.....	7-14
CHAPTER I—Area, Topography and Drainage, Climate.....	15-21
CHAPTER II—Population—Births, Deaths and Marriages—Immigration—Aboriginal Races.....	22-32
CHAPTER III—The Constitution and Government of Canada.....	33-40
CHAPTER IV—Wealth, Production and Income—Capital Investments.....	41-46
CHAPTER V—Agriculture.....	47-62
CHAPTER VI—The Forest Wealth of Canada—Lumbering—Pulp and Paper.....	63-69
CHAPTER VII—Mines and Minerals.....	70-78
CHAPTER VIII—The Water Powers of Canada.....	79-82
CHAPTER IX—The Fisheries of Canada.....	83-88
CHAPTER X—The Fur Trade.....	89-93
CHAPTER XI—The Manufactures of Canada.....	94-101
CHAPTER XII—Construction.....	102-106
CHAPTER XIII—Transportation and Communications.....	107-117
CHAPTER XIV—External Trade of Canada—Non-Commodity Exchanges—Tariff Relations.....	118-137
CHAPTER XV—Internal Trade—Wholesale and Retail Trade—Freight Movements—Stock Markets—Commodity Prices—Cost of Living.....	138-144
CHAPTER XVI—Public Finance.....	145-151
CHAPTER XVII—Currency and Banking—Insurance—Loan and Trust Companies—Miscellaneous.....	152-163
CHAPTER XVIII—Labour.....	164-174
CHAPTER XIX—Education—Research Councils—Libraries.....	175-181
CHAPTER XX—Miscellaneous Statistics.....	182-186
—	
APPENDIX I—Official Sources of Information Relating to Canada....	187-188
INDEX.....	189-192

LIST OF ILLUSTRATIONS

	PAGE
1. Message of the Governor General.....	Fly Leaf
2. His Excellency the Earl of Bessborough, Governor General of Canada.....	Frontispiece
3. The Hon. H. H. Stevens, Minister of Trade and Commerce.....	7
4. An Inlet on Great Bear Lake.....	17
5. Mount Robson and Glaciers.....	20
6. Census of 1931.....	24-5
7. Indians at McPherson, N.W.T.....	31
8. Eskimo Women, Aklavik, N.W.T.....	32
9. The Senate Chamber, Houses of Parliament, Ottawa.....	33
10. Rideau Hall, Ottawa.....	37
11. Confederation Block, Ottawa.....	38
12. Interior of a Canadian Wire Mill.....	43
13. Lumber for Export, Vancouver.....	45
14. Preparing Root Land in Quebec.....	47
15. A Harvester-Thresher at Work.....	48
16. A Dairy Farm in Ontario.....	50
17. The Terminal Grain Elevator, Prescott.....	54
18. A Sheep Ranch in Alberta.....	58
19. Testing Milk and Cream in a Laboratory.....	60
20. A Canadian Cherry Orchard.....	62
21. Winter in the Woods.....	63
22. Lumbering in British Columbia.....	66
23. Grinders in a Pulp and Paper Mill.....	67
24. A Nova Scotia Salt Mine.....	70
25. Diamond Drilling in a Gold Mine.....	72
26. An Underground Scene in a Silver-Lead Mine.....	76
27. View at Chelsea and Farmer's Power Development, Quebec.....	81
28. Weighing Lobsters.....	85
29. The B.C. Salmon Fishing Industry.....	86
30. Trappers of the North Country.....	89
31. Fox Pens, Prince Edward Island.....	93
32. A Canadian Generator Assembly Plant.....	94
33. A Canadian Textile Mill.....	99
34. A Canadian Zinc Refinery.....	100
35. Churchill—An Ocean Port in the Making.....	102
36. Construction Work on a Power House.....	104
37. A Stripping Shovel at Work.....	105
38. National Research Council, Ottawa.....	106
39. A Modern Locomotive of the Oil-burning Type.....	108
40. The Welland Ship Canal.....	111
41. The King's Highway—Ontario.....	113
42. Vancouver Harbour.....	120
43. The Port of Montreal.....	121
44. The Market on the Bund, Shanghai, China.....	122
45. Trade with B.W.I.....	127
46. A Canadian Liner Loading at Bernuda.....	129
47. Trail Riding in the National Parks.....	134
48. Pouring Refined Gold at the Royal Canadian Mint, Ottawa.....	152
49. Financial Institutions of Canada.....	161
50. A Consolidated Rural School.....	176
51. University College, Toronto University.....	179
52. Book-Mobiles in the Maritime Provinces.....	181
53. H.M.C.S. Saguenay.....	185

MAPS DIAGRAMS AND CHARTS

1. Map of Canada, showing Physiographic Divisions.....	18
2. Chart showing Growth of Population, 1867-1931.....	23
3. Chart showing Progress of Water Power Development 1901-1931.....	80
4. Chart showing Number of Fur Farms, 1920-1929.....	92
5. Chart showing Railway Gross Revenues, Operating Expenses and Mileage, 1879-1929.....	109
6. Map illustrating Canada's Export Trade.....	120-1
7. Chart Showing Aggregate External Trade of Canada, 1907-1931.....	125
8. Chart Showing the Course of Wholesale Prices, 1914-1930.....	142
9. Chart Showing Index Numbers of Retail Prices, 1914-1930.....	143
10. Chart Showing Assets, Liabilities and Note Circulation of the Chartered Banks, 1867-1930.....	155
11. Chart Showing Growth of Life Insurance in Force in Canada, 1870-1930.....	157
12. The Trend of Employment in Canada, 1926-30.....	168

FOREWORD

AS the result of the growth of the Dominion and the increasing complexity of its institutions, the need has arisen for an official handbook of Canada, dealing with the whole range of its economic and social institutions, and giving a succinct and popular account of its problems and its progress, while devoting special attention to the facts of the existing economic situation. While the current reports of our national bureau of public information, the Dominion Bureau of Statistics, deal in great detail with the subjects of population, production, external and internal trade, transportation, prices, finance, education, criminality, etc., these publications are intended mainly for those who are specially interested in these particular phases of our national life. Again, the Canada Year Book, which summarizes these and other official publications, is itself too detailed for the average citizen and too expensive for general distribution. The present publication presents the result of an effort to survey the Canadian situation as a whole within a reasonable space, in a popular and attractive format, and at a cost which makes possible a wide distribution.

This handbook is designed to serve two very necessary purposes. To those outside of Canada, it will give a well-rounded picture of the current Canadian situation from Atlantic to Pacific, with sufficient historic and descriptive information as the background of the treatment. In Canada itself, the handbook will be of assistance in the general discussion of the economic situation incidental to our New Year national stock-taking, and will help to provide a better basis of information for dealing with the business problems of 1932.

H. H. STEVENS.

Minister of Trade and Commerce.

OTTAWA, January 1, 1932.

NOTE

This handbook has been prepared in the Dominion Bureau of Statistics from material which has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other Branches of the Government Service.

R. H. COATS.

Dominion Statistician.

INTRODUCTION

The Economic Position of Canada at the Close of 1931



HON. H. H. STEVENS, M.P.,
*Minister of Trade and
Commerce.*

AS one of the first five trading nations, measured by absolute trade, Canada is vitally interested in the economic conditions which prevail in the world at large, especially in those countries with which she chiefly trades. Every trader has to have his customers and, if he is a large trader, he must have many customers or at least many consumers of his products. His prosperity depends very largely upon their prosperity and their possession of purchasing power. If they stop production to fight among themselves they become impoverished and insolvent, and the trader finds that he can no longer sell them goods or even get paid for what he has already sold them. Thus the maintenance of peace and order and industry among the customers is of the highest importance to a trader and not least if that trader happens to be a nation. It follows that

Canada, trading with all the nations of the world, is necessarily affected by wars and civil dissensions arising anywhere in the world and reducing the purchasing power and the confidence of her customers. She is all the more seriously affected by the depression in the world at large because her external trade bears so high a proportion to her total production. Therefore a review of the Canadian situation in 1931 must commence with some reference to the world situation.

The World Situation as it Affects Canada.—The year 1931 has been a period of great and almost unprecedented depression throughout the whole of the civilized world. Gold prices of almost all commodities, and especially of farm and forest products and metals, have shown a drastic decline. The newer debtor countries of the world, producing and exporting farm products, lumber, metals and other primary products, have found it difficult and in some cases impossible to pay for the manufactured goods that they require and also to meet their interest charges. The result has been a general decline in international trade, and this has been aggravated by the restrictions placed by many countries upon the sale of foreign

exchange. Necessarily, ocean traffic has suffered and the total tonnage of the shipbuilding industry has felt the effects, the total shipping under construction being among the smallest on record. This general decline of international trade and of ocean traffic has inevitably been very injurious to Great Britain, the largest trader and the largest shipbuilder and shipowner in the world. Injurious has also been the difficulty experienced by her debtors in meeting the interest due to British bondholders on their national, municipal and industrial bonds, and in paying the dividends ordinarily received by British shareholders in their enterprises.

The difficulties experienced by Great Britain were enhanced by the fact that after the war and the bankruptcy of Central Europe she had undertaken, in fact if not in theory, to finance the economic reconstruction of Europe, continuing the banking service which before the war she had rendered to almost all the countries of the world. Her resources, though diminished by the war, would probably have been sufficient for this task had it not been for international jealousies and hatreds and the generally unstable equilibrium of the nations of the European continent. In particular Britain was embarrassed by the depressed position of the defeated powers, which she had been endeavouring to assist both because it was necessary to help them in order that they might be able to meet their reparation payments and also in the general interest of humanity.

The serious financial difficulties which were experienced in Austria last summer spread rapidly to Germany, which was granted, on the initiative of President Hoover, a year's respite from her obligation with regard to reparations. Besides the reparations receipts, much British money has been tied up in Germany as well as in other debtor countries, so that Great Britain was forced to abandon the gold standard on Sept. 21st. As the result, Scandinavian countries, which trade largely with Great Britain and look to London as their financial centre, were also forced off the gold standard, and up to the time of writing there has been no improvement in the general European situation. In spite of the fact that Britain is balancing her budget by economy and by drastic increases in taxation, and has returned a National Government to power with the primary object of maintaining the credit of the nation, the pound sterling fell as low as \$3.30½ in New York on Dec. 1st, representing a discount of 32.5 p.c. and the lowest quotation in the past ten years. This discount has adversely affected the stability of the Canadian dollar in New York, as we ordinarily use our favourable balance of trade with Great Britain in settling our unfavourable balance with the United States.

The United States, in its turn, has suffered intensely both from the great decline in prices and from the restriction of exports through the poverty of its customers. The great excess of exports financed by foreign loans is a thing of the past, and the repercussion has been felt within the Republic itself, through the diminished exports and the unprecedented increase of unemployment. The situation there has not been improved by the loss of confidence in the bonds of foreign countries held in New York and the consequent inability of these countries to raise new loans for the purchase of American products. It is even stated that, as in

earlier crises before the establishment of the Federal Reserve system, currency is being hoarded by the less intelligent classes of the population. There is some cause for this, as 1,653 banks with deposits of \$1,561,000,000 have suspended payments in the first ten months of 1931, according to the statistics of the Federal Reserve Board. The same authority reports a reduction of the gold reserves of the United States from \$4,632,000,000 at the end of August to \$3,903,000,000 (preliminary figure) at the end of October—a reduction of \$729,000,000 in two months, while money in circulation increased \$556,000,000 in the same period. Again, for the first four months of the current United States fiscal year, from July to October inclusive, United States exports were only \$730,764,000 (preliminary figure) as compared with \$1,203,630,000 in the same period of last year. The favourable trade balance, which totalled \$290,000,000 in these four months of 1930, fell to \$50,000,000 in the same period of 1931. In Federal finance, too, heavy weather is indicated. President Hoover stated in his message of Dec. 8 to Congress that the public debt of the United States will be increased by \$1,700,000,000 during their present fiscal year, and the resulting necessity for higher taxation is a depressing factor in the general business situation in the great Republic. Our own country is inevitably affected by the depression on the other side of the border.

The Primary Industries of Canada.—The three great branches of primary industry in Canada as measured by value of production are: agriculture, forestry and mining, and the net production of the first named is more than half as much again as the other two combined and over 55 p.c. of the total net production of all primary industries.

Agriculture in fact exercises such a potent influence on the national life that the prosperity or adversity of the farmer is reflected in every channel of national endeavour and for this reason conditions in the industry warrant special attention in this Introduction, although further treatment of this and other primary industries is left mainly to the chapter material which follows.

Because of the lower production of important field crops and lower prices of all agricultural products, the gross revenue derived from Canadian agriculture in 1931 will be markedly reduced, compared even with the low returns of 1930. This reduction will be alleviated in considerable measure by increased efforts towards rural self-sufficiency. This is a common and enforced characteristic of depressed agricultural conditions because, in such periods, farm prices fall sooner and further than the general price level. The farmer's purchasing power is reduced both absolutely and relatively and he is compelled to reduce expenditures for consumption goods, equipment, and hired labour. This has a beneficial effect on out-of-pocket production costs, it greatly reduces the difference between net and gross revenue, and the resultant retrenchment places agriculture in a favourable position to respond to any improvement in production or prices. This latter clause must be somewhat qualified by reference to the necessary accumulation of agricultural debts and the necessity of eventually making provision for depreciated equipment—items which must be largely neglected in times like these.

Some favourable factors in the agricultural situation have recently made their appearance. The wheat situation has a brighter foundation than at this time last year. There has been a notable increase in live-stock numbers during 1931, especially with regard to hogs in the Prairie Provinces. Marketings show a considerable improvement over 1930, with some benefits resulting from export trade. Dairy production has increased and Canada has returned to an export basis in butter. Although prices of dairy products are very low, the producers have been favoured by a long pasture season and abundant supplies of cheap forage and concentrates. The poultrymen have recently benefited by a more than seasonal improvement in egg prices as a result of heavy poultry marketings and reduced hatchings in the spring. The producers of specialized crops such as fruit, tobacco and sugar beets had relatively profitable seasons with heavy production offsetting lowered prices. Commercial apple production in Canada was nearly 400,000 barrels higher than in 1930, due to better yields in the Maritime and Eastern Provinces. Tobacco production increased considerably due to higher acreage and a favourable season, while sugar-beet production in 1931 is provisionally estimated at 504,000 tons compared with 471,000 tons last year. Potatoes and root and fodder crops showed generally increased returns over 1930.

The production of the main field crops was reduced considerably from 1930 figures, mainly because of the concentration of acreage in the dry areas of the West. Wheat again showed its ability to resist drought and oats yielded about four-fifths of 1930 production because of high acreage in the East and in the western 'park belt'. Barley and rye were particularly hard-hit by drought.

There are present indications that abundant supplies and low prices of staple agricultural commodities are stimulating both domestic consumption and international movement, and in this feature lies the main hope of improved agricultural conditions.

Forestry production has suffered in common with other branches of primary production and for the twelve months ended October 1931, as measured by exports, shows declines in quantity and greater declines in value in all branches as compared with 1930. Total exports of unmanufactured wood were valued at \$44,600,000 compared with \$73,200,000; exports of manufactured wood were \$32,200,000 compared with \$42,300,000; and exports of paper were \$116,400,000 compared with \$142,900,000. Newsprint paper exports, which constitute the bulk of paper exports, fell from \$137,560,000 to \$112,440,000 but newsprint paper is still a very good second to wheat among our exported commodities and while prices have shown a downward trend Canadian newsprint manufacturers appear likely to realize as much in Canadian dollars for their 1932 exports as in 1931.

The great mineral industry of Canada, which has developed so rapidly during the last decade, has been less affected by the depression than might have been expected. For the first eleven months of 1931, the index number of employment in the mining industry has been 107.7 as compared with 117.8 in the same period of 1930—a decline of about eight and a half per cent. Gold and petroleum actually show a larger production for

the first nine months of 1931 than for the same months of 1930. The amount of gold produced in this period of 1931 was 1,962,889 fine ounces, a larger production than in the twelve months of any calendar year prior to 1930. The September production alone approached \$5,000,000 in value, and the October production was about the same. Canada is now admittedly the second largest producer of gold in the world. In the first nine months of 1931 petroleum production amounted to 1,278,000 barrels, as compared with 1,015,000 barrels in the same period of 1930, and with 1,117,000 barrels in the entire twelve months of 1929.

Other leading metals and non-metallic minerals showed a high quantity production in the first nine months of 1931, though the returns to the producers have not been as satisfactory as usual, owing to lower prices.

Manufactures.—The manufacturers of Canada have certainly had their difficulties to face in 1931, as the result of the declining prices of their products. Generally speaking, they have had to reduce the scale of their operations and the number of their employees. Thus, on the basis of the monthly reports of some 4,000 of the larger manufacturers regarding the number of their employees, we have been able to deduce that the average index number of employment in all manufacturing industries in the first eleven months of 1931 has been 95.9 as compared with 109.7 in the same period of 1930, indicating a reduction of about 12½ p.c. in working forces as compared with last year. Among the manufacturing industries which have best stood the strain of the depression without seriously reducing their working forces have been the leather and the boot and shoe industries, where the index number of employment is practically the same as in 1930. The textile industry, too, shows the comparatively small reduction of 3.75 p.c. in employment. The chemical industries, again, show a reduction of less than 3 p.c. in the number of their employees. The electric current industry shows a comparatively small falling off of about 3 p.c. in the number of its employees as compared with 1930, though the electric apparatus industry shows approximately the same reduction of one-eighth as the grand total of manufacturing industries. Summing up, it may be stated that if the activity of the manufacturing industries of Canada is measured by the number of their employees, these industries were operated in 1931 on a basis about half way between their operations in 1925 and their operations in 1926. Of course, the situation with regard to production is really considerably more favourable than this, on account of the labour-saving machinery installed in our factories in recent years, but the saving of labour thus effected does not lend itself to statistical measurement.

Railway Carloadings.—The serious falling-off in railway carloadings in 1931 has been due in some cases to smaller production of commodities. Lower commodity prices have also made it more difficult to pay transportation charges from the producer to the ultimate consumer and have thus reduced the volume of transportation. The competition of the motor truck on the steadily improving roads of the Dominion must also bear a part of the responsibility. In over eleven months up to December

5th, the cars of revenue freight loaded on Canadian railways numbered 2,451,249 as compared with 3,014,134 in the corresponding period of 1930. The decline of 562,885 cars was distributed throughout all the main classes as follows: grain and grain products 20,241, live stock 5,262, coal 60,267, coke 3,605, lumber 43,453, pulpwood 54,141, pulp and paper 18,376, other forest products 42,024, ore 42,024, merchandise less than car load 123,132, miscellaneous 150,360.

While this decline averages more than 11,000 cars per week for the elapsed 49 weeks of 1931, the showing is far better since October, the car-loadings for the last six weeks up to December 5 averaging only 4,563 cars fewer than in the corresponding weeks of last year. The cessation of the precipitate decline of prices which for nearly two years has made it almost impossible for producers to earn profits on their products has already gone far to restore business confidence throughout the country.

Prices.—At the centre of the great depression, at once a cause and a consequence, has been the great decline in the world prices of practically all commodities. The Canadian index number of wholesale prices, which is fairly representative of similar index numbers all over the world, after showing minor fluctuations of not more than a few per cent throughout the eight years from 1922 to 1929, commenced a headlong decline in 1930 and continued it at a lessened rate in 1931. In September of the present year it stood at 70.0 as compared with 96.0 in December, 1929—a drop of nearly 27 p.c. in a period of less than two years. Even if this decline had been equally distributed over all classes of commodities, it would have seriously prejudiced the position of producers in respect of their profits and in their relations with their creditors. Yet commodities would still have been exchangeable for each other on about the same basis as before.

The price decline which took place in 1930 and 1931 was not at all of this presumably more equitable kind. As in other depressions, the prices of foods and raw materials fell far more rapidly than the prices of manufactured articles. While the index numbers of prices of fully and chiefly manufactured products fell only from 93.2 in December, 1929, to 72.7 in September, 1931, the index of prices of raw or partly manufactured commodities fell from 98.9 to 58.7 in the same period. In other words, the prices of raw or partly manufactured commodities fell by over 40 p.c. during this period, while the prices of fully or chiefly manufactured commodities fell by only 22 p.c. Primary producers have naturally been incensed at the fact that their products would no longer exchange for manufactured products on the same basis as before. In addition, farmers, the most numerous class of our primary producers, have had to contend with drought and poor crops, as well as with low prices. Nevertheless, they are far from being alone in their difficulties. The producers of metals and of lumber have shared their hardships, as is shown by the serious declines in the prices of lead, zinc, copper, and groundwood pulp.

The disproportion between the prices of raw or partly manufactured commodities and those of fully or chiefly manufactured commodities is now diminishing, and this is one of the best proofs that business is re-

establishing itself on a new level of prices. It is not improbable that in 1932 there will be a stabilization of commodity prices at a level of between 70 and 75 p.c. of the 1926 prices. Already we have seen a rise of the general index number of wholesale prices from 70.0 in September, 1931, to 70.6 in November, 1931. This rise, which is also taking place in many other countries, is evidence that the period of panic is past and that the dawn of a new era is already brightening.

Wholesale and Retail Trade.—The wholesale and retail trade of Canada remains at a fairly high level of activity, as judged by the employment afforded by the larger establishments. The average index number of employment in wholesale and retail trade in the first eleven months of 1931 was 123.4 p.c. of the 1926 base as compared with 127.1 p.c. in the same period of 1930. Indeed, the 1931 figure is higher than the annual average index number of employment in wholesale and retail trade in any year prior to 1929. It is possible, however, that the figures supplied by the reporting firms include in some cases employees who are working short time, and it is likely that the figures represent in some measure the increase of larger trading establishments at the expense of small scale establishments.

In the last couple of years, statistics of retail sales have been secured from a considerable number of chain stores and departmental stores located in different parts of Canada. The results are published in the form of index numbers, and the latest figures, covering the month of October, indicate that sales were higher, in eight of the ten groups into which the reporting stores are divided, in October than in September. The combined index for all the ten groups was 111.3 p.c. of the sales for January 1929 (taken as the base), as compared with 99.3 p.c. in September, being an increase of 12 p.c. over the preceding month.

Finance.—The public finances of the Dominion and of its provinces and municipalities have borne up extremely well under the great depression. Our banking system, too, has stood the strain without a suspension and even without a run upon any chartered bank. Indeed, the total of non-current loans of all the chartered banks together, according to the latest monthly report as of October 31 was only \$11,143,000 out of grand total assets of \$3,057,000,000, or a little over one-third of one per cent. Again, though the savings deposits of the chartered banks are naturally affected by the necessity of some persons who have had to draw out their savings for living expenses, the grand total of the savings deposits in our chartered banks has actually increased by some \$32,500,000 between October, 1930, and October, 1931. Further, in spite of the great depression, the larger life insurance companies doing business in Canada state that during the first ten months of 1931 they have written \$400,000,000 of new business. As many companies do not report their new business, the total of life insurance sold in Canada in 1931 up to the present time is certainly nearer \$500,000,000 than \$400,000,000.

But the most recent and most conclusive evidence of the financial stability of Canada in the present year of grace is the fact that after

accepting the conversion of some \$650,000,000 of Dominion Government bonds to a lower rate of interest a few months ago, the people of Canada have now within a few days oversubscribed the new loan of \$150,000,000, offering the country over \$200,000,000 at the rate of five p.c. There could be no more impressive test of the confidence of Canadians in Canada.

The Prospects for 1932.—The great storm of depression would appear, so far as Canada is concerned, to have fairly well blown itself out. The price level, after a precipitate decline lasting over nearly two years, seems to be in a fair way to stabilization, and this should bring a return of confidence among business men and producers generally. The restoration of confidence should lead to a gradual increase of employment, a greater volume of production and an increase in the transportation of commodities. Further, the recent action of the British Government in imposing emergency tariffs upon certain foreign imports, bids fair to be of at least temporary value to Canada. It will be for us to consider at the Imperial Economic Conference in Ottawa next summer what else we can do to promote interimperial trade on a basis which will be satisfactory and profitable alike to the Mother Country, to ourselves and to the other great Dominions of the Empire.

But however we may extend our trade within the Empire, Canada must also consider the pushing of her trade with other countries. Especially as regards wheat and other food products, we must push our sales both in the densely settled importing areas of continental Europe, and if possible also in the densely settled areas of eastern Asia. And in order that these peoples may be well enough off to buy our wheat, we as Canadians must do what in us lies to exorcise the demons of fear which are besetting mankind to-day and increasing national expenditures for armaments throughout the world. The Disarmament Conference of the nations of the world meets in Geneva in February next, and on economic grounds, as well as for the sake of humanity, we should work for its success. Peace and the restoration of confidence is to-day the most vital interest of the world.

CHAPTER I

GENERAL—AREA—TOPOGRAPHY AND DRAINAGE —CLIMATE

General

The Dominion of Canada is the largest member in point of size of the sisterhood of nations which constitutes the British Empire, and as regards population ranks first among the Dominions.

Although Canada was discovered in the early half of the 16th century, a permanent hold was not established by Europeans in the St. Lawrence valley until 1608, when Samuel de Champlain established his slender colony under the shadow of the Quebec rock. Canada has therefore experienced but three full centuries of growth under the rule of the white man. The first was devoted to exploration and early colonization of New France, which by 1706 had a recorded population of 16,417. The second century witnessed the definite conquest of Canada by the British, the rise of the fur trade and the extension of exploration and colonization into the interior. The claims of the Spaniards to the Pacific coast of Canada were finally surrendered in 1795. The third century of growth was noteworthy for the beginnings of industrial development, the extensive construction of internal transportation systems—railways and canals, the Confederation of the colonies into the Dominion of Canada, and the opening up of the rich wheat lands of the Middle West. The twentieth century—the fourth of Canada's growth—dawned with Canada on the threshold of great achievement, and the first thirty years have been a period of very great economic progress. The Dominion now possesses in the Canadian National and the Canadian Pacific two of the finest railway transportation systems to be found anywhere. She has just completed the largest fresh-water canal in the world, has seen her trade, her ports, her cities and her financial and other institutions develop until they rank with those of much older nations. On the basis of a liberal heritage of natural resources she has erected an industrial superstructure producing a wide range of secondary products which are exported to all corners of the earth.

But not in economic progress alone has advancement been marked. Canada, because her rapid but firmly-founded growth has attracted the attention of the world and owing to her close relations with Britain and the Empire, the splendid part she played in the world conflict of 1914-18, and her membership in the League of Nations, occupies a position of importance in world affairs far transcending that to which the mere numbers of her population would entitle her. She has emerged to full nationhood, exercises complete control of her own affairs, and in this development has set a fine example of two nationalities each with its own language and customs working, as one nation, in harmony and unity for the general welfare.

Politically, Canada is divided into nine provinces each with a Provincial Government, and two territories administered by the central Dominion Government. The provinces are grouped as follows: the Maritime Provinces of Nova Scotia, New Brunswick and Prince Edward Island, lying along the Atlantic seaboard; the Central Provinces of Quebec and Ontario along the St. Lawrence river, the Great Lakes and east and south of Hudson bay; the Prairie Provinces of Manitoba, Saskatchewan and Alberta lying in the great central plain between the Laurentian Highlands and the Rocky mountains; and the Pacific Province of British Columbia.

The Northwest and Yukon Territories are named from their situations—the one to the far north and westward, and the other flanking the Yukon river.

Area

The area of Canada as revised on the basis of the results of explorations in the north, the area taken from Quebec by the Labrador Boundary Award of 1927, and adjustments made in the area of Ontario in 1930, is 3,690,043 square miles. This figure compares with 13,491,977 square miles for the British Empire, 3,776,700 for the continent of Europe, 3,743,529 for the United States and its dependent territories, 2,974,581 for the continent of Australia, and 121,633 square miles for the British Isles. Roughly, Canada is almost as large as Europe or the United States with its dependencies, is more than thirty times as large as the British Isles, and comprises 27 p.c. of the British Empire. The details by provinces are shown in the following table:—

Land and Water Area of Canada, by Provinces and Territories, as in 1931

Province or Territory	Land	Water	Total	P.c. of Total
	sq. miles	sq. miles	sq. miles	
Prince Edward Island.....	2,184	—	2,184	0.1
Nova Scotia.....	20,743	685	21,428	0.6
New Brunswick.....	27,710	275	27,985	0.8
Quebec.....	571,004	23,430	594,434	16.1
Ontario.....	363,282	49,300	412,582	11.2
Manitoba.....	224,777	27,055	251,832	6.8
Saskatchewan.....	237,975	13,725	251,700	6.8
Alberta.....	248,800	6,485	255,285	6.9
British Columbia.....	349,970	5,885	355,855	9.6
Yukon Territory.....	205,346	1,730	207,076	5.6
Northwest Territories.....	1,258,217	51,465	1,309,682	35.5
Totals.....	3,510,008	180,035	3,690,043	100.0

Topography and Drainage

The surface features of Canada are such as to divide the country into several clearly defined natural areas.

The exposed surface of the old Precambrian continent forms one of the largest divisions and has been variously called the Canadian Shield, the Archæan Peneplain and, in its southern portion, the Laurentian Highland. The mountainous country of the west constitutes the Cordilleras

or Pacific Coast region, while the mountains of eastern United States, in their continuation across the border, form the Appalachian Highland of Eastern Canada or Maritime region. The Great Plains, with various subdivisions, occupy the area between the mountainous area of the west and the great, roughened surface of the Canadian Shield. The St. Lawrence Lowlands lie between the Laurentian and Appalachian Highlands. Within the borders of the Canadian Shield an area on the southern margin of Hudson bay has been referred to as the "clay belt" or Hudson Bay Lowland. It occupies a part of the basin that during the glacial period was submerged and covered with a coating of clay which smoothed over its inequalities and concealed most of the underlying rocks. Since its emergence the surface has been but slightly altered by drainage channels cut across it.



An Inlet on the North Shore of Great Bear Lake, N.W.T.—This picture gives a good idea of the topography of the northern part of the Canadian Shield. It is near this location where important radium ore deposits are reported to have been discovered.

Royal Canadian Air Force photo.

The general direction of the mountain ranges and the rugged features of the Canadian Shield are such as to militate against easy communication in an east-west direction, made necessary by the fact that population is concentrated in the southern portions of the provinces. To some extent this handicap is overcome by the positions of several chief waterways.

The waterways of Canada constitute not only one of its most remarkable geographic features, but one of the most vital elements of its national existence. One glance at the map suffices to show Canada's advantageous

position in this respect—the superb St. Lawrence system, comprising gulf, river and great lakes penetrating nearly half way across the continent, which has made Montreal the largest grain-shipping port of the world; the interior lakes and large rivers, including the great Mackenzie system as yet almost undeveloped—these waterways represent an actual or potential contribution to the economic life of the Dominion, both in the electric energy they develop or are capable of developing and the freight they carry or are destined to carry, which place them among the greatest of our natural assets.

The great drainage basins of Canada are the Atlantic (524,900 square miles), the Hudson bay (1,486,000 square miles), the Arctic (1,290,000 square miles), the Pacific (387,300 square miles) and the gulf of Mexico (12,365 square miles).



Most important of the lakes and rivers of Canada is the chain of the Great Lakes with their connecting rivers, the St. Lawrence river and its tributaries. This chain is called the St. Lawrence River system. The Great Lakes, separating the province of Ontario from the United States and connected by a series of canals with the St. Lawrence river, allow vessels drawing not over 14 feet of water to proceed from the Atlantic ocean to the interior of the Dominion as far as Fort William and Port Arthur, twin cities situated on lake Superior, practically half way across the continent.

Apart from the St. Lawrence, the great waterway of the eastern half of the Dominion, other systems also merit some attention. The Saskatchewan river, for example, flowing eastward from the Rocky mountains to lake

Winnipeg and thence northward by the Nelson river into Hudson bay, drains a great part of the plains of the western provinces. In the north, the Mackenzie river, with its tributaries the Slave, Liard, Athabaska and Peace rivers, follows the northerly slope of the Great Plain and empties into the Arctic ocean, its waters having traversed, in all, a distance of 2,514 miles. The Yukon river, after draining a great part of the Yukon Territory, flows northward through Alaska into the Behring sea after a course of 1,765 miles. The Fraser, Columbia, Skeena and Stikine rivers flow into the Pacific ocean after draining the western slopes of the mountains of British Columbia.

Areas of Principal Lakes in Canada ¹

NOTE.—The areas of the Great Lakes mentioned in this table are: lake Superior, 31,810 sq. miles; lake Huron, 23,010 sq. miles; lake Erie, 9,940 sq. miles; and lake Ontario, 7,540 sq. miles.

Lake	Sq. Miles	Lake	Sq. Miles
Huron, including Georgian Bay, portion in Ontario	13,675	Garry, N.W.T.	980
Great Bear, N.W.T.	12,200	Baker, N.W.T.	975
Superior, portion in Ontario	11,200	Yathkyed, N.W.T.	860
Great Slave, N.W.T.	11,170	Mistassini, Que.	840
Winnipeg, Man.	9,398	Wollaston, Sask.	768
Erie, portion in Ontario	5,094	Isbnd, Man.	550
Ontario, portion in Ontario	3,727	Chire, Alta.	545
Athabaska, Sask.-Alta.	2,762	Etawney, Man.	546
Winnipegosis, Man.	2,086	Magase, N.W.T.	540
Manitoba, Man.	1,817	Cedar, Man.	537
Remede, Man.-Sask.	1,765	Moose, Man.	525
Dubawnt, N.W.T.	1,600	Minto, Que.	485
Nipigon, Ont.	1,590	Aberdeen, N.W.T.	475
Lac La Martre, N.W.T.	1,335	Lesser Slave, Alta.	461
Southern Indian, Man.	1,200	Lac La Ronge, Sask.	450
Lake of the Woods (total 1,346) portion in Ontario	1,127	Clearwater, Que.	410

¹The lengths of principal rivers and their tributaries were tabulated in Chapter I of *Canada 1931*.

Lake Superior, with its area of 31,810 square miles, is the largest body of fresh water in the world. As the international boundary passes through lakes Superior, Huron, Erie, St. Clair and Ontario, only about half of the areas of these lakes is Canadian. The whole of lake Michigan is within United States' territory. From the western end of lake Superior to the mouth of the St. Lawrence there is, with the aid of the canal system, a continuous navigable waterway. The total length of the St. Lawrence river from the head of the St. Louis river to Pointe-des-Monts, at the entrance of the gulf of St. Lawrence, is 1,900 miles. The tributaries of the St. Lawrence, several of which have themselves important tributaries, include the Ottawa river, 606 miles long, the St. Maurice river, 325 miles long, and the Saguenay (to head of Peribonka), 405 miles long.

In addition to the Great Lakes there are large bodies of inland water in other parts of Canada. Of these only the following principal lakes, with their respective areas, need be mentioned:—in Quebec, lake Mistassini (840 square miles); in Ontario, lake Nipigon (1,590 square miles); in Manitoba, lake Winnipeg (9,398 square miles), lake Winnipegosis (2,086 square miles) and lake Manitoba (1,817 square miles); in Manitoba-

Saskatchewan, Reindeer lake (1,765 square miles); in Saskatchewan-Alberta, lake Athabaska (2,762 square miles). All these are within the provinces as at present constituted and are exclusive of lakes situated in the Northwest Territories, the largest of which are Great Bear lake (12,200 square miles) and Great Slave lake (11,170 square miles) in the District of Mackenzie.

Climate

It is difficult to generalize concerning the climate of so large an area. The greater part of the Dominion is in what may be called the colder temperate zone, while at the extreme north Arctic conditions prevail, and in certain parts, especially in southern Ontario and Vancouver island, the products are those of the warmer temperate zone.



View of Mount Robson and Glaciers in the Canadian Rockies about Twenty-five Miles North-west of the Yellowhead Pass.—Atmospheric agents (wind and rain, frost and heat) are slowly but continually breaking into and crumbling the hard faces of these giant peaks which will ultimately be reduced to a rounded, weathered condition.

Courtesy Department of the Interior.

In the main, the climate of Canada may be described as "continental", that is, subject to extremes of heat in summer and cold in winter which are not generally felt on islands or on the sea coast in the same latitudes. At the same time a considerable part is comparatively near the sea, or to great bodies of water which have a tendency to modify temperatures, as, for example, the Maritime Provinces, the peninsula of southern Ontario and the coast regions of British Columbia.

Roughly, the climate of Canada may be classified under four main types: (1) the valley and coastal type of British Columbia; (2) the prairie type; (3) that of Ontario and Quebec; (4) that of the Maritime Provinces.

The valley and coastal type of British Columbia is characterized by moderate temperatures in summer and winter, with high precipitation on the coast. In the interior valleys of the Okanagan and Kootenay country the winter temperatures are distinctly lower and the precipitation very much less than on the coast.

The outstanding features of the prairie climate are the much scantier precipitation and the more severe cold of winter. Fortunately, the precipitation comes at the time of the year when it is most needed, i.e., in the growing period, though in southern Alberta the summer precipitation is often light. A moderating influence on the climate of the western prairies is the *chinook* wind—a warm southwest wind which, according to the general explanation, originates over the Pacific ocean and, after being forced upward and deprived of its moisture by the Cordilleras, descends over Alberta. The effects of the *chinooks* are felt as far north as the Peace River country. A change of wind, from the northeast to the southwest in the area affected will literally melt the snow before it and has been known to cause a rise in temperature in the winter season of from -20° F. to $+40^{\circ}$ F. within a few hours in parts of southern Alberta. The climate of the Prairie Provinces is also modified by their elevation, which increases steadily as one proceeds west from Winnipeg. Thus, while the Canadian Pacific Railway at Winnipeg station is 766 feet above mean sea-level, it is 1,204 feet at Brandon, 1,896 feet at Regina, 2,181 feet at Medicine Hat and 3,437 feet at Calgary. These high elevations are partly responsible for the strong cold winds which are a feature of the prairie climate.

Ontario and Quebec are comparatively mild in the southern districts, but severe in the winter and with a shorter summer in the more northern areas, where there is less precipitation. Quebec is generally somewhat colder than Ontario. East of Quebec city the summers are distinctly cool, the normal mean temperature for July being under 65° . Only in the country on the shores of lakes Erie and Ontario and on the St. Lawrence is the normal mean temperature in July over 70° .

In the Maritime Provinces the climate is characterized by heavier precipitation than in Ontario, and in the southern districts by more equable temperatures. Nova Scotia has a distinctly warmer winter than New Brunswick. The southwestern part of Nova Scotia is the only part of Eastern Canada where the normal mean temperature in January is above 25° .

The characteristically cold winters over the great part of the Canadian interior are not without economic advantages. From early times they have facilitated woods operations and have indirect beneficial effects on the soil. The health and hardiness of the people gain much from the invigorating conditions which prevail. Interruptions to national endeavour due to entirely seasonal causes are becoming less pronounced as Canada becomes more and more industrialized. Even construction operations, considered among the most seasonal, are now carried on almost all the year round.

CHAPTER II

POPULATION—BIRTHS, DEATHS AND MARRIAGES —IMMIGRATION—ABORIGINAL RACES

Population

The population of the earth is estimated at approximately 2,000,000,000¹. The British Empire which covers one-quarter of the land area of the earth, has slightly less than one-quarter of the world's population, but Canada, which occupies over one-quarter of the area of the British Empire, or one-sixteenth of the land area of the earth has only about one-forty-ninth of the population of the former or about one-two-hundredth that of the latter. While there is no absolute standard for population density, so much depending on extent of resources, the rate of increase in productivity of land as a result of invention, etc., a certain minimum density is desirable and even necessary to effective social and political life. As far as Canada is concerned such a minimum effective density is far from having been attained in the country as a whole.

Areas and Populations of Great Britain, Ireland, the Dominions and India for 1931, or latest year available, Compared with 1921

Country	Area in Square miles	Population, Census of 1921	Population, Census of 1931
Great Britain.....	88,136	42,769,196	44,790,485
England.....	50,874	35,230,225	37,354,917
Wales.....	7,466	2,656,474	2,593,014
Scotland.....	30,405	4,882,497	4,842,554
Ireland.....	32,059	4,354,000 ¹	4,228,553 ²
Canada.....	3,690,043	8,788,483	10,353,778
Union of South Africa.....	471,917	6,928,580	8,013,697 ³
Australia.....	2,974,581	5,435,734	6,488,707 ⁴
New Zealand.....	104,751	1,218,913	1,510,940 ⁵
Newfoundland and Labrador.....	162,734	262,938	275,888 ⁵
India.....	1,805,332	318,942,480	351,500,000

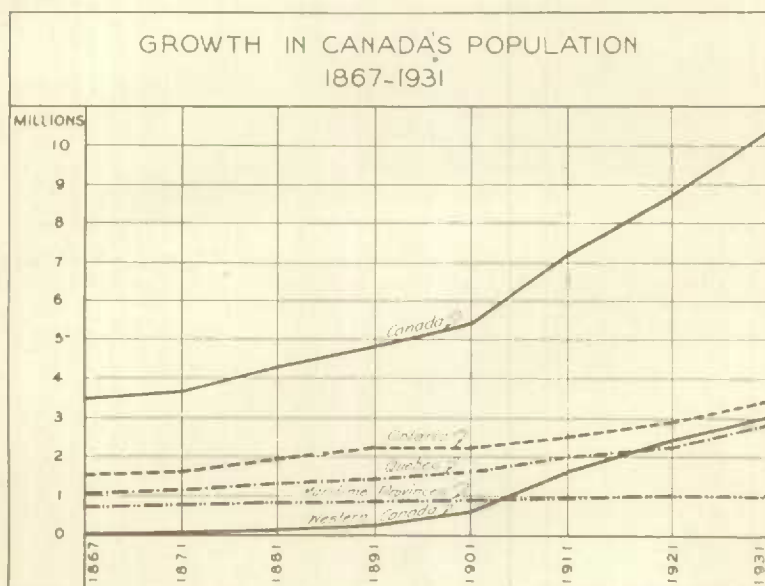
¹ Official estimate, 1921. A census was not taken in this year. ² 1926 census. ³ Official estimate, 1930. ⁴ Official estimate of Mar. 31, 1931. ⁵ Official estimate of Dec. 31, 1930.

In addition to growth and racial composition an important consideration which should receive attention in any detailed study of population is the distribution of population as between the various age-classes, and the effects of immigration and emigration, birth rate and mortality on the age-groups. Space, however, permits only of the broadest treatment of Canada's population as affording a measure of the general economic progress of the country.

Historical.—The credit of taking what was perhaps the first census of modern times belongs to Canada, the year being 1666 and the census that of the little colony of New France. A population of 3,215 souls

¹ The Statistical Year Book of the League of Nations, 1930-31 gives the population of the world as 1,992,500,000 not including certain native populations, chiefly in the interior of the African continent where censuses are incomplete or do not exist.

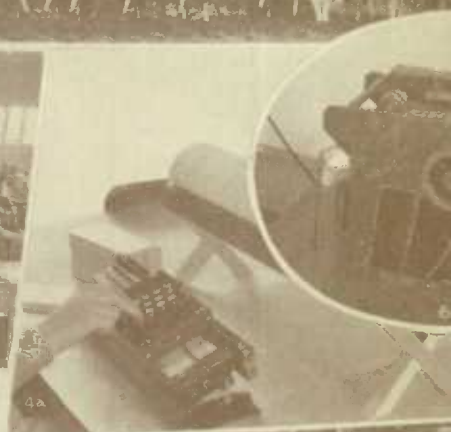
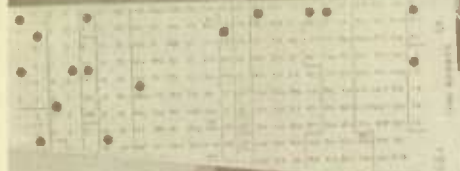
was shown. By the date of the Conquest, nearly a hundred years later, this had increased to 70,000, what is now the Maritime Provinces having another 20,000. After the Conquest came the influx of the Loyalists and the gradual settlement of the country, so that Canada began the nineteenth century with a population of probably 250,000 or 260,000. Fifty years later the total was 2,384,919 for the territory now included in the Dominion of Canada. There was a very rapid development in the 'fifties, and further substantial increase in the 'sixties, with the result that the first census after Confederation (1871) saw the Dominion launched with a population of 3,689,257.



Statistics of Growth of Population in Canada—continued on page 26

Province	1867 ¹	1871	1881	1891
Ontario.....	1,530,000	1,620,851	1,926,922	2,114,321
Quebec.....	1,169,000	1,191,516	1,359,027	1,488,535
New Brunswick.....	272,000	285,594	321,233	321,263
Nova Scotia.....	365,000	387,800	440,572	450,396
British Columbia.....	-	36,247	49,459	98,173
Prince Edward Island.....	81,000	94,021	108,891	109,078
Manitoba.....	17,000 ²	25,238	62,200	152,506
Saskatchewan.....	-	-	-	-
Alberta.....	-	-	-	-
Yukon.....	-	-	-	-
Northwest Territories ³	-	48,000	56,446	98,967
Totals.....	-	3,689,257	4,324,810	4,833,239

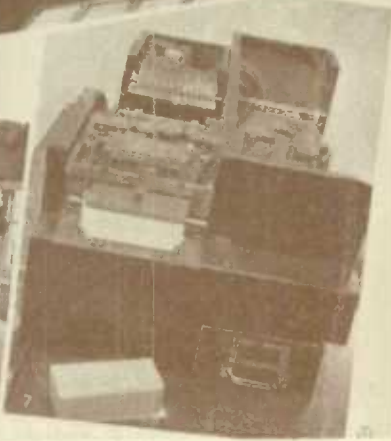
NOTE.—For footnotes see end of table, p. 26.



DESCRIPTION OF OPERATIONS.—The task of taking a census of the Dominion every tenth year has been described as the greatest single administrative effort which engages the attention of the Dominion Government in time of peace.

The compilations and analyses resulting from the census count taken on June 1, 1931, are now under way and a few of the main operations involved are illustrated above. A highly organized field force of 15,000 enumerators was employed in collecting, by personal inquiry, information regarding every man, woman and child in the Dominion, and a special temporary staff of almost 1,000 clerks (illustration 1) are now engaged in transcribing and classifying the resulting mass of data.

Illustration (2) shows clerks engaged in checking information from the enumerators' sheets. Illustration (3) shows the process of transferring the checked information to census cards by individually operated punching machines or 'pantographs' in the operation of which the clerks become very quick and skilful. Two types of hand-punching machine are being used. These are shown in illustrations (4) and (4a). The latter is hand-directed-electrically-operated and is capable of much greater speed. One type of the census card used is shown in illustration (5) with the abbreviations which denote important census information. The punched cards are later sorted, cross analysed and tabulated by machinery. The staff of expert mechanics have added improvements since the 1921 census which have made the machines far more rapid and accurate than the most highly trained human beings could possibly be. Illustrations (6) and (6a) show different views of a "gang punch" which is used for punching one or more items of information common to a large



group of cards such as the electoral district, the enumeration area, etc., and checks the total number of cards punched. This machine can punch up to 400 cards per minute. The card verifying machine shown in (7) cross-analyses the cards, and is self-checking; should a card have been punched in error so that an item of information contained thereon is incompatible with other information on the same card, the machine automatically rejects that card, which is then re-examined and corrected. The total numbers of correctly and of incorrectly punched cards are recorded at the end of each run.

Illustration (8) shows a battery of sorter-tabulators, each of which takes the cards at the rate of 225 per minute, collects each piece of information from the cards and aggregates the items under their respective headings, posting the results on a "visible index" as fast as the cards are dealt with. A complete photo-mechanically produced record of the result in table form can be made by the camera attachment at any desired point in the compilation. In (8a) a front view of the camera attachment is shown. The prism in front of the lens deflects the image of the "visible index" at right angles.

After the routine operations of checking and tabulating the information have been completed, the results are taken in hand by the specialist branches of the permanent staff of the Bureau and undergo exhaustive analytical treatment and comparative study from many angles. It is in this way that the full significance of the census is interpreted to the public through special reports published from time to time during the years following the census.

Statistics of Growth of Population in Canada—concluded

Province	1901	1911	1921	1931
Ontario.....	2,182,947	2,527,292	2,933,662	3,426,488
Quebec.....	1,648,898	2,005,776	2,360,605 ¹	2,869,793
New Brunswick.....	331,120	351,889	387,876	408,255
Nova Scotia.....	459,574	492,338	523,837	512,027
British Columbia.....	178,657	392,480	524,582	689,210
Prince Edward Island.....	103,259	93,728	88,615	88,040
Manitoba.....	255,211	461,394	610,118	699,841
Saskatchewan.....	91,279	492,432	757,510	921,291
Alberta.....	73,022	374,295	588,454	727,497
Yukon.....	27,219	8,512	4,157	4,213
Northwest Territories ²	20,129	6,507	7,988	7,133
Totals.....	5,371,315	7,206,643	8,787,949 ³	10,853,778

¹Estimated on basis of census, 1861. ²Estimated on basis of census, 1856. ³The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and the Yukon Territory and to extend the boundaries of Quebec, Ontario and Manitoba. ⁴Revised in accordance with the Labrador award of the Privy Council, Mar. 1, 1927.

The first two years of the Dominion's life were years of dull times, but from 1869 to 1873 there was general prosperity reflecting the world-wide railway building boom, the construction of the Suez canal and the industrial development of Germany. Canada during this period found many new markets, both foreign and interprovincial; nineteen new banks began business. After 1873, due again largely to outside influence, Canada entered a period of depression, losing some of her foreign markets, though conditions were somewhat alleviated by the completion of the Intercolonial Railway and later the Canadian Pacific Railway, which latter inaugurated the first and short-lived western boom. The adoption of a protective tariff in 1879 stimulated manufactures, but on the whole business continued depressed throughout the later 'seventies, the whole of the 'eighties and the first part of the 'nineties. Notwithstanding many evidences of growth, some of them considerable, economic conditions in general were not marked by buoyancy until close upon the end of the century.

The censuses of 1881, 1891 and 1901 reflected these conditions. That of 1881 showed a gain of 635,553 or 17·23 p.c., but in neither of the next two decades was this record equalled, the gains in each being under 550,000 or 12 p.c. With the end of the century the population of Canada had reached but 5½ millions, though expectation had set a figure very much higher as the goal for 1900.

It is within the present century that the spectacular expansion of the Canadian population and general economic organization has taken place. The outstanding initial feature was, of course, the opening of the "last best West". It is true that western population had doubled in each of the decades following the completion of the Canadian Pacific Railway. With 1900, however, this movement became greatly accelerated. There occurred at this juncture a great broadening in world credit. Capital in huge amounts began to flow from Great Britain to undeveloped countries throughout the world, and especially Canada which received a total of \$2½ billions within a dozen years. The immigration movement,

which had seldom previously exceeded 50,000 per annum, rose to over five times that volume, totalling in the ten years 1903-1913 over 2,500,000, which was perhaps as many as had previously entered the country in all the years back to Confederation. Two new transcontinental railways were begun. Simultaneously with this western development came an almost equally rapid expansion in the industrial centres of eastern Canada. Not all of the "boom" was wisely directed, and some reaction was felt in 1913. Then came the war. Its results were by no means purely destructive economically. The liquidation of excess development continued and the industrial and production structure of Canada was greatly strengthened by the new demands for food and war materials. Immigration, however, fell off to a point not much above a third of the immediately pre-war period. After a post-war boom in 1920, conditions slumped economically for three years, but thereafter recovery was rapid.

Analyses of Growth.—The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that year of any country in the world. In the second decade the rate was 22 p.c., again the greatest with the one exception of Australia, whose growth was greater by a fraction of 1 p.c. A century earlier the United States grew 35 p.c. decade by decade until 1860, but with this exception there has been no recorded example of more rapid national progress than that of Canada in the twentieth century. In 1871, only 2.96 p.c. of the population dwelt west of the lake of the Woods. In 1921 the proportion was 28.37 p.c.—2,500,000 people compared with 110,000 at Confederation. The proportion was 29.45 p.c. in 1931.

As between rural and urban distribution the change is perhaps more striking than in any other field. Though we are predominantly agricultural, our town dwellers now all but equal the numbers upon the land (4,352,122 urban and 4,436,361 rural in 1921); fifty years ago the towns and cities of Canada accounted for only 18 p.c. of the people (686,019 urban and 3,003,238 rural), and at the beginning of the present century the percentage was but 37. In 1871 the Dominion had 13 cities, 49 towns, and 106 villages; in 1921 there were 101 cities, 459 towns, and 881 incorporated villages. It is the larger cities that have grown the fastest.

Populations of Cities and Towns Having over 10,000 Inhabitants in 1931, Compared with 1891, 1901, 1911 and 1921

NOTE.—The cities and towns in which a Board of Trade exists are indicated by an asterisk (*) and those in which there is a Chamber of Commerce by a dagger (†). In all cases the population is for the city or town municipality as it existed in 1931. For footnotes see end of table.

City or Town	Province	Population				
		1891	1901	1911	1921	1931*
*†Montreal.....	Quebec.....	219,616	328,172	490,504 ¹	618,506	810,925
*Toronto.....	Ontario.....	181,215	209,892	381,833 ²	521,893	627,582
*Vancouver.....	British Columbia.....	13,709	27,010	100,401	163,230 ³	245,307 ⁷
*Winnipeg.....	Manitoba.....	25,619	42,340	136,035	179,087	217,587
†Hamilton.....	Ontario.....	48,859	52,034	81,968	114,151	154,914
*Quebec.....	Quebec.....	63,090	68,840	78,710	95,193	129,103
*Ottawa.....	Ontario.....	44,154	59,928	87,062	107,843	124,988
*Calgary.....	Alberta.....	3,876	4,392	43,704	63,305	83,362
*†Edmonton.....	Alberta.....	-	4,176	31,064 ³	58,821	78,829

**Populations of Cities and Towns Having over 10,000 Inhabitants in
1931, Compared with 1891, 1901, 1911 and 1921—concluded**

City or Town	Province	Population				
		1891	1901	1911	1921	1931 ^a
†London.....	Ontario.....	31,977	37,076	46,300	60,959	71,022
†Windsor.....	Ontario.....	10,322	12,153	17,829	38,591	62,957
Verdun.....	Quebec.....	290	1,898	11,629	25,001	60,378
*Halifax.....	Nova Scotia.....	38,437	40,832	46,619	58,372	58,939
*Regina.....	Saskatchewan.....	—	2,249	30,213	34,432	53,034
*Saint John.....	New Brunswick.....	39,179	40,711	42,511	47,186	46,640
*Saskatoon.....	Saskatchewan.....	—	113	12,004	25,739	43,025
†Victoria.....	British Columbia.....	16,841	20,910	31,660	38,727	38,441
†Three Rivers.....	Quebec.....	8,334	9,981	13,601	22,367	33,197
*Kitchener.....	Ontario.....	7,425	9,747	15,196	21,703	30,261
*Brantford.....	Ontario.....	12,753	16,619	23,132	29,440	30,000
†Hull.....	Quebec.....	11,264	13,993	18,222	24,117	29,270
*Sherbrooke.....	Quebec.....	10,110	11,765	16,405	23,515	28,888
Outremont.....	Quebec.....	795	1,148	4,820	13,249	27,782
*Fort William.....	Ontario.....	—	3,433	16,489	20,541	26,075
†St. Catharines.....	Ontario.....	9,170	9,946	12,484	19,881	24,703
†Oshawa.....	Ontario.....	4,066	4,394	7,436	11,940	23,365
Westmount.....	Quebec.....	3,076	8,856	14,579	17,593	23,267
†Kingston.....	Ontario.....	19,263	17,961	18,874	21,753	23,204
†Sault Ste. Marie.....	Ontario.....	2,414	7,169	14,920	21,092	33,045
*Sydney.....	Nova Scotia.....	2,427	9,909	17,723	22,545	22,319
†Peterborough.....	Ontario.....	9,717	12,886	18,360	20,994	22,289
*Moose Jaw.....	Saskatchewan.....	—	1,558	13,823	19,285	21,244
†Guelph.....	Ontario.....	10,537	11,498	15,175	18,128	21,068
*Gloucester.....	Nova Scotia.....	2,459	6,945	10,565	17,007	20,704
*Moncton.....	New Brunswick.....	8,762	9,026	11,345	17,488	20,617
†Port Arthur.....	Ontario.....	—	3,214	11,520	14,886	19,749
†Niagara Falls.....	Ontario.....	3,349	5,702	9,248	14,764	18,963
†Lachine.....	Quebec.....	3,761	6,365	11,888	15,404	18,042
†Sarnia.....	Ontario.....	6,692	8,176	9,947	14,877	17,848
*Stratford.....	Ontario.....	9,500	9,959	12,946	16,094	17,714
*New Westminster.....	British Columbia.....	6,678	6,499	13,199	14,495	17,524
*Brandon.....	Manitoba.....	3,778	5,620	13,839	15,397	16,966
*St. Boniface.....	Manitoba.....	1,553	2,019	7,483	12,821	16,224
*North Bay.....	Ontario.....	—	2,530	7,737	10,692	15,478
†St. Thomas.....	Ontario.....	10,366	11,485	14,054	16,026	15,359
†Shawinigan Falls.....	Quebec.....	—	—	4,265	10,625	15,314
*Chatham.....	Ontario.....	9,052	9,068	10,770	13,250	14,529
*East Windsor.....	Ontario.....	—	—	—	5,870	14,241
*Timmins.....	Ontario.....	—	—	—	3,843	14,142
†Belleville.....	Ontario.....	9,916	9,117	9,876	12,206	13,798
*Galt.....	Ontario.....	7,535	7,866	10,299	13,216	13,571
†St. Hyacinthe.....	Quebec.....	7,016	9,210	9,797	10,839	13,451
*Lethbridge.....	Alberta.....	—	2,072	9,035	11,097	13,448
*Owen Sound.....	Ontario.....	7,497	8,776	12,558	12,190	12,717
*Charlottetown and Royalty.....	P. E. Island.....	11,373	12,080	11,203	12,347	12,357 ^a
†Chicoutimi.....	Quebec.....	2,277	3,826	5,880	8,937	11,826
†Levis.....	Quebec.....	7,301	9,242	8,703 ^b	10,470	11,724
*Woodstock.....	Ontario.....	8,612	8,833	9,320	9,935	11,391
Valleyfield.....	Quebec.....	5,515	11,055	9,449	8,215	11,383
St. Jean.....	Quebec.....	4,722	4,030	5,903	7,734	11,239
*Cornwall.....	Ontario.....	8,805	6,704	6,598	7,419	11,100
†Joliette.....	Quebec.....	3,347	4,220	6,346	3,039	10,758
*Sandwich.....	Ontario.....	1,352	1,450	2,302	4,415	10,086
*Welland.....	Ontario.....	2,035	1,863	5,318	8,654	10,627
*Granby.....	Quebec.....	1,710	3,773	4,750	6,785	10,496
†Sorel.....	Quebec.....	6,069	7,057	8,420	8,174	10,363
Medicine Hat.....	Alberta.....	—	—	—	9,943	10,310
Thetford Mines.....	Quebec.....	—	3,256	7,261	7,886	10,148
Walkerville.....	Ontario.....	—	1,595	3,302	7,059	10,074

¹ Includes Maisonneuve, Cartierville, Bordenaux and Sault-au-Recollet. ² Includes North Toronto, less 67 transferred in 1911 to Township of York. ³ Includes town of Strathcona and villages of North and West Edmonton. ⁴ Includes town of Steelton. ⁵ Includes parish of Lachine and Summerles town. ⁶ Includes Notre-Dame de la Victoire. ⁷ Including South Vancouver and Point Grey. ⁸ Exclusive of Royalty. ⁹ Preliminary Figures.

Births, Deaths and Marriages

Canada has a national system of vital statistics, under the Bureau of Statistics and the Registrars-General of the several provinces, dating from 1920. The figures for 1929 and 1930 are compared, by provinces, with those of 1921 in the accompanying table.

Divorces granted in Canada have increased from 19 in 1901 to 51 in 1910, to 429 in 1920, to 785 in 1928, to 816 in 1929, and to 875 in 1930.

Births, Deaths and Marriages in Canada, 1921, 1929 and 1930

Province	Births			Deaths			Marriages		
	1921	1929	1930 ¹	1921	1929	1930 ¹	1921	1929	1930 ¹
	No.	No.	No.	No.	No.	No.	No.	No.	No.
CANADA ¹	257,728	234,915	234,291	101,155	113,450	109,245	69,732	77,265	71,645
P.E. Island.....	2,156	1,668	1,747	1,209	1,122	960	518	489	488
Nova Scotia.....	13,021	10,672	11,312	6,420	6,657	6,194	3,550	3,510	3,445
New Brunswick.....	11,465	10,224	10,520	5,410	5,213	4,983	3,173	3,117	2,760
Quebec.....	88,749	81,380	83,625	33,433	37,221	35,945	18,659	19,610	18,543
Ontario.....	74,152	68,411	71,182	34,551	38,102	37,286	24,871	27,605	25,603
Manitoba.....	18,478	14,236	14,411	5,388	5,808	5,585	5,310	5,289	5,061
Saskatchewan.....	22,493	21,310	22,051	5,596	6,707	6,308	5,101	6,535	5,717
Alberta.....	16,561	16,748	17,576	4,940	6,234	5,487	4,661	5,999	5,331
Br. Columbia.....	10,653	10,266	10,867	4,208	6,386	6,397	3,889	5,151	4,097
Rates per 1,000 population									
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
CANADA ¹	29.4	24.0	24.5	11.5	11.6	11.0	8.0	7.9	7.2
P.E. Island.....	24.3	19.4	20.3	13.6	13.0	11.2	5.8	5.5	5.7
Nova Scotia.....	24.9	19.4	20.4	12.3	12.1	11.2	6.8	6.4	6.2
New Brunswick.....	30.2	24.4	24.9	14.2	12.4	11.8	8.4	7.4	6.5
Quebec.....	37.6	30.3	30.6	14.2	13.8	13.1	7.9	7.3	6.8
Ontario.....	25.3	20.9	21.5	11.8	11.6	11.3	8.5	8.4	7.7
Manitoba.....	30.3	21.5	21.4	8.8	8.8	8.5	8.7	7.9	7.5
Saskatchewan.....	29.7	24.6	25.0	7.4	7.7	7.2	6.7	7.5	6.5
Alberta.....	28.1	25.9	26.6	8.4	9.7	8.3	7.9	9.3	8.1
Br. Columbia.....	20.3	17.4	18.2	8.0	10.8	10.7	7.4	8.7	7.9

¹ Exclusive of Yukon and the Northwest Territories. ² Preliminary figures.

Immigration

How important a part has been played by immigration in the building up of Canada will be apparent from the preceding pages of this chapter. The immigration policy of the Government is administered by the Department of Immigration and Colonization. Canadians prefer that settlers should be of a readily assimilable type, related to one or other of the great races now inhabiting the country, and thus prepared for the assumption of the duties of democratic citizenship. There are prohibitions against undesirable classes; special legislation is also in effect with regard to the immigration of Orientals, the latter problem being fundamentally economic rather than racial.

The policy for many years prior to the summer of 1930 was one of encouragement to agriculturists and female domestic help. An

important change in immigration regulations was made by Order in Council on August 14, 1930, when immigration, except Britishers coming from the Mother Country or self-governing Dominions and U.S. citizens coming from the United States, was limited to two classes,— (a) wives and unmarried children under eighteen years of age, joining family heads established in Canada and in a position to look after their dependants; (b) agriculturists with plenty of money to begin farming in Canada. This limitation applies to the whole continent of Europe as well as to many other countries. Regulations have not been changed affecting immigration from the British Isles, oversea British Dominions or the United States, but a policy of no solicitation has been rigidly adopted. Tables showing recent immigration statistics follow:—

Number of Immigrant Arrivals in Canada, fiscal years ended 1920-31

Fiscal Year	Immigrant Arrivals from			Total
	United Kingdom	United States	Other Countries	
1920	59,693	49,656	8,077	117,336
1921	74,262	48,059	26,156	148,477
1922	39,020	29,345	21,634	89,999
1923	34,508	22,007	16,372	72,887
1924	72,919	20,521	55,120	148,560
1925	53,178	15,818	42,366	111,362
1926	37,030	18,778	40,256	96,064
1927	49,784	21,025	73,182	143,991
1928	50,872	25,007	75,718	151,597
1929	58,880	30,566	78,282	167,722
1930	64,082	30,727	68,479	163,288
1931	27,584	24,280	36,359	88,223

Statistics of Immigration, by Months, 1929, 1930 and 1931

Month	1929		1930		1931	
	Immigrants	Returned Canadians ¹	Immigrants	Returned Canadians ¹	Immigrants	Returned Canadians ¹
January	4,164	1,767	3,366	1,497	1,480	1,150
February	4,634	1,698	3,963	1,493	1,429	1,165
March	14,811	2,378	14,570	2,204	2,413	1,480
April	29,113	2,641	19,309	2,928	3,201	1,944
May	26,616	2,976	17,410	3,359	3,818	2,139
June	22,021	3,426	13,171	3,309	3,169	2,154
July	16,465	3,404	8,383	3,494	2,541	2,002
August	15,022	2,660	8,904	3,346	2,250	1,770
September	11,101	2,569	5,022	2,947	2,355	1,773
October	8,817	2,407	4,445	2,656	2,056	1,559
November	7,286	2,525	3,267	2,195	-	-
December	4,943	2,028	2,090	2,180	-	-

¹The returned Canadians shown in the above are Canadians who have been domiciled for some time in the United States, not exceeding a maximum of three years. It does not, of course, include Canadians returning from temporary visits in the United States, the number of whom is very large. In fact over 30 millions of people cross the international boundary between Canada and the United States annually.

For many years the immigration regulations have contained a general provision that immigrants coming to Canada must have sufficient funds to look after themselves until employment is secured. This regulation was not always strictly enforced when times were good and work was plentiful. It is now strictly enforced as a protection both to the immigrant and to Canada.

The Aboriginal Races

Indians.—The Indians of Canada, who are wards of the Department of Indian Affairs, number about 108,012, their numbers varying slightly from year to year. A small yearly increase is evident, however, and the popular notion that the race is disappearing is not in accordance with facts. Before they were subjected to the influences



Group of Indians with R.C.M.P. Officer,
McPherson, N.W.T.

Courtesy Department of the Interior.

of European civilization (which affected this hardy race adversely) and the devastating results of the many colonial wars, the numbers of the Indians were undoubtedly larger, but any reliable information as to the aboriginal population during either the French or the early British régime is non-existent, and there is no adequate basis for a comparison between the

past and present aboriginal populations. An interesting sketch of the progress of the Indians of Canada since Confederation will be found in the Report of the Department of Indian Affairs, 1927.

Indians are minors under the law, and their affairs are administered by the Department of Indian Affairs under the authority of the Indian Act. The system of reserves, whereby particular areas of land have been set apart solely for the use of Indians, has been established in Canada from the earliest times. It was designed to protect the Indians from encroachment, and to provide a sort of sanctuary where they could develop unmolested until advancing civilization had made possible their absorption into the general body of the citizens. Reserves have been set aside for the various bands of Indians throughout the Dominion, and the Indians located thereon are under the supervision of the local agents of the Department. The activities of the Department, as guardian of the Indians, include the control of Indian education, health, etc., the development of agriculture and other pursuits

among them, the administration of their funds and legal transactions and the general supervision of their welfare. The local administration of the Indian bands on the reserves scattered throughout the Dominion is conducted through the Department's agencies, of which there are, in all, 116. (For information regarding Indian education see p. 178).

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law, and acquires the full status of citizenship. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem, as Indians who become enfranchised lose the special protection attached to their wardship, so that it is necessary to guard against premature enfranchisement.

Eskimos. — Unlike the Indian tribes which are scattered throughout Canada, the Eskimos are limited to the Northwest Territories, chiefly the northern fringe of the mainland and the Arctic Archipelago.

The Eskimo is a nomad but lives for the most part along the Arctic littoral, not wandering far inland, since he depends for his subsistence largely on marine mammals and fish. The administration of this race was carried on along with that of the Indians prior to 1927, when the Government transferred the care of the Eskimos to the Department of the Interior. In that year officers of the North West Territories and Yukon Branch and the Royal Canadian Mounted Police made a careful estimate of the numbers and locations of all Eskimos in Canada. The result placed the total at 7,103, located as follows: Baffin island, 1,613; vicinity of Hudson bay and strait, 3,102; Central Arctic, 438; Western Arctic, 1,650; Yukon Territory, 300.



Eskimo Women, Aklavik, N.W.T.

Courtesy Department of the Interior.

CHAPTER III

THE CONSTITUTION AND GOVERNMENT OF CANADA

Dominion Government

Organization of the Dominion Government.—Our national government works itself out through three main agencies. There is Parliament (consisting of the King as represented by the Governor General, the Senate, and the House of Commons) which makes the laws; the Executive (a committee of Parliament known more commonly as the Cabinet) which applies the laws; and the Judiciary which interprets the laws.



The Senate Chamber, Ottawa.

Courtesy Canadian Government Motion Picture Bureau.

Particular features of the British system of government are the close relation which exists between the Executive and Legislative branches, and the doctrine of *Cabinet responsibility* which has become crystallized in the course of time. The members of the Cabinet, or executive committee, are chosen from the political party commanding a majority in the House of Commons. Each Minister or member of the Cabinet is usually responsible for the administration of a Department, although there may be Ministers without portfolio whose

experience and counsel are drawn upon to strengthen the Cabinet but who are not at the head of Departments. The Governor General, who was appointed on February 9, 1931, and members of the Fifteenth Ministry sworn into office August 7, 1930, are:—

Governor General

Name	Date of Appointment	Date of Assumption of Office
The Earl of Bessborough, G.C.M.G.	Feb. 9, 1931	April 4, 1931

Fifteenth Dominion Ministry

(According to precedence Jan. 1, 1932)

Office	Occupant	Date of Appointment
Prime Minister, President of the Privy Council, Secretary of State for External Affairs	Right Hon. R. B. Bennett, K.C.	Aug. 7, 1930
Minister of Finance	Right Hon. R. B. Bennett, K.C.	Aug. 7, 1930
Minister without Portfolio	Right Hon. Sir George H. Perley	Aug. 7, 1930
Minister of Labour	Hon. Gideon D. Robertson (Senator)	Aug. 7, 1930
Minister of Justice and Attorney-General	Hon. Hugh Guthrie, K.C.	Aug. 7, 1930
Minister of Fisheries	Hon. E. N. Rhodes, K.C.	Aug. 7, 1930
Minister of Trade and Commerce	Hon. H. H. Stevens	Aug. 7, 1930
Minister of Railways and Canals	Hon. Dr. R. J. Manion, M.C., M.D.	Aug. 7, 1930
Minister of National Revenue	Hon. E. B. Ryckman, K.C.	Aug. 7, 1930
Minister without Portfolio	Hon. J. A. Macdonald	Aug. 7, 1930
Postmaster-General	Hon. Arthur Sauvé	Aug. 7, 1930
Minister of Pensions and National Health	Col. the Hon. Murray MacLaren, C.A.M.C., C.M.G., M.D., C.M., M.R.C.S.	Aug. 7, 1930
Minister of Public Works	Hon. H. A. Stewart, K.C.	Aug. 7, 1930
Secretary of State	Hon. C. H. Cahoon, K.C.	Aug. 7, 1930
Minister of National Defence	Lt.-Col. the Hon. D. M. Sutherland, M.B., D.S.O.	Aug. 7, 1930
Minister of Marine	Hon. Alfred Duranleau, K.C.	Aug. 7, 1930
Minister of Interior and Superintendent-General of Indian Affairs	Hon. Thomas G. Murphy	Aug. 7, 1930
Solicitor-General	Hon. Maurice Dupré, K.C.	Aug. 7, 1930
Minister of Immigration and Colonization and Minister of Mines	Hon. W. A. Gordon, K.C.	Aug. 7, 1930
Minister of Agriculture	Major the Hon. Robert Weir	Aug. 7, 1930

Our system may be contrasted with that in the United States, where the Executive is entirely separate and distinct from the legislative branch of Government and where members of the Executive devote all their time and attention to the work of administration and are not Members of Congress. The burden of duties and responsibilities is perhaps increased under the British system, but the executive and legislative bodies are kept more wholly in accord. By having each Department of the Administration represented in the House of Commons by a Minister who is responsible to the representatives of the people, administration devolves upon those who are mainly responsible for drafting the policies. This combination of duties and responsibilities has worked out most beneficially in British experience.

The second characteristic of the British system, namely, the collective responsibility of the Cabinet, is very important. While each Minister is primarily responsible for the administration of his own particular Department, that responsibility is shared, before Parliament and the country, by all his colleagues. Thus the Government of the day, not any particular Minister, is answerable for and must continue to exist, or must fall, on the stand taken by a Minister when acting in his official capacity.

Although the meetings of the Cabinet are presided over by the Prime Minister, in his capacity of President of the Privy Council, the Ministers all meet as equals and there is no precedence in Council. Meetings are held daily when the House is in session and frequently at all other times. No detailed record is kept of the proceedings, which are secret. From the Cabinet signed orders and recommendations go to the Governor General for his approval and it is in this way that the Crown acts only on the advice of its responsible Ministers. The Cabinet takes the responsibility for its advice being in accordance with the will of Parliament and is held strictly accountable.

Parliament must meet at least once a year, so that twelve months do not elapse between the last meeting in one session and the first meeting in the next. The duration of Parliament may not be longer than five years. Senators, 96 in number, are appointed for life by the Governor General in Council. They must be at least 30 years of age, British subjects, residents of the province they represent, and in possession of \$1,000 over and above their liabilities. Members of the House of Commons, at present 245 in number, are elected by the people for the duration of Parliament. The remuneration of both Senators and Members of Parliament is \$1,000 per full session. Ministers and the Leader of the Opposition receive \$10,000 in addition, except the Prime Minister who receives \$15,000 in addition to the sessional allowance.

The Development of the Canadian Constitution.—Constitutional development has been mainly based upon four important acts of the British Parliament, the Quebec Act of 1774, the Constitutional Act of 1791, the Act of Union of 1840, and the British North America Act of 1867. The first of these is chiefly important as it established the French civil law throughout the then province of Quebec. The second is noteworthy for the division of the province into the French-speaking province of Lower Canada and the English-speaking province of Upper Canada, and for the concession of representative government through an elective Legislative Assembly which, however, had no control over the executive government except in so far as it could refuse to vote taxes (the non-tax revenue of the province was outside of its control). The third of the above-mentioned acts reunited the two Canadas under a single Legislature and conceded the principle of responsible government, the executive administration being henceforth responsible to the Legislature. The fourth separated the two Canadas from their existing legislative union to make them provinces, each administering

its own local affairs, in a wider confederation, which within a comparatively short period so extended its boundaries as to take in the whole of British North America except Newfoundland and Labrador.

Since Confederation there has taken place a gradual development of the powers of the Canadian Government. Thus, in 1878, the Hon. Edward Blake secured the issuance of a new set of instructions to the Governor General providing that, with unimportant exceptions, he should act upon the advice of his Ministers. A gradual development in the status of the Dominion was also evident at the successive Colonial Conferences, the name of which in 1907 was changed to Imperial Conferences, when also it was provided that further conferences should be between the Government of the United Kingdom and the Governments of the self-governing Dominions, and that the Prime Minister of the United Kingdom, instead of the Colonial Secretary, was to be President of the Conference, a move toward recognizing that the British Government was simply *primus inter pares* among the nations of the Empire. The Conference of 1911 met under this arrangement. Later, during the war, was evolved what was known as the Imperial War Conference, a gathering of the five members of the British War Cabinet and the Prime Ministers of the self-governing Dominions.

The seal upon Canadian nationhood was set by the war. For it Canada raised 595,000 men (418,000 of whom went overseas); she supplied the Allies with over \$1,000,000,000 worth of munitions, besides doubling her food exports; in the Patriotic Fund, Red Cross and by other voluntary subscriptions she raised about \$100,000,000, while publicly she incurred financial responsibility amounting in the aggregate to nearly two billions of dollars.

At the close of the war, on the initiative of Sir Robert Borden, then Prime Minister of Canada, the Dominions secured recognition as signatory powers of the Treaty of Versailles and were accepted as members of the League of Nations. A Canadian Minister, the Hon. Raoul Dandurand, acted as President of the Assembly of the League in 1926. In 1927 Canada was elected as a non-permanent member of the Council of the League and in view of this honour, was represented at the sessions of the Council and Assembly of the League in 1928 by her Prime Minister, the Right Hon. W. L. Mackenzie King, who was elected a Vice-President of the League.

At the Imperial Conference of 1926, it was definitely recognized that the position of the Dominions was one of equality with Great Britain within the British Commonwealth of Nations, and from that time the foundations of Canada's diplomatic representation in other countries has dated. The present diplomatic representatives of Canada abroad and of other countries in Canada are:—

The High Commissioner for Canada in Great Britain.—Hon. G. H. Ferguson (appointed Nov. 28, 1930), Canadian Building, Trafalgar Square, London, S.W. 1.

The High Commissioner for the United Kingdom in Canada.—Sir William Henry Clark, K.C.S.I., C.M.G. (appointed April 25, 1928), 114 Wellington St., Ottawa, Canada.

Canadian Advisory Officer, League of Nations.—Dr. W. A. Riddell (appointed 1925), 41 quai Wilson, Geneva, Switzerland.

Canadian Minister in the United States.—Major the Hon. William D. Herridge, K.C., D.S.O., M.C. (appointed March 7, 1931), 1746 Massachusetts Avenue, Washington, D.C., U.S.A.

United States Minister in Canada.—Lieut.-Colonel Hanford MacNider (appointed August, 1930), Wellington St., Ottawa.

Canadian Minister in France.—Hon. Philippe Roy (appointed 1928), 1 rue François Premier, Paris, France.

French Minister in Canada.—M. Charles-Arsène Henry (appointed March, 1931), Wellington St., Ottawa.

Canadian Minister in Japan.—Hon. H. M. Marler (appointed 1929), Tokyo, Japan.

Japanese Minister in Canada.—Mr. Iyemasa Tokugawa (appointed 1929), Wellington St., Ottawa.



Rideau Hall, Ottawa.—Official residence of the Governors General of Canada.
Courtesy Canadian Government Motion Picture Bureau.

The Imperial Conference of 1930 was noteworthy, as regards constitutional development¹, in four respects: (1) It was decided to establish a voluntary Empire judicial tribunal; (2) The Colonial Laws Validity Act, which stood in the way of the full legal recognition of the new status of the Dominions as defined by the 1926 Conference, was to be repealed; (3) The Dominions were permitted to act through British ambassadors abroad; (4) It was definitely laid down that the King appoints Governors General through the respective Dominion Governments.

On June 30, 1931, the House of Commons, under the leadership of the Prime Minister, approved without division the enactment of the proposed Statute of Westminster. The Senate adopted the Address of Parliament to His Majesty on July 6. Thus definite steps have already been taken to carry out the decisions of the 1926 and 1930 Imperial Conferences by removing the remaining legal limitations upon our legislative autonomy.

¹ For economic questions discussed at this conference see p. 137.

The Statute of Westminster, as it is to apply to Canada, will emancipate the provinces as well as the Dominion from the operation of the Colonial Laws Validity Act, but it will not apply to the "repeal, amendment or alteration of the British North America Acts of 1867 to 1930". This safeguard precludes the Statute being used to enlarge or modify the powers of the Dominion or the provinces as established under the constitution.



Confederation Block, Ottawa.—This building, recently completed, now houses several Departments of the Civil Service.

The proposed Statute became operative from Dec. 1, 1931, thus giving time for the necessary legislation to pass the Parliament of the United Kingdom and receive the Royal Assent. No law made by the Parliament of the Dominion or any province may now be declared void or inoperative on the ground that it is repugnant to the law of England or to any existing or future Act of the Parliament of the United Kingdom, and the Dominion has full power to make laws having extra-territorial operation, so far as they relate to matters over which

her jurisdiction extends. Thus the memorable declaration of the Imperial Conference of 1926 that Great Britain and the Dominions are "autonomous communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or foreign affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations" has now received recognition in law.

Powers of the Dominion Parliament.—Under the British North America Act, which is the basis of the constitution, the Dominion Parliament has exclusive legislative authority in all matters relating to the following: public debt and property; regulation of trade and commerce; raising of money by any mode of taxation; borrowing of money on the public credit; postal service; census and statistics; militia, military and naval service and defence; fixing and providing for salaries and allowances of the officers of the Government; beacons, buoys and lighthouses; navi-

gation and shipping; quarantine and the establishment and maintenance of marine hospitals; sea-coast and inland fisheries; ferries on an international or interprovincial frontier; currency and coinage; banking, incorporation of banks, and issue of paper money; savings banks; weights and measures; bills of exchange and promissory notes; interest; legal tender; bankruptcy and insolvency; patents of invention and discovery; copyrights; Indians and lands reserved for Indians; naturalization and aliens; marriage and divorce; the criminal law, except the constitution of courts of criminal jurisdiction, but including the procedure in criminal matters; the establishment, maintenance and management of penitentiaries; such classes of subjects as are expressly excepted in the enumeration of the classes of subjects exclusively assigned to the Legislatures of the provinces by the Act. Judicial interpretation and later amendments have, in certain cases, modified or clearly defined the respective powers of the Dominion and Provincial Governments.

Provincial Government

In each of the provinces the King is represented by a Lieutenant-Governor, appointed by the Governor General in Council, and governing with the advice and assistance of his Ministry or Executive Council, which is responsible to the Legislature and resigns office when it ceases to enjoy the confidence of that body. The Legislatures are unicameral, consisting of a Legislative Assembly elected by the people, except in Quebec where there is a Legislative Council as well as a Legislative Assembly.

The Lieutenant-Governors of the provinces, together with the names of the Premiers of the present Administrations, are given in the following table:—

Lieutenant-Governors of Provinces, and Premiers, 1931

Province	Lieutenant-Governor	Premier
Prince Edward Island	Hon. Charles Dalton	Hon. J. D. Stewart.
Nova Scotia	Hon. Walter H. Covert.	Hon. Gordon Harrington.
New Brunswick	Mag. Gen. the Hon. Hugh H. McLeen.	Hon. C. D. Richards.
Quebec	Hon. H. G. Carroll	Hon. L. A. Taschereau.
Ontario	Hon. William Donald Ross.	Hon. G. S. Henry.
Manitoba	Hon. J. D. McGregor.	Hon. John Bracken.
Saskatchewan	Lt.-Col. the Hon. H. E. Monroe.	Hon. J. T. M. Anderson.
Alberta	Hon. William L. Walsh.	Hon. J. E. Brownlee.
British Columbia	Hon. J. William Fordham Johnson	Hon. S. F. Tolmie.

Powers of Provincial Legislatures.—The Legislature in each province may exclusively make laws in relation to the following matters: amendment of the constitution of the province, except as regards the Lieutenant-Governor; direct taxation within the province; borrowing of money on the credit of the province; establishment and tenure of provincial offices and appointment and payment of provincial officers; the management and sale of public lands belonging to the province and of the timber and wood thereon; the establishment, maintenance and management of public and

reformatory prisons in and for the province; the establishment, maintenance and management of hospitals, asylums, charities and eleemosynary institutions in and for the province, other than marine hospitals; municipal institutions in the province; shop, saloon, tavern, auctioneer and other licences issued for the raising of provincial or municipal revenue; local works and undertakings other than interprovincial or international lines of ships, railways, canals, telegraphs, etc., or works which, though wholly situated within one province, are declared by the Dominion Parliament to be for the general advantage either of Canada or of two or more provinces; the incorporation of companies with provincial objects; the solemnization of marriage in the province; property and civil rights in the province; the administration of justice in the province, including the constitution, maintenance and organization of provincial courts both of civil and criminal jurisdiction, and including procedure in civil matters in these courts; the imposition of punishment by fine, penalty, or imprisonment for enforcing any law of the province relating to any of the aforesaid subjects; generally all matters of a merely local or private nature in the province. Further, in and for each province the Legislature may exclusively make laws in relation to education, subject to certain provisions for the protection of religious minorities, who are to retain the privileges and rights enjoyed before Confederation.

Municipal Government

Under the British North America Act, the municipalities are the creations of the Provincial Governments. Their bases of organization and their powers differ in different provinces, but almost everywhere they have very considerable powers of local self-government. If we include the local government districts of Saskatchewan and Alberta, there are over 4,100 municipal governments in Canada. These 4,100 municipal governments have together probably 20,000 members described as mayors, reeves, controllers, councillors, etc., whose experience trains them for the wider duties of public life in the Dominion and in the provinces. Certain of the larger municipalities, indeed, are larger spenders of public money than are the provinces themselves; for example, the total annual ordinary expenditure of Montreal is greater than that of the Provincial Government of Quebec.

CHAPTER IV

WEALTH, PRODUCTION AND INCOME —CAPITAL INVESTMENTS

Wealth

A general survey of our national wealth, production and income may well precede a more detailed review of the more important fields of economic progress in Canada. The table below shows the national wealth according to the latest estimate (1929).

Estimate of the National Wealth of Canada, 1929

Classification of Wealth	Aggregate Amount	Percentage of Total	Average Amount per head of Population
	\$	p.c.	\$
Farm Values (land, buildings, implements, machinery and livestock).....	6,308,353,000	20.45	643.92
Agricultural Products in the possession of farmers and traders.....	1,631,124,000	5.29	166.50
Totals, Agricultural Wealth.....	7,939,477,000	25.74	810.42
Mines (capital employed).....	867,021,000	2.81	88.50
Forests (estimated value of accessible raw materials, pulpwood and capital invested in woods operations).....	1,877,000,000	6.09	191.59
Fisheries (capital invested in boats, gear, etc., in primary operations).....	33,935,000	0.11	3.46
Central Electric Stations (capital invested in equipment, materials, etc.).....	554,327,000	1.80	56.58
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings, duplication excluded).....	1,418,040,000	4.60	144.75
Manufactures (materials on hand and stocks in process, duplication excluded).....	837,805,000	2.72	85.52
Construction, Custom and Repair (estimate of capital invested in machinery and tools and materials on hand).....	137,685,000	0.45	14.05
Trading Establishments (estimate of the value of furniture and fixtures, delivery equipment and materials on hand).....	1,136,291,000	3.68	115.99
Steam Railways (investment in road and equipment).....	3,153,351,000	10.22	321.88
Electric Railways (investment in road and equipment).....	240,111,000	0.78	24.51
Telephones (cost of property and equipment).....	291,589,000	0.95	29.76
Urban Real Property (assessed valuations and exempted property and estimate for under valuation by assessors and for roads, sewers, etc.).....	8,251,011,000	26.75	842.21
Canals (amount expended on construction to March 31, 1930).....	241,946,000	0.79	24.70
Harbours (approximate amount expended to March 31, 1930).....	387,488,000	1.19	37.51
Shipping (including aircraft).....	149,306,000	0.48	15.24
Imported Merchandise in store (estimated at one-half imports during 1929).....	640,477,000	2.11	66.29
Automobiles (estimate of the value of automobiles registered).....	758,424,000	2.46	77.42
Highways, etc.....	364,896,000	1.18	37.25
Household Furnishings, Clothing, etc. (value estimated from production and trade statistics).....	1,370,000,000	4.44	139.84
Specie, Coin and other Currency held by the government, chartered banks and the general public.....	201,030,000	0.65	20.52
Totals.....	30,840,210,000	100.00	3,147.99

The tangible wealth of Canada, apart from undeveloped natural resources, amounts to about \$31 billions. This represents an increase of about \$9 billions since 1921. There is no earlier figure that is strictly comparable, but it is fairly certain that there has been a growth of over four times since 1900. Agricultural values make up about \$8 billions of the present total, urban real estate over \$8 billions, and steam railways over \$3 billions. Ontario owns slightly more than one-third, Quebec over one-quarter, and Saskatchewan just under one-tenth. British Columbia, Alberta and Manitoba follow closely in the order named.

The following table gives the provincial distribution. It will be noticed that while Ontario and Quebec lead by a wide margin in absolute wealth, the western provinces, especially British Columbia, lead in per capita wealth.

Provincial Distribution of the National Wealth of Canada, 1929

Province	Estimated Wealth	Percentage Distribution of Wealth	Estimated Population June 1, 1929	Percentage Distribution of Population	Wealth per capita
	\$	p.c.	No.	p.c.	\$
P.E.I.....	104,000,000	0.53	86,100	0.88	1,905
Nova Scotia.....	911,000,000	2.05	550,400	5.62	1,655
New Brunswick.....	788,000,000	2.56	419,300	4.28	1,879
Quebec.....	8,265,000,000	26.80	2,690,400	27.46	3,072
Ontario.....	10,628,000,000	34.46	3,271,300	33.39	3,249
Manitoba.....	1,970,000,000	6.39	663,200	6.77	2,970
Saskatchewan.....	3,047,000,000	9.88	866,700	8.85	3,516
Alberta.....	2,406,000,000	7.80	646,000	6.60	3,724
British Columbia.....	2,644,000,000	8.57	591,000	6.03	4,474
Yukon.....	17,000,000	0.06	3,000	0.03	?
Canada.....	30,840,000,000	100.00	9,796,800 ¹	100.00 ²	3,148

¹Includes 9,400 population in the Northwest Territories or 0.09 p.c.

²As the statistics of population and wealth for the Yukon are uncertain the per capita estimate of wealth is open to question and has not been shown.

Production

Under the term "production" are usually included the activities of agriculture, fishing, mining, forestry, power development, manufactures and construction. This does not imply that many other activities, such as transportation, merchandizing, professional services, etc., are not also "productive" in a broad economic sense. It is usual, however, to regard the processes involved in the creation of materials or their making over into new forms as constituting "production" in a special sense. Of this a bird's-eye view is given in the table on p. 44, which shows the gross and net value of production in each of the divisions of industry above mentioned. In a second table a summary of the value of total production in Canada is given by provinces.

A distinction is made between "gross" and "net" production. By "net" production is meant the value left in the producer's hands after the elimination of the value of the materials consumed in the process of

production, and this net figure is a much better criterion for measuring the value of an industry than the gross.

It will be seen that manufactures now definitely takes precedence over agriculture in net value of production for the whole of Canada. This has in fact been the case since 1925. Forestry and mining are usually next in importance, but in 1929, as was also the case in 1928 and 1927, construction operations relegated these to fourth and fifth places, respectively.

In 1929 three of the six groups of total primary production show increases as compared with the previous year, these being forestry, mining and electric power. All three groups of secondary industries showed substantial advances over the figures for 1928 although the latter year had also been characterized by a very marked advance. The net figures for 1927 were: construction, \$283 millions; custom and repair, \$74 millions; and manufactures, \$1,636 millions.



A Canadian Wire Mill Showing Machines for Twisting and Barbing Fence Wire.

Courtesy Canadian Government Motion Picture Bureau.

Since 1921 the total net value of primary production has risen from \$1,636,420,548 and the total net value of secondary production from \$1,377,222,611. That is, in eight years primary production has increased in value by 14.6 p.c. and secondary by over 80 p.c.

Among the primary industries electric power and mining have shown the steadiest and most pronounced increases since 1921, but the advances in fisheries and agriculture have also been substantial. About 80 p.c. of the total value of the secondary industries is contributed by manufactures. The figures for manufactures in 1921 were \$1,150 millions and relatively steady progress without any decided setback has been experienced. The 1929 net production of \$1,997,350,365, shows an increase of more than 9 p.c. compared with 1928. Construction increased from \$169 millions to \$220

millions or by 36 p.c. between 1921 and 1922, but between 1922 and 1924 a decline set in. Since the latter year there has, however, been a steady increase to the 1929 figure.

By provinces, Ontario and Quebec occupy first and second places, largely because of their manufacturing pre-eminence, with British Columbia, Saskatchewan, and Alberta following in the order named.

Summary by Industries of the Value of Production in Canada, 1928 and 1929

Industry	1928		1929	
	Gross	Net ¹	Gross	Net ¹
	\$	\$	\$	\$
Agriculture	1,905,311,580	1,501,271,463	1,729,821,129 ⁴	1,034,129,824
Forestry	473,559,767	323,654,008	495,592,847	337,649,078
Fisheries	70,668,167	55,050,973	70,580,223	53,518,521
Trapping	16,633,827	16,633,827	16,356,447	16,356,447
Mining	308,250,712	274,989,487	352,266,692	310,850,246
Electric Power	143,692,455	112,326,819	157,409,385	122,883,446
Totals, Primary Production ..	2,918,096,508	2,283,896,577	2,822,116,723	1,875,387,562
Construction	488,378,000	319,164,000	594,144,825	386,709,398
Customs and Repair ²	129,085,000	82,482,000	143,877,000	99,618,000
Manufactures ³	3,769,850,364	1,819,046,025	4,063,987,279	1,997,350,365
Totals, Secondary Production ⁴	4,387,313,364	2,220,692,025	4,802,009,104	2,483,677,763
Grand Totals ⁵	6,574,619,365	4,122,509,882	6,846,171,400	3,946,609,211

¹Gross value minus value of materials consumed in the production process.

²Statistics of Custom and Repair were not collected after 1921 and the totals for 1928 and 1929 were estimated according to the percentage change in the data for manufacturing.

³The item "Manufactures" includes dairy factories, sawmills, pulp mills, fish canning and curing, shipbuilding and certain mineral industries, which are also included in other headings above. This duplication, amounting in 1928 to a gross of \$730,780,507 and a net of \$382,078,720 and in 1929 to a gross of \$777,954,427 and a net of \$412,456,114, is eliminated from the grand totals.

⁴This figure includes the amount paid to patrons of dairy factories for milk and cream, and to that extent does not agree with the total gross agricultural production for 1929 shown on p. 49.

Summary, by Provinces, of the Value of Production in Canada, 1928 and 1929

Province	1928		1929	
	Gross	Net ¹	Gross	Net ¹
	\$	\$	\$	\$
Prince Edward Island	28,925,960	23,129,829	32,807,542	23,452,300
Nova Scotia	204,211,830	144,272,367	199,016,575	129,380,194
New Brunswick	132,957,699	85,364,983	141,493,983	87,382,143
Quebec	1,612,448,740	979,666,796	1,770,707,067	1,048,515,828
Ontario	2,813,092,274	1,572,835,443	2,998,318,714	1,658,305,781
Manitoba	355,009,130	235,182,568	342,731,190	185,231,376
Saskatchewan	502,850,308	413,825,134	432,316,598	238,781,959
Alberta	430,513,402	341,413,575	409,642,138	237,493,002
British Columbia	480,127,529	321,354,242	512,028,119	331,466,014
Yukon	5,482,693	5,465,945	5,509,564	5,509,564
Canada	6,574,619,365	4,122,509,882	6,846,171,400	3,946,609,211

¹Gross value minus value of materials consumed in the production process.



Lumber for Export—Vancouver.

Courtesy Canadian Government Motion Picture Bureau.

National Income

The national income of Canada is necessarily less than its national production, a total for which is suggested in the general survey of production above. However, the industries there included engage only two-thirds of those gainfully employed in Canada. As there is no reason to suppose that those not connected with production as there defined are less "productive" in the broad sense of the term than others, the total value of the net production of 1929 must have been not less than \$5,900,000,000.

In order to arrive at the figure of national income, however, certain heavy deductions from the above amount must be made—deductions especially connected with the maintenance of the industrial equipment of the country—providing not only for depreciation but for obsolescence and replacement by new and improved apparatus of production. Altogether, the charges under this head may have been not less than \$400,000,000. This would leave the 1929 income of the Canadian people at somewhere in the neighbourhood of \$5,500,000,000.

Incomes Assessed for Income War Tax in Canada.—In those countries of the world where an income tax has been established for a considerable time the figures of the assessed income have been generally accepted as furnishing a guide both to the amount and to the distribution of the total national income by classes. Estimates of the national income, based upon income tax statistics, have been published, for example, in Great Britain and in the United States.

In Canada the income tax is a newer thing than in either of the above-mentioned countries; also, in a newer country than either, incomes are to a greater extent received in kind. Both of these considerations render it

improbable that so large a percentage of the total national income of Canada is brought under the notice of the income tax authorities as in Great Britain or the United States. Nevertheless, the data collected by the Income Tax Branch of the Department of National Revenue in the course of its administration of the income war tax, are significant both with regard to the total income assessed and with regard to the distribution of that income among various classes of the population, as well as by size of income groups.

In the fiscal year ended 1929, 129,663 individuals and 7,438 corporations paid income tax on incomes aggregating \$1,195,402,266, so that for that year rather more than one-fifth of the national income would appear to have been subject to income tax.

Outside Capital Invested in Canada

A young nation like Canada is usually dependent to a considerable degree on outside capital for the development of its resources. In the opening decades of the century the marked expansion through which Canada passed was largely based on capital imported from Great Britain (see table), at least \$1½ billions being thus imported during 1900-1912. During the war the latent capital resources of Canada itself were for the first time exploited on a large scale, nearly \$2 billions being raised in loans by the Dominion Government. Since the war the outstanding feature in the situation has been the considerable importation of capital from the United States; in 1913 U.S. capital investments were probably around \$650 millions; in 1929 they approached \$3½ billions. British investments in Canada have in the meantime slightly declined (see accompanying table).

In spite of the large importation of capital from abroad, Canadian capital probably controls at least 60 p.c. of the securities of all enterprises located on Canadian soil. Outside capital investments as a whole are not greatly in excess of 20 p.c. of the national wealth.

Capital Investments by Other Countries in Canada, 1913 and 1927-29

Country	1913 ¹	1927 ²	1928 ²	1929 ²
	\$	\$	\$	\$
United States	650,000,000	3,086,241,000	3,303,846,000	3,470,087,000
Great Britain	2,500,000,000	2,193,254,000	2,215,304,000	2,197,682,000
Other Countries	175,000,000	225,993,000	232,940,000	236,400,000
Totals	3,325,000,000	5,510,488,000	5,752,090,000	5,904,169,000

¹Estimates of various authorities.

²Estimated by Dominion Bureau of Statistics.

It must also be borne in mind that Canadians have invested large amounts of capital abroad. The Bureau estimates that Canadian investments in other countries amounted to \$1,745,816,000 at the beginning of 1929, or nearly 30 p.c. of the amount of outside investments in Canada. Of this, \$991,652,000 was placed in the United States, \$95,916,000 in Great Britain and \$658,248,000 in other countries. Subsequent prosperity in 1929 enabled Canada to buy back large amounts of Canadian securities held abroad.

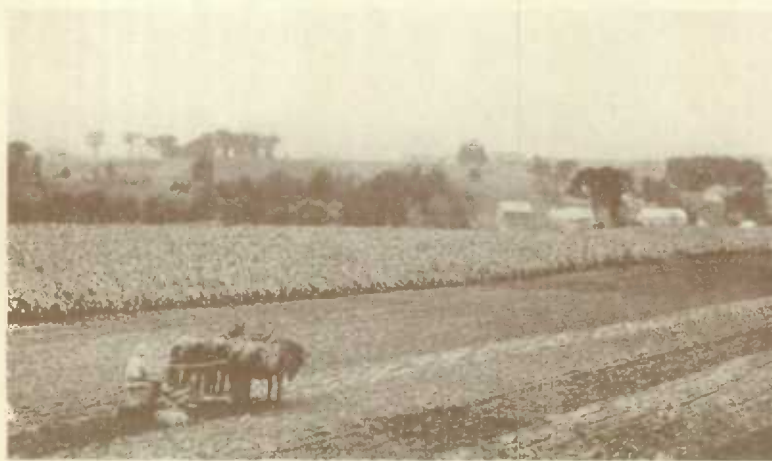
CHAPTER V

AGRICULTURE

The climate, soil and acquired capital facilities of Canada are such as to produce a wide variety of farm and forest products common to the temperate zone. This outstanding feature will be evident from a brief consideration of the prevailing regional types of farming in the Dominion.

The Maritime Provinces show a considerable regional difference in crop production, although fruit and potatoes are the most important cash crops, with especially favoured conditions for their production. Hay and clover command the largest proportion of the field-crop area, while oats have the largest acreage among the grain crops, followed by mixed grains and buckwheat, with the areas sown to wheat small and declining.

The province of Quebec is adapted essentially for mixed farming, with large regions specializing in dairying. The forage and coarse grain crops comprise over 90 p.c. of the total field-crop area, potatoes and buckwheat having the largest acreages among the strictly cash crops. The farming population lives 'off the farm' to the greatest possible extent, and revenues from such items as maple sugar, cordwood, and domestic work are very important.



Crop of Corn, with Root Land being Prepared in the Foreground,
Province of Quebec.

Courtesy Canadian Government Motion Picture Bureau.

The province of Ontario shows probably the greatest regional variation in types of farming, ranging from the highly specialized fruit farms of the Niagara peninsula to the pioneer farms on the wooded lands of northern Ontario. As in Quebec, the agriculture of the whole province

shows a marked predominance of forage crops and coarse grains, but the acreages of cereals are much higher in Ontario. In some counties, such as Kent, Simcoe, Essex and Middlesex, the wheat crop is relied upon to return a fair share of the cash income. Sugar beets cover considerable acreages in Kent, Essex and Lambton, while tobacco is important in Essex, Elgin and Norfolk. Dairy farming prevails in scattered districts over the province, providing large proportions of the incomes on farms along the Ottawa and St. Lawrence valleys and in the vicinity of Toronto.

Over two-thirds of the field-crop acreage of Canada is concentrated in the three prairie provinces, and most of this area is seeded to the grain crops, with wheat predominant. Roughly speaking, the specialized wheat



A "Combine", or Harvester-Thresher, at Work.

Courtesy Canadian Government Motion Picture Bureau.

areas cover the southern short-grass plains from the Red River valley of Manitoba to the foothills of Alberta and attain their greatest width in central Saskatchewan. In the park belt, lying mostly north of this region, mixed farming is practised, with large acreages of coarse grains and natural hay utilized for swine and cattle.

British Columbian agriculture is relatively intensive, dependent mainly on tree and bush fruits, berries and vegetables. Poultry and dairy farms are numerous along the southwestern coast, while ranching is confined to the interior valleys.

Although Canada has a relatively small non-agricultural population for the absorption of surplus production, approximately 60 p.c. of our total agricultural production is consumed in Canada, with the remaining 40 p.c. finding markets abroad. Agriculture, however, provides roughly one-half of our total national export trade, the most important items being grain and grain products, cheese, live stock and live-stock products (principally meats and hides), potatoes and apples.

responsible for smaller crop production. The gross value of Canada's agricultural production has again declined notably and with the general fall in commodity values, our agricultural wealth has declined also. Canadian agriculture in the past year has been featured by a necessarily reduced cash expenditure for supplies, equipment and hired labour, and by a pronounced shift from cereal to live-stock specialization. The latter fact is evidenced by renewed activity in export marketing of live stock.

Field Crops

Acreages.—According to the census of 1891, the area of field crops in 1890 amounted to 15.6 million acres. This grew to over 62 million acres in 1930, an increase of 298 p.c. during the forty years. Two main factors were responsible for this extensive growth in sown acreage, firstly the opening of the prairie provinces, and secondly, the Great War, for within the period from 1913 to 1919 alone the area under field crops increased by about 50 p.c.

Wheat.—A remarkable growth in the production of wheat is indicated by the following statistics dating back to 1870. Prior to 1905 the amount of wheat produced was less than 100 million bushels. For six years it remained steadily over this figure until 231 million bushels was reached in 1911. In only three of the next twenty years was wheat production less than 200 million bushels, *viz.*, 1914, 18 and 19. The 1915 phenomenal crop of over 393 million bushels set a record for a number of years until 1922, when nearly 400 million bushels were produced. New high records were attained in 1923 (474 million bushels); in 1927 (480 million bushels); and in 1928 (567 million bushels). The years 1929 to 1931 were marked by less propitious climatic conditions for wheat growth.

Production, Imports and Exports, of Wheat for Canada, 1870-1930

Year	Production	Imports of Wheat and Flour	Exports of Wheat and Flour	Year	Production	Imports of Wheat and Flour	Exports of Wheat and Flour
	000 bush.	bush.	bush.		000 bush.	bush.	bush.
*1870.....	16,724	4,304,405	3,127,503	1918.....	189,075	321,559	96,960,401
*1880.....	32,350	965,767	4,502,449	1919.....	193,260	201,757	92,499,554
*1890.....	42,223	406,222	3,443,744	*1920.....	226,508	454,749	106,315,443
1900.....	55,572	314,653	14,773,908	1921.....	300,858	372,942	185,769,083
*1910.....	132,078	407,639	62,398,113	1922.....	399,786	397,519	270,364,981
1911.....	230,924	375,486	97,690,904	1923.....	474,199	440,741	346,596,561
1912.....	224,159	889,387	115,741,172	1924.....	262,097	619,404	192,721,772
1913.....	231,717	357,945	135,587,447	1925.....	395,475	379,194	324,592,024
1914.....	161,280	2,180,039	86,750,125	1926.....	407,136	407,119	292,880,996
1915.....	393,543	305,179	269,157,743	1927.....	479,665	473,308	332,961,283
1916.....	262,781	304,433	174,565,250	1928.....	566,726	1,345,881	407,564,186
1917.....	233,743	281,258	169,240,340	1929.....	304,520	1,374,726	186,267,210
				1930.....	397,872	244,220	258,637,886

NOTE.—(1) For the above table, wheat flour has been converted into bushels of wheat at the uniform average rate of 4½ bushels to the barrel of 196 lb. of flour. (2) The exports and imports relate to the years ended June 30, 1870-1900, and July 31, 1910-30. (3) The asterisk (*) against the census years 1870 to 1920, indicates that the production figures for those years are from the reports of the decennial censuses.

Other Grains.—These grains consist of oats, barley, flaxseed, rye, buckwheat, peas, mixed grain and corn. The first three have assumed real importance among the field crops of Canada. The volume of oat production has attained considerable dimensions, reaching the record total of close upon 564 million bushels in 1923, although the average for the years 1927-1930 was 400 million bushels; the area under crop has expanded from 3,961,356 acres in 1890 to 12,819,000 acres in 1931. Barley, with a production of 11,496,000 bushels in 1870, yielded a record total of 136,391,400 bushels in 1928, while the yield was 67,972,000 bushels in 1931. Rye production amounted to 1,064,358 bushels in 1870, increased to 32,373,400 bushels in 1922, and receded to only 5,888,000 bushels according to the provisional estimate of 1931.

Values of Field Crops.—Prices of agricultural products were at an unusually high level during the war and until 1919, then slumped steeply, falling to a low level in 1923, but recovered considerably in later years. The value of the field crops of Canada, which in 1910 was \$384,513,795, had increased by 1914 to \$638,580,000. As the effects of the war came to be felt, the maximum was reached in 1919 with a total of \$1,537,170,100. This value receded to \$899,226,200 in 1923; but the recovery of prices during recent years, combined with excellent harvests, brought the value up to \$1,104,983,000 in 1926, \$1,173,133,600 in 1927, \$1,125,003,000 in 1928, declining to \$948,981,000 in 1929 and about \$631,593,000 in 1930. the provisional estimate for 1931 given below shows a further reduction to a total of \$431,251,000.

The Field Crops of Canada, 1931¹

Field Crop	Area	Total Yield	Total Value
	acres	bush.	\$
Wheat	26,115,726	298,000,000	108,786,000
Oats	12,819,445	331,243,000	76,461,000
Barley	3,764,535	67,972,000	16,015,000
Rye	779,024	5,888,000	1,443,000
Peas	104,540	1,751,600	1,798,000
Beans	74,208	1,178,900	869,000
Buckwheat	318,648	6,019,000	3,430,000
Mixed grains	1,184,290	38,540,000	12,081,000
Flaxseed	627,785	2,847,000	2,248,000
Corn for husking	138,917	5,643,000	2,335,000
Potatoes	581,132	cwt.	
Turnips, mangolds, etc	193,213	55,089,000	23,408,000
		41,292,000	10,643,000
Hay and clover	8,901,785	tons	
Alfalfa	748,100	14,590,000	113,961,000
Fodder corn	425,200	1,865,000	19,015,000
Sugar beets	52,000	3,444,600	13,678,000
		504,000	2,930,000

¹ Provisional estimates of Nov. 12, 1931, for area and yield, and Dec. 15, 1931, for value.

Governmental Assistance to Agriculture

Agricultural progress in Canada is typified and measured not only by the expansion of crop acreages and production and by the increase in live stock, but by the improvement in methods of production, by

the production of higher quality commodities, and by the careful supervision of grading to meet the standards and requirements of both domestic and export markets. In these important fields the Canadian farmer reaps many advantages from governmental and institutional assistance.

Outstanding among these activities is the work of the Dominion Experimental Farms and Stations, begun in 1896 with 5 farms of 3,472 acres and at the present time including 26 experimental farms and stations with a total area of 12,818 acres.

The experimental farms and stations work in unity through central direction from Ottawa, but are engaged in experimental and practical work designed to improve agricultural methods in their respective districts. Their success in this main endeavour becomes more evident annually and their officers are widely recognized as authorities on agricultural matters. In addition, a chain of Dominion Illustration Stations has been organized throughout Canada for the general purpose of demonstrating precisely and practically the effective and economical methods of husbandry which are suited to their districts. Railway and land companies have also been prominent in disseminating agricultural advice.

The work of the Dominion Departments of Trade and Commerce and Agriculture in the standardization and grading of the important agricultural products has also been a significant factor in building up export markets.

Each of the nine provinces, under Section 95 of the B.N.A. Act, has its Department of Agriculture, and everywhere the provinces endeavour to assist their farmers by educational and extension work, and in most cases by the organization of co-operative marketing. Agricultural colleges maintained by the provinces are the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the Manitoba Agricultural College at Winnipeg. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Saskatchewan, Alberta and British Columbia.

The Canadian Grain Trade.—The natural disadvantages involved in the wide separation of the prairie grain fields from the markets of Europe have been considerably reduced by particular and continued application to the improvement of marketing and transportation facilities. The Great Lakes and the St. Lawrence river have been used to good advantage, the westward route through Vancouver has been established, and the shipment of grain through Churchill on Hudson bay has been initiated. The movement of grain at both interior and terminal points has been regulated by adequate elevator facilities. The volume of grain shipments has expanded greatly since the turn of the century and the necessary handling facilities have kept pace. The operation of the licensed elevators of Canada is covered by the Canada Grain Act, which was extensively revised

in 1930. The number of these elevators has grown from 523 with a capacity of 18,329,352 bushels at the end of the last century to 5,872 with a capacity of 414,660,260 bushels in 1930.

The strictest supervision of grading is maintained in order to establish the high quality of Canadian grains abroad. Cleaning and drying facilities are available at both interior and terminal elevators, and grading is superintended by the Board of Grain Commissioners, established in 1912 for the management and control of the grain trade of Canada.

The export trade in Canadian wheat has greatly increased in the past half century, although the actual amounts exported in recent years vary widely with growing conditions in Canada and the state of markets abroad. Record levels of wheat and wheat flour exports were reached following the bumper crop of 1928, and in the crop year 1928-29, 407,564,187 bushels of wheat and wheat flour (expressed as wheat) were exported from Canada.



The New Terminal Grain Elevator, Prescott, Ontario.—This elevator, since the completion of the Welland Ship Canal, marks the lower end of deep-water navigation on the Great Lakes.

Courtesy Royal Canadian Air Force.

A drastically reduced crop in 1929 and unsatisfactory external markets led to reduced overseas movement in the crop year 1929-30, when only 186,267,209 bushels were exported. In 1930-31, an increase to 258,637,887 bushels was recorded. During the present crop season to date, exports remain considerably lower than in the same months of 1930.

Although Canada stands third to the United States and Russia among the wheat-producing countries of the world, she is normally first among the wheat-exporting nations. Even with the relatively short crops of the past three years, this position has been well maintained.

The Wheat Pools.—During 1931 important developments have taken place in the organization and policies of the co-operative marketing organizations known as the Canadian Wheat Pools. The continued depression in the world wheat market has weighed heavily upon the prairie co-operatives. The principle of pooling practised on a declining market involved financial hazards not fully realized in the earlier years of the co-

operatives. Since the inception of the Wheat Pools an initial payment had been made to the farmer on delivery of his wheat, with further payments in accordance with the price ultimately received for the crop. The crop year of 1929-30 commenced with an apparent world shortage of wheat and the initial payment established by the Pools amounted to \$1.00 per bushel, basis in store Port Arthur and Fort William. Large and unexpected reserves in the Argentine, in addition to an exceptionally large European wheat crop in 1929, combined with the repercussions of the stock market crash of October, 1929, and carried wheat prices downward. Early in 1930 wheat reached price levels below the Pools' initial payment with the bulk of the Pools' holdings still unsold. To meet the emergency, and to prevent the sudden liquidation of large stocks of Canadian wheat, the three Provincial Governments guaranteed the loans of the banks to the Pools. Final accounting of the marketing of the 1929 crop found the Pools heavily indebted to the Provincial Governments and the Governments called upon to meet the losses incident to the guarantees assumed.

With the 1930 crop in prospect and the wheat market still declining, the initial payment of 60 cents a bushel proved too high and once again the Pools found themselves in financial difficulty. The Dominion Government lent assistance to insure the orderly marketing of the 1930 crop. At this stage the Pools were placed under new general management and steps taken to eliminate the direct selling policies instituted by the Pools. The European offices of the organization were closed and subsequently offices in the United States and Eastern Canada were withdrawn.

With wheat prices at Winnipeg ranging from 50 to 60 cents per bushel and with regard to the depressed state of the cereal industry in western Canada, it became evident that in handling the 1931 crop, the Pools would have to make a new financial arrangement with their members. A safe initial payment at the reigning price levels would be too small to meet the urgent financial requirements of the farmer. After a series of conferences with the four Governments who were now interested in the Pools, it was decided that in handling the 1931 crop Pool members could have the option of delivering their wheat on the open market basis or pooling as formerly, if desired. Anticipating that a great many Pool members would want the full market price of their wheat at the time of delivery, the Pools reorganized themselves on this basis and are now largely operating as co-operative elevator companies. The Central Selling Agency is continuing to operate in so far as stocks of 1930 wheat are concerned, but the three provincial organizations are handling and marketing the 1931 crop on a provincial basis. In view of the financial interest of the three Provincial Governments in the Pools, the former are represented on the Boards of the respective provincial organizations. At the present time, therefore, the Pools are operating as co-operative elevator companies very similarly to the operations of the organizations they superseded in 1923 and 1924, but with their physical facilities greatly expanded.

World Wheat Situation, 1930 and 1931.—The agricultural depression became more severe during 1930 and 1931. Cereal prices declined in the full months of 1930 and have remained at low levels to the present time.

Apart from the price level, other factors appeared more constructive. In spite of the prevailing economic depression, in spite of many barriers against the importation of wheat in important deficiency countries in Europe, in spite of the plight of "silver" exchange militating against trade with the Orient, world trade in wheat during 1930-31 amounted to approximately 785 million bushels or well up to the average of the previous five years. Following the restricted movement in 1929-30, world trade in 1930-31 was encouraging. Canada fully justified her position as the world's leading wheat-exporting country. With Russia again a large exporter, with keen competition from the Argentine and Australia, Canada, with wheat exports of 259¹ million bushels, contributed one-third of the world's wheat exports and re-affirmed the place of Canadian wheat in the markets of the world.

Throughout the 1930-31 crop year Russia was the enigma of the wheat market. The volume of Soviet wheat exports, combined with the uncertainty of the Russian movement, lent an element of hesitancy to the leading markets and tended to depress prices.

The depression in the value of silver handicapped the buying of the Orient which, under normal conditions, would have been highly interested in wheat at then existing prices. This situation was partially offset by the depreciation of Australian currency and enabled that country to undersell all competitors in China and Japan. As a result of the increased demand from the Orient, the 1930 Australian crop (a record production of 205 million bushels) will all go into consumption before the end of the year.

About the middle of 1931, the wheat position began to be influenced by new factors. Drought and unusual climatic conditions generally reduced the 1931 Canadian crop to 298 million bushels, the smallest in recent years. The Argentine and Australia, according to latest estimates, have reduced their wheat acreage by over 8,000,000 acres, which reduction will affect the outturn of the December harvests in these countries. The United States Department of Agriculture has estimated a reduction of 12 p.c. or over 5,000,000 acres in the acreage to be sown to winter wheat in that country. In addition to these factors, estimates to date indicate a world crop of at least 175 million bushels less than last year. European rye production is estimated at 150 million bushels below 1930.

The cited developments lend encouragement to the wheat outlook and indicate the gradual return of a more normal cereal situation after two years of acute depression. In fact, prices have recently turned upward reflecting the improved physical position.

Special Products.—A feature of Canadian agriculture is the number of crops which are grown in localities specially suited for their production. Some of the more important of these are tobacco, sugar beets, maple syrup and sugar, and flax and hemp for fibre.

The various types of tobacco are grown in different regions of Quebec and Ontario and in increasing amounts, having practically tripled since 1900. In 1930, the production was 36,716,917 pounds valued at \$3,537,700

¹ This figure includes exports of flour expressed as wheat.

from 41,304 acres. The first estimate for 1931 is 48,230,000 pounds from 41,391 acres. Prices remain very low.

The production of maple syrup and sugar in 1931 was valued at \$3,537,700, about four-fifths of which came from Quebec.

Sugar beets are grown in the neighbourhood of sugar beet factories at Chatham and Wallaceburg in Ontario and Raymond in Alberta, and there are other areas sown to this crop in Quebec and Manitoba. The production has made its most significant increase since the early war years. In 1930, the latest year for which factory statistics are available, the output of refined beetroot sugar amounted to 94,624,700 pounds.

Flax for fibre and fibre-seed production expanded greatly during the war, but has since declined.

Hops occupy a relatively small acreage in British Columbia, the yield in 1930 being 1,166,040 pounds.

Commercial gardening is an important occupation in many favoured areas throughout Canada, principally in suburban areas.

Specialized poultry farming has increased in popularity in the past ten years, particularly in Ontario and British Columbia, and there has also been a large expansion in farm flocks. The effects of careful selection are notable in improving quality of eggs and dressed poultry. Grading of marketed products is also receiving more attention.

The total estimated production of honey in Canada in 1930 was 31,169,683 pounds as compared with 28,261,948 pounds in 1929. The 1930 production was valued at \$2,849,186.

The production of clover, alsike, alfalfa and sweet clover seed amounted to 16,165,000 pounds valued at \$1,875,300 in 1930.

The Flour-Milling Industry

The most important manufacturing industry connected with the field crops is flour milling, which dates back to the settlement made by the French at Port Royal (now Annapolis, N.S.) in 1605. Milling was, of course, an absolute necessity to the first settlers. The Napoleonic wars established the export business and for the next half-century the mills were closely associated with the commercial and banking history of the country. Large scale production in milling in Canada began with the competition between the two processes, stone and roller milling. By the '80's the roller process had secured a virtual monopoly and local mills gave way to large mills served by elevators at central points. The high quality of Canadian wheat became recognized throughout the world, and Canada's huge export trade in wheat and its products developed. The milling industry grew apace. The number of mills in 1930 according to the preliminary estimate was 1,300, including over 1,000 country mills; the capital invested was \$62,000,000; while the value of products was \$148,000,000. The exports of wheat flour in the fiscal year 1868-69 were 375,219 barrels valued at \$1,948,696, while in the fiscal year ended March 31, 1930, 7,893,960 barrels of flour, valued at \$45,457,195, were exported from Canada to other countries, and for the fiscal year ended 1931, the exports were 7,218,188 barrels valued at \$32,876,234. Disregarding the 1930 and 1931 figures which reflect the

abnormal conditions prevailing, the quantity of flour exported increased over 30 times in the sixty years between 1869 and 1929, while the value increased nearly 35 times.

Flour produced from the crop of 1929 made a new record for the flour-milling industry in Canada, for during the crop year ended July 31, 1930, wheat ground in commercial flour mills totalled 94,739,029 bushels and flour produced amounted to 20,872,094 barrels. Preliminary figures for the crop year ended July 31, 1931, were 71,146,211 bushels of wheat and 15,917,930 barrels of flour.

The total daily capacity of flour mills in 1932 was nearly 132,000 barrels. Canada has to-day the largest flour mill in the British Empire, with a daily capacity of 24,500 barrels.

The Live-Stock Industry

Although somewhat overshadowed by the grain-growing industry the raising of live stock has made very substantial progress not only in point of numbers but in the improvement of foundation stock. Fortunately, virulent animal diseases, which affect the farm live stock of Europe, have never obtained a footing in Canada. Numerically, since the first census after Confederation (1871) horses have increased from 836,743 to 3,295,000 in 1930, cattle from 2,484,655 to 8,937,000, and swine from 1,366,083 to 4,000,000. The number of sheep has fluctuated considerably; in 1871 it was 3,153,509 but for many years afterwards it declined. Since 1926 the number has increased from 3,142,476 to 3,262,706 in 1927, 3,415,788 in 1928, 3,635,923 in 1929 and 3,696,000 in 1930. The wool clip has correspondingly increased from 17,959,896 lb. in 1926 to 21,016,000 lb. in 1930, but owing to a marked falling-off in the average price of wool the value of the clip fell from \$4,131,000 in 1926 to \$2,522,000 in 1930.



A Sheep Ranch in Alberta.

Courtesy Canadian Government Motion Picture Bureau.

Numbers of Farm Live Stock in Canada, 1930

Description	Number	Description	Number
Horses—		Goats, milking	5,062
Stallions	20,073	Goats, not milking	7,906
Mares	1,556,260	Total	13,028
Geldings	1,406,666		
Colts and fillies	312,029	Swine—	
Total	3,295,028	Brood sows	506,865
Mules	5,704	Other pigs	3,493,069
Cattle—		Total	3,999,934
Bulls	285,907	Poultry—	
Milch cows	3,683,453	Hens	56,247,141
Calves	1,935,091	Turkeys	2,399,497
Other cattle	3,032,682	Geese	1,159,807
Total	8,937,133	Ducks	988,664
Sheep	2,014,786	Total	60,765,169
Lambs	1,681,263	Rabbits	56,410
Total	3,696,049		

Slaughtering and Meat Packing.—Since 1900 the separation between the farm and the manufacture and marketing of animal products has become more and more pronounced, leading to the development of an important slaughtering and meat-packing industry, 1930 returns showing only 76 establishments engaged in slaughtering and meat packing as compared with 193 in 1871, but the industry showed a capital investment of \$60,778,996 as compared with \$419,325 in 1871. The number of employees had increased from 841 to 9,290 and salaries and wages from \$145,376 to \$12,114,667 over the same period. The cost of materials used in 1930 was \$129,004,327, and the value of the products \$164,029,953.

Exports of Live Stock and Their Products.—Exports of cattle in the fiscal year 1931 numbered 49,256 head valued at \$2,800,198, of which 39,393 head valued at \$1,841,831 went to the United States. Exports of swine in the fiscal year 1931 numbered 2,410 valued at \$23,592, of which shipments to the value of \$3,758 went to the United States. The overseas movement of cattle has increased in volume during the present season. Swine and some dairy products are once more entering the United States. In 1930-31 shipments of bacon and hams to other countries amounted to 121,770 cwt. valued at \$2,914,273, of which exports to the United Kingdom were valued at \$2,278,616.

Total exports of animals and animal products amounted in 1930-31 to \$83,714,772, of which \$34,068,408 went to the United States and \$31,173,615 to the United Kingdom.

Dairying

Dairying has long held an important place among Canadian industries. Cattle were introduced by the first settlers and there naturally followed the making of home-made butter and cheese, at first purely for home consumption, but later for export. The export market grew until

for the fiscal year ended 1926, Canada exported 1,483,000 cwt. of cheese valued at nearly \$34,000,000, and 233,000 cwt. of butter valued at nearly \$9,000,000.

Since 1926 exports of these commodities have shown a falling off, especially butter, exports of which have dropped from about 99,000 cwt., valued at \$3,352,000 in the fiscal year 1927 to 13,094 cwt. valued at \$543,851 for the fiscal year 1930 and 11,629 cwt. valued at \$389,419 for the fiscal year 1931. The cheese exports for the fiscal year 1930 were 922,937 cwt. valued at \$18,278,004; and for 1931, 795,904 cwt. valued at \$12,989,726.



Testing Milk and Cream in a Laboratory—All milk and cream marketed must meet the minimum standards established by the Government and enforced by Government Inspectors.

Courtesy Canadian Government Motion Picture Bureau.

On the other hand, an analysis of production figures indicates that while the industry has shown a decrease in the total number of creameries and cheese factories of from 3,161 in 1920 to 2,719 in 1930, the butter produced increased from 111,692,000 lb. valued at \$63,625,000 in 1920 to 169,495,000 lb. valued at \$63,008,000 in 1925 and has since tended to remain fairly steady: 168,027,000 lb. valued at \$64,702,538 in 1928; 170,810,230 lb. valued at \$65,929,782 in 1929; and 187,151,247 lb. valued at \$57,177,798 in 1930.

Factory cheese production increased in quantity from 149,202,000 lb. valued at \$39,101,000 in 1920 to 162,117,000 lb. valued at \$28,710,000 in 1921, fluctuated widely between 1921 and 1925, when the quantity was 177,139,000 lb. valued at \$36,572,000, and has since shown a decrease, in quantity produced, to 118,920,000 lb. valued at \$18,105,000 in 1930.

Fundamental changes have been going on in the industry and some of the milk that formerly went into cheese appears now to find its way into miscellaneous factory products. It will be observed from the table below that the total value of all products of the industry shows a fairly satisfactory trend over the six years 1925-30.

Value of the Dairy Production of Canada, by Provinces, 1930, with Dominion Totals for 1925-29

Province	Dairy Butter	Creamery Butter	Home-made Cheese	Factory Cheese	Miscellaneous Factory Products	Milk Consumed Fresh or otherwise Used	All Products
	\$	\$	\$	\$	\$	\$	\$
Prince Ed. Island	280,000	567,820	100	129,433	71,125	1,638,000	2,686,478
Nova Scotia	1,134,000	1,574,254	48	-	1,170,823	6,722,000	10,601,125
New Brunswick	1,614,000	669,209	100	98,422	350,288	5,616,000	8,338,019
Quebec	4,333,000	18,358,844	16,000	5,122,443	2,567,023	52,018,000	82,415,310
Ontario	4,909,000	20,593,397	10,000	12,372,397	13,352,751	53,021,000	104,858,545
Manitoba	1,650,000	4,660,746	14,000	86,614	569,173	8,252,000	15,218,533
Saskatchewan	3,630,000	4,307,067	1,400	23,383	727,137	12,538,000	21,227,887
Alberta	2,534,000	4,969,227	19,000	175,302	634,787	9,550,000	17,881,406
British Columbia	626,000	1,471,334	3,300	97,363	1,917,778	5,674,000	9,789,775
Canada—							
1930	20,710,000	57,177,798	63,948	18,105,447	21,360,885	155,619,000	273,037,078
1929	28,929,000	65,929,782	82,800	21,471,330	22,091,945	153,238,000	291,742,857
1928	29,103,000	64,702,538	82,000	30,494,463	20,581,490	152,661,856	297,625,347
1927	30,435,121	63,709,980	70,654	25,522,148	18,879,335	154,257,346	294,874,590
1926	28,252,777	61,753,390	80,240	28,807,841	17,767,271	140,643,460	277,304,979
1925	32,128,799	63,008,097	95,073	36,571,556	16,882,747	136,177,373	284,893,645

The production figures, in conjunction with those for exports, indicate that the home market is demanding a larger proportion of the products.

The Fruit-Growing Industry

In certain sections of Canada, the climate and soil are eminently adapted to fruit growing, and the Annapolis valley, the Niagara peninsula and the Okanagan district of British Columbia are world famous centres of fruit production. Experimental shipments of apples from the Annapolis valley were first made in 1861. Up to 1890 the annual production of apples by Nova Scotia rarely exceeded 100,000 barrels; but after that date there was a pronounced increase in acreage and in production, which latter reached 1,000,000 barrels in 1909, and 1,900,000 barrels in 1911. Further high records were made in 1919 with over 2,000,000 barrels, and in 1922, when 1,891,850 barrels were packed and sold from the Annapolis valley and adjacent districts. In Ontario, where the commercial production of all varieties of fruit has reached its highest development, apples have been grown from the middle of the eighteenth century, but commercial orcharding has developed only during the past 50 or 60 years, and was only possible when the building of the railways permitted trees and fruit to be rapidly transported. In British Columbia commercial fruit growing is of comparatively recent origin, but progress has been very rapid during the last ten years. The first apple trees were planted about 1850, but not until after completion of

the Canadian Pacific Railway in 1886 were many trees planted for commercial purposes. In 1891 the area under all kinds of fruit in British Columbia was 6,500 acres; by 1921 this area had expanded to 43,569 acres.

In 1930 the total value of Canadian commercial fruits was \$17,689,835, including: apples, \$10,883,344; pears, \$615,997; plums and prunes, \$320,067;



A Canadian Cherry Orchard in Bloom

Courtesy Can. Govt. Motion Picture Bureau

peaches, \$1,160,350; cherries, \$741,379; strawberries, \$1,383,027; raspberries, \$807,480; other berries, \$341,714; apricots, \$35,605; and grapes, \$1,400,872.

Manufactures Dependent on Fruit Growing.—The most important industry associated with fruit growing is that of fruit and vegetable canning, preserving, etc. Factories are located at convenient points throughout the districts where fruit and vegetable crops are a specialty. Another closely related industry is the manufacture of vinegar, cider, pickles and sauces. In 1930 these two industries operated 311 establishments, representing a capital investment of \$46,135,000 and with a production valued at over \$43,000,000, which was an increase of \$3,000,000 over the production of 1929.

The wine industry has grown very rapidly in the last decade, the estimated value of native wines produced increasing from \$706,000 in 1921 to \$5,025,000 in 1930, and this expansion has stimulated a large increase in the acreage and production of grapes so that in 1930 grapes were second in importance among Canadian fruit crops.

CHAPTER VI

THE FOREST WEALTH OF CANADA— LUMBERING—PULP AND PAPER

The forests of Canada rank second only to agriculture, among the primary industries, in their contribution to the national production. It is estimated that forest products make up about 20 p.c. of all the freight hauled on Canadian railways. The large excess of exports over imports which the group "wood, wood products and paper" provides, amounting to \$184,472,445 for the fiscal year ended March, 1931, constitutes an influential factor in Canada's international trade.

Of the total forested area of 1,151,454 square miles, about 17.3 p.c. carries mature, merchantable timber, 9.7 p.c. carries immature but nevertheless merchantable forest products, and 48.2 p.c. consists of accessible young growth which will eventually be merchantable. The remaining 24.8 p.c. is inaccessible or unprofitable under present conditions.



Winter in the Woods.—Loading logs upon a sled in northern Ontario
Courtesy Canadian Government Motion Picture Bureau.

The total volume of standing timber has been estimated at 224,304 million cubic feet capable of being converted into 424,637 million board feet of lumber and 1,121,993,000 cords of pulpwood, ties, poles and similar forest products. The eastern provinces are estimated to contain about 41 p.c., the Prairie Provinces 25 p.c., and British Columbia 34 p.c. of this total volume. The total annual drain on the forests including loss by fire, etc.,

is now estimated at 4,136 million cubic feet, but it does not follow that our capital will be exhausted in the fifty-four years which a simple calculation might imply. The rate of utilization will no doubt be reduced as the supply diminishes and losses due to fires, wasteful utilization and other preventable causes are curtailed. An annual increment of 10 cubic feet per acre, which is quite possible under forest management, would provide in perpetuity for the needs of a population of over seventeen millions at our present annual rate of use, which amounts to about 416 cubic feet per capita.

Steps are now being taken toward placing our forests on a sustained yield basis, and it is now profitable as a commercial investment to plant trees in Canada under conditions which are steadily becoming more favourable, though the full benefit of intensive management will take time to appear.

Represented in the three great forest divisions of Canada are approximately 160 different species of plants reaching tree size. Only 31 of these species are coniferous, but the wood of these forms 80 p.c. of our standing timber, and 95 p.c. of our sawn lumber.

Canada has been aptly termed "the Empire's storehouse of softwood supplies" and successive British Empire Forest Conferences have stressed the importance from the Empire standpoint of the conservation of this resource. The principal danger has always been the enormous loss through forest fires, insect pests and fungi and the efforts of Canadian forest authorities have been directed to the solution of these problems. Largely owing to educational work along these lines, public interest has been drawn to the danger that threatens, though much still remains to be done if Canada's supply of softwoods is to be assured in sufficient quantity to meet future industrial needs.

To present an adequate survey of this great national asset it is necessary first to give a general review of operations in the woods, following this by surveys of sawmill operations and of pulp and paper manufacturing respectively, the two great manufacturing industries founded directly upon the forest. Again, on lumber and paper are founded the long and varied array of our wood and paper-using industries. A short statement is given concerning these.

Operations in the Woods

The value of forest production resulting from operations in the woods of Canada is, according to latest figures, \$219 millions annually, being made up of logs and bolts for sawmills valued at \$79 millions; pulpwood for domestic use and export valued at \$76 millions; firewood valued at \$41 millions; hewn railway ties valued at \$5 millions; poles valued at \$6 millions; and other primary forest products, such as square timber, fence posts and rails, and wood for distillation. It has been estimated that this rate of total primary forest production involves the cutting of over 3,090 million cubic feet of standing timber annually. In connection with operations in the woods, the forests not only provide the raw material

for the sawmills, pulp-mills, wood distillation, charcoal, excelsior and other plants, but also logs, pulpwood and bolts for export in the unmanufactured state and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as maple sugar and syrup, balsam gum, resin, cascara, moss and tan-bark, which all go to swell the total.

The following table gives the total values of the products of woods operations in Canada for the years 1925 to 1929 inclusive.

Value of the Products of Woods Operations, by Products, 1925-29

Product	1925	1926	1927	1928	1929
	\$	\$	\$	\$	\$
Totals.....	209,276,561	204,436,328	204,939,750	212,950,799	219,570,129
Logs and bolts.....	76,633,034	75,791,032	74,270,067	76,431,481	70,278,543
Pulpwood.....	62,181,537	68,100,303	70,284,895	74,848,077	76,120,063
Firewood.....	39,515,657	40,032,874	40,582,774	41,164,270	41,764,507
Sawn railway ties.....	14,491,557 ¹	6,792,087	6,242,865	5,871,724	5,730,423
Square timber.....	2,643,543	2,643,543	2,865,906	3,772,137	4,179,077
Poles.....	3,802,036	3,828,193	3,948,723	4,934,371	6,677,559
Round mining timber.....	1,249,021	1,560,938	965,185	998,146	1,028,126
Fence posts.....	1,418,961	1,318,291	1,281,633	1,506,050	1,674,489
Wood for distillation.....	463,616	462,818	482,277	476,726	455,957
Fence rails.....	454,910	440,097	431,057	463,469	477,569
Miscellaneous products.....	6,422,689	3,459,322	3,584,368	2,484,348	2,183,816

¹The figures for 1925 include sawn ties which are included under "logs and bolts sawn" in subsequent years.

The Lumber Industry

With the increased costs of longer haulage as the more accessible forests become exhausted, many improvements have been introduced in the lumbering industry of to-day. Logging railways, in some cases, now transport the logs direct from the woods to the mill; tractors are replacing horses in many cases; and in pulp and paper operations there is a tendency to cut pulpwood throughout the year so as to keep up a steady supply for the mills. In British Columbia the scarcity of drivable streams and the greater size of the logs have resulted in methods differing radically from those of the East. One of the most characteristic of these developments has been the use of cable systems whereby the logs are hauled and assembled by donkey engines.

Except in Nova Scotia, 90 p.c. of the forest land is still the property of the Crown—the lumbermen having been granted cutting rights only—and is administered by the various provincial departments.

Canada's sawmills produced in 1929 4,741,941 M feet board measure of sawn lumber, valued at \$113,349,886. The greater part of this lumber is coniferous softwood, as the supply of the more valuable hardwoods such as hickory, oak and walnut (once plentiful in southern Ontario and Quebec) has been almost exhausted. The mills also produced 2,707,235 thousand shingles, valued at \$9,423,363; 835,799 thousand lath, valued at \$2,860,799; as well as numerous other products to the value of \$21,355,516; bringing the

total value of the products of the industry up to \$146,989,564, over four times that of Confederation days.

The following table gives the production of lumber and other sawmill products by provinces. British Columbia produced nearly 45 p.c. of the total value, Ontario, 22 p.c., Quebec, 19 p.c., followed by New Brunswick, Nova Scotia, Alberta, Manitoba, Saskatchewan and Prince Edward Island in the order named.



Lumbering in British Columbia.

Courtesy Department of the Interior.

Production of Lumber and other Sawmill Products in Canada, by Provinces, 1929

Province	Lumber Production		Other Sawmill Products	Total All Products
	Quantity	Value	Value	Value
	M ft. b.m.	\$	\$	\$
Prince Edward Island.....	5,093	121,838	18,091	139,929
Nova Scotia.....	125,636	2,577,875	627,342	3,205,217
New Brunswick.....	363,114	9,294,941	2,869,663	12,164,604
Quebec.....	625,898	16,464,529	11,878,097	28,342,626
Ontario.....	913,325	28,180,429	4,562,917	32,743,346
Manitoba.....	78,591	1,972,715	122,898	2,095,613
Saskatchewan.....	35,245	799,809	8,670	808,488
Alberta.....	134,659	2,741,286	111,154	2,852,440
British Columbia.....	2,460,500	51,196,464	13,440,837	64,637,301
Totals.....	4,741,041	113,349,886	33,639,678	146,989,564

Markets for Canadian lumber now include practically all the more important countries of the world, having extended even into the Orient. There is also a considerable trade between British Columbia and the Atlantic Coast States and provinces *via* the Panama Canal.

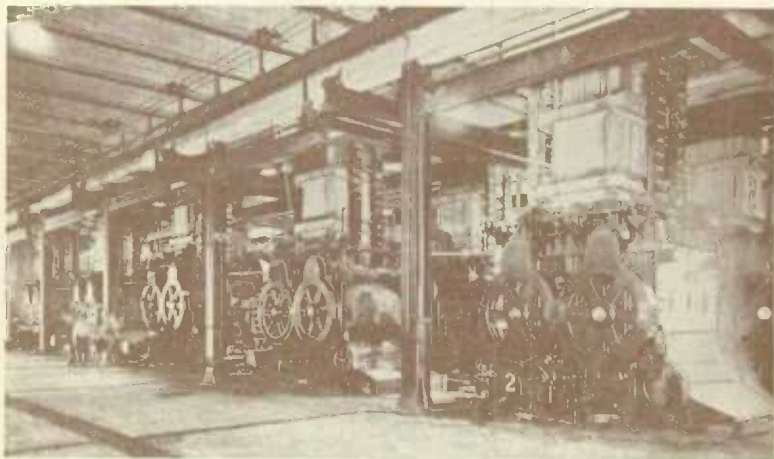
The Pulp and Paper Industry

The pulp and paper industry now ranks first among Canadian manufacturing industries in gross and net value of products, as well as in wages and salaries paid. This development has taken place for the most part during the present century, and its rapidity is due chiefly to the existence in Canada of abundant water powers adjacent to extensive resources of the various pulpwood species.

The gross output of the industry increased rapidly and steadily until the boom years following the Great War when it jumped to a peak of over \$232 millions in 1920. This was followed in 1921 by a drop which was general throughout the industrial field. Since that year there has been a steady recovery resulting in a total for 1929 of \$243,970,761 but dropping to \$215,674,246 in 1930.

The following table gives the gross and net values of production for the industry as a whole for the six years 1925 to 1930.

	Gross Production	Net Production
1925	\$193,092,937	\$116,577,947
1926	215,370,274	130,004,809
1927	219,329,753	134,516,673
1928	233,677,236	144,586,815
1929	243,970,761	147,096,012
1930	215,674,246	133,681,991



A Battery of "Magazine Grinders" in a Canadian Pulp and Paper Mill.
Courtesy Canadian Government Motion Picture Bureau.

The net value of production, which represents the difference between the values of raw materials and the finished products, is the best indication of the relative importance of a manufacturing industry. Regarded from this viewpoint the pulp and paper industry has headed the lists of manufacturing industries since 1920, when it replaced the sawmills. The industry

has also headed the lists in wages and salary distribution since 1922, when it replaced the sawmills in this respect, and it has been first in gross value of products since 1925, exceeding the gross value of flour-mill production.

There are three classes of mills in the industry. These in 1930 numbered 32 mills making pulp only, 49 combined pulp and paper mills, and 28 mills making paper only. The present tendencies are toward the building of the larger combined mills of the type known as "self-contained newsprint mills", and toward the merging of individual companies into a comparatively small number of large groups.

**Production of Wood Pulp in the two Principal Provinces,
and in Canada, 1924-30**

Year	Quebec		Ontario		Canada	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1924	1,170,314	44,090,213	927,533	31,622,586	2,465,011	90,323,972
1925	1,370,303	50,499,231	976,717	33,550,038	2,772,507	100,210,383
1926	1,672,339	59,218,576	1,095,987	38,008,752	3,229,791	115,154,199
1927	1,749,965	60,884,169	1,097,118	35,034,468	3,278,078	114,442,550
1928	2,018,566	67,487,328	1,050,335	35,708,079	3,898,045	121,184,214
1929	2,174,805	69,286,498	1,255,010	39,903,767	4,021,229	129,033,154
1930	1,833,000	58,703,067	1,043,559	31,463,873	3,619,345	112,355,872

In 1930 the 81 mills making pulp produced 3,619,345 tons valued at \$112,355,872, representing a decrease of 10 p.c. in quantity and 12·9 p.c. in value from 1929, and of this about 76 p.c. by quantity was made in combined mills and used by them in paper-making. About 3 p.c. was made for sale in Canada and 21 p.c. was made for export.

Of the total pulp production in Canada in 1930, 63·1 p.c. was ground-wood, 21·6 p.c. unbleached sulphite, 8·1 p.c. bleached sulphite, 4·8 p.c. sulphate or kraft and the remainder, screenings and other wood fibre.

The total production of paper in 1930 was 2,926,787 tons, which with certain unspecified products was valued at \$173,626,383. Newsprint and similar paper made up 2,497,952 tons, or 85 p.c. of the total, valued at \$136,181,883; paper boards made up 8 p.c., wrapping paper 2·7 p.c., book and writing paper 2·4 p.c., and miscellaneous papers the remainder. The production of paper has more than tripled in the last eleven years in Canada, owing chiefly to the increase in the production of newsprint, although practically all the different kinds of paper that are used in Canada at the present time are being produced in increased quantities in Canadian mills.

Canada's newsprint production in the year 1930 was 95 p.c. greater than that of the United States, a few years ago the world's chief producer. In 1913 the production across the border was over three times as much as in Canada, but during the following 13 years, while production still increased in both countries, the gain in Canada was over 437 p.c. as compared to less than 30 p.c. in the United States. Since 1926 there has been an actual, as well as a relative, decrease in the United States production. With several

of the larger companies adopting a definite policy of shutting down their old mills in the United States and building new mills in Canada, to equal or exceed their previous production, it seems reasonable to assume that, while there may be fluctuations, the Canadian production will continue to supply an increasing percentage of the North American market.

The preliminary figures of newsprint production for 1931, are as follows:—

	tons		tons
January.....	184,339	July.....	182,731
February.....	164,552	August.....	165,124
March.....	187,005	September.....	178,412
April.....	205,838	October.....	174,252
May.....	202,697	November.....	175,643
June.....	193,971		

Trade.—A striking reflection of the increased production of newsprint between 1910 and 1930 is seen in the trade figures. The export trade in paper did not develop until the beginning of the present century. By 1910, however, the exports of newsprint paper were valued at over \$2,000,000; in 1920 they were valued at over \$53,000,000; whilst during the fiscal year 1930-31 Canada exported 2,242,424 tons of newsprint valued at \$127,352,706. This single item of export thus ranks at present second only to wheat. Canadian newsprint is exported to 33 different countries and our total exports are greater than those of the rest of the world combined.

During the earlier stages of industrial development the exports of the wood group were made up largely of unmanufactured products such as square timber and logs. At the time of Confederation these raw materials made up over 41 p.c. of the total export trade. To-day, while the wood and paper group forms a smaller part of the total (about 26 p.c. in 1929-30 and nearly 29 p.c. for the fiscal year 1930-31), owing chiefly to the increased exportation of wheat, its character has changed. Of the exports of products of forest origin, fully or chiefly manufactured goods now form 74 p.c. and unmanufactured or partly manufactured, 26 p.c. Raw materials form only about 9 p.c. of the total. The forest industries in Canada have ceased to exist merely as "hewers of wood" for the wood-using and paper-using industries of Great Britain and the United States; each year sees a larger proportion of our forest products retained in Canada and subjected to some further form of manufacture by the industries which have developed in this country.

Industries Founded on Wood and Paper.—According to the latest available statistics there were in 1929 4,136 establishments, consisting of 2,077 depending on sawmills, and 2,059 depending on the paper-mills for their materials. They employed 84,107 workers who were paid over \$105 millions, and their products were valued at more than \$334 millions. The development of the paper-using industries in Canada has been greatly accelerated within recent years by the production of cheap paper and paper-board made of wood-pulp, composition roofing, fibre wallboard and many other products which have found a definite place in modern building construction.

CHAPTER VII

MINES AND MINERALS

Canada's mineral industry, third in importance among the primary industries of the Dominion being surpassed in output value only by the great basic industries of agriculture and forestry, brings to the nation a prestige beyond the monetary measure of the mineral output. First in nickel, first in asbestos, second in cobalt, second in gold, third in silver and fourth in lead, copper and zinc among the world's producers, Canada enjoys an enviable position in the mining world with every prospect of future expansion. Thirty-seven p.c. of the freight tonnages moved in Canada consist of ores or other mineral products.



A "Stope" in a Nova Scotia Salt Mine.

Courtesy J. P. Measervey, N.S. Dept. of Mines

Historical.—It is almost two hundred years since the mining and metallurgical industries of Canada were founded. Operations were at first con-

fined to coal and iron ore, and the manufacture of cast and wrought iron. The coal seams of Cape Breton were the first to be worked in North America. Metallurgy began on the St. Maurice river when in 1730 a furnace for smelting the local bog iron ores was established; these forges continued to operate until 1880. Another historic discovery (1740) was that of a deposit of argentiferous galena (Anse à la Mine) on lake Timiskaming, one of the oldest known metalliferous deposits in North America—less than ten miles from the fabulously rich silver veins of Cobalt, unknown for another century and a half.

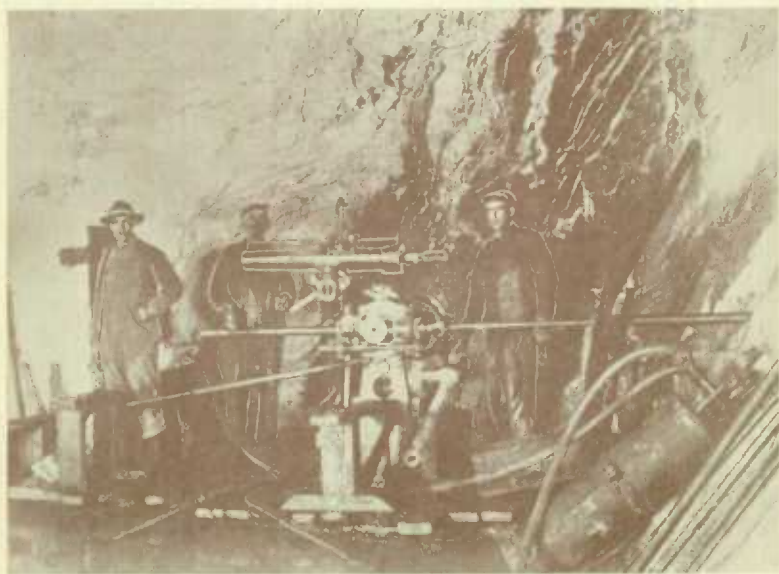
Though isolated discoveries like these continued, systematic prospecting began only in the middle of the nineteenth century with the setting up of the Geological Survey of Canada under Sir William Logan, when the herculean task of exploring, mapping and geologically surveying Eastern Canada was begun. In 1863 a comprehensive "Geology of Canada" was issued. Thus between 1843 and 1863, may be said to have occurred the real inauguration of the mining industry in Eastern Canada. Meanwhile the Fraser River and Cariboo gold rushes of the 'fifties had founded the colony of British Columbia.

But while the work of the Geological Survey marked the first important epoch in the history of Canada's mineral industry, the completion in 1885 of the Canadian Pacific Railway opened a second chapter of even greater significance. Vast new territories where the prospector showed the way to other enterprise were rendered accessible. The most important immediate find was made near Sudbury, Ont., in 1883, when in blasting a cutting for the railway a body of nickel-copper ore was uncovered which has since made the district world-famous. Similar discoveries occurred later on in British Columbia, where during the 'nineties a remarkable succession of ore-bodies, especially auriferous copper and argentiferous lead-zinc deposits, was located in the southeastern section of the province. The famous Klondyke rush of 1898 must not be omitted in this cursory enumeration. As transportation facilities were extended, other ore deposits in different regions were found, the silver of the Cobalt district, discovered in 1903 during the construction of the Temiskaming and Northern Ontario Railway, and the extraordinarily rich gold finds at Porcupine (1909) and Kirkland lake (1912) being notable examples. More recently, copper-gold discoveries in the Rouyn section of western Quebec led to the development of numerous mines and the construction of the Horne Copper Corporation's smelter at Noranda, Quebec, where blister copper containing gold was first poured in December, 1927. Gold mines have since been opened up in Patricia District in Ontario, and gold, copper, zinc and other metal-bearing deposits of commercial value have been found in Manitoba, where large concentrating and smelting plants have been erected and brought into operation.

The Modern Industry.—Since 1886, when comprehensive data were first collected for the mining industry as a whole, the advance has been truly remarkable. Valued at \$10,221,255 in 1886, or \$2.23 per capita, ten years later production had more than doubled. In another ten years, the aggregate had grown three and one-half times. This total again more than

doubled by 1916. In 1930 Canada's mineral production was computed to be worth \$279,873,578. This represented a decrease of 9 p.c. below the record value of the 1929 production but reflects only slightly the acute economic depression throughout the world during 1930.

In order of total values, the leading mineral products of Canada in 1930 were: coal, gold, copper, nickel, cement, lead, stone, clay products, natural gas, silver, zinc, asbestos, sand and gravel, petroleum, lime, gypsum, salt, platinum, and cobalt. This list of nineteen products includes all that reach an output value of one million dollars or over; together they make up about 98 p.c. of the total recorded value of mineral production.



Diamond Drills at Work in an Ontario Gold Mine.

Courtesy Canadian Government Motion Picture Bureau.

In addition to these main products, some thirty other minerals were recovered in commercial quantities during the year. Canada's known mineral resources comprise almost every variety of mineral, many of the deposits being sufficiently extensive or rich to be of world importance. Canada produces 90 p.c. of the world's output of nickel, 65 p.c. of its asbestos, about 50 p.c. of its cobalt, 10.3 p.c. of its gold, 9 p.c. of its lead, 10.8 p.c. of its silver, 8.6 p.c. of its zinc, and 8.7 p.c. of its copper. The 1930 output valuation of metallics revealed a decline from the high record established in 1929. Metals as a group, however, still retain the premier position in Canadian mineral production; this is due largely to important and increasing productions of gold, copper, lead and zinc.

The value of production of non-metallics increased from \$93,239,852 in 1928 to \$97,861,356 in 1929 and decreased to \$83,402,349 in 1930. The sub-group fuels (mainly coal) showed a production valued at \$68,184,485

MINERAL PRODUCTION, 1929 AND 1930 73

in 1930 or more than 81 p.c. of the total value for the group. The most striking progress among the fuels has, however, been made by petroleum. In 1928 the production of crude petroleum was 624,184 barrels valued at \$2,035,300; in 1929 it was 1,117,368 barrels valued at \$3,731,764; and in 1930 it had risen to 1,522,220 barrels valued at \$5,033,820. The increase is almost entirely due to the greater production from Western Canada, especially in the Turner Valley and other areas in the outer foothills.

Clay products and other structural materials, including cement, stone, sand and gravel, and lime showed an increase from \$49,737,181 in 1928 to \$58,534,834 in 1929; this was followed by a recession to \$53,727,465 in 1930.

The following table gives the figures of total mineral production for the calendar years 1929 and 1930:—

Mineral Production, calendar years 1929 and 1930

Item	1929		1930	
	Quantity	Value	Quantity	Value
		\$		\$
METALLICS				
Gold..... fine oz.	1,928,308	39,861,663	2,102,068	43,453,601
Silver..... fine oz.	23,143,261	12,264,308	26,443,823	10,089,376
Nickel..... lb.	110,275,912	27,115,461	103,768,857	24,453,133
Copper..... lb.	248,120,760	43,415,251	303,478,356	37,948,359
Lead..... lb.	326,522,566	10,544,248	332,894,163	13,102,635
Zinc..... lb.	197,267,087	10,626,778	207,643,505	9,635,166
Cobalt and platinum metals.....	—	3,457,960	—	3,583,135
Other metals.....	—	1,168,387	—	476,359
Totals.....	—	154,454,056	—	142,743,764
NON-METALLICS				
Fuels				
Coal..... ton	17,496,557	63,065,179	14,881,324	52,849,748
Natural gas..... M cu. ft.	28,378,462	9,977,124	29,376,919	10,289,985
Petroleum, crude..... brl.	1,117,368	3,731,764	1,522,220	5,033,820
Peat..... ton	2,607	13,339	2,847	10,932
Totals.....	—	76,787,397	—	68,184,485
Other Non-Metallics				
Asbestos..... ton	306,055	13,172,581	242,114	8,390,163
Feldspar..... ton	37,527	340,471	26,796	268,469
Gypsum..... ton	1,211,689	3,345,696	1,070,968	2,818,788
Mica..... ton	4,053	118,549	1,170	96,004
Quartz..... ton	265,940	561,527	226,200	418,127
Salt..... ton	330,264	1,578,086	271,695	1,694,631
Talc and soapstone.....	—	229,198	—	186,216
Other non-metallics.....	—	1,727,851	—	1,345,466
Totals.....	—	21,073,959	—	15,217,864
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products (brick, tile, sewer pipe, pottery, etc.).....	—	13,904,643	—	10,593,578
Cement..... brl.	12,281,081	19,337,235	11,032,538	17,713,067
Lime..... ton	674,087	5,908,610	490,802	4,038,698
Stone, sand and gravel.....	—	19,384,346	—	21,382,122
Totals.....	—	58,534,834	—	53,727,465
Grand Totals.....	—	310,850,246	—	279,873,578

In 1929, for the first time in Canada's history, the mineral production rose above the three hundred million dollar mark and showed an increase of 13 p.c. over that of 1928—the former record year. The figures of values for 1930 in spite of a generally low commodity price level establish new records for gold, natural gas, petroleum, diatomite, sodium sulphate, sand and gravel, salt, and stone.

The mineral production of Canada for 1929 and 1930 is given by provinces in the following table. It will be noticed that in 1930 Ontario produced nearly 41 p.c. of the total; British Columbia was second with nearly 20 p.c. although the proportion shows a reduction over the two years covered by the figures; Quebec ranked third with about 15 p.c.

Mineral Production of Canada, by Provinces, 1929 and 1930

Province	1929		1930	
	\$	p.c. of total	\$	p.c. of total
Nova Scotia ¹	30,904,453	9.94	27,019,367	9.65
New Brunswick.....	2,439,072	0.79	2,191,425	0.76
Quebec.....	46,358,285	14.93	41,215,220	14.73
Ontario.....	117,662,505	37.85	113,530,976	40.57
Manitoba.....	5,423,825	1.75	5,453,182	1.95
Saskatchewan.....	2,253,606	0.72	2,368,612	0.85
Alberta.....	34,739,986	11.17	30,619,888	10.95
British Columbia.....	68,162,878	21.92	54,953,320	19.64
Yukon.....	2,905,736	0.93	2,521,588	0.90
Totals.....	310,850,246	100.00	279,873,578	100.00

¹ Includes a small production from Prince Edward Island.

Subsidiary Industries.—On the products of the mine as a basis, has been reared a most important superstructure of subsidiary industries. Coal and iron are well known as the pillars of industrialism; to these may now be added petroleum. Altogether the industries producing (1) iron and its products, (2) the products of the non-ferrous metals, (3) the products of the non-metallic minerals, and (4) chemicals, produced in 1930 according to preliminary figures commodities to the value of approximately \$1,177,700,420, the capital invested was nearly \$1,586,820,596 and the number of employees about 205,490. Included in these manufactures are several of the best known in Canada, such as agricultural implements, machinery, automobiles, electrical apparatus, miscellaneous chemicals and many others.

Trade.—The exports of Canadian minerals and manufactures based on the mine or quarry are considerably under the imports. Considering the three groups, iron and its products, non-ferrous metals and non-metallic minerals, imports of \$408,090,000 compared with exports of \$155,698,000 for the fiscal year ended March, 1931.

Review of 1931

Prospecting and New Development.—Prospecting in Canada during 1931 was more or less confined to the more intensive exploration of a

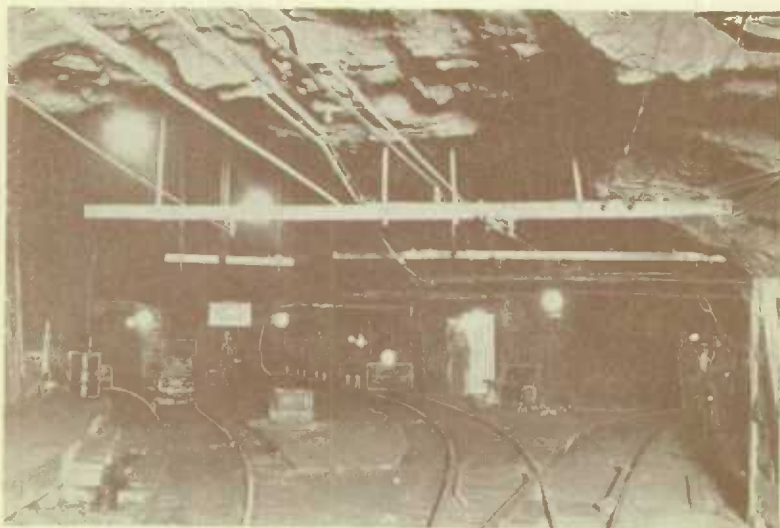
comparatively few areas believed to possess distinct economic mineral possibilities. In Duparquet township, Quebec, a large low-grade ore zone on the Beattie property was diamond-drilled; it is stated that ore of \$3 to \$4 grade has been indicated for a width of 50 to 100 feet. Recent gold discoveries in the Louvicourt-Pascal district, east of the Siscoe mine, have created considerable interest and at the Noranda mine underground exploration has indicated important tonnages of new ore in certain sections of the property with reported values as high as \$35 per ton in gold alone. Copper production, at midyear, was being maintained at a rate reached in 1930 and the new refinery of the company's subsidiary, Canadian Copper Refiners, Ltd., at Montreal East, had commenced treating blister copper received from the Noranda and Flin Flon smelters.

Field activity in Ontario focussed chiefly in the Matachewan district, especially in the area surrounding the recent gold discoveries in Bannockburn township. The Ashley property, situated here, has been systematically explored by the Mining Corporation of Canada and it is reported that encouraging results were obtained in underground operations. In the northwestern part of the province gold discoveries were reported to have been made at Red Lake, Little Long Lake, Three Duck Lake, and in the Beardmore area. At Summit Lake, in the Patricia District, the Casey operating syndicate is shaft-sinking on what is stated to be a very encouraging gold occurrence. Gold producers in the Porcupine and Kirkland Lake camps carried on important exploration and development programs. The McIntyre-Porcupine Mines Ltd., have arranged to sink to 6,000 feet; this operation will follow down a width of 64 feet of quartz. Lake Shore Mines in Kirkland Lake opened up two sections of high grade ore showing remarkable widths; one section reveals a length of 150 feet averaging 66 feet in width and with values reported at slightly over \$20 per ton. The heavy discount to which the Canadian dollar was subjected in New York, following the suspension of specie payments by Great Britain in September, 1931, reacted to the immediate benefit of the Canadian gold producers. Operations in the Sudbury area were somewhat curtailed owing to general adverse business conditions throughout the world. However, recent mine developments and metallurgical improvements in the Sudbury field have placed this camp in splendid condition to permit an immediate expansion in nickel-copper production.

The Sherritt-Gordon mine at Sherridon, Manitoba, commenced production of copper concentrates in Mar. 1931. The concentrates are smelted by the Hudson Bay Mining and Smelting Company and the blister copper is refined at Copper Cliff in the new plant opened in 1930 by the Ontario Refining Company. At Flin Flon, the Hudson Bay Mining and Smelting Company continued to mine and treat copper-zinc ores, electrolytic zinc and blister copper being produced; the latter metal is shipped for refining to Canadian Copper Refiners Ltd., Montreal.

Possibly the most interesting and important event in the year's prospecting activities was the announcement that high grade native

silver and other silver bearing minerals had been discovered in association with pitchblende (radium), smaltite (cobalt-bearing ore), and other metal-bearing minerals in veins occurring in the Echo Bay section northeast of Great Bear lake, Northwest Territories. These discoveries have resulted in an increased prospecting activity in this field. Copper discoveries made in 1929 and 1930 in this same general area were systematically prospected during the summer of 1931. One vein near Dismal lake, is described as being almost solid bornite (copper ore); widths are reported at from 12 to 15 feet.



An Underground Scene Showing a Main Haulage Way Station in a British Columbia Silver-Lead Mine.

Courtesy Canadian Government Motion Picture Bureau.

Placer prospecting in British Columbia experienced a distinct revival during the 1931 season resulting in a pronounced activity especially in the Stikine, Liard and Atlin Districts. Lode mining in the province, principally among the base metal and silver producers, suffered considerably from the extremely low metal prices. Operations were suspended at the Prosperity, Porter-Idaho, B.C. Nickel, Planet, Hedley Gold and Coast Copper mines. The closing of the Copper Mountain mine together with curtailed operations at Britannia, lowered the provincial copper output. Many of the small silver-lead mines of the Slocan and the Monarch mine at Field remained idle throughout the year. Development on the Atlin-Ruffner lead-silver mines was extensive. The Granby and Premier mining companies were active in the Anyox and Portland Canal Districts and, in the Grand Forks division, the Union mine was a steady producer of gold-silver concentrates. Much interest was shown in gold mining in the Nelson division, where the Reno, Bayonne, Ymir-Wilcox, Goodenough, Second-Relief, California, and many small prospects were operated. The

Trail plants of the Consolidated Mining and Smelting Co. were active throughout the year and in addition many men were employed by the company's subsidiary, the West Kootenay Power and Light Co., in the construction of its fourth power unit of 40,000 h.p. on the Kootenay river. The first unit of the new Consolidated Mining and Smelting Co.'s fertilizer plant was brought into production early in the year; its product, triple superphosphate, was chiefly marketed in the Prairie Provinces.

In the Yukon silver-lead concentrates were produced and shipped by the Treadwell Yukon Mining Co., and in the placer areas alluvial gold mining was conducted by dredging, hydraulicking and other methods.

Mineral Production, January to June, 1931, and Official Estimate for Calendar Year 1931¹

Item	1931 January 1 to June 30		1931 Estimate for 12 months	
	Quantity	Value \$	Quantity	Value \$
METALLICS				
Gold..... fine oz.	1,273,303	26,321,508	2,679,728	55,395,000
Silver..... fine oz.	11,701,718	3,287,481	20,403,771	5,940,000
Nickel..... lb.	40,690,562	9,047,131	66,103,521	14,697,000
Copper..... lb.	149,277,041	13,705,822	290,581,122	23,772,000
Lead..... lb.	146,419,830	4,034,971	267,850,972	7,241,000
Zinc..... lb.	133,679,776	3,404,824	236,861,153	6,019,000
Cobalt and platinum metals.....	-	1,684,579	-	2,904,000
Other metals.....	-	231,525	-	419,000
Totals.....	-	61,717,841	-	116,431,000
NON-METALLICS				
<i>Fuels</i>				
Coal..... ton	5,891,588	20,519,520	12,251,900	41,320,000
Natural gas..... M cu. ft.	14,972,342	5,541,078	26,874,600	9,645,000
Petroleum, crude..... bbl.	937,779	2,593,815	1,554,600	4,566,000
Peat..... ton	660	3,454	-	-
Totals.....	-	28,657,867	-	55,531,000
<i>Other Non-Metallics</i>				
Asbestos..... ton	76,145	2,447,617	162,278	4,611,000
Feldspar..... ton	6,227	62,449	14,808	137,000
Gypsum..... ton	293,131	992,418	842,192	2,918,000
Quartz..... ton	85,618	153,030	140,788	22,000
Salt..... ton	115,906	910,876	255,170	2,315,000
Talc and soapstone.....	-	79,521	-	165,000
Other non-metallics.....	-	667,669	-	1,430,000
Totals.....	-	5,313,580	-	10,958,000
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products (brick, tile, sewer pipe, pottery, etc.).....	No half-yearly reports owing to seasonal nature of operations		-	8,626,000
Cement..... bbl.			10,017,331	15,722,000
Lime..... ton			373,812	3,031,000
Stone, sand and gravel..... ton			-	17,470,000
Totals.....			-	44,849,000
Grand Totals.....			-	227,769,000

¹ See p. 73 for the final figures for mineral production for the years 1929 and 1930.

Production in Canada of metals, non-metals and fuels during the first six months of 1931 was valued at \$95,689,288 as against \$116,360,409 in 1930, a decrease of 17·8 p.c. Lower metal prices and a lessened demand for fuels and non-metallic minerals were largely responsible for this decrease in value.

The average monthly prices of metals, particularly silver, copper, lead and zinc, continued the decline which started more than a year previously and was directly responsible for the cessation or curtailment of production at many mines. Lower outputs were recorded for all metals except gold, bismuth, the metals of the platinum group and zinc. Selenium, recovered in the electrolytic refining of copper, was first obtained in Canada during 1931.

Production value of non-metallics, other than fuels, amounted to \$5,313,580 compared with \$7,630,047 for the same six months in 1930. Decreased values were general in this group with the exception of mineral waters, quartz, salt, sodium carbonate and sodium sulphate. Production of the last mentioned mineral from the lake deposits of Saskatchewan has grown rapidly, owing to its increased demand in the metallurgical treatment of nickel ores.

Coal production receded 17·7 p.c. as compared with the first half of 1930. Crude petroleum production reached a total of 937,779 barrels as compared with 639,884 barrels in the first half of 1930. Declines were registered in the output of both natural gas and peat.

The preliminary estimate figures for the entire year corroborated the half-year statement; metals lost 18·5 p.c. in total value. It is, however, noteworthy that the estimated output of gold for 1931 from Canadian mines is 27·5 p.c. greater than the 1930 production. This indicates that unless the United States has considerably increased its gold production in 1931, Canada is definitely established as the world's second largest gold producer, a position attained for the first time in 1930. Non-metals, including fuels, declined 20·3 p.c.; clay products and other structural materials on which no reports were collected for the half-year, owing to the recognized seasonal character of operations, revealed a loss of 16·4 p.c., and total mineral production of 18·6 p.c., from the totals for the preceding calendar year.

Monthly records of employment are collected by this Bureau and issued in the form of index numbers based on the monthly average for the calendar year 1926 as 100. On this basis general mining during the period ending October 1, 1931, stood at 107·7 as against 117·4 during the first ten months of 1930 and 118·6 in the same months of 1929.

Coal mining showed an average employment index of 96·1 as compared with 102·9 in the first ten months of last year. Metal mining stood at 139·2 as against 146·0 during the same period in 1930. Non-metal mining was recorded at 98·8, whereas during the first ten months of the preceding year the figure was 125·8. Seasonal conditions affect each class of mining in a different manner. Coal mining shows a decline in the summer months, while metal mining and non-metal mining indexes of employment usually reflect increased activity during the same period.

CHAPTER VIII

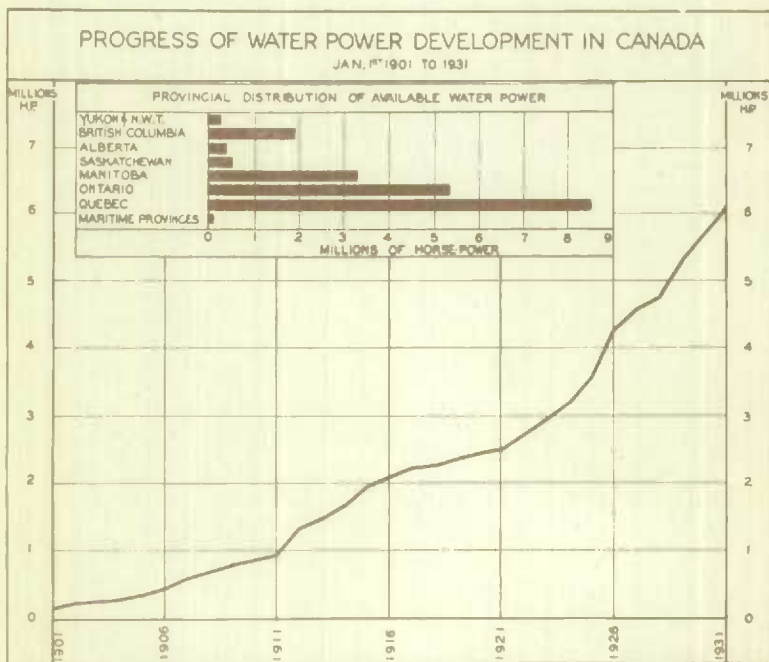
THE WATER POWERS OF CANADA

Water power is one of Canada's greatest natural resources and unlike other resources is not depleted with use. On January 1, 1932, there was a total installation of hydraulic turbines and water wheels of 6,666,337 h.p. compared with a total installation of 6,125,012 h.p. on January 1, 1931. Fortunately the greater part of both the potential and developed power is located in the central provinces of Quebec and Ontario which are largely industrial and without coal mines. The latter development of 6,125,012 h.p. was exceeded only by one other country, *viz.*, the United States with 14,885,000 h.p. for 1930, but on a per capita basis Canada had an average of 0.62 h.p. as against 0.12 h.p. in the United States. Norway, with a higher average installation of 0.67 h.p. per capita had a smaller total development than Canada. Switzerland was the only other country that approached Canada in water-power development per capita with 0.57 h.p. per capita and a total development of 2,300,000 h.p. The table below shows the hydraulic turbine installation as at January 1, 1931, and also the estimated potential power of water falls and sites in each province. These estimates include only rivers where the flows and heads have been measured; they are based on continuous power available twenty-four hours each day at 80 p.c. efficiency, *i.e.*, 80 p.c. of the theoretical power. The two estimates shown are: first, power available throughout the year based on the minimum flow or flow during the dry periods; and second, the maximum available for six months. Because power is seldom required continuously 24 hours each day to the full capacity of the generating equipment, water can generally be stored during the hours of light demand and used during the hours of heavy demand. Consequently whenever feasible power plants are equipped with generating machinery having a capacity much greater than the theoretical continuous power of the waterfall.

**Available and Developed Water Power in Canada, by Provinces,
January 1, 1932**

Province	Available 24-hour Power at 80 p.c. Efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six Months Flow	
	h.p.	h.p.	h.p.
Prince Edward Island.....	3,000	5,300	2,439
Nova Scotia.....	20,800	128,300	111,999
New Brunswick.....	68,630	169,100	133,081
Quebec.....	8,459,000	13,064,000	3,100,340
Ontario.....	5,339,000	6,940,000	2,145,245
Manitoba.....	3,309,000	5,344,500	590,925
Saskatchewan.....	542,000	1,082,000	42,035
Alberta.....	390,000	1,049,500	70,532
British Columbia.....	1,031,000	5,103,500	655,992
Yukon and Northwest Territories.....	294,000	731,000	13,199
Totals.....	20,847,400	33,617,200	6,666,337

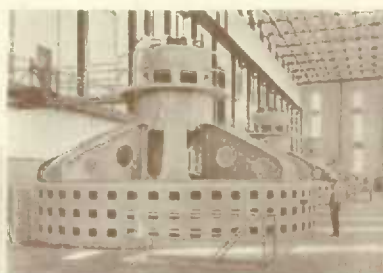
It has been estimated that under ordinary conditions there is sufficient potential power in the rivers of Canada (including a half of the international waters) to drive hydraulic turbines totalling 43,700,000 h.p. Although the most favourably located sites have been developed, there are still great quantities of undeveloped power within feasible transmission distances from industrial centres. The very magnitude of some of these, as on the St. Lawrence river, has delayed their utilization, but the Government announced, on Oct. 7, 1931, that negotiations were to proceed immediately in regard to the development of the St. Lawrence Seaway. These negotiations were officially opened at Washington on Nov. 16, 1931. The project if proceeded with will add 4,000,000 h.p. to Canada's developed waterpower. (See also p. 112.)



During the past year turbines with a total capacity of over 400,000 h.p. have been completed and put in operation. At present, plants with a combined capacity of 1,500,000 h.p. are under construction. The largest of these is the Beauharnois project on the St. Lawrence river in Quebec, where 500,000 h.p. will be developed, of which 200,000 h.p. is expected by October 1932. In the Maritime Provinces the Nova Scotia Power Commission completed a fifth plant on the Mersey river with a capacity of 1,500 h.p., and the Avon River Power Co. commenced operation of its Black River plant on the Black river in Nova Scotia with a capacity of 4,500 h.p. Edmundston, New Brunswick, added one 1,050 h.p. unit to its plant in Feb. 1931 and the St. John River Co. added the fourth wheel of

20,000 h.p. to the Grand Falls plant, bringing it up to 80,000 h.p., which is the total designed capacity. In Quebec, besides the Beauharnois project, the Shawinigan Water and Power Co. is developing 160,000 h.p. at Rapide Blanc on the St. Maurice river to be completed in 1932. This plant will have an ultimate capacity of 240,000 h.p. The McLaren Quebec Power Co. is engaged on a 120,000 h.p. plant on the Lièvre river (its second plant on this river). The Alcoa Power Co. completed in Jan. 1931 a plant at Chute à Caron on the Saguenay river with a total installation of 260,000 h.p. The capacity of the complete project of this company will be 800,000 h.p., including a second plant lower down the river. A joint project of the Ontario Hydro Electric Power Commission and the Ottawa Valley Power Co. of 8 units, with a total capacity of 224,000 h.p., is nearing completion. All this power will be transmitted to Toronto to supplement the output

The huge
Canadian-made
Generators
in Farmer's Rapids
Power House



Aerial View of the Chelsea and Farmer's Hydro-Electric Developments on the Gatineau River, Quebec.—The distance between the two power houses is $1\frac{1}{2}$ miles; this gives some idea of the magnitude of the scheme.

Courtesy Department of the Interior.

of the Niagara system. To transmit this power the Commission is constructing a third 220,000 volt line from the Ottawa river to Toronto. In northern Ontario the Ontario Power Service, a subsidiary company of the

Abitibi Power and Paper Co., is constructing a plant at Canyon site on the lower Abitibi river. This plant, which is expected to commence delivering power in the autumn of 1932, will consist of 5 units of 66,000 h.p. each, a total of 330,000 h.p., and the Ontario Hydro Electric Power Commission is constructing a 250-mile 132,000-volt line to transmit 100,000 h.p. of this to Sudbury. In Nov. 1930 the Northern Ontario Light and Power Co. brought into operation a 13,000 h.p. plant at Upper Notch on the Montreal river. Two large projects have been under way on the Winnipeg river in Manitoba, one by the North Western Power Co. at Seven Sisters falls, the other being at Slave falls, 86 miles from Winnipeg. There are no large power developments under way in the other two Prairie Provinces. In British Columbia the Bridge River Power Co. is constructing a plant on the Bridge river with an ultimate capacity of 600,000 and an initial installation of 56,000 h.p. to be completed in 1932. The West Kootenay Power and Light Co. is proceeding with the Corra Linn plant on the Kootenay river. The Powell River Co. has completed its Lois River plant containing 2 units of 24,800 h.p. each.

Central Electric Stations.—The use of electricity is so common in Canada that it is difficult to conceive of using any other means of lighting the homes, stores, factories and streets in any urban municipality of any size. Electricity is also rapidly supplanting steam as a source of power in factories, quarries and mines, even coal mines. In 1929 there were 386 commercial organizations and 466 municipalities distributing electric energy to 1,292,481 domestic service customers, 233,854 commercial light customers and 28,001 power customers, and to 1,541 municipalities for street lighting. The total capital invested in the industry for all classes of plant was \$1,056,000,000 and ranked higher than that in any other Canadian manufacturing industry. The average was \$207 per h.p. of all primary equipment. Only 60 p.c. of this, however, was for generating equipment, dams, etc., the remainder being for transmission lines, distribution lines and offices. The revenue for 1929 amounted to \$122,883,446 and averaged only 6.68 cent per k.w.h. produced. The consumer, of course, paid more than this, as he paid for all line and transformer losses, but rates are much lower in Canada than in most other countries. Whereas the average cost per k.w.h. for all domestic uses, *i.e.*, lighting houses, cooking, etc., in the United States was 6.03 cents in 1930, in Canada the cost was less than half this and in Ottawa averaged less than 1 cent per k.w.h. for a monthly consumption of 300 k.w.h. and still less for higher consumptions. The average monthly output of the large central electric stations in Canada, 1926-1931, is shown below.

Average Monthly Output, Central Electric Stations in Canada, 1926-31

(Thousands of kilowatt hours)

Year	From Water	From Fuel	Total
1926.....	991,041	16,746	1,007,787
1927.....	1,193,481	18,944	1,212,425
1928.....	1,340,292	21,192	1,361,376
1929.....	1,441,203	27,622	1,468,825
1930.....	1,463,330	25,230	1,488,560
1931 ¹	1,328,456	24,888	1,353,344

¹ 10 months average.

CHAPTER IX

THE FISHERIES OF CANADA

The Canadian Fishing Grounds.—Canada's extensive fishing grounds border the Atlantic and the Pacific and also include an unrivalled inland fresh-water system of lakes and rivers. On the Atlantic, from Grand Manan to Labrador, the coast line, not including lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles, or over four-fifths of the fishing area of the North Atlantic. In addition, there are 15,000 square miles of Atlantic inshore waters controlled entirely by the Dominion. Large as are these areas they represent only a part of the fishing grounds of Canada. The Pacific coast of the Dominion measures 7,180 miles in length and is exceptionally well sheltered, while throughout the interior is a series of lakes which together contain more than half of the fresh water on the planet, Canada's share of the Great Lakes alone amounting to over 34,000 square miles—a total which does not include lake Winnipeg (9,398 square miles), lake Manitoba and others of even greater area.

Still more important than the extent of the Canadian fishing grounds is the quality of their product. Food fish improve in proportion to the purity and coldness of the waters in which they are taken and, by this standard, the Canadian cod, halibut, herring, mackerel, whitefish and salmon are the peers of any in the world. By far the most valuable fisheries of the western hemisphere, if not of the globe, belong to Canada.

The Modern Industry.—The present fishing industry of Canada is the growth of the past 60 years. In 1836 the production of fish in what are now the Maritime Provinces had an estimated value of \$1,500,000, while that of Lower Canada was about \$1,000,000. In 1870 it was \$6·5 millions and this more than doubled by 1878. In the '90's it passed \$20 millions and in 1912, \$34 millions. The highest record was reached in 1918 with \$60 millions. In 1929 the value was \$53·5 millions and, in 1930, \$48 millions. The above figures represent the total value of fish marketed, whether in a fresh, dried, canned or otherwise prepared state.

The following tables show the production of the industry by provinces for the years 1900, 1914 and 1930, and the production by principal kinds for the years 1929 and 1930.

Growth of the Fisheries by Provinces, 1900, 1914 and 1930

Province	Value of Production			Per cent from each Province		
	1900	1914	1930	1900	1914	1930
	\$	\$	\$	p.c.	p.c.	p.c.
Prince Edward Island.....	1,059,193	1,261,666	1,141,279	4.9	4.1	2.4
Nova Scotia.....	7,809,152	7,730,191	10,411,202	36.2	24.7	21.8
New Brunswick.....	3,769,742	4,940,083	4,853,575	17.5	15.8	10.1
Quebec.....	1,989,270	1,924,430	2,502,998	9.2	6.2	5.2
Ontario.....	1,333,294	2,755,291	3,294,629	6.2	8.8	6.9
Manitoba.....	455,749	849,422	1,811,962	2.1	2.7	3.8
Saskatchewan.....	282,410	132,017	234,501	1.2	0.4	0.5
Alberta.....	4,878,820	86,720	421,258	22.7	0.3	0.9
British Columbia.....	not known	11,515,086	23,103,302	-	36.8	48.3
Yukon.....		69,725	29,510	-	0.2	0.1
Totals.....	21,557,639	31,264,631	47,804,216	100.0	100.0	100.0

Fisheries Production by Principal Kinds, 1929 and 1930

(Each over \$1,000,000 in value and arranged by value in 1930)

Kind	1929		1930	
	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
		\$		\$
Salmon..... cwt.	1,550,780	15,008,825	2,362,499	17,731,891
LOBSTERS..... "	372,820	5,696,542	407,265	5,214,643
Cod..... "	1,979,440	5,394,636	1,662,421	4,288,813
Halibut..... "	335,824	4,832,296	282,695	2,871,455
Herring..... "	2,317,806	3,186,669	2,190,776	2,623,174
Haddock..... "	545,400	1,951,642	486,344	1,851,724
Whitefish..... "	196,386	2,453,703	169,747	1,818,941
Pilchards..... "	1,726,851	2,199,834	1,501,404	1,589,609
Sardines..... brl.	249,194	1,626,764	129,459	1,074,487
Trout..... cwt.	91,854	1,324,775	69,809	1,031,979

The fisheries also employ considerable capital and labour. In the primary operations of catching the fish the total capital represented by vessels, boats, nets, traps, weirs, wharves, etc., was about \$33 millions in 1930, of which \$27.5 millions were invested in the sea fisheries and over \$5 millions in the inland fisheries. Employees in these primary operations numbered 64,000. In the secondary operations of fish-canning and -curing, the establishments numbered about 700, the capital invested was about \$30 millions and the employees numbered 15,700 for 1930.

Trade.—Although the domestic consumption of fish in Canada is increasing, the trade still depends largely upon foreign markets. Perhaps 60 p.c. of the annual capture is an average export. In the calendar year 1930, total exports amounted to \$31,869,350, of which \$14,374,096 went to the United States and \$4,790,032 to the United Kingdom. The most important single export is canned salmon (to the United Kingdom and European markets), followed closely by cod, dry salted (to the West Indies, South America, etc.). For fresh fish, especially whitefish and

lobsters, the United States is the chief market. In brief, Canada's export trade in fish falls below that of the United Kingdom and Norway alone. Canadian imports of fish in 1930 amounted to \$3,446,601, of which 36 p.c. came from the United States; 46 p.c. of the imports were canned fish, chiefly sardines.



Weighing Lobsters at a Cannery in New Brunswick.

Courtesy Canadian Government Motion Picture Bureau.

The expansion described above was featured by numerous changes in conditions. In early days the cod and haddock of the Atlantic were the most important items of the catch; to-day British Columbia, with her enormous salmon and halibut fisheries, takes the lead among the provinces (a leadership that in earlier times belonged to Nova Scotia), accounting for nearly half of the catch. The lobster fishery of Eastern Canada has also become vastly more important, until it is now the largest fishery of the kind in the world. But the greatest element of change has been contributed by improvements in the methods of catching and preparing the fish, and especially by the development of the fish-canning industry. In 1870 there were but three lobster canneries on the Atlantic coast of Canada; in 1930 these canneries numbered over 300, employing nearly 6,000 people; 30,000,000 lobsters is a normal catch. The salmon canneries of the Pacific are all large ones and numbered 60 in 1930; the salmon pack in that year amounted to 2,221,819 cases of 48 lb. each and constituted a record in the history of the British Columbia salmon industry.

THE BRITISH COLUMBIA SALMON FISHING INDUSTRY



*Fleet being towed out to the
fishing grounds*



Breaking line



*Freshly caught salmon
at a Cannery*

Courtesy Geo. Galt, Nelson, Victoria, B.C.

Materials Used and Values of Products of Fish-Canning and -Curing Establishments, 1928-1930

Material and Product	1928	1929	1930
	\$	\$	\$
Material used—			
Fish.....	15,617,194	17,061,762	15,939,137
Salt.....	444,471	413,722	348,201
Containers.....	4,144,425	3,802,791	4,569,026
Other.....	372,677	218,644	225,125
Totals.....	20,578,767	21,496,859	21,081,489
Products—			
Fish marketed for consumption, fresh.....	8,275,669	9,057,253	7,639,557
Fish canned, cured or otherwise prepared.....	27,992,063	25,909,007	25,333,751
Totals.....	36,267,732	34,966,260	32,973,308

Game Fish.—The foregoing is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche, the black bass of the Quebec and Ontario highlands, and the trout of the Nipigon. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundreds of guides find employment in this field during the summer months.

The Government and the Fisheries.—The Dominion Department of Fisheries (first established on a separate basis in 1930) controls the tidal waters of the Maritime Provinces and British Columbia, and the fisheries of the Magdalen islands in Quebec province. The non-tidal fisheries of the Maritime Provinces and Ontario and both the tidal and non-tidal fisheries of Quebec (except the Magdalen islands) are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion Government. A large staff of inspectors, officers and guardians is employed to enforce the fishery laws, and a fleet of vessels patrols the coastal and inland waters to prevent poaching and to assist in the carrying out of the regulations. The main object of legislation has been the prevention of depletion, the enforcement of close seasons, the forbidding of pollutions and obstructions, and the regulation of nets, gear, and of fishing operations generally. The Government has also taken steps from time to time in the field of direct assistance to the industry, including fish collection services on the Atlantic coast; the broadcasting by radio of reports of weather probabilities, bait and ice supplies, ice conditions along the coast, and prevailing local market prices; the payment of bounties (under the Washington treaty); and instruction in improved methods of curing fish. In addition an extensive system of fish culture has been organized, the Dominion operating, in 1930, 29 main hatcheries, 10 subsidiary hatcheries, and 7 salmon retaining ponds, while stations for the conduct of biological research into the numerous complex problems furnished by the fisheries are established at Halifax, N.S.,

St. Andrews, N.B., and Nanaimo and Prince Rupert, B.C. The expenditure of the Dominion on the fisheries in the fiscal year ended 1931 was \$2,435,299.

Conditions in 1931.—Preliminary figures of the catch of sea fish for the ten months ended October 31, 1931, show the total catch as 7,605,542 cwt. with an estimated value to the fishermen of \$12,967,496 compared with 9,150,838 cwt. valued at \$22,143,426 for the corresponding period of 1930.

Average prices for nearly all kinds of sea fish were much lower during the first ten months of 1931 than they had been in the corresponding period of 1930, so that the drop in total value was much greater proportionately than the decrease in the quantity of the catch. The pack of lobster to the end of Oct., 1931, exceeded that of the corresponding period of 1930, but the salmon pack was less by almost 70 p.c.

During the calendar year 1930 Canadian fish and fish products found markets virtually all over the world, and in spite of depressed conditions generally, total exports reached \$31,869,350 as compared with \$37,546,393 in 1929. Imports of these products amounted to \$3,446,601, slightly less than in the previous calendar year.

Canada's fish export trade includes everything from frozen smelts and canned sardines to canned whale meat, but the biggest single item in point of value is canned salmon, the value of this commodity exported being \$6,479,255.

Besides canned and preserved fish there is a big and growing export trade in fresh and frozen fish, the value of the exports in 1930 amounting to \$10,881,671. Most of these exports go to the United States and the greatest single item, lobsters, had a value of \$2,279,238 as compared with \$2,266,008 in the previous year.

The fisheries of Canada have more than held their relative place among the industries in recent years, and there is now a wider realization than ever before of the value of the fisheries resources in our national economy. The convention held in Ottawa in September, 1931, by the Canadian Fisheries Association showed the close organization of the different branches of the industry, the solid basis attained, and the Dominion-wide spirit displayed by the various interests representing the industry from coast to coast.

CHAPTER X

THE FUR TRADE

The fur trade is the oldest Canadian inland industry, for it was the appeal of the highly prized pelts which early adventurers secured from the Indians and took back to Europe that led to the early settlement of the country. As early as 1599 Pont-Gravé and Chauvin built Tadoussac as the centre of trade with the Indians of the Saguenay and routes quickly spread inland. The desire to gain control of the lucrative trade led to the formation of companies and associations which, in return for monopolies and privileges, agreed to promote colonization; but the interests of settlement and those of the fur trade were essentially antagonistic and could never be made to work together.

The first company chartered to trade in furs was formed by a group of French merchants in 1603 and the first company trading post was established at Hochelaga in 1611. Under British rule, exploration of the Northwest proceeded and it was found that the territory abounded in wild life. In 1670 an English company—the Hudson's Bay Co.—was formed to develop this region. The charter was obtained by Prince Rupert, who became the first Governor of the Company. The Hudson's Bay Co. soon organized a chain of posts throughout the Northwest and is said, with truth, to have held that territory until the Dominion had grown to absorb it.



Trappers of the North Country with their Catch of Beaver and White Fox.
Courtesy Department of the Interior.

Another great company to trade in furs was formed by a number of Montreal merchants in 1783. This Northwest Co. proved very aggressive and one of its officers, Alexander Mackenzie, was the first white man to cross the main body of the North American continent from east to west. This he accomplished in 1793, crossing the Rocky mountains *via* the Peace River pass and proceeding to the Pacific by way of the Parsnip, Fraser, Blackwater and Bella Coola rivers. There followed a period of the keenest competition between the Northwest Co. and the Hudson's Bay Co. By 1816 the rivals had absorbed or ruined eleven other competitors, but were on the verge of ruin themselves, and in 1821 joined forces under the name of the older company. The Northwest Co. added to the territory controlled by the Hudson's Bay Co. the Pacific and Arctic watersheds, and the amalgamated company was given legal recognition of its monopoly of the fur trade. This monopoly expired in 1859, and ten years later the Hudson Bay territory was taken over by Canada.

The Modern Industry.—Although the rapid advance of settlement has greatly restricted the reservoir of fur-bearing animal life cradled in the vast expanses of northern Canada, yet, after nearly three and a half centuries of exploitation, Canada still holds a foremost place in the ranks of the world's fur-producing countries.

Raw furs are at present the only economic return from hundreds of thousands of square miles of the area of the Dominion and are a resource to which all the provinces and territories contribute.

Commencing with the year 1881, records of the value of raw fur production were obtained in the decennial censuses, but from 1920 the Dominion Bureau of Statistics has issued annual reports, prepared from statements furnished by the Provincial Game Departments, which are based on returns of licensed fur traders. In 1881 the value of pelts taken was \$987,555; by 1910 it had become \$1,927,550; the figures for the seasons ended June 30, 1920-1930 are given below. The values given are the market values of the pelts taken by trappers and those sold from fur farms. The proportion of the latter has risen from about 3.5 p.c. of the total value for earlier years of the decade to 11 p.c. in 1927-28, 13 p.c. in 1928-29, and 19 p.c. in 1929-30, thus indicating the growing importance of fur farming (see p. 92).

Numbers and Values of Pelts Taken, Seasons 1919-20 to 1929-30

Season	Number of Pelts Taken	Total Value	Season	Number of Pelts Taken	Total Value
		\$			\$
1919-20	3,630,004	21,387,005 ¹	1925-26	3,686,148	15,072,244
1920-21	2,936,407	10,151,594	1926-27	4,289,233	18,864,126
1921-22	4,366,790	17,438,867	1927-28	3,611,153	18,758,177
1922-23	4,903,996	16,701,567	1928-29	5,150,328	18,745,473
1923-24	4,207,593	15,643,817	1929-30	3,798,444	12,158,376
1924-25	3,820,326	15,441,564			

¹Fur prices in this first post-war year were abnormally high. Any comparison of this figure with those of later years should take this fact into account.

Among the provinces and territories, Ontario now ranks first with nearly 24 p.c. of the total valuation, followed in order by Quebec, 14 p.c., the Northwest Territories, 13 p.c., Saskatchewan, 11 p.c., and Alberta, with nearly 10 p.c.

In order of value in 1929-30, silver fox with \$2,716,264, or 22 p.c. of the total, took first place, supplanting muskrat, which has been Canada's chief fur producer during the last decade, although beaver was supreme in earlier days. Muskrat pelts, valued at \$1,781,657 compared with \$3,924,949 last year, ranked second, white fox being third with a production valued at \$1,238,917. Mink, ermine (weasel), red fox, and marten were next in the order given.

If all fox pelts (silver, patch, white, blue and red) are grouped together, the combined value reached \$5,027,547, 41 p.c. of the total for all furs. The only furs which show increases in the numbers of pelts taken are fox (silver, white and blue), mink and otter. All furs were sold at very much lower average prices than in the previous season; silver fox, for example, dropped from \$104.28 to \$80.95 per pelt, muskrat from \$1.41 to 84 cents and white fox from \$53.48 to \$32.94.

Canadian manufactures of fur goods, including the dressing and dyeing of raw furs, have shown a rapid growth in recent years, the gross production having increased from about 5 million dollars in 1920 to \$20,861,039 in 1929, the latest year for which statistics of manufactures are available. In the latter year there were 234 establishments employed in the industry and wages and salaries paid out amounted to \$4,783,323. The cost of raw materials, largely raw furs, amounted to \$12,847,817 and thus the net value of \$8,013,222 was added in the process of manufacture.

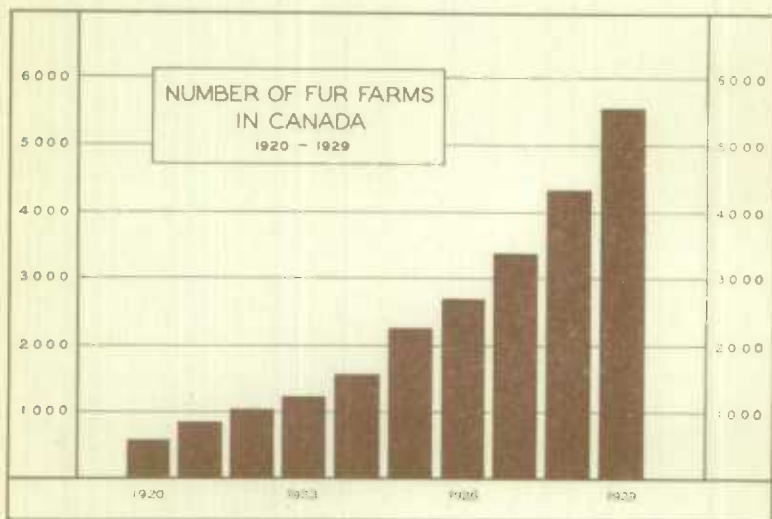
Accompanying the growth of manufactures has been a stimulation of the import trade in raw furs, including the pelts of many animals not taken in Canada, but also including Canadian varieties which have found their way to the main world markets through the auction sales. For the 12 months ended June 30, 1924 imports of raw furs were \$7,505,328, and by 1929 they had risen to \$13,289,043. The imports for the 12 months ended June 1930 (\$7,518,885) reflected the conditions existing after Oct., 1929, to an abnormal degree—not entirely an unexpected circumstance in the case of a commodity so characteristically in the luxury class.

Export Trade.—Prior to the war, London and Leipzig held the positions of outstanding fur markets of the world, but during 1914-1918 St. Louis captured the supremacy for the United States, although since the war London has regained her former prestige. A result of the changed situation this brought about has been that Montreal, Winnipeg and, to a lesser extent, Edmonton have become important fur marts for buyers from the larger world centres. Montreal held the first fur auction sale to take place in Canada in 1920. Auctions are now held quarterly at Montreal, and regular sales are also held at Winnipeg and Edmonton.

A century ago the value of furs exported exceeded that of any other Canadian product; the total output is not seriously declining, but exports for the year 1931 were only about 1.9 p.c. of our total exports of Canadian merchandise, owing to the rapid growth of other branches of our

external trade. The trend of export valuations over the past ten years was definitely upward until 1929, although the trend of prices generally was downward. Since 1929 exports have fallen from a value of \$24,565,000 to \$15,094,000 in 1931 without materially changing the percentage to total exports. Of the total export valuation of furs in 1931, 54 p.c. went to the United Kingdom and 37 p.c. to the United States.

Fur Farming.—In the early days of the fur trade it was the practice for trappers to keep foxes caught in warm weather alive until the fur was prime; from this has arisen the modern industry of fur farming. The industry is devoted chiefly to the raising of the silver fox, a colour phase of the common red fox established through experiments in breeding. But although the fox is of chief importance, other kinds of fur-bearers are being successfully raised in captivity among which are mink, racoon, skunk, marten, fisher, coyote and badger. Again, within the past few years extensive areas of marsh land have been profitably utilized for the raising of muskrats, and this branch of the industry is expanding rapidly. The number of fur farms in Canada in 1929 was 5,513, compared with 4,326 in 1928 and 3,565 in 1927. During the five-year period 1925-29 the number increased by 141 p.c. Fox, mink and muskrat farms are the chief kinds with 4,493; 476; and 252 respectively.



The total number of fur-bearing animals born on fur farms in 1929 was 425,757, compared with 169,470 in 1928, and the number which died from various causes was 39,261, compared with 17,350 the previous year. The 1929 figures include estimates for muskrat for which exact numbers cannot be furnished. The numbers killed for pelts were 49,992 in 1929 and 32,987 in 1928, and the numbers of pelts sold were 38,311 valued at \$2,304,910 in 1929 and 30,836 valued at \$2,389,026 in 1928. The value of live fur-bearing

animals sold from farms at present exceeds that of pelts. The total number of all kinds of animals sold from farms in 1929 was 35,422 valued at \$4,474,753 and for 1928, 26,379 valued at \$3,837,420. Silver fox in 1929 contributed 86 p.c. of this total and the highest price received during the year for a silver fox was \$1,500.



Fox Pens at Dominion Government Experimental Farm, Charlottetown, P.E.I. Inset—Group of Silver Foxes.

Courtesy Canadian Government Motion Picture Bureau.

In spite of the rapid growth of the industry there are no signs that fur farming is overdone. Canada is regarded abroad as the best source of silver foxes for breeding and large numbers have been exported at good prices to the United States and Europe. The quality of the pelt does not appear to have suffered in captivity and there are many breeders who maintain that finer skins are derivable from farms than were ever secured from the wild spaces.

CHAPTER XI

THE MANUFACTURES OF CANADA

In primitive societies (as among the early settlers of Canada in the 17th and 18th centuries) manufacturing is normally carried on within the household for the needs of the household. At a later period, small shops spring up to meet demands of the immediate neighbourhood. Still later, with the use of power-driven machinery and the cheapening of transportation, the factory system is born, and manufacturing becomes concentrated in large establishments situated usually in large industrial centres.



View of the Generator Assembly Plant of a Large Canadian Corporation Manufacturing all Kinds of Electrical Apparatus and Supplies.—This industry ranks ninth in gross value of production (\$114,000,000 in 1929) and fourth in net value of production (\$64,000,000 in 1929).

Courtesy Canadian Government Motion Picture Bureau.

This last-mentioned stage of development was no more than well founded when Canada became a Dominion. Flour milling, it is true, had reached considerable proportions, and there were substantial clothing and iron and steel manufactures. All told, however, the value of Canadian manufactured products in 1870, as recorded at the first Dominion census, reached only \$222 millions, the capital invested in factories being \$78 millions, and the number of employees 188,000.

The encouragement of Canadian manufactures by tariffs had been discussed during the '50's and to some extent commenced in 1858, but it

was not until 1878 that a general national policy of protection was adopted. Thereafter quite a considerable growth in manufactures took place, though at the end of the nineteenth century the value of products was only \$481 millions, the capital employed \$447 millions, and the number of employees 339,000.

The present century has witnessed the chief forward movement in Canadian manufactures mainly as the result of two great influences: firstly, the "boom" accompanying the opening up of the West, which greatly increased the demand for manufactured goods of all kinds and especially construction materials; and secondly, the war, which not only created enormous new demands but left a permanent imprint upon the variety and efficiency of Canadian plants. In 1910, when the first of these influences was but partly felt, the gross value of Canadian manufacturing production had risen to \$1,166 millions, the capital invested to \$1,248 millions, and the number of employees to 515,000; but by 1920, the gross value of Canadian manufactured products was no less than \$3,772 millions, the capital invested \$3,372 millions, and the number of employees 609,586. Hundreds of millions of capital had been attracted from outside (see p. 46) in achieving this striking result. After 1920 the figures declined, but subsequent gains brought them back for 1929 to even higher levels than 1920, as the accompanying table shows.

Historical Summary of Statistics of Manufactures 1870-1929

(All establishments irrespective of the number of employees)

Year	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
	No.	\$	No.	\$	\$	\$	\$
1870 ¹	41,259	77,964,020	187,942	40,851,009	124,907,846	96,709,927	221,617,773
1880 ¹	49,722	166,302,623	254,935	59,429,002	170,918,593	129,757,475	309,670,068
1890 ¹	75,964	354,213,000	309,595	100,415,350	250,759,202	210,088,594	468,847,886
1900 ¹	14,650	446,916,487	339,173	113,249,350	286,527,858	214,523,517	481,063,375
1910 ¹	19,218	1,247,583,609	515,203	241,008,116	601,509,018	564,466,621	1,165,975,639
1920 ¹	23,351	3,371,910,653	609,586	732,120,585	2,085,271,649	1,686,078,408	3,772,250,057
1929 ²	23,597	5,083,014,754	693,816	813,049,842	2,066,636,914	1,997,350,365	4,063,987,279

¹Includes all establishments employing five hands or over.

²Includes all establishments irrespective of the number of employees but excludes Construction, Custom and Repair Work.

³Gross value less cost of materials.

According to the latest census available, Canada possessed, in 1929, 23,597 manufacturing establishments with capital investment in lands, buildings, equipment, etc., amounting to \$5,083,014,754, employing 693,816 persons with salaries and wages amounting to \$813,049,842. They consumed \$2,066,636,914 worth of raw materials (not including fuel) and produced goods to the value of \$4,063,987,279. Owing to the prevailing conditions, it is estimated that the value of production in 1930 will be about 13 p.c. lower than the previous year.

Census of Manufactures, 1929

Province or Group	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
Province	No.	\$	No.	\$	\$	\$	\$
P.E.I.....	276	3,489,934	2,133	781,448	2,864,831	1,773,894	4,638,725
N.S.....	1,195	135,602,325	20,956	17,925,190	51,503,523	42,780,293	94,292,816
N.B.....	860	117,985,970	18,517	15,712,322	40,453,535	30,980,431	71,453,966
Quebec.....	7,158	1,673,011,042	212,849	233,803,672	543,240,589	617,372,403	1,160,612,992
Ontario.....	9,910	2,418,340,450	339,859	421,789,723	1,080,109,598	1,022,984,190	2,103,090,788
Manitoba....	923	173,152,948	26,318	34,158,583	89,158,381	75,750,746	164,909,127
Sask.....	761	53,877,124	8,047	10,438,759	51,208,827	29,292,332	80,501,159
Alberta.....	817	107,648,028	13,748	16,460,038	63,432,924	44,123,868	107,556,792
B.C. and Yukon....	1,699	394,866,933	51,379	61,080,107	144,664,706	132,286,208	276,950,914
Canada	23,597	5,053,014,754	693,816	812,049,842	2,066,636,914	1,997,350,365	4,063,987,279
Industrial Group							
Vegetable...	5,005	539,064,835	88,858	93,299,665	427,019,724	344,437,041	771,457,665
Animal.....	4,490	243,825,065	67,670	62,081,423	345,351,882	132,409,973	477,701,855
Textile pds.	1,891	383,153,797	115,620	105,896,237	220,304,250	205,943,337	426,247,587
Wood and paper.....	7,405	1,152,075,234	164,182	192,235,448	314,203,289	411,616,451	725,819,740
Iron, etc.....	1,169	754,989,105	132,281	186,928,700	334,925,660	353,087,320	738,012,980
Non-ferrous metals....	408	293,721,106	39,867	54,501,806	124,900,632	158,645,034	283,545,666
Non-metallics.....	1,188	329,448,844	31,431	41,511,846	117,149,130	124,874,388	242,023,518
Chemicals and allied pds.....	554	165,886,912	16,094	22,639,449	55,184,337	83,360,884	138,545,221
Miscellaneous.....	463	130,118,324	21,049	29,123,447	42,982,071	60,091,591	103,073,662
Central electric stations.....	1,024	1,055,731,532	16,164	24,831,821	34,615,939	122,883,446	157,499,385

¹Gross value less cost of materials

The great development in Canadian manufactures since the war, has been stimulated by the fact that foreign firms have realized the splendid field which Canada furnishes for the establishment of branch factories and have invested large amounts of capital in varied enterprises which have provided employment for Canadian labour. Among the industries particularly affected are: mining, oils, pulp and paper, breweries, aircraft, textiles, motor cars and various metal industries, rubber goods, sugar, etc. This development has been encouraged by the desire to sell in the Canadian market free of duty and to enjoy tariff preferences throughout the British Empire.

Leading Industries of Canada.—Statistics of the forty leading industries of 1929 are given on p. 97. The pulp and paper industry retains the premier place in gross value of production, as has been the case since 1925, but flour and grist mill products is reduced from second to third place after slaughtering and meat packing. This, however, cannot be regarded as other than a temporary movement due to the relatively low price obtained for the products. The industry exports more than 50 p.c. of its flour production. The butter and cheese industry also shows a reduction in the gross value of products as compared with 1928, although

this industry holds its relative place. The rubber goods industry has fallen from eighth place in 1928 to twelfth place in 1929, although the gross value of production has dropped less than 0.3 p.c. indicating the general increase in the gross value of production of Canadian industries as a whole. The most striking advance has been registered by the railway rolling-stock industry, which has risen from fourteenth place in 1928 to ninth place in 1929 with an increase in gross production of over 72 p.c.

Principal Statistics of Forty Leading Industries, 1929

Industry	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products ¹
	No.	\$	No.	\$	\$	\$
Pulp and paper.....	108	644,773,806	33,584	50,214,445	96,874,749	243,970,761
Slaughtering and meatpacking.....	74	67,777,803	10,782	13,998,716	151,814,517	185,842,902
Flour and grist mill products.....	1,325	67,773,534	6,618	7,578,276	150,806,665	181,148,689
Automobiles.....	17	98,378,301	16,435	26,884,808	120,332,694	177,315,593
Central electric stations.....	1,024	1,055,731,532	16,164	24,831,821	34,615,939	157,499,385
Sawmills.....	3,161	181,586,699	46,366	36,157,555	83,743,952	146,989,564
Butter and cheese.....	2,767	47,907,482	11,872	12,700,426	93,861,458	126,703,196
Railway rolling stock.....	35	94,415,593	25,488	38,311,179	74,150,037	126,487,037
Electrical apparatus and supplies.....	139	101,767,108	20,871	26,735,215	49,623,322	113,796,002
Non-ferrous metal smelting.....	10	146,699,085	8,119	13,772,393	41,416,440	109,854,468
Petroleum products.....	25	71,260,459	4,978	8,153,625	76,861,939	99,408,314
Rubber goods, including footwear.....	44	73,877,478	17,796	20,134,501	42,940,747	96,934,660
Castings and forgings.....	336	102,900,796	23,443	30,854,654	35,994,441	91,575,146
Cotton yarn and cloth.....	36	95,542,319	20,221	16,671,787	43,133,575	78,241,765
Bread and other bakery products.....	2,568	48,969,603	17,023	18,481,612	38,507,559	77,214,466
Printing and publishing.....	767	65,736,238	16,960	26,407,204	16,424,412	73,673,338
Steel and rolled products, pig iron, ferro-alloys, etc.....	45	109,446,529	11,218	18,534,681	32,514,596	72,231,995
Clothing, women's factory.....	461	25,087,862	17,024	17,128,421	34,558,860	66,346,417
Machinery.....	169	75,226,204	12,435	17,094,918	22,264,416	65,692,539
Cigars and cigarettes.....	72	34,025,963	6,382	5,735,252	17,012,776	64,331,600
Biscuits and confectionery.....	231	55,320,902	13,073	12,765,876	27,717,889	62,492,801
Breweries.....	78	70,390,147	4,839	7,134,256	19,135,208	62,269,921
Hosiery, knitted goods, etc.....	108	66,489,608	19,600	16,294,530	31,193,505	61,007,752
Planting mills, etc.....	744	58,429,538	13,132	14,966,072	31,679,455	56,592,088
Sheet metal products.....	152	49,080,661	9,286	11,228,170	28,076,595	53,151,898
Clothing, men's factory.....	205	28,493,549	11,506	13,371,417	25,654,973	50,580,168
Boots and shoes, leather.....	191	31,028,229	15,563	15,031,101	25,510,731	48,627,590
Sugar refineries.....	8	43,534,113	2,325	3,680,037	35,640,124	47,151,900
Furniture and upholstering.....	367	41,851,682	13,082	14,512,073	17,735,090	44,130,176
Distilleries.....	20	60,211,220	2,219	3,132,407	12,928,920	43,752,420
Printing and bookbinding.....	910	43,896,712	12,378	16,695,127	13,761,259	43,748,715
Agricultural implements.....	62	103,359,773	11,408	14,775,889	19,016,981	40,659,479
Coke and gas products.....	43	94,749,062	3,902	5,938,814	18,517,214	39,910,443
Brass and copper products.....	102	27,431,520	6,232	7,800,591	21,118,038	36,115,581
Fish-curing and packing.....	730	28,644,442	16,367	5,411,855	21,496,859	34,066,260
Bridgebuilding.....	10	28,895,206	4,977	8,937,427	14,557,679	34,179,488
Automobile supplies.....	65	19,401,890	4,708	6,711,434	19,045,836	31,965,078
Furnishing goods, men's.....	162	19,654,505	9,890	7,320,145	17,848,021	30,581,862
Acids, alkalies and salts.....	15	49,417,431	2,897	4,338,686	6,301,121	28,021,972
Coffee and spices.....	59	15,402,253	1,701	2,305,912	21,025,868	27,971,790
Totals, Forty Leading Industries.....	17,555	4,144,173,787	522,953	622,715,404	1,685,419,466	3,233,221,978
Grand Totals, All Industries.....	23,597	5,083,014,754	693,816	813,049,842	2,056,636,914	4,063,987,279
Percentages of Forty Leading Industries to All Industries.....	74.40	81.53	75.37	76.71	81.55	79.56

¹ Net value of production can be obtained by deducting cost of materials from these figures.

On the basis of salaries and wages paid the pulp and paper industry also ranks first, with railway rolling-stock second, sawmills third, castings and forgings fourth and automobiles fifth. From the standpoint of capital investment the pulp and paper industry is second, by a wide margin to central electric stations, sawmills coming a low third.

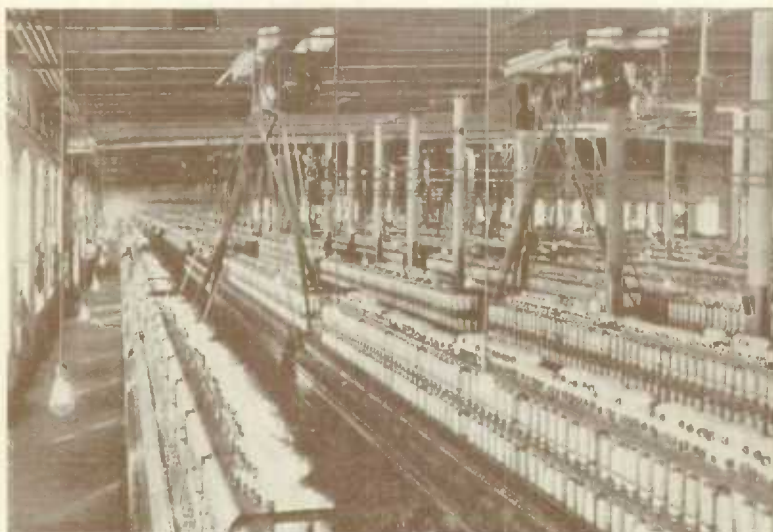
The leading centres of manufactures to-day are Montreal and Toronto, with totals of \$638 millions and \$593 millions, respectively. After these come Hamilton with \$198 millions, Winnipeg with \$109 millions, Vancouver with \$100 millions, and Oshawa with \$66 millions. There are 14 other places having manufactures of \$30 millions or over.

Leading Manufacturing Cities of Canada, 1929

City or Town	Estab-lish-ments	Capital	Em-employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	\$	No.	\$	\$	\$	\$
Montreal.....	1,818	554,500,877	112,438	131,950,795	337,105,620	300,800,515	637,906,135
Toronto.....	2,236	519,323,344	102,405	133,722,929	304,208,614	289,044,955	593,253,569
Hamilton.....	416	221,427,642	35,375	47,515,648	94,401,240	103,544,841	197,940,081
Winnipeg.....	501	125,321,028	19,150	25,216,832	55,116,641	54,204,102	109,320,746
Vancouver.....	639	129,078,372	16,663	21,882,312	50,933,163	48,713,250	99,646,413
Oshawa.....	39	35,515,303	7,182	11,034,499	43,619,954	22,697,957	66,317,911
Waukeville.....	55	42,453,046	5,973	9,917,274	35,991,419	28,212,076	64,203,495
East Windsor.....	13	41,898,793	6,697	11,254,764	33,943,575	25,674,313	59,617,888
London.....	231	47,413,765	10,134	11,996,633	21,102,010	29,244,819	50,346,829
Kitchener.....	135	40,931,499	9,559	10,513,382	23,005,793	27,309,090	50,314,798
Niagara Falls.....	64	46,529,499	3,370	4,967,892	26,269,857	23,620,658	49,890,515
Calgary.....	149	35,680,545	4,378	5,952,651	26,080,174	18,614,490	44,694,670
Three Rivers.....	56	81,985,634	7,002	7,792,197	18,045,761	24,432,046	42,477,807
Shawinigan Falls.....	24	175,265,816	3,591	5,135,068	17,130,956	23,615,692	40,746,648
Quebec.....	244	68,054,042	10,076	9,854,134	17,184,311	22,642,511	39,826,822
Peterborough.....	80	26,204,623	5,727	6,140,108	21,251,539	16,534,001	37,788,540
Ottawa.....	202	56,543,292	8,694	10,578,982	16,180,685	19,917,362	36,098,047
Brantford.....	90	64,204,600	8,124	9,689,185	17,073,251	18,321,255	35,394,506
Rogina.....	75	27,824,792	3,131	4,632,788	22,077,914	12,764,573	34,842,487
Sarnia.....	42	27,830,801	3,064	4,624,895	22,745,061	9,381,653	32,126,714

The classification of industries followed in the tabulation on p. 97 does not indicate the important position which the textile industry as a whole holds in Canada. The manufactures which may be so grouped are: awnings, tents and sails; cotton and jute bags; batting and wadding; carpets, mats and rugs; men's factory clothing; women's factory clothing; cordage, rope and twine; corsets; cotton and woollen waste; cotton textiles; cotton thread; cotton yarn and cloth; dyeing and finishing of textiles; dressed flax; men's furnishing goods; hats and caps; hosiery and knitted goods; linen goods; oiled and waterproof clothing; silk goods; woollen cloth; woollen textiles and woollen yarns. An output of \$426,247,587 was established for this wide industrial group in the year 1929, being an increase of 2.6 p.c. over 1928. This is the highest figure attained since the depression of 1921, but it must be remembered that the index number of wholesale prices for fabrics, textiles and textile products has dropped from 303.2 in 1920 to 156.9 in 1929 and there is therefore every justification for assuming that the year 1929 was a record one in the textile industry.

In net production, *i.e.*, in value added by manufacture, which is a truer criterion than gross production of the place of the group in the industrial life of the country, the textile group was fourth in 1929 among the ten major groups shown in the Census of Manufactures on p. 96.



Spinning Fine Yarn in a Canadian Textile Mill.

Courtesy Canadian Government Motion Picture Bureau.

being exceeded only by the wood, iron and vegetable products groups. Textiles accounted for over 10 p.c. of the net manufacturing production of Canada. As an indication of the contribution which the textile group made in 1929 to employment in the Dominion, the group stood third in both the number of employees and in salaries and wages paid, with nearly 17 p.c. of the total employees in manufacturing and 13 p.c. of the total salaries and wages paid. Again, this wide group of textiles may be regarded as two distinct divisions: (1) the spinning, weaving and knitting trades, and (2) the finishing trades. If so regarded, the first division still assumes the proportions of a very large industrial group with a gross production for 1929 of \$201,947,829, while the second division is still larger with \$224,299,755 gross production.

Trade in Manufactures.—Canada is the second most important manufacturing country in the British Empire. The capacity of Canadian industries and the variety of products marketed are such that many classes of goods, formerly imported, are now being manufactured in the Dominion in sufficient volume not only to meet the requirements of the home market but also for export. To-day Canada sends manufactured goods to almost every country in the world. For 1929 these exports reached \$702

millions in value whereas in 1900 they were below the \$100 million mark and fourteen years later were but \$159 million.

The war years stimulated all exports and in 1920 the record total of \$799 million was reached for manufactured goods, though this was under conditions of greatly inflated prices. The influence of the war did away with foreign competition and the prevailing general prosperity gave to Canadian manufacturers opportunities for entering new lines of production—opportunities which were made the most of, as the figures show.



Casting Finished Zinc Bars for Shipment.

Electrolytic Cells in a Canadian Zinc Refinery.

Courtesy Canadian Government Motion Picture Bureau.

If comparison be made on the basis of the proportion of raw and manufactured materials exported to total exports, then the proportion of manufactured goods is found to have increased from 37 p.c. in 1914 to 64 p.c. in 1920 and the proportion of raw materials to have correspondingly decreased from 63 p.c. to 36 p.c. over the same period. Between 1920 and 1925 the proportions fluctuated within very narrow limits around 56 p.c. for manufactures. Since 1925 manufactured goods have shown a cor-

responding tendency to decrease their proportion slightly (from 53 p.c. to 51.5 p.c.).

The proportion of imports of manufactured goods to total imports has shown a tendency to increase slightly though steadily in recent years, being 72.5 p.c. in 1920 and 77 p.c. in 1929. Total imports over the 16 years between 1914 and 1929 have however only increased from \$619 million to \$1,266 million, or by about 104 p.c.

Conditions during 1930 and 1931.—Perhaps the best all-round barometer of conditions is afforded by the indexes of employment maintained from month to month in the Dominion Bureau of Statistics, and based on returns received from establishments having 15 hands and over. These industries employ close upon 550,000 workpeople, and while the indexes are lower for each month of 1930 compared with 1929, it will be noticed from the following table that for the first six months of 1930 they were above those for corresponding months of 1928. The effects of the depression are clearly evident from the 1931 figures (see p. 11 with regard to the effects upon individual industries).

Indexes of Employment in Manufactures

(1926=100)

Month	1928	1929	1930	1931	Month	1928	1929	1930	1931
January 1.	97.9	107.8	106.5	93.7	July 1.....	113.1	120.3	111.3	97.2
February 1.	102.3	112.8	110.2	96.1	August 1.....	115.2	121.6	110.2	94.7
March 1....	104.7	115.7	110.9	97.6	September 1.	115.9	119.8	108.2	94.7
April 1....	106.6	116.5	111.3	99.7	October 1....	115.7	120.2	107.8	91.8
May 1.....	109.0	119.8	112.4	100.7	November 1.	115.1	117.2	104.6	88.8
June 1.....	112.6	121.2	113.6	99.4	December 1.	112.9	112.8	100.6	-

The expansion of our external trade in manufactured products has been remarkable. In the pre-war fiscal year ended 1914, our exports of raw materials were heavy, as indicated on p. 100, constituting no less than 63.2 p.c. of our total exports while our exports of manufactured goods were only 36.8 p.c. In 1920, under the influence of inflated prices and feverish activity, the percentage of manufactured exports reached its record point of 64.3. Throughout the 1920's it varied between 56.6 p.c. and 51.5 p.c., depending largely on the value of the crops. In 1930, however, the value of the manufactured goods exported rose to 61.7 p.c. of all our domestic exports, partly as the result of the smaller crops of 1929 and partly as the result of the expansion of our manufacturing industries.

CHAPTER XII

CONSTRUCTION

The construction industry, as here understood, embraces construction in transportation and public utilities as well as the more widespread municipal and private building operations with their almost complete dependence on local demand and whose progress is more sensitive to the state of the money market and the cyclical fluctuations of general business conditions.

CHURCHILL—AN OCEAN PORT IN THE MAKING

*The first Cargo of Grain to be
Shipped from a Manitoba Seaport.
S.S. Farnworth Pulling out of
Churchill. Sept. 1911*



*View of Dock
Churchill, Man.
Sept. 1911*

*The Elevator
and
Water front
Churchill, Man.
Sept. 1911*



Courtesy Dept. of Railways and Canals

While the construction industry is still of a pronounced seasonal character, the results of present-day methods in building construction are seen in the relatively large proportion of work now undertaken in the

winter months. According to MacLean Building Reports, Ltd., the construction contracts awarded throughout Canada for building operations totalled \$456,999,000 during the calendar year 1930 and for the months of April to September inclusive they were \$269,557,000. This means that during the fall and winter months, October to March inclusive, contracts reached \$187,442,000 or over 40 p.c. of the total for the year. In the case of the figures for building permits for 61 principal Canadian cities, published by the Dominion Bureau of Statistics, very much the same situation is found to exist; the value of permits for these cities, for April to September inclusive (1930), was \$96,868,088 and for the entire year \$166,379,325. In this case, therefore, the value of permits taken out in the fall and winter months was 41.8 p.c.

Transportation and Public Utilities.—Railway expenditures for maintenance of way and structures are steadily growing items of operating expenses and now reach about 80 million dollars per year for steam railways and 4 million dollars per year for electric railways. Capital investments in new lines were \$25,000,000, and in additions and betterments, \$77,000,000 (including \$33,000,000 for equipment) for steam railways in 1930, making a total of \$102,000,000 as compared with \$145,000,000 in 1929. For electric railways the expenditures on road and equipment during 1930 amounted to \$4,789,109.

The good roads program of the Dominion and Provincial Governments undertaken largely since the war, has been another large item of expenditure. The increased use of motor vehicles for passenger and freight movement has been the primary cause of the greatly increased expenditures in recent years. During 1930 the expenditures on provincial highways and on local roads receiving subsidies from Provincial Governments amounted to \$70,000,000 for construction and \$23,000,000 for maintenance or a total of \$93,000,000 compared with a total of \$57,875 '11 in 1929.

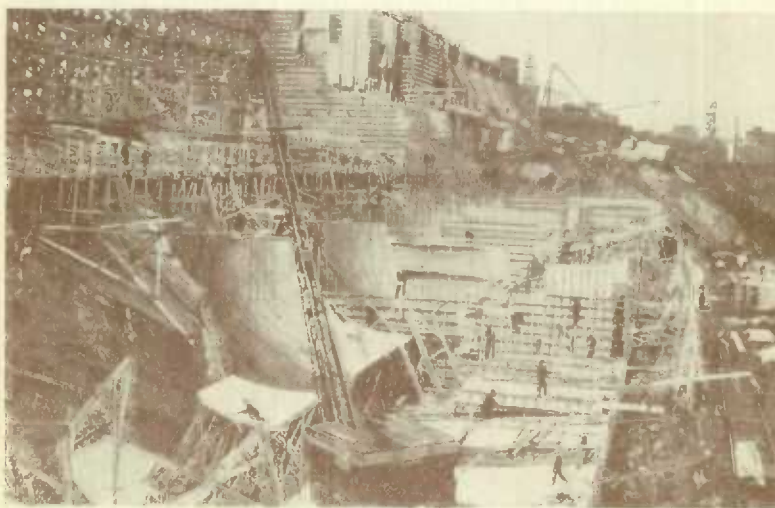
In the case of public utilities, the annual expenditures on construction account are always considerable. The property and equipment accounts of the telephone systems of Canada increased by over 27 million dollars during 1930 and telegraph and cable companies reported expenditures for construction aggregating \$2,773,000 for the same year.

Building Operations.—The foregoing transportation and public utility expenditures have a decidedly appreciable stabilizing effect on the industry as a whole especially road work and other Government programs which tend to increase as other construction work decreases. However the greater part of the expenditures on construction are for building operations proper, *i.e.*, for houses, factories, business premises, etc. In view of the widespread nature of the undertakings, comprehensive figures are not easy to obtain, but the totals of construction contracts awarded, as compiled by MacLean Building Reports, Ltd., for the latest five complete years, are as follows:—1926, \$372,947,900; 1927, \$418,951,600; 1928, \$472,032,600; 1929, \$576,651,800; and 1930, \$456,999,600. The table given below shows the values of such contracts for the eleven months of 1931 to Nov. 30, by types of construction, as compared with the same months of 1930.

Construction Contracts Awarded in Canada, eleven months, 1930 and 1931

(MacLean Building Reports, Ltd.)

Type of Construction	1931		1930	
	No.	Value	No.	Value
Apartments.....	264	\$ 15,771,300	290	\$ 14,706,000
Residences.....	16,339	62,204,100	19,016	74,005,000
<i>Totals, Residential</i>	<i>16,603</i>	<i>77,975,400</i>	<i>19,315</i>	<i>88,711,000</i>
Churches.....	220	7,681,300	239	6,509,100
Public Garages.....	412	3,261,900	641	6,845,200
Hospitals.....	78	11,547,400	92	14,616,200
Hotels and Clubs.....	123	2,808,200	146	12,838,700
Office Buildings.....	143	3,163,700	313	24,897,900
Public Buildings.....	512	16,428,600	364	18,397,200
Schools.....	357	17,249,700	454	33,458,300
Stores.....	937	8,791,400	909	9,502,600
Theatres.....	43	1,296,900	72	2,354,100
Warehouses.....	228	6,317,200	342	17,481,800
<i>Totals, Business</i>	<i>5,053</i>	<i>78,646,300</i>	<i>3,632</i>	<i>144,901,100</i>
<i>Totals, Industrial</i>	<i>839</i>	<i>14,233,600</i>	<i>546</i>	<i>31,100,600</i>
Bridges.....	506	15,658,800	387	9,056,900
Dams and Wharves.....	154	3,757,800	151	9,824,800
Sewers and Watermains.....	1,003	24,190,400	997	23,080,800
Roads and Streets.....	2,101	40,079,400	1,925	39,119,100
General Engineering.....	429	49,783,000	363	86,603,000
<i>Totals, Engineering</i>	<i>4,373</i>	<i>133,469,400</i>	<i>3,823</i>	<i>167,744,600</i>
<i>Grand Totals</i>	<i>24,368</i>	<i>304,224,700</i>	<i>27,316</i>	<i>482,457,300</i>



Construction Work on the Power House of an Ontario Water Power Development.—The picture gives a good idea of the large amount of material and labour which is required in these huge hydro-electric undertakings.

Courtesy Department of the Interior.

The Dominion Bureau of Statistics compiles an estimate of the value of construction in 61 cities of Canada as indicated by their building permits. In 1930 the value of buildings thus authorized was \$166,379,325 as compared with \$234,944,549 in 1929. For the eleven months of 1931,

the unrevised figure is \$103,573,426. The cities included in the estimate with the corresponding values of the permits for the eleven months of 1931 compared with the same period in 1930 are as follows:—

Building Permits, by Cities, eleven months, 1930 and 1931

City	1931	1930	City	1931	1930
	\$	\$		\$	\$
Charlottetown, P.E.I.	1	47,500	Sarnia, Ont.	157,296	610,698
Halifax, N.S.	3,279,855	2,970,783	Sault Ste. Marie, Ont.	426,322	587,698
New Glasgow, N.S.	100,315	142,110	Toronto, Ont.	16,877,691	27,557,493
Sydney, N.S.	100,830	225,777	York and East York		
Fredericton, N.B.	140,295	482,000	Townships, Ont.	5,777,352	5,940,616
Moncton, N.B.	385,490	456,492	Welland, Ont.	203,576	190,825
Saint John, N.B.	1,250,362	2,090,552	Windsor, Ont.	369,262	2,200,880
Montreal—Maison-			East Windsor, Ont.	18,580	419,983
nouve, Que.	28,897,786	30,829,236	Riverside, Ont.	29,165	156,320
Quebec	3,966,640	4,410,421	Sandwich, Ont.	21,130	177,430
Shawinigan Falls, Que.	28,710	468,540	Walkerville, Ont.	600,000	451,000
Sherbrooke, Que.	707,550	769,550	Woodstock, Ont.	134,912	192,034
Three Rivers, Que.	233,030	842,910	Brandon, Man.	60,741	194,509
Westmount, Que.	703,063	1,669,542	St. Boniface, Man.	107,120	180,695
Bellefleur, Ont.	221,504	178,440	Winnipeg, Man.	4,320,106	6,592,600
Bramford, Ont.	450,126	608,967	Moose Jaw, Sask.	87,480	1,058,003
Clintham, Ont.	144,915	610,780	Regina, Sask.	1,572,712	2,099,323
Fort William, Ont.	440,800	1,216,100	Saskatoon, Sask.	2,866,415	5,280,965
Galt, Ont.	212,160	255,824	Calgary, Alta.	1,896,339	3,991,461
Guelph, Ont.	209,778	364,189	Edmonton, Alta.	1,372,285	4,273,170
Hamilton, Ont.	4,469,800	6,100,800	Leithbridge, Alta.	1,290,333	970,118
Kingston, Ont.	528,922	1,047,086	Medicine Hat, Alta.	55,195	70,305
Kitchener, Ont.	605,459	1,329,510	Kamloops, B.C.	131,622	193,435
London, Ont.	1,866,675	2,714,675	Nanaimo, B.C.	21,225	101,093
Niagara Falls, Ont.	142,497	444,348	New Westminster,		
Oshawa, Ont.	145,475	174,965	B.C.	569,071	533,465
Ottawa, Ont.	3,057,190	6,166,705	Prince Rupert, B.C.	255,253	145,995
Owen Sound, Ont.	77,475	111,800	Vancouver, B.C.	9,850,520	12,051,956
Peterborough, Ont.	729,328	787,523	North Vancouver,		
Port Arthur, Ont.	339,005	982,865	B.C.	90,975	133,140
Stratford, Ont.	156,750	408,747	Victoria, B.C.	603,242	1,724,323
St. Catharines, Ont.	541,099	586,542			
St. Thomas, Ont.	106,640	179,862			
			Totals—61 cities	103,573,426	148,359,706

¹ No building permits reported.



A Modern Stripping Shovel at Work.

Courtesy, Department of Mines, Ottawa.

These 61 cities had, in 1931, about 36 p.c. of the population of Canada, while in 1930, the latest complete year, their building permits had a value equal to about 36 p.c. of the total contracts awarded according to MacLean Building Reports, Ltd. Official summary figures of building permits since 1920 are given below:—

Building Permits, 1920-1931

Year	Value of Building Permits Issued	Index Numbers of Value of Permits Issued (1920 = 100)	Average Index Numbers of Wholesale Prices of Building Materials (1920 = 100)	Index Numbers of Wages in the Building Trades (1913 = 100)	Index Numbers of Employment as Reported by Employers in the Construction Industries (average calendar year, 1926 = 100)
1920.....	\$ 117,019,622	100.0	152.4	170.9	—
1921.....	116,794,414	99.8	122.7	170.5	71.1
1922.....	148,215,407	126.7	108.6	162.5	76.7
1923.....	133,521,621	114.1	111.7	166.4	80.9
1924.....	126,583,148	108.2	106.7	169.1	80.3
1925.....	125,029,367	106.8	103.8	170.4	84.9
1926.....	156,386,607	133.6	100.0	172.1	100.0
1927.....	184,613,742	157.8	96.7	179.3	109.0
1928.....	216,105,715	187.2	98.1	185.6	118.8
1929.....	234,944,540	200.8	99.0	197.5	129.7
1930.....	166,379,325	142.2	90.9	203.2	129.8
1931 ¹	103,533,426	82.3	82.7	196.3 ²	131.6

¹ 11 months to Nov. 30.

² Preliminary figure.

The index numbers of wages and prices of materials show the fluctuations in building costs over the period. It will be seen that while wages have advanced by about 8.5 p.c. over the eleven-year period, the cost of materials has been reduced by over 46 p.c.



National Research Laboratories, Ottawa, Canada.—This building is being constructed by the Dominion Government, of Canadian materials throughout and at a cost of nearly three million dollars. Adequate accommodation and facilities have been provided for laboratory divisions in biology, chemistry, physics and engineering physics, and for a division of research information including a library for 300,000 volumes. In addition there is ample provision for administrative and general offices, an auditorium seating 300, and two large exhibition halls for museum purposes. The new building is 418 feet long, 176 feet wide and 60 feet or four storeys high. Aeronautical laboratories are housed in an annex nearby.

CHAPTER XIII

TRANSPORTATION AND COMMUNICATIONS

Railways.—The Dominion is a land of magnificent distances. From coast to coast is more than 3,500 miles, the population being distributed in the main along the southern border. Between different parts of the country intervene sections of rough and difficult terrain which present crucial problems both for the transportation engineer and operator. In the pioneer days when the rivers afforded almost the sole routes of travel (the St. Lawrence in particular reaches into the heart of the continent), difficulties of the same nature were encountered in the frequent falls and rapids. It is significant, therefore, that the earliest important expenditure for public works in Canada was for canals; that, later, when the railway era began, it was a railway that set the seal to Confederation and another that was the condition of the entrance of British Columbia; and that to-day the two great railway systems are the largest single employers of labour in the Dominion.

The railway era proper may be said to have begun in 1851 with the inauguration of the Grand Trunk system and several subsidiary lines throughout Ontario and Quebec. At Confederation these had grown to 2,278 miles. The Intercolonial, which linked the Maritimes to Quebec and Ontario, was, as already noted, a part of the Confederation compact. The next and most important step was the building of the Canadian Pacific Railway, completed in 1885, which opened and made the whole of the great West an integral part of the Dominion. The second and third transcontinentals, namely, the Canadian Northern Railway and the Grand Trunk Pacific (with the National Transcontinental) belong to the later era of the twentieth century, and their inception is thus within common memory. With their completion Canada possessed the most extensive railway system of any country for its population, no other in the world exceeding us in mileage per capita.

In 1922 the Government amalgamated the Intercolonial, Transcontinental, and other roads with the Canadian Northern, the Grand Trunk and the Grand Trunk Pacific which it had been obliged to take over, due to failure under private operation, and placed the whole under one Board. In 1930 this great system controlled 23,963 miles of railway, being the largest single system in North America. Side by side is the Canadian Pacific with its 16,009 miles of road (exclusive of 1,282 miles in Canada and 5,192 miles in the United States which it controls), its subsidiary steamship lines on the Atlantic and the Pacific. The Canadian Pacific, running in a northern latitude, forms, with its auxiliary steamship services, a comparatively short way from Europe to the Far East.

Canada has elaborate machinery for the government control of transportation in the Board of Railway Commissioners, first organized in 1904,

which took over the functions of the Railway Committee of the Privy Council as a rate-controlling body. The Commission has jurisdiction also in matters relating to the location, construction and general operation of railways.



A Modern High-Powered Locomotive, of the Oil-Burning Type, Constructed in Canada in 1931.—In actual tests this locomotive hauled a total load of 8,153 tons on a 0.4 p.c. maximum grade.

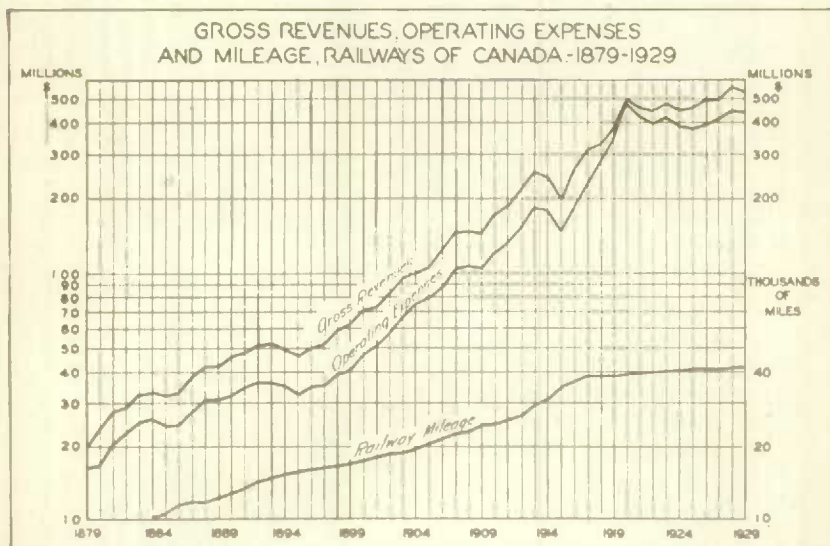
Courtesy, Canadian Pacific Railway.

Due to changing conditions and the increasing complexities in the transportation field, the Government has recently (November 1931) appointed a Royal Commission to inquire into the whole problem of transportation in Canada, particularly in relation to railways, and shipping and communication facilities, having regard to present conditions and the probable future development of the country. The Commission is under the chairmanship of The Rt. Hon. Lyman P. Duff, Judge of the Supreme Court of Canada.

Canada's railway situation in 1930 may be summed up as follows: a population of between 9,500,000 and 10,000,000 was served with a total of 42,075 miles of single track, and an additional 14,567 miles of second and third main track, industrial track, yard and sidings. The single track mileage in Ontario was 10,938; Saskatchewan had 8,166 miles, Alberta 5,607, Quebec 4,891, Manitoba 4,420 and British Columbia 4,022. The investment in Canadian railways was approximately \$3,228,708,000 and the gross earnings were \$454,231,650. The number of employees was 174,485 and the wages bill \$268,347,374. The Canadian railways carried about 35 million passengers and 96 millions tons of freight during the year and used about 30 p.c. of all the coal consumed in Canada. The railways are supplemented by efficient and adequate marine services; chains of sumptuous hotels extend from coast to coast, and no less than 42,296 miles of telegraphs are under their control and operated directly by them.

Conditions during 1930-31.—The movement of freight continued light right to the end of 1930. The seasonal peak which in past years occurred during November failed to materialize and car loadings fell off steadily from the middle of September. Grain and grain products was

the only commodity group to show an increase during the last fifteen weeks of the year; the biggest decreases were in miscellaneous freight (mostly manufactures), merchandise (less than car-load freight), lumber, pulpwood and ores. During the first eleven months of 1931 there was no improvement. Total car loadings were lighter than in 1930 by 18.7 p.c. Pulpwood and ore showed decreases of 44 p.c., lumber and other forest products, decreases of 32 and 33 p.c. respectively, and decreases in other commodities ranged from 6 p.c. for live stock to 20 p.c. for miscellaneous freight.



The railway gross operating revenues and revenue car loadings, by months for 1930 and 1931, are shown below.

Railway Statistics, by Months, 1930 and 1931

Month	Railway Gross Operating Revenues		Gross Operating Revenues, Two Large Railways		Total Revenue Car Loadings	
	1930	1931	1930	1931	1930	1931
	\$000	\$000	\$000	\$000	No. 000	No. 000
January.....	33,861	28,141	26,787	22,614	242	204
February.....	33,016	26,788	25,904	21,430	232	190
March.....	37,643	30,613	29,419	24,269	357	211
April.....	36,805	30,912	28,797	24,387	244	214
May.....	37,845	30,934	30,217	24,911	277	216
June.....	38,995	30,480	31,004	25,049	269	222
July.....	38,071	29,352	31,324	24,209	264	207
August.....	38,804	23,204	31,813	23,227	281	205
September.....	44,340	30,157	37,356	25,199	303	227
October.....	42,092	-	35,021	-	308	265
November.....	35,474	-	29,229	-	250	231
December.....	33,450	-	27,039	-	205	-

Canals.—Canals, as stated, were the earliest large transportation works in Canada. One of the first locks was a small one constructed by the Hudson's Bay Co. at Sault Ste. Marie and was destroyed by United States troops in 1814. Another was built at the Lachine Rapids in the St. Lawrence above Montreal in 1825, followed by the Welland Canal in 1829 to overcome the obstacle of Niagara falls. The Rideau Canal (military in primary purpose), the St. Lawrence System and the Chambly Canal followed. To-day there are seven canal systems under the Dominion Government, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to lake Huron, (6) from the Atlantic ocean to Bras d'Or lakes in Cape Breton, and (7) from Winnipeg to lake Winnipeg on the Red river. The total length of the waterways comprised in these systems is about 1,594 statute miles. Among projected canals the most important are those connected with the deepening of the St. Lawrence waterway.

As illustrating growth, freight traffic through the Welland increased from about 1.3 million tons in 1872 to 7.4 millions in 1928 and was 6 million in 1930. Total canal traffic in 1930 reached 14,803,000 tons.

Traffic through the St. Lawrence canals showed a small increase up to September 30, 1931 as compared with 1930 traffic for the same period, but traffic through the new Welland Ship Canal showed an increase of 845,537 tons despite a light movement of wheat. Iron ore tonnage amounted to 263,185. This traffic formerly moved by rail from Point Edward to Hamilton. Bituminous coal and coke also showed heavy increases due largely to the increased draught allowed in the canal.

The new Welland Ship Canal, is generally acknowledged to be one of the great engineering feats of the world. The lock gates were first opened on April 21, 1930, but the canal was officially opened on April 20, 1931. The Dominion Government had expended \$122,483,734 net on the construction works up to March 31, 1931.

The depth of water on the sills is 30 feet, which enables lake vessels up to 25 feet draught to proceed from upper lake ports to Prescott without breaking bulk. When passage through the St. Lawrence rapids has been made possible for these vessels by the construction of canals of equal depth to the new Welland, access may be had to the port of Montreal. The total length of the canal is 27.7 miles and the estimated time required for a vessel to pass through it is 8 hours. There are seven lift locks and one guard lock on the canal, which overcome a total drop of 326.5 feet from lake Erie to lake Ontario. The lift of the Welland Ship Canal locks has no precedent in actual construction for locks of their size. Near Thorold are three sets of twin locks, which have been built in pairs to enable vessels to lock upward at the same time as others are locking downward.

The construction of the canal was commenced before the war and, after temporary abandonment during that period, proceeded uninterrupted to completion.

WELLAND SHIP CANAL



*First steam boats
at Port Weller and
April 1828,
marking
the opening of the canal
on
April 20, 1828*



*The first
steamboat
entering
Lock No. 4
April 20, 1828*



*SS. Noronic 375' long
in lock No. 8
(Note the double gates
for the protection)*

*No. 8 lock
is 1300' long and
is the longest lock
in the world*



*Lock 4 546—first locks
constructed in flight and having a
total lift of 139'-6" over the face
of the escarpment*



On Oct. 7, 1931 the Dominion Government announced that negotiations with the United States would be proceeded with (see p. 80) for the construction of the St. Lawrence Waterway. This project will involve the construction of canal and locks on the international section of the St. Lawrence river and also on the Quebec portion of the river above Montreal to allow sea-going vessels to pass in and out of the Great Lakes. It will bring about the development of some 4 to 5 million hydraulic h.p. on these stretches of the river. With the completion of this project vessels drawing up to 25 feet of water will be able to go up as far as lakes Huron and Michigan. The locks into lake Superior, however, have a limit of 19 to 20 feet, according to the level of the lake.

Electric Railways.—There were horse-car systems in Montreal and Toronto as early as 1861, but the first electric street railway (at St. Catharines, Ont.), dates only from 1887, followed by the Ottawa Electric Railway in 1891, and the electrification of the Montreal and Toronto systems in 1892. They are to-day, of course, common to practically all the cities of Canada. Great advances have also been made in the construction and use of suburban or inter-urban electric lines.

The automobile in recent years has seriously reduced the street and inter-urban electric railway traffic. In 1930 there were 53 systems operating 2,080 miles of track with a total investment of \$240,293,973. During the year 792,701,000 passengers were carried which was a decrease of 40,795,000, or 4.9 p.c. from the 1929 traffic. Gross revenues amounted to \$54,719,000 and the total pay roll amounted to \$26,955,000.

Express Companies.—Express service has been defined as "an expedited freight service on passenger trains". There are now four systems in operation with a capital somewhat over \$8.5 millions, operating on 62,744 miles of steam and electric railways, boat lines and stage routes, and with gross receipts of about \$24 millions. They issue money orders and travellers' cheques to the amount of between \$70 millions and \$80 millions annually.

Roads and Highways.—Quite as fundamental as railways and waterways, especially in these days of extensive motor traffic, is a good roads system and in this regard Canada has not been backward. A rapidly increasing tourist traffic which brought into the trade channels of the nation an estimated sum of around \$327,000,000 in 1930 has naturally stimulated first class road construction and Dominion and provincial engineers are devoting a great deal of thought and attention to the construction, maintenance and care of highways. (See also p. 103.) In 1930 Dominion, provincial, and municipal expenditures on the improvement and maintenance of roads amounted to \$86,000,000 and another \$7,000,000 was spent on bridges and ferries.

**Mileage Open for Traffic, Jan. 1, 1931, and Expenditures
on Highways, 1930**

Class of Highway	Mileage	Expenditure ¹	\$
Unimproved earth.....	158,640	For construction.....	69,998,233
Improved earth.....	155,235	For maintenance.....	23,102,817
Gravel.....	71,348		
Waterbound macadam.....	4,992		
Bituminous macadam.....	1,445		
Bituminous concrete.....	1,275		
Cement concrete.....	1,421		
Other.....	17		
Total.....	394,373	Total.....	93,101,050

¹Including Bridges and Ferries.



A Right Curve
Intersection
Marking on an
Ontario Highway



A Portion of the King's Highway between Toronto and Hamilton—All highways are well marked for the information of motorists and for public safety.

Motor Vehicles.—The motor vehicle has been the *raison d'être* of the highway development and has increased in numbers at a very rapid rate. Both private and public passenger and freight motor vehicles have taken an increasing amount of passenger and freight traffic from the railways. Several of the smaller electric railways have had to cease operations entirely and others have abandoned certain lines where the traffic had declined until operation was unprofitable. The passenger traffic on the steam railways has shown practically no increase during the past ten years despite increases in population, and, in the present depression, has decreased at an alarming rate. In the past few years motor trucks have been carrying enormous quantities of freight, including lumber, hay, and similar commodities, which five years ago were considered safe from the encroachment of the motor truck.

Registrations of motor vehicles have increased from 89,944 in 1915 to 728,005 in 1925 and to 1,239,888 in 1930. The latter figure gives an average of one motor vehicle to every 8 persons. The United States, New Zealand and Hawaii were the only countries with a greater number per capita and the United States, France and the United Kingdom were the only countries having a greater number of motor vehicles registered. The greatest density in Canada was in Ontario, where there was one motor vehicle to every 5.9 persons. The western provinces averaged 6.0 to 8.5, the Maritime Provinces, 11.6 to 12.9, and Quebec had one motor vehicle to each 15.3 persons.

Unfortunately, the increased use of motor vehicles has increased the number of fatalities due to motor vehicle accidents, not only in the cities and towns but also on the highways. In 1926, 606 persons were killed in motor vehicle accidents and in 1929 the number had more than doubled, being 1,300. In 1930 there was a reduction to 1,290, but for the first quarter of 1931 the number was 146, as against only 99 for the first quarter of 1930.

The annual revenue to the provinces from registration of motor vehicles was \$20,166,283 in 1930, which was a reduction of \$2,345,000 from the previous year, due to decreases, principally in Ontario, in the licence fee. From gasoline sales the revenue amounted to \$22,655,225 for a consumption of 479,554,392 gallons. On an average of 15 miles per gallon, motor vehicles ran about 7,000,000,000 miles on Canadian highways and streets during the year.

Number of Motor Vehicles Registered in Canada, by Provinces, Calendar Years 1920, 1925, 1929 and 1930

NOTE.—The number of motor vehicles in the Yukon is included in the totals for Canada.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1920.....	1,419	12,450	11,196	41,562	177,561	36,455	60,325	38,015	28,000	407,064
1925.....	2,955	22,853	19,022	97,657	344,112	51,241	79,078	54,357	66,618	728,005
1929.....	6,141	40,014	31,852	169,547	544,476	77,840	130,229	99,650	95,647	1,195,594
1930.....	7,402	43,036	34,833	178,976	564,669	79,308	129,861	102,652	98,943	1,239,888

Air Navigation.—A more recent invention is the aeroplane, already of economic importance in the transportation of passengers and supplies to new and remote mining areas, etc. The total mileage of aircraft increased from 185,000 in 1922 to 7,547,420 in 1930, when 124,875 passengers, 1,759,259 pounds of freight or express, and 474,199 pounds of mail were carried.

The aeroplane has proved a boon to Canada in developing her mining, forest, fishery, water-power and other resources. By shortening the immense distances which characterize the country and by facilitating the rapid exploration of northern areas, the heavier-than-air machine has found a permanent place in the administrative field. Aerial forest fire patrols are now carried on over large parts of almost every province; fishery patrols by aeroplane protect territorial waters and enforce fishing regulations; and by the use of aeroplanes equipped with special cameras, preliminary surveys, which would have taken years by the older methods are now rapidly made over large tracts of intricate country.

Regular mails are carried by aeroplane between London, Toronto, Kingston, Ottawa, Montreal, and Quebec, and these routes are supplemented by many branch feeding lines. The St. Hubert Aerodrome is the terminal for air services. There are about 60 air harbours or sea-plane stations scattered over the country and more than a score of amateur light-aeroplane clubs partly supported by the Dominion Government. Private planes are increasingly engaged in commercial work. (See also p. 117.)

Shipping.—The tonnage of sea-going vessels entered and cleared at Canadian ports showed an almost continuous increase up to 1914; and again since the Armistice there has been a steady increase. The tonnage of coasting vessels has also grown, increasing from 10 million tons in 1876 (the first data compiled) to 88 million tons in the fiscal year ended March 31, 1930, as compared with an increase in sea-going and inland international tonnages from 13 millions in 1868 to 89 millions in 1930.

The vessels on the Canadian Shipping Registry in 1902 numbered 6,836 of 652,613 tons. From then there was a fairly steady increase in the number of vessels to 8,573 in 1919, followed by a decrease to 7,482 in 1921; since when there has been an increase to 8,703 representing 1,410,432 tons in 1930.

In the '70's shipbuilding was an important industry in Canada, especially in the Maritime Provinces; the vessels built were mostly wooden sailing vessels. The invention of the iron steamboat greatly affected the industry in Canada, and there was a more or less steady decline in the number of vessels built and registered each year from 1885 to 1914. The war stimulated shipbuilding and there was a temporary activity assisted by the marine program of the Dominion Government. During 1929, the latest year for which complete statistics are available, 14 steel vessels of 19,984 gross tonnage, and 60 wooden vessels of 7,850 gross tonnage were built. Of the \$17,493,025 representing the total value of production in 1929, how-

ever, only \$1,576,755 was for vessels built or under construction, while \$6,691,411 was for repairs and custom work, and \$5,600,206 for other products, including aeroplanes, boilers, engines, structural steel, etc.

Telegraphs.—Canada's first telegraph line was erected in 1846-7 between Toronto, Hamilton, St. Catharines and Niagara. In 1847 also the Montreal Telegraph Co. was organized and a line built from Quebec to Toronto. Other lines rapidly followed, to be brought eventually under the single control of the Great Northwestern Telegraph Co., which remained alone in the field until the building of the Canadian Pacific Railway and the Canadian Government telegraph lines. In 1930 there were 372,000 miles of telegraph wire in Canada, handling over 17,500,000 messages, from which the revenue was over \$14,000,000. In addition, six trans-oceanic cables have termini in Canada, five on the Atlantic and one on the Pacific, and handle 6 million cablegrams annually. There are also the Marconi Wireless Telegraph Co. and 34 government-owned and 74 privately-owned radio telegraph stations, on the east and west sea-coasts and on the Great Lakes. The number of wireless messages handled is now over 400,000. Radio telephony has also been established, the total number of radio stations, including private receiving stations, increasing from 33,456 in 1924 to 523,100 in 1931.

Telephones.—The telephone was invented in Canada, and the first talk was conducted by Alexander Graham Bell between Brantford and Paris, a distance of eight miles, on Aug. 10, 1876. Telephone development in Canada, however, dates only from 1880. In 1883 there were only 4,400 rental-earning telephones, 44 exchanges, and 40 agencies, with 600 miles of long-distance wire. In 1930 the number of telephones was over 1.4 millions with a 4.9 million wire-mileage, the investment being over \$319 millions. In the three Prairie Provinces there are well-organized government systems. Next to the railways, the telephone companies are probably the largest annual investors in new plant and construction in the Dominion. Canada has more telephones per capita than any other country except the United States.

The Post Office.—The Post Office is under the direction of a special Department, the Dominion being divided into fifteen districts which in their entirety embrace a territory more extensive than that served by any other system in the world except those of the United States and Russia. Rural mail delivery dates from 1908. The number of post offices in operation is now 12,427, the postal revenue being approximately \$37,000,000. The auxiliary money order branch issues orders payable in Canada to the amount of \$150,000,000 annually, and in other countries to the value of about \$19,000,000. In addition, postal notes to the value of \$15,000,000 are issued. During the war, the domestic letter rate was increased to 3 cents per ounce, but was reduced again to 2 cents as from July 1, 1926. Similarly, the 2 cents per half-ounce (Imperial penny postage) rate, to Great Britain and other parts of the Empire, established at the time of the Diamond Jubilee of Queen Victoria, instead of the older

5-cent rate, was advanced to 3 cents and then to 4 cents in the war period, but was reduced to 2 cents as from Dec. 25, 1928. In May, 1929, the 2-cent letter rate was applied to France and on Christmas Day, 1929, to correspondence for the countries of South America. On July 1, 1930, the rate of letter postage for all other countries was reduced to 5 cents for the first ounce and 3 cents for each additional ounce. On July 1, 1931, the letter rate of postage for Canada, Great Britain, the British Empire, France, the United States, and all other places in North and South America, was increased to 3 cents for the first ounce and 2 cents for each additional ounce.

In its per capita use of the mails Canada takes a high place. In 1868, the year following Confederation, the average postal expenditure for each member of the population was less than 27 cents, whereas during 1931 each person in Canada expended approximately \$3.70. This is more remarkable when it is considered that rates of postage have decreased during this period.

The air mail service inaugurated about Christmas 1927 has developed rapidly. In the first year of operation, 1927-28, the mileage flown was 9,538 and the weight of mail carried, 38,484 lb.; for 1928-29 the figures were 308,161 miles and 321,584 lb.; during 1929-30, 688,219 miles were flown and 425,280 lb. of mail carried; and during 1930-31 1,747,950 miles were flown and 506,503 lb. of mail carried. The proportion of mail carried to miles flown has decreased each year, owing to the extension of the service to new and relatively thinly populated areas which have not enjoyed a frequent mail service in the past. Apart from the fact that these services will build up in the course of time, the benefits accruing to Canadians in isolated communities are sufficient to warrant such expansion of the service as has been made.

In December, 1929, the air mail route between Fort McMurray, Alta., and Aklavik, N.W.T., was inaugurated. This route extends for 1,676 miles down the Athabasca, Slave and Mackenzie rivers to a point nearly 300 miles within the Arctic Circle. Remarkable regularity and despatch have characterized the service. New mining camps of northern Ontario and Quebec were also linked up by air mail in December, 1929.

The principal development of 1930 was the organization of a daily air mail service between Winnipeg and Calgary *via* Moose Jaw, Regina, and Medicine Hat, with a northern link to Saskatoon, North Battleford and Edmonton. This service expedites the transcontinental movement of mails by 24 hours. On August 16, 1931, this service was rearranged to link up Edmonton with Calgary on the main route from Winnipeg and service to Saskatoon and North Battleford was discontinued. Lethbridge was added as a point of call on January 15, 1931.

CHAPTER XIV

EXTERNAL TRADE OF CANADA—NON-COMMODITY EXCHANGES—TARIFF RELATIONS

External Trade

Analysis of Canadian Trade by Continents and Commodities.—Canada is, and has been since 1925, the fifth greatest trading nation in the world. This is remarkable for so young a country. The United States, the United Kingdom, Germany and France which, alone among the nations, have a greater trade, are much older trading nations with from four to twelve times our population. Our trade with the different continents in the fiscal year ended March 31, 1931, in round figures, was as follows: with the neighbouring countries of North America \$903,000,000; with Europe \$533,000,000; with Asia \$67,000,000; with South America \$46,000,000; with Oceania \$34,000,000; and with Africa \$22,000,000. Africa is the only continent with which total Canadian trade has not been substantially reduced as compared with 1930; this fact is due to a large increase in imports from British South Africa. Canada sells far more to Europe, Asia, Oceania and Africa than she imports from these continents, but in the case of North America the balance of trade is in the opposite direction. Our imports from the United States alone exceeded our exports thereto by \$221,000,000 in 1931. In the case of South America trade is more evenly balanced, although in the fiscal year ended 1931 there has been an adverse balance of about \$5,000,000. The commodities which provide the basis of this trade include every conceivable article of commerce.

The large amount of trade which passes between Canada and the other countries of North America, chiefly the United States, is promoted by the ties of blood existing between the peoples, their common language, decimal system of currencies, and the geography of the continent. North America extends from midway between the Equator and the Tropic of Cancer to the North Pole (producing a corresponding wide variety of produce) and the surface topography greatly facilitates intercourse in a north-south direction. Canadian imports from North American countries include: various food products including grains, fresh and canned fish, semi-tropical and tropical fruits, sugar and molasses, early vegetables; coal, fuel oils and other fuels; raw cotton and manufactures of cotton; raw rubber; iron ore; books, printed matter and stationery; clothing and furs; household utilities; containers; electrical apparatus; industrial and public utility equipment of all kinds; automobiles; rolling-mill products; farm implements; engines and boilers, rolling-stock; vehicles; vessels; medical, surgical and dental equipment, etc. In exchange, Canada exports from her abundant supply of food products (chiefly animals, grains, fish, milk, vegetables, beverages and infusions), pulpwood, wood pulp and paper, electrical energy and transmission equipment, abrasives, building

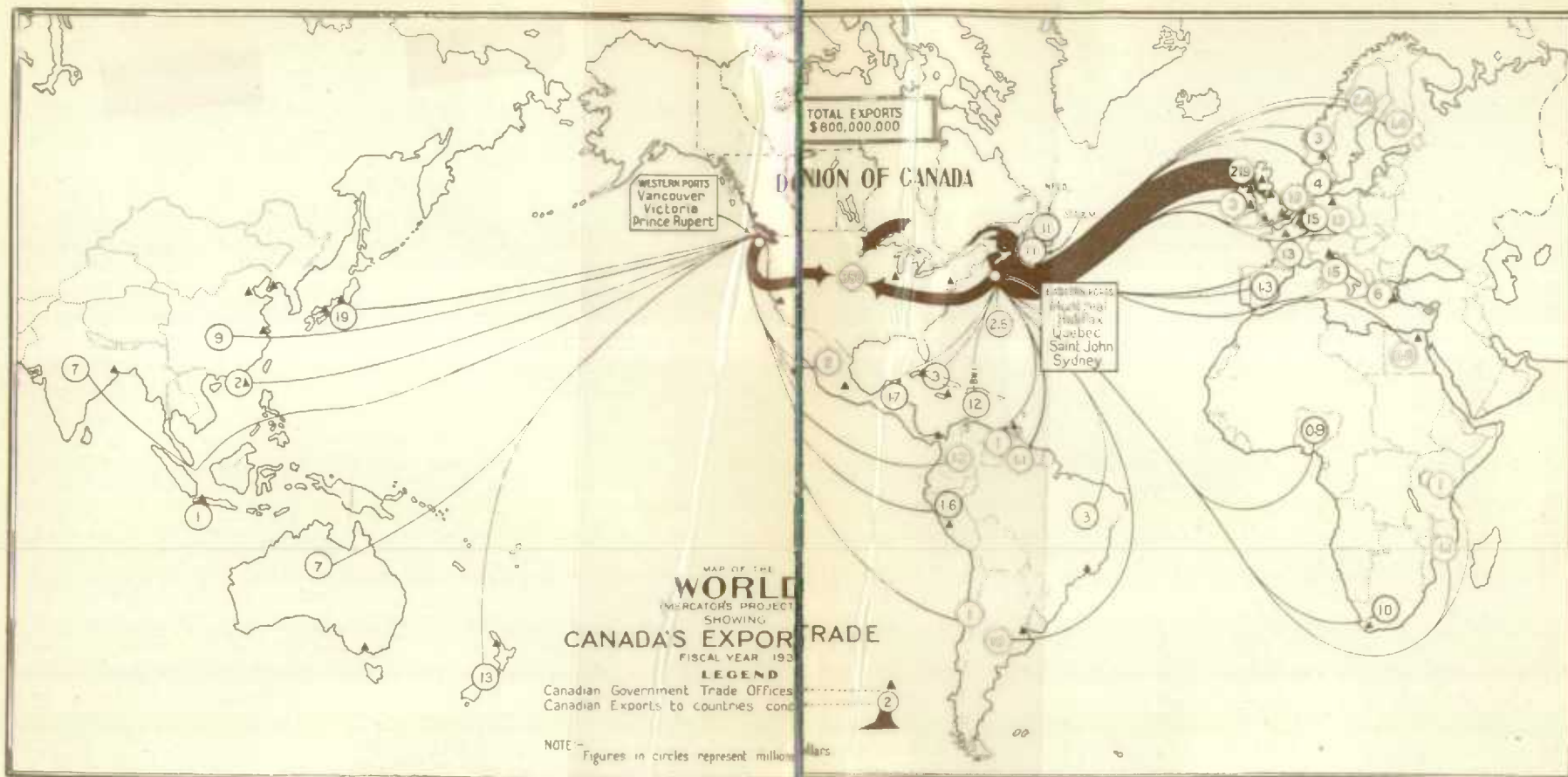
and construction materials, fertilizers, fodders, furs, hides, leather, metals, such as raw gold and nickel, copper ore to be smelted and blister copper to be refined, etc.

Canada depends on Europe, the smallest continent except Oceania but the most populous except Asia and the greatest in volume of trade of all, for a wide array of goods which Europe's skill in the handicrafts and her highly developed manufacturing technique can best supply. Europe's world-wide financial connections took root in the Middle Ages, when the commercial bankers, first of the Hanse Towns, later of the Low Countries and London flourished, and when many of the present day instruments of finance were introduced. Early essays into trade and conquest established her securely in the economic saddle before more modern commercial rivals had entered the field. Since the Industrial Revolution of the 18th Century, Europe as a whole has been characterized by the rapid development of manufacturing at the expense of agriculture and she is the world's chief market for agricultural produce.

Our imports from Europe consist of fine cotton and woollen textiles, artificial silks, household utilities, manufactured fur and leather goods, chemicals including aniline dyes, highly prepared foods, beverages and infusions, wines, fruits and sardines, books, printed matter, educational supplies, works of art, watches and watch movements, delicate instruments, toys, chinaware, jewellery, diamonds, rolling-mill products, metal bars and rods, high grade paper stocks, glass and glassware, musical instruments and scientific and electrical apparatus, tools, etc. In addition we import such raw materials as high grade wool, cork and special iron ores. Exports from Canada consist largely of wheat and other grains, cheese, canned salmon, timber, wood pulp and mineral products such as aluminium, copper, lead, nickel, zinc and asbestos.

As regards Asia, our trade relations are chiefly with those countries on the Pacific seaboard. Japan supporting a population of 60,000,000 with 20,000,000 more in her dependencies of Korea and Formosa is a small island country somewhat larger in size than the British Isles. Japan is not plenteously endowed with natural resources but her people are keen and bold with an energy and enterprise which have enabled the country to become a powerful factor, both politically and economically in the East. In the last thirty years she has accomplished a measure of progress which took Europe centuries to achieve. Compared with conditions in America and Europe, the standard of living of her people is frugal, but there is a keen desire to enjoy more of the luxuries of Western civilization.

China is potentially a much richer country than Japan. Her territory, supporting a population of 450,000,000, extends over an area one-seventh again as large as Europe and enjoys a variety of climate from semi-tropical round Canton in the south, where the fertility is such that two crops of rice, the staple grain, are produced each year, to the invigorating climate of Manchuria and Mongolia where beans and cereals grow well. The country is very rich in mineral wealth—so far practically unexploited. Patience, frugality and industry are the chief virtues of the Chinese



Vancouver Harbour.
 Courtesy Canadian Government Motion Picture Bureau.



The Port of Montreal.
 Courtesy Canadian Government Motion Picture Bureau.

and, in spite of the misfortunes which have recently fallen on the country, order must eventually come out of the present chaos. As the standard of living of the Oriental peoples rises, there are many products which Canada grows and manufactures which will form the basis of future trade. Even at present, with four-fifths of her population agricultural, she is one of the world's great markets for all kinds of foreign goods. The Canadian Government, with an eye to possibilities in the East, has recently (August, 1931) announced, through the Minister of Trade and Commerce, the establishment of two new trade offices, one at Tientsin (China) and the other at Dairen (on the mainland but under Japanese suzerainty). There are now six trade offices in the Orient, the others being at Shanghai (China), Hong Kong, Tokio (Japan), and Kobe (Japan).



The Market on the Bund, Shanghai, China. Inset: The Canadian Pacific Empress of Canada at Shanghai. The "White Empress" fleet of the C.P.R. comprises the largest and fastest ships to the Orient.

Courtesy Canadian Pacific Railway

South of Japan and China lie the rich and populous equatorial islands of the East Indies, including Java, Sumatra, and Borneo—luxuriant isles which grow every conceivable kind of tropical vegetation, spices, and valuable hardwoods. The Malay peninsula, with Singapore as its trading base, connects them with the mainland and with British India, about one-third the size of Canada but supporting about thirty-five times the

population. All these parts of Asia are fertile fields for the development of trade. The chief commodities which the continent of Asia supplies to Canada are: tropical fruits, nuts, spices, coco-nuts, rice, silk, tea, vegetable oils, crude rubber, jute fabrics, oriental carpets, tin, chinaware and clay products, precious stones, vegetable and mineral waxes, drugs, and fancy hardwoods. Asia on the other hand is a market for our manufactured rubber goods, automobiles, silver, aluminium and manufactures of aluminium, lead, zinc and such primary products as wheat and other grains, timber, wood pulp, fish, etc.

The continent of South America boasts a population of about 64,000,000 and an area not quite twice that of Canada. European countries have long held a large part of the trade with Latin America and are putting out every effort to retain their advantage against increasing competition from North America. Canada has won a substantial trade with South America on the basis of exchange of commodities which each party is economically best fitted to furnish. Canada imports from this continent such commodities as coffee, corn, sugar, hides and skins, meats, petroleum and nitrate in return for our manufactures of paper, rubber goods, sewing machines, automobiles, farm implements and machinery, flour, canned salmon and wheat.

Oceania, the only continent wholly in the Southern Hemisphere, lies to the southeast of Asia. The total population is only about 8,500,000, chiefly whites. It is remote from Great Britain, the Mother Country of its white populations. The continent consists of the countries of Australia and New Zealand, numerous small island groups or festoons including the islands of Fiji and the south Pacific, the New Hebrides, and the eastern portion of the East Indies Archipelago. Canada's trade with Oceania is chiefly with the sister Dominions of New Zealand and Australia and with the Fiji islands. The decline in trade with Oceania during the fiscal year ended March 31, 1931, has been greater than that with any other continent, amounting to almost 44 p.c. This has been due to a number of causes, among which are the relatively greater effect of the trade depression on countries dealing largely in raw and agricultural products, and the heavy financial burdens which Australia and New Zealand are bearing. The continued decline in price of raw materials has made the international obligations of debtor nations in the position of Australia very much harder to bear. However the future of trade with Oceania is bright. We possess a strong advantage in the British connection and in our relative nearness to these countries and islands compared with Europe. As a result of the new trade treaty made between the Canadian and Australian Governments (see p. 136) Canada will have an equal advantage with Great Britain over foreign competitors in that market and the shorter haul should actually result in a not inconsiderable sales margin over Great Britain as regards freight. New Zealand has a greater per capita trade than any other country in the world. Canada's trade with this Dominion is much greater than that with Australia in spite of the fact that the population of the former is less than a quarter that of the latter country. Both countries depend

on primary production to a greater extent than Canada does and provide a market for our manufactures. In November, 1931, the Canadian Government intimated its willingness to discuss a new trade agreement with the New Zealand Government, and arrangements to this end are now under way.

Our imports from Oceania consist of: currants, raisins, canned and dried fruits, sugar, hides and skins, fresh beef and mutton, raw wool and worsted tops, dairy produce, sausage casings, etc. In return for this produce, Canada exports: automobiles and automobile parts, farm implements, manufactures of rubber, canned fish, newsprint and wrapping paper, electrical apparatus, and timber.

The trade of the continent of Africa has for long been monopolized by European countries and many products of North and Central Africa still reach other parts of the world through the European countries which govern them as colonial possessions. Thus much of the ivory, rubber, diamonds and other precious stones, metals, etc., of the Congo find their way to the Low Countries and France to be re-exported in raw and manufactured forms to the world at large. Or again the dates, figs and other fruits and the fancy leathers of northern Africa largely find their way through France.

Our direct trade with Africa is chiefly with the British sections—the Union of South Africa, with which the mandated South West Africa is included, British East Africa and British West Africa (chiefly Nigeria), though Portuguese Africa provided a better market for our exports in 1931 than either British East Africa or British West Africa. Imports consist largely of sugar, pineapples, cocoa beans and coffee. Exports are made up of automobiles and rubber tires, farm machinery, electrical apparatus, timber, canned fish, and, to Portuguese Africa, soda and its compounds.

Total Trade

Canada's total trade for the fiscal year 1931 amounted to \$1,723,550,729, a reduction of 28 p.c. compared with 1930 and 35.1 p.c. compared with 1929. In spite of the large decrease in the past two years total trade is now nearly 15 times that at Confederation. In the 33 years from Confederation to 1900 the total trade of Canada increased by 197 p.c., but even the low 1931 figure shows an increase of 413 p.c. as compared with 1900.

The Dominion's total trade with the United Kingdom in 1931 was \$370,175,761, showing a decrease compared with 1930 of 21.6 p.c. and with 1929 of 40.8 p.c. Total trade with the United States in 1931 was \$948,258,605, a decrease of 31.4 p.c. compared with 1930 and of 31.7 p.c. compared with 1929. The above figures of total trade include exports of foreign produce from Canada as well as domestic exports. Total exports of such foreign merchandise amounted to \$24,679,768 in 1930 and \$17,285,381 in 1931, which is a very small proportion (about 1 p.c.) of total trade for those years. The graph on p. 125 and the following table show the trend of total Canadian trade (i.e., excluding the small percentage of foreign merchandise exported) during the present century.



Total Canadian Trade with British Empire and Foreign Countries

Fiscal Year	Canadian Trade with—				
	United Kingdom	Other British Empire	United States	Other Foreign Countries	Total Canadian Trade
	\$	\$	\$	\$	\$
1906.....	196,640,380	25,570,276	252,802,758	44,210,822	519,224,236
1914.....	347,324,375	45,844,988	559,674,963	97,938,111	1,050,782,437
1922.....	416,497,018	78,447,645	808,546,839	184,553,510	1,488,045,012
1929.....	627,975,484	165,570,872	1,367,624,374	468,218,033	2,629,388,763
1930.....	470,925,703	161,428,269	1,362,491,800	373,686,112	2,368,531,884
1931.....	368,734,956	129,084,357	933,996,144	274,449,891	1,706,265,348

In 1931 the percentage of total Canadian trade with the United Kingdom was 21·6, with other British countries 7·6, with the United States 54·7, and with other foreign countries 16·1, whereas in 1930 total Canadian trade with these same countries was in the following proportions: 19·9 with the United Kingdom, 6·8 with other British countries, 57·5 with the United States, and 15·8 with other foreign.

As regards total Canadian trade therefore the relative trend in 1931 has been upwards with the United Kingdom and other British countries, downwards with the United States and upwards with other foreign countries.

Imports

For the fiscal year ended March 31, 1931, imports were less by \$341,660,901, or 27·4 p.c., than for the year 1930. Of the total imports of \$906,612,681 for 1931, \$584,425,581, or 64·5 p.c., came from the United States; \$149,488,457, or 16·5 p.c., from the United Kingdom; \$55,446,711, or 6·1 p.c., from other British countries; and \$117,251,932, or 12·9 p.c., from other foreign countries. In 1930 the proportions were 67·9 p.c., 15·2 p.c., 5·1 p.c., and 11·8 p.c. respectively.

The percentage of imports from the United States to total imports has therefore shown a decline for 1931 but those from the United Kingdom, other British countries and other foreign countries show increases.

The table below gives the import figures for British and foreign countries for the years 1906, 1914, 1922, 1929, 1930 and 1931.

Imports from British and Foreign Countries

Fiscal Year	Canadian Imports from—				Total Imports
	United Kingdom	Other British Empire	United States	Other Foreign Countries	
	\$	\$	\$	\$	\$
1906.....	69,183,915	14,605,519	169,256,452	30,694,394	283,740,280
1914.....	132,070,406	22,456,440	396,302,138	68,365,014	619,193,998
1922.....	117,135,343	31,973,910	515,958,196	82,736,883	747,804,332
1929.....	194,041,381	63,377,958	868,012,229	140,247,523	1,265,679,091
1930.....	189,179,738	63,523,966	847,442,037	148,127,841	1,248,273,582
1931.....	149,488,457	55,446,711	581,425,581	117,251,932	906,612,681

Commodities are classified by the Bureau of Statistics into nine main groups as follows: agricultural and vegetable products; animal and animal products; fibres, textiles, and textile products; wood, wood products and paper; iron and its products; non-ferrous metals and their products; non-metallic minerals and their products; chemicals and allied products; and miscellaneous commodities. Imports for all groups showed decreases for 1931. The greatest absolute decreases were experienced by iron and its products, fibres, textiles and textile products, and agricultural and vegetable products in the order given, but the greatest percentage decreases were shown by iron and its products (38.5 p.c.), animals and animal products (34.2 p.c.), and non-ferrous metals and their products (32.2 p.c.).



"Lady Nelson"
in B.W.I.
Anguilla



*Loading Cases
for Ship
to Canada
Kingsland Jamaica
B.W.I.*

As in 1930, the most important group from a standpoint of imports was iron and its products, under which classification the imports reached \$195,000,000, by far the most important items being machinery, plates and sheets, automobile parts, automobiles and farm implements. Altogether the group showed a decrease of nearly 122 million dollars compared with 1930. The other groups in order of value of imports were: agricultural and vegetable products (\$178,000,000, chiefly alcoholic beverages, fruits, sugar, tea, vegetable oils, etc.); non-metallic minerals and their products

(\$154,000,000, chiefly coal and petroleum); and fibres, textiles and textile products (\$131,000,000).

The following table shows the positions of the thirty chief commodities in import trade for the past two fiscal years.

Thirty Chief Commodities Imported, 1930 and 1931

Rank 1930/1931	Commodity (In order of value, 1931)	Imports, fiscal year ended March, 1931		Increase (+) or Decrease (-) 1931 Compared with 1930	
		Quantity	Value \$	Quantity	Value \$
2	1 Coal.....ton	17,310,076	52,231,209	(-) 1,187,804	(-) 4,581,209
1	2 Machinery.....	-	44,207,262	-	(-)24,910,266
3	3 Crude petroleum.....gal.	1,056,943,452	38,578,466	(-)121,257,749	(-)12,372,736
4	4 Spirits and wines.....gal.	3,041,340	34,952,280	(-) 696,416	(-) 9,532,246
8	5 Plates and sheets (iron)...cwt.	9,486,276	27,143,246	(-) 2,060,049	(-) 4,612,620
5	6 Electric apparatus.....	-	26,804,724	-	(-)10,806,539
10	7 Green fruits.....	-	21,021,129	-	(-) 2,757,749
11	8 Sugar for refining.....lb.	881,579,700	20,743,387	(-)20,319,500	(-) 2,181,169
6	9 Automobile parts.....	-	19,597,213	-	(-)16,149,716
7	10 Automobiles.....No.	20,045	17,271,890	(-) 18,867	(-)17,192,776
9	11 Farm implements.....	-	16,495,217	-	(-)13,580,236
13	12 Gasoline.....gal.	156,305,645	16,190,778	(-)12,820,570	(-) 2,678,458
14	13 Books and printed matter.....	-	16,136,501	-	(-) 1,094,278
29	14 Text.....lb.	53,464,341	13,048,877	(+)15,362,046	(+) 2,354,498
18	15 Paper.....	-	12,082,870	-	(-) 2,682,034
12	16 Raw cotton.....lb.	97,557,586	12,080,188	(-)18,951,572	(-) 9,062,275
26	17 Settlers' effects.....	-	11,489,320	-	(+) 308,117
24	18 Vegetable oils.....gal.	14,269,394	10,870,706	(+) 603,398	(-) 1,373,445
15	19 Engines and boilers.....	-	10,633,964	-	(-) 5,112,473
23	20 Clay and its products.....	-	9,432,135	-	(-) 2,824,634
25	21 Raw and dressed furs.....	-	8,561,832	-	(-) 3,096,136
31	22 Artificial silk fabrics.....yd.	21,503,506	8,016,593	(+) 1,401,060	(-) 1,671,551
22	23 Wood, manufactured.....	-	8,013,842	-	(-) 4,693,402
21	24 Silk fabrics and velvets.....	-	7,970,694	-	(-) 5,122,764
28	25 Worsteds and serges.....yd.	6,472,918	7,914,472	(-) 1,841,740	(-) 2,994,299
30	26 Glass and glassware.....	-	7,875,293	-	(-) 2,576,413
20	27 Corn.....bush.	10,055,152	7,417,271	(-) 4,783,888	(-) 6,731,995
16	28 Copper and its products.....	-	7,071,186	-	(-) 7,827,446
37	29 Fresh vegetables.....	-	6,898,548	-	(-) 1,375,598
19	30 Rubber, crude.....lb.	59,522,523	6,768,034	(-)13,804,627	(-) 7,943,023

It is an interesting study to note the changing relations over a number of years between the commodities listed by rank. Coal, now in first place, has been among the first three commodities since 1890 but machinery, which is now in second place, headed the list in 1930, with imports valued at 69 million dollars and was in sixth place eleven years ago when its imports were valued at 37 million dollars, being then outranked by: sugar and products, coal, cotton goods, woollen goods, and rolling-mill products. Crude petroleum has risen to prominence rapidly since 1920 when it was in eleventh place.

Exports

The Dominion to-day leads the world in exports of wheat, printing paper, nickel and asbestos; occupies second place in exports of automobiles and wheat flour, and fourth place in the exports of wood pulp and rubber tires. The exports of these staple products from Canada make up 55 p.c. of the Dominion's total domestic exports. Canada also ranks high in the world's exports of many other staple products such as lumber and timber, fish, copper, barley, cheese, raw furs, etc.

Total exports for the fiscal year ended March 1931 were \$816,938,048, of which \$17,285,381 were exports of foreign produce. The domestic exports were, therefore, \$799,652,667 and showed a reduction of 28·6 p.c. compared with 1930. Of these domestic exports \$219,246,499 (27·4 p.c.) went to the United Kingdom, \$349,570,563 (43·7 p.c.) to the United States, \$73,637,646 (9·2 p.c.) to other British countries and \$157,197,959 (19·7 p.c.) to other foreign countries. The United States and the United Kingdom have always been Canada's two best customers, but the export records for 1931 show that as compared with 1930 the percentages of our exports to the United Kingdom and other British countries are increasing, while those to the United States and other foreign countries show a decrease.



A Canadian National Steamships' Liner Loading Cargo at Bermuda.

Courtesy Canadian National Railways.

Canada's trade, both import and export, in common with that of the principal trading countries of the world during the fiscal year 1931 reflected the general economic world depression in trade and industry. The severe decline in commodity prices in all world markets during the past year, was largely responsible for this trade decrease. Canada, however, even with a material decrease in her import and export trade, has maintained her relatively high place among the leading trading countries of the world.

Canadian Exports to British and Foreign Countries

Fiscal Year	Canadian Exports to—				Total Domestic Exports
	United Kingdom	Other British Empire	United States	Other Foreign Countries	
	\$	\$	\$	\$	\$
1906.....	127,456,465	10,964,757	83,546,306	13,516,428	235,483,956
1914.....	215,253,969	23,388,548	163,372,825	29,573,097	431,588,439
1922.....	299,361,675	46,473,735	292,588,643	101,816,627	740,240,680
1929.....	429,730,485	106,390,532	499,612,145	327,970,510	1,363,709,672
1930.....	281,745,965	97,904,303	515,049,703	225,558,271	1,120,258,302
1931.....	219,246,499	73,637,646	349,570,561	157,197,959	799,652,667

The table which follows compares the positions of thirty chief commodities in export trade for the past two fiscal years.

Thirty Chief Commodities Exported, 1930 and 1931

Rank 1930/1931	Commodity (In order of value, 1931)	Total Exports, fiscal year ended March, 1931		Increase (+) or decrease (—) 1931 Compared with 1930	
		Quantity	Value	Quantity	Value
			\$		\$
1	1 Wheat.....bush.	217,243,037	177,419,769	(+)	40,236,668
2	2 Newsprint paper.....cwt.	44,818,479	127,262,700	(—)	4,982,342
5	3 Wood pulp.....cwt.	13,862,122	35,061,689	(—)	3,399,832
4	4 Wheat flour.....bbl.	7,218,188	32,876,234	(—)	675,772
3	5 Planks and boards.....M ft.	1,309,483	31,598,202	(—)	497,655
8	6 Fish.....cwt.	3,410,256	27,895,851	(—)	746,988
6	7 Copper ore and blister.....cwt.	1,774,933	21,247,512	(—)	621,351
10	8 Whiskey.....gal.	3,230,164	18,722,198	(+)	334,585
11	9 Nickel.....cwt.	810,293	18,246,375	(—)	245,882
9	10 Raw gold.....	—	17,832,608	—	—
7	11 Automobiles.....No.	37,527	15,879,240	(—)	42,334
12	12 Raw furs.....	—	14,936,813	—	—
14	13 Cheese.....cwt.	795,904	12,989,726	(—)	127,033
17	14 Pulpwood.....cord	1,164,555	12,040,484	(—)	181,137
15	15 Rubber tires.....No.	2,154,535	11,769,078	(—)	1,088,481
21	16 Silver ore and bullion.....oz.	24,695,827	8,927,216	(+)	2,119,059
20	17 Asbestos, raw.....ton	219,541	7,719,974	(—)	66,956
13	18 Farm implements.....	—	7,188,078	—	—
26	19 Apples, fresh.....bbl.	1,664,739	7,095,719	(—)	217,541
22	20 Lead.....cwt.	2,204,932	7,044,520	(—)	174,211
24	21 Rubber footwear.....pair	6,869,246	6,176,457	(—)	4,985,425
16	22 Meats.....	—	6,104,676	—	—
25	23 Zinc.....cwt.	2,211,242	5,989,220	(+)	480,651
18	24 Aluminium in bars.....cwt.	322,919	5,791,984	(—)	449,000
27	25 Potatoes.....bush.	7,102,119	5,658,307	(—)	855,449
36	26 Machinery.....	—	5,542,753	—	—
33	27 Sottlers' effects.....	—	5,604,055	—	—
41	28 Electrical energy.....M. k.w.h.	1,697,814	4,453,280	(+)	248,685
32	29 Films.....	—	4,250,536	—	—
36	30 Leather, unmanufactured.....	—	4,077,664	—	—

All of the nine main classification groups showed decreases in the value of exports for the fiscal year ended 1931. The greatest absolute decrease was in the agricultural and vegetable products group but the greatest percentage decrease (38 p.c. as compared with 24 p.c. for the former group) was recorded by the non-ferrous metals and their products group. The exports for the agricultural and vegetable products group were

first and reached \$292,280,037, with wheat by far the chief item accounting for 60 p.c. of the total. The wood, wood products and paper group was second in exports (\$230,514,474). Newsprint paper accounted for over half the exports. Non-ferrous metals and their products was third with exports of \$95,652,063 followed by the animals and animal products group with \$83,714,772. The chief items in the former group were raw gold and blister copper, and in the latter fish (fresh and canned), raw furs and cheese.

Wheat has been the leading export for more than twenty years and even though exports in 1930 showed a decrease of \$212,770,851 in value and the figures for 1931 show a further decrease of \$38,333,706, this commodity still holds first place. But there have been many changes within this period in the order of all the other commodities listed. So recently as 1920 wheat was followed by meats (now twenty-second), wheat flour, planks and boards, and printing paper (now second), in the order named.

Review of Calendar Year, 1931.—The monthly trade figures for 1931 as available when going to press and as compared with 1929 and 1930 were as follows (\$000 omitted):—

Imports and Exports by Months, 1929-31

Month	Imports			Exports of Canadian Produce		
	1929	1930	1931	1929	1930	1931
	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000	\$ 000
January	96,958	84,662	50,414	94,924	73,507	44,683
February	97,042	80,922	50,994	82,259	66,990	43,873
March	135,329	113,028	75,381	114,763	89,595	55,048
April	97,517	71,402	51,189	65,728	50,744	33,935
May	125,615	101,545	73,457	107,473	77,261	59,833
June	111,949	91,544	52,509	112,176	78,703	54,348
July	114,201	84,551	48,379	102,219	76,408	49,645
August	111,631	77,906	47,303	96,265	69,290	48,764
September	99,380	87,900	45,379	87,751	81,046	48,991
October	116,271	78,358	45,933	119,266	82,781	55,538
November	108,734	76,325	46,911	111,068	73,061	57,487
December	84,365	60,338	-	88,520	66,820	-

The Canadian Trade Balance

Since Confederation, exports of all produce from Canada to all countries have exceeded imports in twenty-six years, while imports have exceeded exports in thirty-eight years. The net excess of exports over imports during the sixty-four years totalled \$1,646,347,000. The largest excess of exports in a single fiscal year was in 1918, a "war year", when it amounted to \$622,637,000; while the largest excess of imports, amounting to \$294,139,000 occurred in 1913. The "unfavourable" balances occurred chiefly in 1903-1913, years of heavy capital imports.

Since Confederation there has been an excess of exports to the United Kingdom in fifty-two years, while an excess of imports has occurred in twelve years. The net excess of exports to the United Kingdom during the whole sixty-four years has amounted to \$6,035,728,000. The largest excess of exports, amounting to \$779,749,000, was in the war year 1918, while the largest excess of imports, amounting to \$36,985,000, occurred in 1872. Since 1889, exports to the United Kingdom have exceeded imports in every year.

During the past sixty-four years Canada's trade balance with the United States has been unfavourable in fifty-eight years, while in only six years has it been favourable. Since Confederation the excess of imports from the United States over exports has amounted to \$5,946,611,000. From 1882 to date Canada's trade balance with the United States has been unfavourable in every year. Canada had a favourable trade balance with the United States only during the first four years following Confederation and during the years 1880 and 1882. The largest excess of imports from the United States over exports, amounting to \$374,734,000, occurred during 1917.

Canada's position among the principal countries of the world with respect to trade balance is set forth in the following table:—

Trade Balances of the Principal Countries of the World, calendar years 1929 and 1930

Credit balances marked (+) Debit balances marked (—)

Rank 1929/1930		Country	1929		1930	
			Amount	Per capita	Amount	Per capita
			Million \$	\$	Million \$	\$
1	1	United States.....	(+) 841.1	(+) 7.01	(+) 782.3	(+) 6.38
6	2	Germany.....	(+) 11.3	(+) 0.18	(+) 222.6	(+) 3.44
2	3	British India.....	(+) 237.3	(+) 0.75	(+) 221.3	(+) 0.70
4	4	Brazil.....	(+) 39.7	(+) 0.99	(+) 61.8	(+) 1.54
8	5	British South Africa.....	(—) 8.4	(—) 0.37	(+) 16.4	(+) 1.46
5	6	New Zealand.....	(+) 33.3	(+) 22.72	(+) 11.1	(+) 2.44
14	7	Australia.....	(—) 107.7	(—) 16.91	(—) 14.1	(—) 2.19
16	8	Spain.....	(—) 93.0	(—) 4.12	(—) 17.3	(—) 0.76
7	9	Sweden.....	(+) 8.9	(+) 1.47	(—) 27.6	(—) 4.51
9	10	Denmark.....	(—) 22.9	(—) 6.56	(—) 31.2	(—) 8.87
10	11	Japan.....	(—) 30.1	(—) 0.47	(—) 35.7	(—) 0.55
11	12	Norway.....	(—) 84.5	(—) 30.08	(—) 102.7	(—) 36.42
12	13	Canada.....	(—) 90.6	(—) 9.13	(—) 103.1	(—) 16.38
3	14	Argentina.....	(+) 88.6	(+) 8.12	(—) 120.7	(—) 10.78
13	15	Belgium.....	(—) 91.1	(—) 11.39	(—) 130.5	(—) 16.20
15	16	Switzerland.....	(—) 131.9	(—) 32.84	(—) 174.0	(—) 42.95
19	17	Italy.....	(—) 337.2	(—) 8.27	(—) 273.0	(—) 6.54
17	18	Netherlands.....	(—) 308.7	(—) 39.93	(—) 281.7	(—) 35.66
18	19	France.....	(—) 323.5	(—) 7.99	(—) 373.9	(—) 9.09
20	20	United Kingdom.....	(—) 1,800.5	(—) 40.67	(—) 1,884.9	(—) 41.06

It will be seen that Canada's position among the nations as regards the balance of trade fell from twelfth in 1929 to thirteenth in 1930.

Non-Commodity Items of Foreign Exchange

A nation's commodity trade alone cannot be taken as a complete index of its prosperity, for there are many other exchanges besides those

BALANCE OF INTERNATIONAL PAYMENTS 133

of goods, all of which must be taken into account in order to find out the basic state of affairs in regard to total international transactions. Among such more or less "invisible" exchanges may be mentioned interest and freight payments, financial services, insurance premiums, advertising payments, royalties, cash contributions to various objects, the financing of tourist expenditures, the money movement which accompanies immigration and emigration, etc. If all the visible and invisible items which make up a country's dealings were set down and totalled the debit or credit balance would be a final invisible item representing an export or import of capital. Just as in the case of an individual an excess of expenditures over receipts must be made up by borrowing or reduction of capital or an excess of receipts over expenditures results in a capital asset, so it is in the case of a nation. The accompanying table, which includes the latest estimates of the Bureau of Statistics, shows debit and credit items of Canada's business relations and exchanges with other countries as a whole for 1930. The result shows a reversal of the net outward capital movement which has been characteristic of Canadian international transactions in recent years.

Estimated Balance of Canada's International Payments, 1929 and 1930

('000" omitted)

Item	1929		1930	
	Exports Visible and Invisible	Imports Visible and Invisible	Exports Visible and Invisible	Imports Visible and Invisible
	\$ 000	\$ 000	\$ 000	\$ 000
1. <i>Commodity Trade</i> —Recorded merchandise exports and imports.....	1,208,338	1,298,993	905,370	1,008,479
Deductions for settlers' effects and other non-commercial imports.....	-11,679	-24,614	-10,957	-23,814
Unrecorded imports of ships.....	-	19,420	-	7,470
Real Totals of Commodity Trade.....	1,196,659	1,293,799	894,413	992,135
2. Exports and imports of gold coin, bullion, and subsidiary coin.....	50,598	3,746	25,343	39,062
3. Freight payments and receipts, n.o.p.....	85,541	130,855	68,815	100,908
4. Tourist expenditures.....	309,370	121,645	279,238	113,292
5. Interest payments and receipts.....	87,886	258,907	88,220	272,586
6. Immigrant remittances.....	14,036	23,385	14,000	23,000
7. Government expenditures and receipts.....	11,750	11,300	11,750	10,379
8. Government receipts, reparations.....	4,325	-	4,000	-
9. Charitable and missionary contributions.....	900	1,800	900	1,800
10. Insurance transactions.....	31,990	24,418	29,483	22,138
11. Advertising transactions.....	4,000	5,280	4,000	6,000
12. Motion picture royalties.....	-	3,750	-	3,750
13. Capital of immigrants and emigrants.....	14,117	11,496	11,083	9,424
14. Earnings of Canadian residents employed in U.S.A.....	13,725	-	3,696	-
15. Exports and imports of electrical energy ¹	-	-	-	-
16. Difference between all exports and imports ²	65,475	-	159,533	-
Totals.....	1,890,381	1,890,381	1,594,474	1,594,474

¹ Included in Commodity Trade.

² This item represents: (a) Foreign capital invested in Canada in 1929 and 1930, and (b) Errors and omissions.

The Tourist Trade.—An item in the above which deserves special mention is the tourist trade. Since 1926 various methods have been adopted by the Dominion Bureau of Statistics for obtaining a general idea of the amount and value of this trade. The following figures of tourist expenditures 1924-30 are in accordance with the latest revision. For the year 1930 the tourist trade was calculated to have brought over \$279,000,000 into the country, and after the deduction of \$113,000,000 spent by Canadian tourists abroad, the favourable balance was estimated at \$166,000,000. By far the most important factor in the above is the



The Canadian Outdoors Offers Unrivalled Attractions to the Tourist.—
Trail-riding in one of the National Parks.

automobile traffic between Canada and the United States, it being estimated that such United States tourists spent \$202,409,000 in Canada in 1930, while Canadian automobile tourists spent about \$63,000,000 in the United States. Tourist expenditures are, in part, the return which Canada derives from her picturesque scenery, her fish and game, her winter sports and other advantages, and represent an "invisible" export which is increasing steadily in value year by year.

Tourist Expenditures, 1924-30

Year	Expenditures of Outside Tourists in Canada (1)	Expenditures of Canadian Tourists in Other Countries (2)	Excess of (1) over (2)
	\$	\$	\$
1924.....	173,002,000	84,973,000	88,029,000
1925.....	193,174,000	86,160,000	107,014,000
1926.....	201,167,000	98,747,000	102,420,000
1927.....	238,477,000	108,750,000	129,727,000
1928.....	275,230,000	107,522,000	167,708,000
1929.....	309,379,000	121,645,000	187,734,000
1930.....	279,238,000	113,202,000	165,946,000

Canadian-United States tourist traffic is greater than that between any other two countries in the world. The high per capita wealth in both countries promotes travel and the close interlocking of business interests necessitates many business trips across the frontier. There is in the United States one automobile to every 4.9 persons and in Canada, one to every eight. For the United States family of moderate income the relative cheapness of an automobile holiday in Canada is attractive. Railway and steamship lines add substantially to the number of holiday seekers, but it is the automobile which has, in the last decade, created such an amazing increase in the volume of tourist travel.

The benefits of the tourist business are not altogether one-sided, however. Canadians are attracted by the larger United States' cities and the more "settled" type of scenery, while large numbers of wealthy Canadians visit the United States' winter playgrounds in the south. The estimated annual expenditure of Canadian tourists in the United States is only about one-third that of United States' tourists in Canada, but in comparing these the relative populations of the two countries should be considered. If United States' tourists to Canada were in the same proportion to the population as Canadian tourists to the United States, the income accruing to Canada from this source would be more than one billion dollars instead of approximately \$266,000,000 as at present. Canadian car owners, who bulk large in this movement, are wealthier and the number of passengers per car is greater, hence the higher average expenditure.

Tariff Relations

The British Empire.—Canada in 1897 introduced the principle of the "reciprocal" tariff, which was at once applied to the United Kingdom and some other British countries. Under treaties existing at the time, the "reciprocal" tariff had to be extended to certain foreign countries and was therefore not a purely British preferential tariff. The concessions to foreign countries ceased in 1898 as a consequence of the denunciation by Great Britain of her most-favoured-nation treaties with Germany and Belgium. This left Canada free to confine her lower tariff

rates to the United Kingdom and to sister Dominions and colonies. A British preferential tariff was established in 1898 (Aug. 1) consisting of a remission of 25 p.c. of the duty ordinarily paid, which remission was increased on July 1, 1900, to 33½ p.c. In 1904, the 33½ p.c. preferential reduction was superseded, in the case of certain commodities, by the establishment of fixed preferential rates.

In the Customs Tariff Act, 1907 (which provided for a tripartite tariff scale, *viz.*, the British preferential, the intermediate, and the general), it was enacted that the Government might, by Order in Council, extend the provisions of the British preferential tariff to any British country, and the provisions of the intermediate tariff, in whole or in part, to any British or foreign country that might grant satisfactory benefits in return. Since 1907 the Canadian tariff schedules have been extensively revised but the margin of preference on Empire products has been well maintained. Under a trade agreement of 1925 Canada and the British West Indies, Bermuda, British Guiana and British Honduras exchange very substantial preferences. For years Canada has granted free trade to Newfoundland in fish and fish products, but as regards other products the British preferential tariff has applied since 1928.

The tariff changes in September, 1930, and in June, 1931, increased the rates on a very large range of commodities under the intermediate and general tariffs, and in some cases the preferential rates were also increased. The effect of the tariff changes, however, was to increase or maintain the spread between the rates of duty applicable to British and foreign goods, and, consequently, the general effect was to assist British imports as against foreign imports but to give the Canadian manufacturer more of an advantage against both. When Great Britain suspended specie payments on September 21, 1931, the immediate drop in the value of sterling upset the purpose of the tariff by automatically transferring to the British exporter temporary advantage, through the exchange rate, which largely offset the tariff advantage given to the Canadian manufacturer. However, the subsequent rise in prices in Great Britain counter-balanced this advantage to some extent.

A new trade agreement between Canada and Australia became operative as from August 3, 1931, in consequence of which Canada is accorded the British preferential schedule of the Australian tariff on 415 of the 433 items comprising the entire tariff. On six items the intermediate applies and on the other twelve the general tariff. Canada grants Australia her entire British preferential tariff except where lower rates are given.

Preferential tariff treatment for Empire products was established in Great Britain in 1919 for practically all dutiable goods, other than alcoholic liquors, but import duties are levied on only a comparatively limited list of commodities. Preferential rates have been provided in nearly every case where a duty has been imposed since 1919.

The recently elected National Government in Great Britain, under the leadership of The Rt. Hon. Ramsay MacDonald, rapidly passed through the House, during November 1931, anti-dumping legislation, in the form of the Abnormal Importations Act, which gave to the President

of the Board of Trade for a period of six months, pending the working out of a balanced tariff scale, unprecedented powers to impose emergency tariffs as high as 100 p.c. *ad valorem* on a very wide range of manufactured articles excepting foods. Goods from different parts of the Empire are exempt from the payment of such duties, but it is probable that some system will be devised for preventing foreign countries from assembling parts of articles in the Dominions in order to qualify for the preference. The first duties of 50 p.c. under this legislation became effective on Nov. 25, 1931. The dutiable goods in which Canada is particularly interested include: paper products, rubber tires and tubes, radio equipment, vacuum cleaners, batteries, and artificial silk goods.

At the Imperial Conference of 1930 a wheat-quota system was suggested as an alternative to preferential duties on foodstuffs but more time for the proper consideration of the proposal was required. The favourable attitude of the new National Government of the United Kingdom seems likely to make the wheat quota and other features of inter-Empire trade leading subjects of discussion at the 1932 Conference which may meet in Ottawa.

The Irish Free State has a somewhat different tariff with several British preferential rates, which apply to Canadian goods. The British preferential schedule of the New Zealand tariff is extended to a limited number of Canadian articles while in the case of motor cars and certain parts thereof there are special rates to Canada between the British preferential and the general. In Northern Rhodesia (except Congo Basin) and in Southern Rhodesia, Canadian products are granted the British preferential rates, which are in force on the generality of goods. The Union of South Africa has incorporated in her tariff minimum and maximum rates of duty, and a certain number of the minimum rates have been accorded to Canada. The Union tariff is in force also in the native territories of Basutoland, Bechuanaland, and Swaziland, as well as in South-West Africa and Walvisch Bay. Several other parts of the Empire, *viz.*, Cyprus, Fiji, Western Samoa, Mauritius, British North Borneo, Brunei, Sarawak, Isle of Man, Guernsey, and Gibraltar grant various preferences to Canadian products over goods of non-British origin.

Foreign Countries.—Arising out of old British treaties which are applicable to Canada, later British treaties, favoured-nation clauses of commercial treaties sanctioned by Canadian Acts of Parliament, or Canadian conventions of commerce, Canada extends on a reciprocal basis most-favoured-nation customs treatment to the following countries:—

Argentine Republic,	Estonia,	Latvia,	Serb-Croat-Slovene
Belgium,	Finland,	Lithuania,	Kingdom,
Colombia,	France,	Netherlands,	Spain,
Cuba,	Hungary,	Norway,	Sweden,
Czechoslovakia,	Italy,	Portugal,	Switzerland,
Denmark,	Japan,	Roumania,	Venezuela.

Under mutual most-favoured-nation customs treatment each contracting country accords to the goods of the other the lowest duties applied to similar products of any foreign origin unless there are reservations. Most-favoured-nation obligations do not include preferences which a country may exchange with its Dominions or colonies.

CHAPTER XV

INTERNAL TRADE—WHOLESALE AND RETAIL TRADE —FREIGHT MOVEMENTS—STOCK MARKETS— COMMODITY PRICES—COST OF LIVING

Internal trade in Canada is of primary importance among economic activities. The home consumption of goods and services by a population of 10,000,000 requires a greater expenditure of economic activity than that required for the prosecution of external trade. Internal trade includes the transportation and distribution of goods to the final consumer through the medium of railways, steamships, warehouses, wholesale and retail stores, and other agencies. It includes all professional services such as those carried on by doctors, theatres, hospitals, schools, banks, insurance companies, and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income.

Historically, Canadian internal trade developed as a result of the fur-trade, fur being the first great staple sought in Canada by Europeans in exchange for their products. This trade spread until it covered the whole area of the Dominion, forming the framework into which the economic activities of the nation were gradually built. Lumber, fisheries, agricultural, mineral and other resources were gradually exploited. As population grew local manufacturing industries supplanted certain imports. Diverse resources in various parts of the country led to a vast exchange of products, and growing wealth gave rise to increasing abundance of services.

Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless some idea of its extent may be gathered from the fact that in 1929 the grand total value of the activities of those occupied in production of all kinds as estimated under the heading National Income on p. 45 was \$5,900,000,000, while the combined money value of external trade (imports and Canadian exports) was \$2,629,000,000.

The sections which follow deal with those features of internal trade which have not received treatment elsewhere in this handbook.

Wholesale and Retail Trade

The moving of goods of all descriptions so that the ultimate consumer may conveniently obtain them, is a business which uses many millions of dollars in capital and employs many thousands of hands. A census of Canadian trading establishments taken in 1924 showed that there was invested in retail establishments alone \$1,250 millions with sales amounting to \$2,500 millions. Sales at wholesale were estimated to be at least two-thirds of that amount.

Chain Stores.—In recent years great changes have taken place in the organization of the distribution of goods. The chain store is now doing a large and growing proportion of the work of retailing merchandise, though this type of store is not occupying the whole field. In a study made by the Bureau of Statistics in 1930 of 210 chain-store organizations, it was estimated that independent stores still do 75 p.c. or more of the retail business of the Dominion. In food products, the most developed section of the chain-store movement, chain stores probably account for about 25 to 30 p.c. of the business. An important result of this movement is the rise of organized independents. Large numbers of independent stores are forming common buying and advertising organizations, thus bringing to themselves some of the economies of large scale dealings enjoyed by chain stores. The next few years are likely to see keen competition between these rival organizations.

Merchandising outlets in the 210 chain-store systems mentioned above numbered 11,869, of which 2,965 were for food products, 991 for tobacco, 512 for toilet articles, 428 for women's, misses' and children's clothing, 410 for house furnishings, 387 for drugs and drug sundries, 378 for hardware. Total sales amounted to \$256 millions. Food products represented 54.9 p.c. of this, women's clothing 4.2 p.c., men's clothing 3.8 p.c., tobacco 3.4 p.c., dry goods and notions 3.1 p.c., hardware 3.0 p.c., toilet articles, 2.7 p.c., boots and shoes 2.5 p.c.

Internal Freight Movements

An important indicator of the volume of internal trade is found in the reports of revenue freight carried by the railways. In 1930 this revenue freight totalled 96,194,000 tons. The returns by provinces throw light on interprovincial trade in Canada. For example, the four western provinces show a net export to the eastern provinces of 6,101,913 tons of freight made up largely of agricultural and animal products. The eastbound movement of wheat alone amounted to 5,483,000 tons and other grains and agricultural products brought the total net eastern movement up to 6,643,492 tons. The movement of animal products going eastward was 123,168 tons. There were cross movements of mine products, the net movement westward of 305,905 tons consisting mostly of coal. Forest products moved eastward to the extent of 452,753 tons and manufactures and miscellaneous freight showed a westward movement amounting to 811,595 tons, fish, and lime and plaster being the only commodities listed with a net movement eastward. The accompanying table shows the figures for revenue freight by provinces for the first eight months of 1931 with comparative totals for 1930.

Freight Originated and Freight Terminated for Eight Months ended August 31, 1931

Province	Originated at Stations in Canada	Received from Foreign Connections	Total Originated	Terminated at Stations in Canada	Delivered to Foreign Connections	Total Terminated
	000 tons	000 tons	000 tons	000 tons	000 tons	000 tons
Prince Edward Isld.	177	-	177	173	12	185
Nova Scotia.....	3,865	78	3,943	3,344	208	3,552
New Brunswick....	1,149	393	1,542	1,088	859	1,947
Quebec.....	5,300	1,917	7,217	5,848	2,735	8,583
Ontario.....	9,898	12,491	22,389	14,388	8,996	23,384
Manitoba.....	2,368	115	2,483	2,394	70	2,464
Saskatchewan.....	3,353	233	3,586	1,804	205	2,069
Alberta.....	4,132	106	4,238	1,904	3	1,907
British Columbia...	2,613	247	2,860	2,095	1,702	3,797
Totals for eight months, 1931..	32,855	15,580	48,435	33,098	14,790	47,888
Totals for eight months, 1930..	42,488	20,235	62,723	44,008	17,965	61,973

Stock Markets

A subject often classified under the head of finance but akin to internal trade, inasmuch as it concerns a great trading market closely linked with the business organization of the country, is that of stock markets. The principal stock exchanges in Canada are located at Montreal and Toronto, though those at other centres such as Winnipeg, Calgary and Vancouver are increasing in importance. In recent years there has been a huge increase in the volume of business transacted on the stock exchanges, due to the widespread participation of the general public in the "bull" market which extended from 1924 to 1929. Since the market crash of November, 1929, however, trading has fallen away considerably due to heavy losses, business depression and caution on the part of the investing public.

The extent of public participation in the stock market is illustrated by the table below showing the volume of sales on the Montreal Exchange.

Number of Shares Traded on the Montreal Stock Exchange

Month	1929	1930	1931	Month	1929	1930	1931
Jan.....	4,173,257	988,789	377,241	July....	928,841	308,399	245,845
Feb.....	2,037,891	830,534	706,607	Aug....	2,103,138	558,387	169,400
March....	2,157,613	1,133,969	605,696	Sept....	1,854,675	817,409	437,503
April....	1,117,430	1,601,764	477,053	Oct....	3,609,402	1,350,604	308,888
May.....	1,287,870	1,088,587	851,426	Nov....	2,077,720	466,867	431,753
June....	766,813	1,389,170	528,093	Dec....	1,088,757	532,593	-

Security Prices, 1931.—The Bureau of Statistics publishes several series of index numbers designed to measure the movement of security prices in general and of important groups of stocks in particular, which constitute an important barometer of business conditions. The table below shows the course of the investors' index number by months for 1931 and for

representative months in the years 1929 and 1930. Tables of index numbers of traders' activities and of mining stocks during the past three years are also given.

Investors' Monthly Index Numbers of Common Stocks

(1926=100)

Year and Month	Banks	Utilities	Industrials	Total
1929—				
January.....	150.2	154.0	288.1	207.4
March.....	143.5	150.1	266.2	192.6
June.....	129.7	143.4	264.1	185.6
September.....	133.2	163.1	315.8	217.1
1930—				
January.....	120.3	133.3	209.1	155.7
April.....	118.6	143.7	220.9	166.8
August.....	113.3	116.0	153.1	125.0
December.....	108.2	104.7	120.3	103.1
1931—				
January.....	109.1	107.3	124.7	106.9
February.....	110.1	114.9	129.3	111.6
March.....	111.6	116.1	127.8	110.8
April.....	109.1	104.8	106.8	97.1
May.....	101.3	85.2	89.0	81.4
June.....	97.1	80.4	91.1	80.1
July.....	100.3	81.7	94.6	83.7
August.....	97.3	76.6	94.4	81.3
September.....	94.3	65.4	79.3	68.6
October.....	92.9	60.1	74.3	64.6
November.....	92.9	63.5	86.6	71.9

Traders' Index Numbers of the Prices of the Twenty-five Best Selling Industrial and Public Utility Common Stocks on the Montreal and Toronto Exchanges

(1926=100)

NOTE.—The "Trader's Index" measures the trend of gains or losses for an "average" trader who buys and sells as a whole and turns over his investments every week.

Month	1929	1930	1931	Month	1929	1930	1931
January.....	1,039.5	828.9	609.8	July.....	1,032.1	768.6	492.4
February.....	1,125.8	864.3	660.2	August.....	1,170.1	731.3	470.7
March.....	1,057.3	898.6	714.3	September.....	1,230.4	778.4	394.6
April.....	962.4	1,010.9	621.5	October.....	1,125.8	618.1	360.6
May.....	955.1	921.2	495.2	November.....	769.2	612.7	448.6
June.....	968.0	821.3	464.8	December.....	786.7	596.5	-

Taking the prices of stocks in 1926 as equal to 100 the monthly index number of industrials reached its peak in September 1929, when it was 315.8, that is to say, they were on the average over three times the price prevailing in the base year 1926. In the same month the index for public utility stocks had risen to 163.1 and that for all common stocks to 217.1. November 1929 saw the index for industrials at 209.4, utilities at 130.9, and all stocks at 154.7. Throughout 1930 the trend was more gradually to lower levels with minor upward movements in April and September. This downward tendency was interrupted in the first two months of 1931, but in May the indexes for these groups fell below the 1926 figures. In November 1931, industrials stood at 86.6, utilities at 63.5, and all stocks at 71.9.

Index Numbers of Twenty Mining Stocks

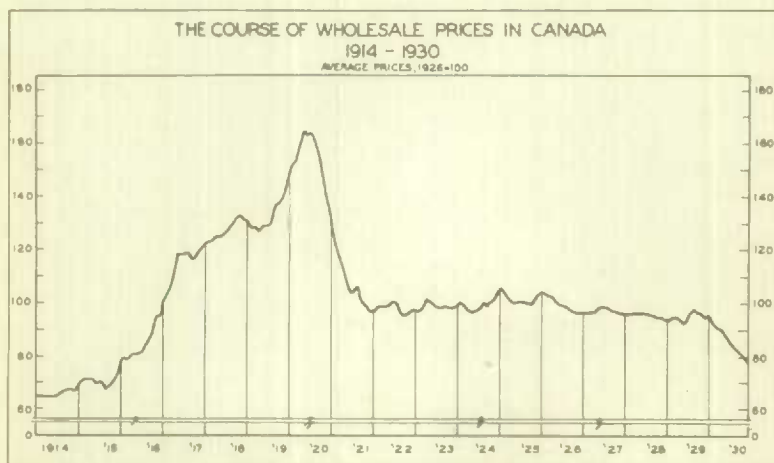
(1926=100)

Month	1929	1930	1931	Month	1929	1930	1931
January.....	125.7	78.9	68.5	July.....	109.6	68.7	68.6
February.....	123.7	86.1	73.3	August.....	114.8	68.0	67.8
March.....	120.3	85.2	77.1	September.....	104.8	68.7	63.1
April.....	112.7	83.3	82.3	October.....	90.1	61.3	59.5
May.....	108.9	76.3	75.9	November.....	75.7	60.5	64.6
June.....	103.9	73.1	69.1	December.....	74.5	59.2	-

In mining stocks the peak of the bull market was reached in October, 1927, when the index was 143.8 (prices in 1926=100). From that date it has sagged, with temporary rallies, until it reached the figure of 59.2 in December, 1930. In 1931 this index rose gradually to 82.3 in April, but dropped back to 59.5 in October.

Prices of Commodities

Trade of all kinds is inseparably linked with price movements. Index numbers measuring the rise and fall of commodity prices are also an important indicator of business and of monetary conditions. The Dominion came into being at a time of falling prices but after 1870 prices rose. From 1872 to 1897, however, there was an unprecedented fall, Canada experiencing a drop of 44.3 p.c., attributable to monetary factors, the great increase in production, and improved transportation facilities. From this point until 1913 prices again tended upward. It was a period of rapid and unprecedented prosperity almost the world over, and with the rising tide of trade, prices rose steeply. On the basis of 1913, the general price level in 1896 was 76.0; by 1912 it had risen to 99.5, a gain of over 23



points. In 1913 a slump developed until the Great War which resulted in a stupendous rise in commodity prices. With the end of the war came a momentary lull, but in 1919 and the early part of 1920 the post-war boom carried the level higher than ever. In May, 1920, the index number was 256.7. The reaction from the optimism which had hoped too much from an impoverished world, drove prices precipitately downward until in December, 1921, the index was 150.6. For the three years, 1922-24, it remained comparatively stable, but rose to 160.3 in 1925, falling to 156.2 in 1926.

Wholesale prices in 1926 were taken as the base of a new index number which in subsequent years fell to an average of 97.7 in 1927, 96.4 in 1928 and 95.6 in 1929. Thereafter in more rapid decline the index number receded to an average of 86.6 in 1930 and fell to 70.0 in September 1931 since when there has been a slight upturn.

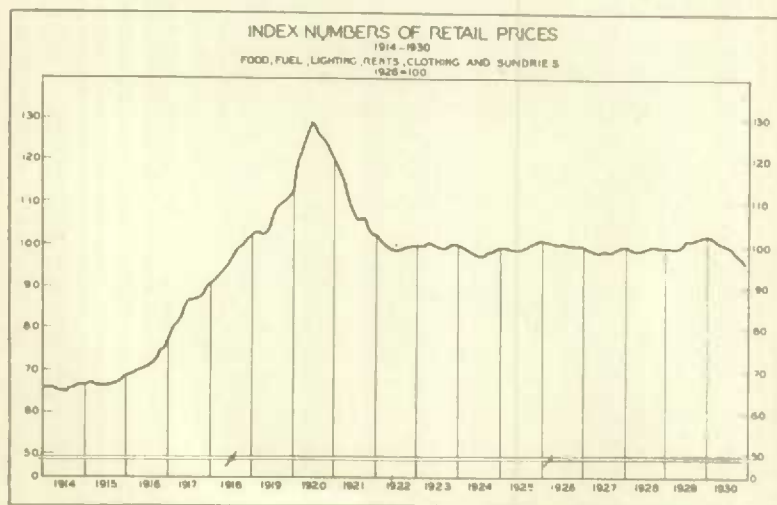
New Index Numbers of Wholesale Prices, 1913-1931¹

(1926 = 100)

1913.....	64.0	1922.....	97.3	1931 ²	
1914.....	65.5	1923.....	98.0	January.....	76.7
1915.....	70.4	1924.....	99.4	February.....	76.0
1916.....	84.3	1925.....	102.6	March.....	75.1
1917.....	114.3	1926.....	100.0	April.....	74.4
1918.....	127.4	1927.....	97.7	May.....	73.0
1919.....	134.0	1928.....	96.4	June.....	72.2
1920.....	155.9	1929.....	95.6	July.....	71.7
1921.....	110.0	1930.....	86.6	August.....	70.9
		December.....	77.7	September.....	70.0
				October.....	70.4
				November.....	70.6

¹236 commodities to 1926, thereafter 502.

²By months, January to November inclusive.



Cost of Living

Statistics of cost of living constitute a very important phase of price statistics. Index numbers of retail prices, rents, and costs of services issued by the Bureau of Statistics are constructed from a general point of view, having for their object the measurement of the general movement of such prices and costs in the Dominion as a whole, and being so calculated as to make comparisons possible with other general index numbers constructed on similar principles, as, for example, the index of wholesale prices. Calculated as they are on the aggregative principle, *i.e.*, the total consumption of each commodity, the Bureau's index numbers afford an excellent measurement of changes in the average cost of living in the Dominion as distinguished from that of any particular class or section.

The Bureau's index numbers of the cost of living are designed to show changes relating to average conditions. On the basis of 1926=100, the total index was 66.0 for the year 1914, 124.2 in 1920, 98.9 in 1928 and 99.9 in 1929. The latter part of 1929 was marked by a slight increase over the average for the year, a tendency which was still further apparent in the first month of 1930, when the total index reached 102 compared with 99.2 for the year 1930. From that time it has declined steadily and in July, 1931, registered 88.8. In August there was a slight upturn but thereafter the decline continued. Rentals, which had risen steadily since 1927, to 106.5 in May, 1930, dropped back to 105.5 in October, 1930, and to 103.3 in May, 1931. The food index which has been falling since January, 1930, continued its downward trend in 1931 and in November stood at 68.5 or nearly 21 points below the January 1930 figure.

Index Numbers of Retail Prices, Rents and Costs of Services, 1927-1931

(Averages price in 1926=100)

Year	Total Index	Food Index	Fuel Index	Rent Index	Clothing Index	Sundries Index
1927.....	98.4	98.1	97.9	98.8	97.5	99.1
1928.....	98.9	98.6	96.9	101.2	97.4	98.8
1929.....	99.9	101.0	96.4	103.3	96.9	99.0
1930.....	99.2	98.6	95.7	105.9	93.9	99.4
1931—						
January.....	95.1	89.1	95.7	105.5	88.3	98.8
February.....	94.1	85.6	95.8	105.5	88.3	98.8
March.....	92.4	82.8	95.7	105.5	84.7	98.2
April.....	91.7	80.5	95.6	105.5	84.7	98.2
May.....	90.4	77.7	94.2	103.3	84.7	98.2
June.....	88.9	75.0	93.6	103.3	81.1	98.0
July.....	88.8	74.7	93.4	103.3	81.1	98.0
August.....	89.1	75.5	94.5	103.3	81.1	98.0
September.....	88.0	73.5	94.1	103.3	78.6	98.0
October.....	86.6	71.4	94.5	99.3	78.6	98.0
November.....	85.7	68.5	94.7	99.3	78.6	98.0

¹ By months, January to November inclusive.

CHAPTER XVI

PUBLIC FINANCE

Dominion Finance

Among the powers conferred on the Dominion Government by the British North America Act were: the right to deal with the public debt and property; the right to raise money by any system of taxation (the provinces were limited to direct taxation); and the borrowing of money on the credit of the Dominion. The Department of Finance was established in 1869 to have "supervision, control and direction of all matters relating to financial affairs, public accounts, and revenue and expenditure of the Dominion".

At Confederation the revenues, notably the customs and excise duties which had previously accrued to the treasuries of the provinces, were transferred to the Dominion and combined into a consolidated revenue fund against which certain specific charges such as cost of collection, interest on public debt, and salary of the Governor General were made. The remainder of the fund was appropriated by Parliament. The public works, cash assets and other property of the provinces, except lands, mines, minerals and royalties, also became Dominion property. In its turn the Dominion was to become responsible for the debts of the provinces.

Since the main source of the revenues of the provinces was now taken over the Dominion was to pay annual subsidies to the provinces for the support of their governments and legislatures. With the growth of the Dominion, the principle of subsidy payments has been extended to the western provinces and from time to time adjustments have been made in the moneys so paid.

At the time of the formation of the Dominion, the revenue collections were comparatively small but obligations shouldered by the central government provided for completion of the Intercolonial Railway and, with the entry of British Columbia, for the construction of the Canadian Pacific Railway; later on the National Transcontinental was undertaken. Indeed the single item of railways and canals accounted for almost the entire increase in the net national debt of from \$76,000,000 in 1868 to \$336,000,000 in 1914. To a very great extent therefore, the national debt down to the Great War represented expenditures for productive purposes and tangible assets were acquired by the Dominion therefor. Moreover this debt was largely held outside Canada. The following decade witnessed the tremendous increase in the debt from \$336,000,000 to a maximum of \$2,453,777,000 in 1923—an increase of over two billions of dollars not represented, in the main, by corresponding assets and upon which interest charges were relatively high. One redeeming feature was that the major portion of this debt was now held within the country, for the abnormal prosperity induced by the war provided Canadians with the

funds to invest in Government issues and the added desire of the Government to tap the rapidly accumulating resources of the masses was instrumental in instructing the man-in-the-street how to invest his money in bonds.

In addition to the increased interest payments due to the piling up of war debt, another reason for increased expenditures has been our rapidly changing ideas of the functions of government. The growing complexity of our national life has called for the establishment of services undreamed of even a quarter of a century ago.

The growth of the Dominion revenue, the Dominion expenditure, and the net public debt is briefly outlined in the following table:—

Dominion Finances, 1868-1931

Fiscal Year	Revenue Receipts	Per capita Receipts	Total Expenditure	Per capita Expenditure	Net Debt at end of Year	Net Debt per capita
	\$	\$	\$	\$	\$	\$
1868.....	13,087,928	4.05	14,071,689	4.17	75,757,135	22.47
1871.....	19,335,561	5.55	19,293,478	5.53	77,706,518	22.09
1881.....	29,635,298	8.85	33,796,643	7.82	155,395,780	35.82
1891.....	38,579,311	7.98	40,794,208	8.44	237,809,031	49.09
1901.....	52,514,701	9.78	57,182,866	10.79	268,480,004	49.69
1911.....	117,780,409	16.34	122,861,250	17.04	340,042,052	47.18
1921.....	434,386,573 ¹	49.64	528,302,513 ²	60.11	2,340,878,984 ³	266.36
1926.....	380,745,506 ¹	40.78	355,186,423 ²	37.83	2,389,731,099	254.51
1927.....	398,005,776 ¹	42.07	358,550,751 ²	37.67	2,347,834,370	246.64
1928.....	422,717,983 ¹	44.49	378,658,440 ²	39.21	2,296,850,233	237.82
1929.....	455,463,874 ¹	46.97	388,805,953 ²	38.62	2,225,504,705	227.17
1930.....	441,411,806 ¹	44.45	398,176,240 ²	40.10	2,177,763,959	222.29
1931.....	349,587,299 ¹	33.76 ⁴	440,057,336 ²	42.60 ⁴	2,201,611,937	213.42 ⁴

¹Exclusive of special receipts of \$1,905,648 in 1921, \$2,147,503 in 1926, \$1,756,704 in 1927, \$6,924,594 in 1928, \$4,687,007 in 1929, \$4,595,186 in 1930 and \$6,822,060 in 1931.

²Includes advances to railways, Canadian Government Merchant Marine, etc., of \$110,662,655 in 1921, \$11,205,910 in 1926, \$11,569,413 in 1927, \$18,493,509 in 1928, \$13,646,000 in 1929, \$8,259,905 in 1930 and \$5,487,399 in 1931.

³The net debt of Canada reached a maximum, for any fiscal year, at March 31, 1923, when it was \$2,453,776,869.

⁴Per capita figures for census years are based upon census populations and for intervening years on official estimates.

Fiscal Year, 1930-31.—The difficulties of financing the Dominion during the year 1930-31 were comprehensively outlined by the Minister of Finance—the Rt. Hon. R. B. Bennett, Prime Minister—in his Budget Speech delivered to Parliament on June 1, 1931.

The latest fiscal year was one of declining revenues from taxation. All taxes with the exception of the income tax (based on earnings and profits for 1929) were substantially less than in the preceding year. On the other hand, a large proportion of expenditure, such as interest on the national debt amounting to \$121,000,000 and war pensions of \$46,000,000, was fixed and uncontrollable.

In the Public Accounts receipts are classified under two headings—receipts from taxation, and non-tax revenue resulting from public services maintained by the Government. Expenditures are classified under four headings:—(1) Ordinary expenditures, which include the costs of government, pensions, subsidies to the provinces, unemployment relief, etc.; (2) Capital expenditures on account of railways, canals and public works, for which corresponding assets are acquired; (3) Special expenditures; and (4) Non-active loans and advances which are not interest-producing but are required in part to meet deficits of services for which the Government accepts responsibility.

Total receipts from taxation for the year amounted to \$296,276,000 as compared with \$378,551,000 in the previous fiscal year and \$395,921,000 in 1928-29. Details of these receipts are:—

Receipts from Taxation, fiscal years 1928-31

Item	1928-29	1929-30	1930-31
	\$000	\$000	\$000
Customs.....	187,206	179,430	131,209
Excise.....	63,685	65,036	57,747
War Tax Revenue—			
Banks.....	1,243	1,408	1,429
Trust and Loan Cos.....	8	-	-
Insurance Cos.....	895	74	74
Business Profits.....	455	173	34
Income Tax.....	59,422	69,021	71,048
Sales Tax.....	63,846	44,859	20,785
Tax on cheques, transportation tax, etc.....	19,361	18,550	13,950
Totals, Receipts from Taxation.....	395,921	378,551	296,276

Non-tax revenues yielded \$53,311,000 compared with \$62,860,000 for the previous year and \$59,543,000 for 1928-29. Three-fifths of the non-tax revenue was collected by the Post Office Department. Special receipts and credits amounted to \$6,622,000. Total receipts were therefore \$356,209,358.

Ordinary expenditures amounted to \$393,989,944, including \$121,289,844 interest on debt; \$17,435,736 subsidies to the provinces; \$45,965,723 for war pensions, not including \$9,774,357 for treatment and after care of returned soldiers; \$36,292,604 for the Post Office and \$24,699,304 for Public Works. Capital expenditures amounting to \$28,222,000 were made during the year; special expenditure amounted to \$12,358,000, over two-thirds of which represented reduction in ex-soldiers' indebtedness to the Soldier Settlement Board; and loans and advances, non-active, to the extent of \$5,487,000, were made chiefly to the Quebec Harbour Commission and the Canadian National Steamships. Total expenditures were thus \$440,057,336 and the deficit for the year \$83,847,978.

A summary review of the financial situation of the Dominion as at March 31, 1931, is given in the balance sheet which follows:—

Balance Sheet of the Dominion of Canada, as at Mar. 31, 1931

(From the Public Accounts)

ACTIVE ASSETS—

Cash on hand and in Banks.....	\$ 44,599,432
Specie Reserve.....	81,457,889
Advances to Provinces, Banks, etc.....	111,454,050
Advances to Foreign Governments.....	30,609,720
Soldier and General Land Settlement Loans.....	48,150,885
Miscellaneous Current Accounts.....	32,381,785
Total Active Assets.....	\$ 348,653,701
Balance being Net Debt, Mar. 31, 1929 (exclusive of interest accrued and outstanding carried forward).....	2,261,611,937
	\$2,610,265,698

LIABILITIES¹—

Dominion Notes in Circulation.....	\$ 141,066,257
Bank Note Circulation Redemption Fund.....	6,788,162
Post Office Account, Money Orders, Postal Notes, etc., outstanding.....	4,135,348
Savings Bank Deposits.....	24,750,227
Insurance and Superannuation Funds.....	80,256,279
Trust Funds.....	20,329,745
Contingent Funds.....	1,215,146
Province Accounts.....	9,623,817
Funded Debt ²	2,319,672,935
Interest Due and Outstanding.....	2,427,782
	\$2,610,265,698

¹The Dominion of Canada is also responsible for principal and interest on loans negotiated by railways, under various Acts of Parliament, amounting to \$590,491,292.

²Of the Funded Debt \$1,800,264,602 was payable in Canada, \$253,512,033 in London, and \$265,896,300 in New York.

Recent Changes in Taxation.—During the years of prosperity between 1926 and 1929, Canadians enjoyed a steadily reduced burden of taxation. Thus the sales tax was lowered from 5 p.c. to 2 p.c. during this period and was further reduced to 1 p.c. by the Dunning Budget of 1930. Taxes on income, postage, cheques, etc., were also reduced.

The necessity for increased revenues, made clear by the 1931 Budget, was met, in the 1931 Session of Parliament, by an immediate increase in the sales tax to 4 p.c., effective June 2, 1931, its general application being left unchanged. A general excise tax of 1 p.c., effective on the same date, was imposed on the importation of goods. Parliament also revised the customs tariff imposing increased duties on imported manufactured products with a view to encouraging Canadian industries and relieving unemployment. The Customs Act and the Tariff Act were amended so as to prevent, as far as possible, unfair competition and the dumping of goods in Canada. The income tax was readjusted so that a greater burden fell upon a wider class of the well-to-do. For a more detailed review of the tariff changes see p. 136.

Provincial Finance

Provincial Governments in Canada are in the position, under section 118 of the British North America Act, 1867 (30 and 31 Vict., c. 3), and the British North America Act, 1907 (7 Edw. VII, c. 11), of having a considerable assured income in subsidies from the Dominion Treasury. In addition, through the ownership of their lands, minerals and other

natural resources, the provinces are in a position to raise considerable revenues through land sales, sales of timber, mining royalties, leases of waterpowers, etc. Further, under section 92 of the British North America Act, Provincial Legislatures are given authority to impose direct taxation within the province for provincial purposes and to borrow money on the sole credit of the province.

Among the chief methods of taxation to be employed has been the taxation of corporations and estates. Prominent among the objects of increased expenditure are education, public buildings, public works, especially roads and highways, labour protection, charities, hospitals and places of correction.

The Growth of Provincial Taxation.—Whereas in earlier years the Dominion subsidies, together with the revenues arising out of the natural resources of the provinces and from fees for specific services rendered to the citizens, nearly sufficed to cover the whole expense of government and rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, the great increase in the functions of government since the commencement of the present century has put an end to this state of affairs. Provincial taxation has increased from \$15,718,146 in 1916 to \$109,182,462 in 1929—a nearly seven-fold increase in 13 years.

The increase in the use of automobiles, both for commercial purposes and pleasure, is clearly demonstrated by the growing revenues from licences and permits issued by the Provincial Governments. In 1921 the total revenue of all provinces from automobile licensing amounted to \$7,857,751. It had increased to \$13,020,607 by 1925 and in 1929 reached \$21,735,827.

The growth of revenue from the gasoline tax still further demonstrates the increasing use of motor vehicles. In 1923 Manitoba and Alberta were the only provinces showing a gasoline-tax revenue, the total being \$280,404. In 1926 all provinces, except Saskatchewan, collected gasoline taxes which amounted to \$6,104,716, which was increased to \$17,237,017 by 1929.

The provincial revenues from the liquor traffic have increased considerably of late years. The adoption of government control of the sale of liquor in the majority of the provinces, has resulted in trading profits, licensing revenues, and permit fees, all of which have swelled the provincial revenues. Prior to the adoption of government control such revenues were not available to the provinces. In 1925 the total revenue collected by all provinces from the liquor traffic was \$8,964,824. By 1928 it amounted to \$22,755,212 and in 1929 to \$27,599,687.

Bonded Indebtedness of the Provinces.—The bonded indebtedness of the provinces amounts to about four-fifths of their total direct liabilities. In recent years, the aggregate bonded indebtedness of the provinces has steadily increased. The total for the nine provinces was \$708,900,342 in 1925, \$715,489,427 in 1926, \$757,168,785 in 1927, \$779,155,374 in 1928, \$819,517,036 in 1929 and \$919,002,706 in 1930. This bonded indebtedness for 1930 was divided by provinces as follows:—P.E.I., \$2,329,000; N.S.,

\$55,483,480; N.B., \$41,071,496; Que., \$76,735,292; Ont., \$398,821,345; Man., \$76,641,161; Sask., \$73,667,316; Alta., \$106,888,380; B.C., \$87,365,236. The development of the principle of public ownership is largely responsible for the high bonded indebtedness in certain provinces, particularly in Ontario where the hydro-electric system and the provincially-owned Temiskaming and Northern Ontario Railway largely account for the bonded indebtedness of the province. The larger of these public utilities, the hydro-electric system, is, however, meeting from its revenues the interest on the indebtedness incurred in its construction.

The expansion in the ordinary revenues and expenditures and the increases in direct liabilities of the Provincial Governments are shown by aggregated figures for the years 1873-1930 and by individual provinces for 1930 below:—

Aggregate Provincial Revenues and Expenditures, 1873-1930, and by Provinces, 1930

Fiscal Year Ended--	Ordinary Revenue	Ordinary Expenditure	Direct Liabilities
	\$	\$	\$
1873.....	6,960,922	6,868,884	—
1881.....	7,858,698	8,119,701	—
1891.....	10,693,815	11,628,353	—
1901.....	14,074,991	14,146,059	—
1911.....	40,706,948	38,144,511	128,302,848 ¹
1921.....	102,030,458	102,569,515	565,470,552
1926.....	140,450,904	144,183,178	893,499,812
1927.....	150,845,780	152,211,883	915,237,988
1928.....	168,109,505	165,538,910	963,169,888
1929.....	183,594,024	177,542,192	1,034,071,264
1930 (provisional).....	188,084,468	185,108,139	1,140,953,696
Prince Edward Island.....	1,148,749	1,133,366	3,398,047
Nova Scotia.....	7,682,066	7,990,987	62,311,047
New Brunswick.....	6,513,285	7,357,020	62,534,333
Quebec.....	43,585,121	39,374,910	97,856,855
Ontario.....	57,343,291	57,989,353	476,178,249
Manitoba.....	13,922,135	13,802,934	105,940,743
Saskatchewan.....	16,561,527	17,079,704	81,178,245
Alberta.....	15,829,855	15,402,885	127,465,842
British Columbia.....	25,498,409	25,066,980	124,090,335

¹ Statistics for the Province of Saskatchewan are for 1913.

Municipal Finance

Under the provisions of the British North America Act, the municipalities are the creations of the Provincial Governments. Their organization and their powers differ in different provinces, but almost everywhere they have very considerable powers of local self-government. If we include the local government districts of Saskatchewan and Alberta, there are over 4,100 municipal governments in Canada. These 4,100 municipal governments have together probably 20,000 members described as mayors, reeves, controllers, councillors, etc., the experience training them for the wider duties of public life in the Dominion and in the provinces. Certain of the larger municipalities, indeed, are larger spenders of public money than are some of the provinces.

The cost of municipal government, like the cost of provincial and Dominion government, has greatly increased since the pre-war period, principally due to the increased services demanded from municipal bodies. Among such public services which play a large part in municipal expenditures may be mentioned education, roads and highways, sanitation, fire and police protection, and social relief and charities. Thus the aggregate taxes imposed by the municipalities of Ontario increased from \$34,231,214 in 1913 to \$115,787,000 in 1929. In Quebec the aggregate ordinary expenditures of the municipalities increased from \$19,478,740 in 1914 to \$33,643,000 in 1929. In Manitoba, again, municipal taxation has increased from \$9,449,000 in 1914 to \$19,464,000 in 1929; in Saskatchewan, from \$13,359,000 in 1914 to \$27,945,000 in 1928; in Alberta, from \$8,794,000 in 1915 to \$13,870,000 in 1929 and in British Columbia, from \$8,698,820 in 1914 to \$18,389,000 in 1929. The taxes levied by the municipalities of Nova Scotia were \$6,653,000 in 1929 as compared with \$3,390,000 as recently as 1919.

Municipal Assessments.—Throughout the Dominion, the chief basis of municipal tax revenue is the real estate within the limits of the municipalities; though in certain provinces personal property, income, and business carried on are also taxed. General taxes are normally assessed at the rate of so many mills on the dollar of the assessed valuations. In the Prairie Provinces the values of improvements made to real property are often rated at a very low figure, *e.g.*, in Saskatchewan, where the taxable valuations of buildings are about 10 p.c. of the taxable valuations of lands, and in Alberta, where they are about 20 p.c. of the taxable valuations of lands.

There are various reasons for fluctuations in assessment valuations, due to differences in laws and varying practices with regard to assessment as between provinces, as between classes of municipalities and as between municipalities of the same class from year to year. Such matters are more fully dealt with in the special report of the Bureau of Statistics on "Assessment Valuations by Provinces".

Land valuations in the West, which in earlier years were somewhat inflated, have of late been assessed on a sounder basis, and in some provinces the Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

Bonded Indebtedness.—Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather freely during the years between 1917 and 1929. The bonded indebtedness of Ontario municipalities rose from \$153,568,409 in 1913 to \$451,936,592 in 1929, while that of Quebec municipalities increased from \$132,078,584 in 1914 to \$293,557,500 in 1929, and a proportionate increase took place in other provinces. There was an increase for 1929 over 1928 in each of the provinces with the exception of Nova Scotia. Total bonded indebtedness for all municipalities throughout Canada equalled \$1,135,022,889 for 1929 as compared with \$1,077,005,531 in 1928. British Columbia ranks third after Ontario and Quebec with \$118,483,618, and these three provinces have over 76 p.c. of the municipal bonded debt of Canada.

CHAPTER XVII

CURRENCY AND BANKING—INSURANCE—LOAN AND TRUST COMPANIES—MISCELLANEOUS

Currency and Banking

Early trade in Canada was carried on by barter. Beads, blankets, beaver and other furs, tobacco and wheat have been at various times used as substitutes for currency. Further, under the French *régime* playing cards stamped with a value and redeemable yearly on the receipt of bills of exchange on Paris, came into circulation. In the early years of the British period, the Spanish dollar and the English shilling were the chief mediums of exchange, together with such paper money as the army bills issued by the Government for supplies during the war of 1812. In 1853

Gold Ingots Ready for
Storing in the Vaults.
—Average value, \$10,-
000 each.



Pouring Refined Gold into Moulds at the Royal Canadian Mint, Ottawa.—
The limitations recently imposed on the free export of gold have greatly
increased the quantity going to the Mint.

Courtesy Canadian Government Motion Picture Bureau.

a measure was passed providing for the adoption of decimal currency with a dollar equivalent to the American dollar, and from January 1, 1858, the accounts of the province of Canada were kept in terms of dollars. The use of the dollar as a monetary unit was extended throughout the Dominion by the Uniform Currency Act of 1871.

The Canadian dollar is a gold dollar weighing 25·8 grains, nine-tenths fine gold, and thus containing 23·22 grains of gold. Five-dollar and ten-dollar Canadian gold pieces have been coined at the Royal Canadian Mint,¹ at Ottawa, to a limited extent but, in the main, the currency of Canada is in the form of silver, nickel and bronze token currency for fractional parts of a dollar and Dominion notes and bank notes for multiples of a dollar. The Canadian gold reserves, which exist for the redemption of Dominion notes, contain, besides Canadian gold coin, British and United States gold coin, which is also legal tender in Canada, as well as bullion.

Dominion Notes.—The issue of Dominion notes in one-dollar, two-dollar, four-dollar, five-dollar and fractional units, also in larger notes of from fifty to five thousand dollars (and in late years fifty thousand dollars) increased steadily prior to 1914, and very rapidly during the war period, reaching a maximum in June, 1919, when notes to the value of \$300,750,000 were in circulation. There has since been a considerable decline corresponding to the reduction in prices, and the notes in circulation at June, 1931, were \$145,317,000. About 60 to 70 p.c. of these Dominion notes are in the hands of the banks as reserves. Dominion notes are legal tender everywhere in Canada except at the offices which the Government maintains for their redemption. During the war period this redemption was suspended but gold payment was resumed on July 1, 1926.

Bank Notes.—As already stated, Canadians early became accustomed to the free circulation of paper money, and practically all Canadian banks at their beginning have made the issue of bank notes their chief means of earning profits. For the last forty years, no note holder who is the prior creditor in the case of the failure of a bank, has lost a dollar. The circulation of bank notes has proceeded on somewhat parallel lines with that of Dominion notes, as is shown by the following table:—

Note Circulation 1870-1931

Year	Dominion Note Circulation (averages for the year)	Bank Notes Circulation (averages for the year)	Year	Dominion Note Circulation (averages for the year)	Bank Note Circulation (averages for the year)
	\$	\$		\$	\$
1870.....	7,294,103 ²	15,149,031	1925.....	212,681,059	165,235,168
1880.....	13,403,958 ²	22,529,023	1926.....	190,004,824	108,885,995
1890.....	15,501,360	32,834,511	1927.....	184,898,003	172,100,763
1900.....	26,550,465	46,574,780	1928.....	201,171,816	176,716,979
1910.....	89,628,509	82,120,303	1929.....	204,381,409	178,201,030
1915.....	159,080,007	105,137,092	1930.....	174,616,019	159,341,085
1920.....	305,806,288	288,800,379	1931 ³	145,251,037 ¹	140,461,851 ³

¹ The administration of the Mint, formerly known as the Canadian branch of the Royal Mint, has been taken over from the Imperial Government by the Canadian Government, as from Dec. 1, 1931.

² Circulation on June 30.

³ Averages for nine months.

Banking.—About the commencement of the 19th century the growth of Canadian business was being hampered by the unsatisfactory and chaotic currency situation. The need for a stable paper currency was temporarily met by the army bills referred to above, but the withdrawal of this currency at the close of the war of 1812 directed public attention once more to the expediency of securing a currency through the establishment of banks. The Bank of Montreal commenced business as a bank of note issue in 1817, and the following sixty years was a period of great expansion in banking with a corresponding increase in the number of charters granted.

The number of branches, assets, liabilities, loans and deposits of the Canadian chartered banks as at Sept. 30, 1931, by banks, together with totals for 1900, 1910, 1920 and 1930, are shown in the table below:—

Statistics of Chartered Banks as at Sept. 30, 1931, with totals 1900-1930

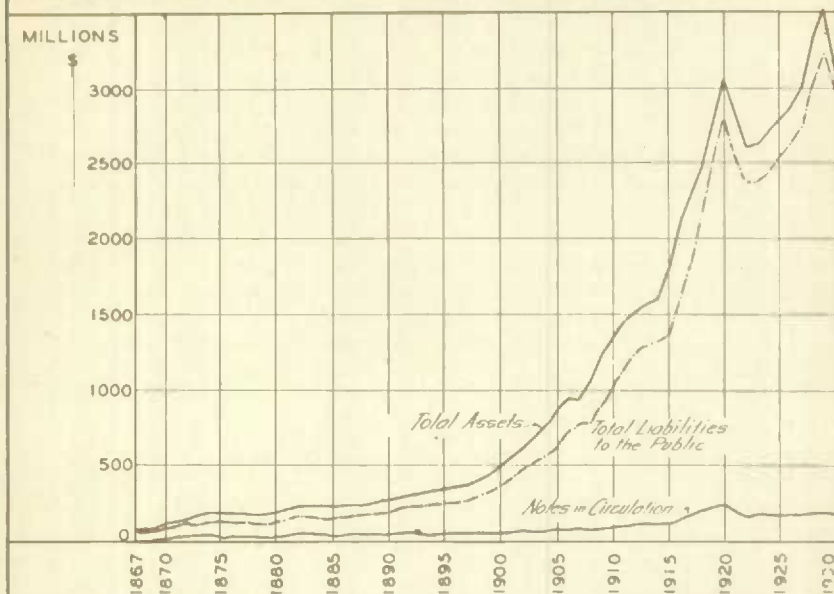
Bank	Branches in Canada and Abroad	Total Assets	Liabilities to Shareholders	Liabilities to the Public	Total Liabilities	Loans and Discounts	Deposits by the Public
	No.	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000	\$ 000,000
Bank of Montreal	628	786	74	703	782	390	646
Bank of Nova Scotia	336	264	36	227	263	144	200
Bank of Toronto	203	122	15	106	121	67	95
Banque Provinciale du Canada	139	52	5	46	51	28	42
Canadian Bank of Commerce	734	598	60	535	595	331	467
Royal Bank of Canada	901	805	70	728	798	528	627
Dominion Bank	143	130	16	113	129	81	102
Banque Canadienne Nationale	273	147	14	131	145	90	115
Imperial Bank of Canada	239	136	15	119	134	82	107
Barclay's Bank (Canada) Ltd.	2	5	1	4	5	3	2
Totals, 1931	3,598	3,045	306	2,717	3,023	1,744	2,403
Totals, 1930	4,262	3,237	306	2,910	3,215	2,065	2,517
Totals, 1920	4,876	3,064	252	2,784	3,036	1,935	2,438
Totals, 1910	2,621 ¹	1,211	179	1,019	1,158	870	910
Totals, 1900	641	460	98	356	454	279	305

¹ Barclay's Bank commenced operations in Canada in September, 1929.

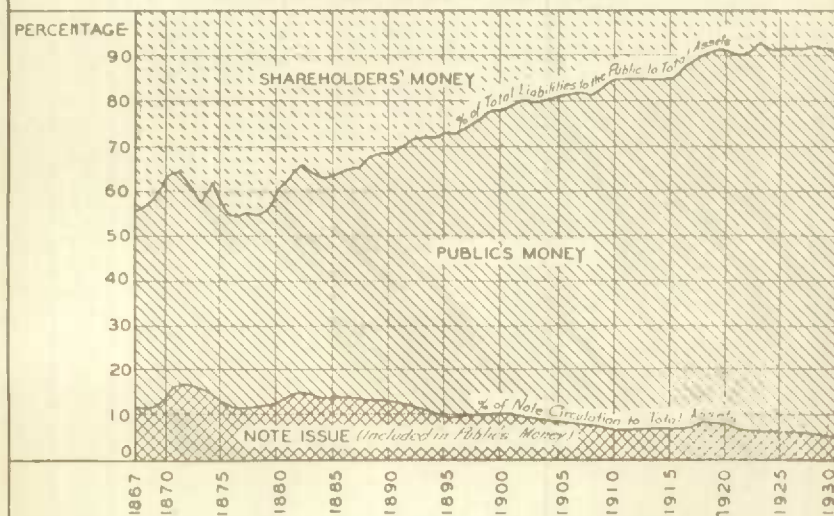
² 1911.

The Canadian Banking System, which may be described as "a decentralized system of relatively large joint stock, commercial and industrial banks, privately owned and managed, but working under a uniform law and subject to the supervision of the Dominion Government, with the banks kept in competition with each other by the power to organize branches freely", is quite unlike that existing in England and most European countries, where a strong central bank stands in close relation to the Government Treasury, and unlike that of the United States where a system of regional centralization prevails. The Canadian Banking System is a product of evolution, having grown up gradually with changes made from time to time as experience directed. Its most distinctive feature, the branch bank system, is well adapted to the needs of a country of wide

TOTAL ASSETS, TOTAL LIABILITIES TO THE PUBLIC AND NOTE CIRCULATION OF THE CHARTERED BANKS, 1867-1930



PERCENTAGE DISTRIBUTION OF THE TOTAL ASSETS OF THE CHARTERED BANKS 1867-1930



area and small population, especially to the requirements of the grain and cattle trade of the west, since it forms within itself a ready method of shifting funds from one part of the country to another and from one industry to another as the occasion may demand and ensures fairly uniform rates over wide areas. The number of chartered banks which was 36 in 1881, and 34 in 1901, decreased to 25 in 1913, and to only 10 in 1931. This lessening of the number of banks has been accompanied by a great increase in the number of branches. In 1868 there were only 123 branch banks in Canada. In 1902 the number had grown to 747, in 1916 to 3,198, and at the beginning of 1931 to 4,083. From 1867 to Sept., 1931, the total assets have grown from \$78,000,000 to \$3,045,000,000.

In recent years the banks of Canada have extended their business outside of the country itself and at the beginning of 1931 had among them 179 branches in foreign countries, mainly in Newfoundland, the British and foreign West Indies, Central and South America, and also in the great centres of international finance, London, Paris and New York.

Through the operation of the clearing houses, a record of inter-bank transactions has been maintained since 1889, which forms a valuable indication of the trend of business. The clearings at Montreal, the commercial metropolis of Canada, were \$454 millions in 1889, reached \$1,098 millions in 1902, \$2,088 millions in 1910, and \$7,109 millions in 1920 at the height of the inflation period. This, however, does not tell the whole story, since numerous transactions between persons who carry their accounts in the same bank are not recorded in bank clearings; also, every amalgamation of banks lessens in so far the volume of clearings. Accordingly, a record of cheques debited to accounts at all branches at clearing-house centres was instituted in 1924; between that date and 1930 Montreal bank debits increased from \$7,502 millions to \$12,271 millions, and the grand total of bank debits for Canada from \$27,157 millions to \$37,491 millions which, while over \$900 millions less than for 1929, still showed an increase of nearly 38 p.c. in six years.

Bank Clearings and Bank Debits, 1924-1931

Year	Exchanges of the Clearing Houses of Chartered Banks in Canada	Bank Debits to Individual Accounts	Year	Exchanges of the Clearing Houses of Chartered Banks in Canada	Bank Debits to Individual Accounts
	\$000,000	\$000,000		\$000,000	\$000,000
1924	17,008	27,157	1931—		
1925	16,762	28,126	January	1,459	2,668
1926	17,715	30,358	February	1,323	2,535
1927	20,568	36,094	March	1,366	2,570
1928	24,555	43,477	April	1,519	2,786
1929	25,105	46,670	May	1,696	3,172
1930	20,092	37,491	June	1,420	2,694
			July	1,325	2,400
			August	1,227	2,244
			September	1,255	2,451
			October	1,369	2,587
			November	1,621	—

¹ By months January to November inclusive.

Insurance

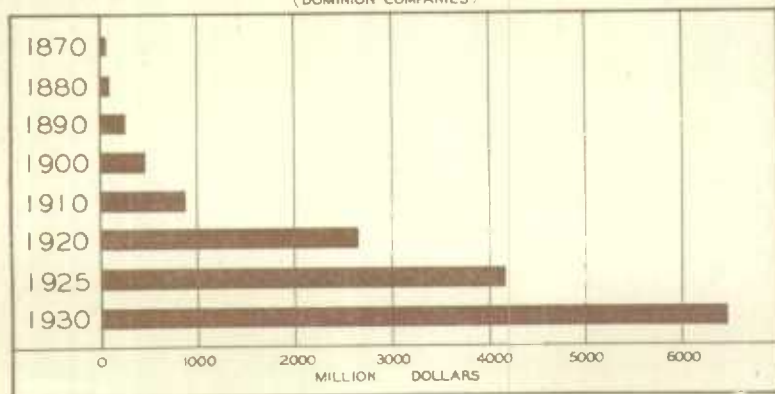
Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States. Among the first companies to transact life insurance business in Canada may be mentioned: Scottish Amicable (1846), Standard (1847), Canada Life (1847), Aetna (1850), Liverpool and London and Globe (1851), and Royal (1851). No fewer than 14 companies began business in the early '70's, including four native companies, namely: Sun (incorporated 1865, began business 1871), Mutual of Canada (Ontario Mutual, 1870), Confederation (1871) and London (1874). By 1875 there were at least 26 companies and possibly several more, competing for the available business in Canada, as against 42 active companies licensed by the Dominion and a few provincial companies in 1929. Of the 42 companies licensed by the Dominion 28 were Canadian, 6 British and 8 foreign.

The development of life insurance in Canada, as in other English-speaking countries at least, has been marked by an increased service to the individual policy holder. The benefits which may now be obtained under a life insurance policy are calculated to meet the needs of the policy holder and of his dependants, whether in event of old age or in event of death or of disability. Within the last few years there has been introduced what is known as "group insurance", a plan whereby a group of persons, usually employees, are insured by their employer, for a uniform amount or a varying amount determined by a formula, under one policy, generally on the term plan, the employer paying the premium or a substantial part thereof. Each employee usually has the right to obtain an individual policy at ordinary normal rates, without medical examination, on termination of employment.

LIFE INSURANCE IN FORCE IN CANADA

1870-1930

(DOMINION COMPANIES)



As a result of the adaptation of life insurance policies to the needs of the public, and of the growing wealth of the community, the growth in the amount of life insurance in force has been phenomenal. In 1869 the total life insurance in force in Dominion companies was only \$35,680,000 as compared with \$6,492,428,676 at the end of 1930. This later figure was equal to \$653 per head of population. In addition there was \$185,288,774 of fraternal insurance transacted by Dominion licensees and \$190,589,965 of insurance transacted by provincial licensees. Thus the total life insurance in force in the Dominion at the end of 1930 was \$6,868,307,415. More detailed figures showing the growth of life insurance by Dominion companies are given on p. 159. The increase in the premium income of all life companies licensed to transact business in Canada was from \$90 millions in 1920 to \$211 millions in 1929 and \$221 millions in 1930.

The table below shows the growth of life insurance month by month in 1931 as compared with 1930. The statistics are not complete but represent approximately 85 p.c. of the total business transacted in Canada.

Sales of Life Insurance in Canada by Months, 1930 and 1931

Month	1930	1931	Month	1930	1931
	\$000	\$000		\$000	\$000
January.....	46,268	40,816	July.....	47,375	39,603
February.....	45,159	39,925	August.....	36,666	35,438
March.....	49,924	46,694	September.....	39,283	29,833
April.....	52,298	45,345	October.....	45,525	35,722
May.....	49,624	40,983	November.....	46,382	38,615
June.....	54,901	45,830	December.....	49,578	-

Fire Insurance.—Fire insurance in Canada began with the establishment by British fire insurance companies of agencies, usually situated in the sea ports and operated by local merchants. The oldest existing agency of a British company is that of the Phoenix Fire Office of London, now the Phoenix Assurance Co., Ltd., which commenced business in Montreal in 1804.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is obtainable. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the province of Nova Scotia until 1919, when it was granted a Dominion licence.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1930, shows that at that date there were 238 fire insurance companies doing business in Canada under Dominion licences, of which 52 were Canadian, 66 were British and 120 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to 76 p.c. of the total number is a very marked point of difference between the fire and life insurance

businesses in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which we have statistics) in the fire insurance in force, is no doubt partly due to the growth of the practice of insurance, but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. At the end of 1930, besides the \$9,673 millions of fire insurance in force in companies with Dominion licences, there were also \$1,345 millions in force in companies with provincial licences, and over \$1,006 millions in force with companies, associations, or underwriters not licensed to transact business in Canada, or a grand total of about \$12,024 millions of fire insurance in force in the Dominion.

The trend of the growth of life insurance and of fire insurance in force in companies licensed by the Dominion Government is indicated by the following figures:—

Growth of Life and Fire Insurance, 1880-1930

Year	Dominion Companies	
	Life Insurance in Force at end of Year	Fire Insurance in Force at end of Year
	\$	\$
1880.....	91,272,126	411,563,271
1890.....	248,424,567	720,679,621
1900.....	431,069,846	992,332,360
1910.....	856,113,059	2,034,276,740
1920.....	2,657,025,493	5,969,872,278
1926.....	4,610,196,334	8,051,444,136
1927.....	5,044,408,334	8,287,732,066
1928.....	5,607,645,023	8,869,512,819
1929.....	6,157,262,207	9,431,109,594
1930.....	6,492,428,676	9,672,996,973

Miscellaneous Insurance.—Since 1875 the growth of insurance business other than fire and life has been a steady one. The report of the Superintendent of Insurance for the calendar year 1880 shows that the number of companies duly licensed for the transaction of accident, guarantee, plate glass, and steam boiler insurance—the only four classes of miscellaneous insurance then transacted—was 5, 3, 1 and 1, respectively. Miscellaneous insurance now includes in Canada: accident, sickness, automobile, burglary, explosion, forgery, credit, guarantee, hail, inland transportation, employers' liability, aviation, plate glass, sprinkler-leakage, steam boiler, title, tornado and live-stock insurance, etc. Whereas in 1880, 10 companies transacted business of this kind, such insurance was sold in 1930 by 247 companies, of which 52 were Canadian, 61 British and 134 foreign.

The total net premium income for 1930 was \$42 millions and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased in recent years. As recently as 1910, the premium income of companies doing

an automobile insurance business was only \$80,446; in 1915 it was \$573,604, and in 1930 \$18,260,000. The premium income of employers' liability and workmen's compensation accident insurance came second with \$4,640,000. Personal accident insurance was third in 1930 with \$3,438,000, and hail insurance fourth with a premium income in 1930 of \$2,856,000. The premium income of all accident and sickness insurance combined, however, totalled \$11,656,000 in 1930, so that regarded as a unit this group would easily be in second place.

Loan and Trust Companies

The principal function of loan companies is the lending of funds on first mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies operating under provincial charters, the majority conduct loan, savings and mortgage business, generally in the more prosperous farming communities.

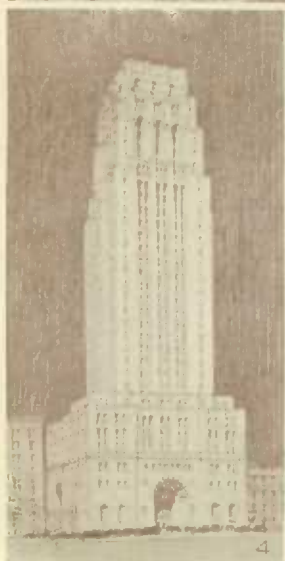
The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of \$2,110,403 and deposits of \$577,299. Rapid increases in the number of companies and total volume of business resulted from subsequent legislation. In 1899, 102 companies made returns, showing capital stock paid up of \$47,337,544, reserve funds of \$9,923,728 and deposits of \$19,466,676; total liabilities had increased from \$3,233,985 to \$148,143,496 between 1867 and 1899. After slight decreases in the number of loan companies in operation through amalgamations and absorptions, shortly after the turn of the century, further increases were again recorded. As a result of the revision of the laws relating to loan and trust companies in 1914, statistics of provincially incorporated loan and trust companies ceased to be collected, but of late years these have made voluntary returns so that all-Canadian totals are again available. The paid-up capital stock of loan companies at the end of 1930 amounted to \$46,232,077; reserve funds to \$45,102,985; liabilities to the public \$161,797,480; and to shareholders \$94,598,527; a total of \$256,396,007.

Trust companies act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minor or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy. Some companies receive deposits but the lending of actual trust funds is restricted by law.

Trust companies are principally provincial institutions, since their original main functions were connected with probate, which lies within the sole jurisdiction of the provinces. The aggregate total assets of the trust companies of Canada, whether operating under Dominion or under provincial licences, shows an increase from \$805 millions in 1922 (the earliest year for for which figures are available), to \$2,329 millions at the end of 1930. Of this enormous amount, \$2,243 millions was in estates, trusts and agency funds.

CANADA'S FINANCIAL INSTITUTIONS

- 1 *St. James Street, Montreal*
- 2 *Yonge Street, Toronto*
- 3 *Royal Bank, Montreal*
- 4 *Bank of Commerce, Toronto*
- 5 *Head Office, Sun Life Insurance Co
Montreal*



Miscellaneous

Interest Rates.—There does not exist in Canada as yet a market for money in the same sense as in great financial centres such as London and New York. Nevertheless the trend of money rates in the Dominion can be measured. Since about the beginning of the century the province of Ontario, the wealthiest and most populous of the provinces of the Dominion, has done its financing largely in Canada, hence the fluctuation in the rate of yield of Province of Ontario bonds is an excellent long-term indicator of net interest rates in the Dominion. Fluctuations in the yield of Ontario bonds for the past five years are shown below:—

Yield of Province of Ontario Bonds by Months, 1927-1931

Month	1927	1928	1929	1930	1931
	p.c.	p.c.	p.c.	p.c.	p.c.
January	4.65	4.30	4.65	4.90	4.55
February	4.65	4.20	4.70	4.90	4.55
March	4.60	4.25	4.85	4.85	4.45
April	4.56	4.25	4.95	4.85	4.45
May	4.55	4.35	5.00	4.85	4.40
June	4.55	4.40	4.95	4.83	4.40
July	4.55	4.50	4.95	4.80	4.45
August	4.55	4.60	4.90	4.00	4.40
September	4.55	4.60	5.00	4.45	4.65
October	4.50	4.55	4.95	4.50	4.95
November	4.47	4.55	4.95	4.50	5.05
December	4.35	4.60	4.90	4.50	—

Sales of Canadian Bonds.—The total sales of Canadian bonds reached a higher mark in 1930 than in any year since the close of the war and showed a 16 p.c. increase over 1929. This reflects the more favourable conditions in the bond market following the decline in common stocks since 1929.

The great increase in wealth during and since the war has enabled a much greater proportion of public and industrial financing to be done at home. Whereas before the war a great part of the capital required for Canadian development was drawn from Great Britain and the United States, since 1914 more than 60 p.c. of the total issues of Canadian bonds have been sold within Canada. The following table shows the total bond sales in Canada for the five-year period 1926-30, divided into the two main classes of Dominion, Provincial and Municipal Government bonds on the one hand and railway and corporation bonds on the other. The country of sale is also shown.

Sales of Canadian Bonds, 1926-1930

Year	Class of Bonds		Distribution of Sales			Total
	Government and Municipal	Railway and Corporation	Sold in Canada	Sold in United States	Sold in Great Britain	
1926	246,653,461	285,419,200	263,862,718	259,209,943	9,000,000	532,072,661
1927	232,537,614	369,680,067	373,637,014	223,714,000	4,866,667	602,217,681
1928	120,113,088	333,479,000	278,080,088	159,512,000	16,000,000	453,592,088
1929	218,628,309	442,530,600	378,395,909	263,654,000	19,109,000	661,158,909
1930	409,652,063	357,573,000	368,868,063	393,632,000	4,745,000	767,245,063

Commercial Failures.—The cumulative total of commercial failures in Canada for the first ten months of 1931 as reported to the Dominion Bureau of Statistics under the provisions of the Bankruptcy and Winding Up Acts was 1,807 as compared with 1,941 in 1930, 1,766 in 1929, 1,614 in 1928, and 1,478 in 1927, over the same ten-month period.

The following tables give for the above five years the distribution of failures by provinces and by industrial and commercial groups:—

Commercial Failures by Provinces, 1927-1931

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1931 ¹	4	39	59	645	643	89	136	110	82	1,807
1930.....	3	61	45	1,011	776	113	146	152	95	2,402
1929.....	1	71	61	927	762	91	84	101	69	2,167
1928.....	4	90	56	707	758	103	63	126	70	2,037
1927.....	4	66	74	658	681	97	54	135	72	1,841

¹ Ten months January to October inclusive.

Commercial Failures by Groups, 1927-1931

Year	Trade	Manu- fac- tures	Agricul- ture	Log- ing, Fish- ing	Min- ing	Con- struc- tion	Trans- porta- tion and Public Uti- lities	Fin- ance	Ser- vice	Not Classi- fied	Total
1931 ¹	897	388	95	6	6	50	33	19	207	106	1,807
1930.....	1,204	488	115	12	9	55	48	29	283	159	2,402
1929.....	1,100	443	125	4	11	61	21	5	239	158	2,167
1928.....	884	505	108	31	23	70	45	5	263	103	2,037
1927.....	818	430	116	30	26	63	36	—	243	79	1,841

¹ Ten months January to October inclusive.

The chief cause of failure is lack of capital; 34.6 p.c. of all failures being attributable to this cause in 1929 and no less than 43.8 p.c. in 1930. Another cause of failure which showed a relative increase in 1930 was inexperience, which rose from 7.6 p.c. in 1929 to 10 p.c.

CHAPTER XVIII

LABOUR

Dominion Department of Labour.—Accompanying the steady progress of labour organization, Canada has provided on an increasing scale for governmental consideration of labour problems. The Dominion Department of Labour was established in 1900. Its duties are to aid in the prevention and settlement of labour disputes, to collect and disseminate information relative to labour conditions, to administer the Government's fair wages policy and in general to deal with problems involving the interests of workers. Under the first mentioned of these functions, the Industrial Disputes Investigation Act, originated in 1907 for the settlement of trade disputes, has attracted favourable comment throughout the world; up to March 31, 1930, 729 threatened disputes have been referred under it and in all but some 38 cases an open break has been averted. A monthly *Labour Gazette* has, since 1900, provided a comprehensive survey of labour conditions in Canada, and is supplemented by various special publications dealing with wages, labour organizations, labour laws, etc. The Department more recently has established also the "Employment Service of Canada" which is concerned particularly with problems relating to employment; it also administers the Technical Education Act, the Government Annuities Act, the Old Age Pensions Act and the Combines Investigation Act—the latter being a measure aimed at combinations in restraint of trade. In addition, the Department acts generally as the representative in Canada of the International Labour Office of the League of Nations, Canada as one of the eight states of "chief industrial importance" having a place on the Governing Body of that Office.

Provincial Departments and Bureaus of Labour.—In several of the provinces likewise, namely, in Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia, Departments or Bureaus of Labour have been set up. Under these are administered an increasing body of legislation of various kinds ("civil rights" pertaining to the provinces under the B.N.A. Act) in the form of factories, shops and mines acts, workmen's compensation acts (most of the provinces having special boards for the administration of the latter legislation), laws for the protection of women and children in industry, mechanics' lien acts and other legislation for the fixing and safe-guarding of wages. The growth of this body of legislation is one of the most outstanding features of the social progress of Canada in the present century.

The Labour Movement

In Canada, trade unionism has been an outgrowth of the last half century, resulting from the increase in urban population and the development of a diversified industrial life. The majority of our local trade

unions are branches of international craft organizations which usually have their headquarters in the United States, but in recent years there has been in evidence a movement for the establishment of national unions; prominent among these are the Canadian Central Labour Organizations and the National Catholic Unions.

During 1930, there were in existence in Canada 1,946 international locals having 203,478 members, and 863 non-international unions with a membership of 118,971. The total number of organized workers reported to the Department of Labour was therefore 322,449, compared with 319,476 in 1929. Of the latter number, 203,514 unionists belonged to international craft organizations, while 115,962 were members of the national unions.

Union Benefits.—The labour bodies distribute large amounts of money to their members in the form of benefits, the chief of these being death, unemployed and travelling, strike, sick and accident, and old age pension payments. Canada's share of the benefits from the international organizations is not known, but apart from these amounts, the distribution in Canada of benefits aggregated \$479,161 in 1930, compared with \$445,627 in 1929.

Trades and Labour Congress of Canada.—The oldest federated labour organization in the Dominion is the Trades and Labour Congress, which is the recognized head of the internationally organized workers in Canada and their representative in dealing with legislative matters. This Congress was established in 1873, but did not actually function until 1886.

Annual meetings are held in different cities, that for 1931 taking place in Vancouver during September, and being attended by 254 delegates. The meeting was addressed by Senator The Hon. G. D. Robertson, Minister of Labour, whose speech referred to the progress made by the Congress and the labour movement in Canada and the United States, and dealt with the various activities of the Department of Labour.

The All-Canadian Congress of Labour.—The All-Canadian Congress of Labour, which contends that the Canadian labour movement must be freed from the reactionary influence of unions controlled in the United States, came into existence at a meeting of national union representatives held in Montreal in 1927. The object of the Congress is to promote the interests of its affiliated organizations and to strive to improve the economic and social conditions of the workers by: (a) their organization in autonomous bodies for economic purposes; (b) the education of the workers as to the necessity of working-class political action; and (c) the furtherance of such legislation as shall be of immediate benefit to the workers and which tends to increase their social and political power.

Annual meetings of this body are held, that in November, 1930, having been attended by 92 delegates, representing a membership of 27,963 workers.

Federation of Catholic Workers of Canada.—The Catholic union movement in Canada dates from 1901, when it had its inception in Quebec city. Subsequently, other national unions were formed in the province of Quebec. These accepted for their guidance the encyclical on "The

Conditions of the Working Classes" issued on May 15, 1891, by Pope Leo XIII, the provisions of which were later proclaimed by Pope Pius X as fundamental rules for workmen's associations.

With the growth of the Catholic union movement, there developed the desire for a central organization to direct and co-ordinate the activities of the various units, which resulted during 1921 in the formation of the Federation of Catholic Workers of Canada. The principles of this body were approved by the religious authorities and the plan of organization adopted is similar to the non-sectarian trade unions. Although this movement was originally designed exclusively for Roman Catholics, provision has been made for the admission of non-Catholics as associate members who may vote, but cannot hold office.

Since its establishment in 1921, the Federation of Catholic Workers has met regularly each year. The 1931 convention was held in Quebec city commencing on Aug. 30, and was attended by approximately 120 delegates.

Industrial Disputes.—During 1930, the losses to industry and to workers through industrial disputes were less than in any other year since 1901. There were 67 disputes, involving 13,768 workers and a time loss of 91,797 working days, compared with 88 disputes involving 12,946 workers and 152,080 working days in 1929. The maximum loss in working days was 3,400,942 in 1919, when 148,915 workers were involved. During the twelve months of 1931, there were 85 disputes involving 11,000 workers and 200,000 working days (preliminary figures). The data for 1930 and previous years have been revised by the Department of Labour.

Labour in Politics.—The proposal that labour take independent political action to secure direct representation in the legislatures of the country was first proposed in 1887, when the Trades and Labour Congress of Canada, at a meeting in Hamilton, Ontario, adopted a resolution to this effect. Labour members were occasionally elected to the provincial and the Dominion Parliaments, but in spite of much discussion on the matter, no definite policy was followed by labour for some years. The executive council of the Trades and Labour Congress therefore suggested at the 1917 convention that a labour party should be organized along the lines of the British party. This proposal was adopted, and in 1921 the Canadian Labour Party was formed in Winnipeg. For a few years, the party endeavoured to co-ordinate the various labour political parties, but since 1927 the main organization has ceased to function, although two sections, those in Quebec and Alberta, are still in existence. British Columbia, Manitoba and Ontario have Independent Labour Parties, while in some of the other provinces, there are labour political organizations operating under different names.

In 1929, delegates representing labour political parties of the four Western Provinces met in Regina and formed an organization under the name of "The Western Conference of Labour Political Parties" with a view to unifying the political policy of labour west of the Great Lakes meetings were also held in 1930 and 1931; at the latter it was decided to invite delegates from Eastern Canada to attend the 1932 conference.

In the federal elections held in July, 1930, 12 straight labour candidates appeared; there were also ten Communist nominees and two Farmer-Labour candidates. Three nominees of labour political parties were elected, two in Winnipeg and one in Vancouver.

Organized labour is represented in the Cabinet by Senator The Hon. G. D. Robertson, Minister of Labour, under whose administration the 1931 unemployment relief program of the Government is being carried out.

Employers' Associations.—In recent years, the growth of employers' organizations has been a noteworthy movement in Canada. These associations are representative of a wide variety of interests, and include agricultural, commercial, manufacturing and professional organizations. The Department of Labour issues yearly reports dealing with the activities of such employers' organizations, that for 1931 showing 837 main organizations, 477 branch associations, and a reported membership of 967,865. In 1930, there were 791 main organizations and 779 branch associations, with a membership of 946,244.

Co-operative Associations

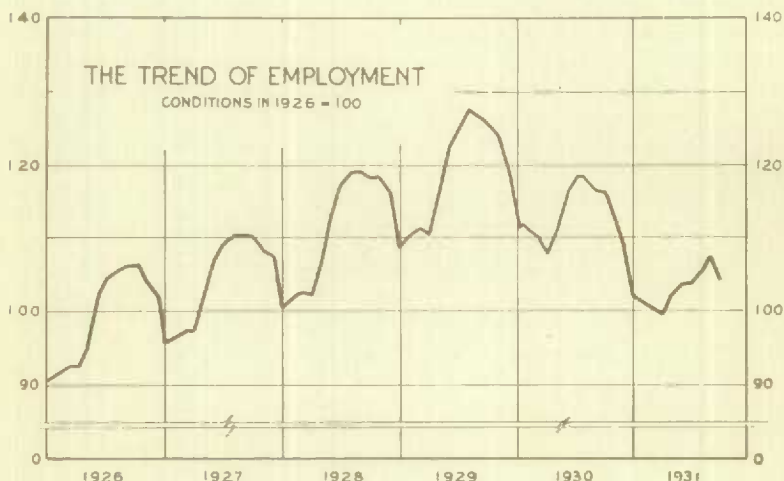
Co-operative Associations in Canada numbered 1,132 in 1931, with a total membership of 756,420. In 1930, there were 1,095 of these organizations which reported 690,685 members. This type of organization includes productive, marketing, credit and savings, community hall and miscellaneous societies; in some cases, production and marketing are jointly carried on. Important among the Co-operative Associations are the Grain Growers of the Prairies, which are the largest co-operative organizations in Canada. It is interesting to note that the Association Opposing Compulsory Pool was formed in 1931 as a co-operative society to combat the 100 p.c. Wheat Pool in Saskatchewan, and had a reported membership of 150,000; the functions of this organization are partly educational. Numerically the strongest co-operative associations are those engaged primarily in marketing, there being in 1931, 333 of such societies with a total membership of 344,884.

In the province of Quebec, great success has been achieved by the organization of "Peoples' Banks" for the providing of short-term credit for small farmers and industrial workers; over 200 such banks were in operation in 1929, their membership numbering 44,685, and their loans amounting to \$4,249,650, on which the profits realized amounted to \$645,-616.

In Ontario, there are three Co-operative Credit Societies, one of which was formed in Toronto in 1931 by the Amalgamated Clothing Workers of that city. In the category of credit and savings organizations, there is also the Alberta Provincial Association of Credit Societies, a body with 41 local societies operating under the provisions of the Co-operative Credit Act of the province. One of the functions of this organization is to act as intermediary between the members of affiliated societies and the department in charge of the Act.

Employment During 1931

The importance of current statistics on employment has for some years been recognized in Canada, and a monthly record of the numbers on the payrolls of firms having 15 or more employees has been maintained since 1920. The inquiry includes all industries except agriculture, fishing, hunting, professional and highly specialized business undertakings such as banking, insurance, etc. The chart hereunder shows the trend of employment during the last five years.



During the twelve months of 1931, some 7,700 employers reported to the Dominion Bureau of Statistics an average working force of 927,485 persons. Monthly index numbers, based on the 1926 average as 100, are calculated from these returns from employers; in the twelve months of 1931, the general index averaged 102.5, compared with 113.4, 119.0 and 111.6 in the same months of 1930, 1929 and 1928, respectively. Employment, therefore, was in smaller volume during 1931 than in the preceding year, and was generally less than in the twelve months of the years, 1927-1929, although it remained at a higher level than in the preceding six years of the record. A feature of the situation in 1931 was the very considerable amount of employment afforded by public authorities in combating the agricultural and industrial depression. This largely took the form of highway construction work, but other public undertakings were also carried out; these works provided stimulus to other industries as well as construction. The accompanying table shows monthly index numbers of employment for the five economic areas since Nov. 1, 1930, with yearly averages since 1921.

Employment by Economic Areas.—The Maritime Provinces reported a higher level of employment in 1931 than was indicated in the other economic areas, but activity in all provinces was generally less than in 1930.

Index Numbers of Employment as Reported by Employers, by Economic Areas, as at the first of each month, November, 1930, to December, 1931, with Yearly Averages since 1921.

NOTE.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated economic area to the total reported by all employers making returns in Canada on December 1, 1931.

Year and Month	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
1921—Averages.....	102.4	82.2	90.6	94.0	81.1	88.8
1922—Averages.....	97.3	81.4	92.8	92.6	82.8	89.0
1923—Averages.....	105.7	90.7	99.5	94.8	87.4	95.8
1924—Averages.....	96.6	91.3	95.5	92.1	89.4	93.4
1925—Averages.....	97.0	91.7	95.8	92.0	93.7	93.6
1926—Averages ¹	99.4	99.4	99.6	99.5	100.2	99.6
1927—Averages.....	103.7	104.0	105.6	105.3	101.1	104.6
1928—Averages.....	106.6	108.3	113.5	117.9	106.4	111.6
1929—Averages.....	114.8	113.4	123.1	126.3	111.5	119.9
1930—						
Nov. 1.....	110.1	111.9	111.6	125.8	105.4	112.9
Dec. 1.....	109.5	106.7	108.2	118.6	100.0	108.5
Averages, 12 months	118.3	110.3	114.6	117.1	107.9	113.4
1931—						
Jan. 1.....	119.3	99.3	100.1	106.4	94.1	101.7
Feb. 1.....	110.6	98.8	101.7	101.0	93.8	100.7
Mar. 1.....	104.5	99.7	101.6	98.6	93.8	100.2
April 1.....	102.3	98.5	102.4	97.7	92.4	99.7
May 1.....	104.0	102.3	103.8	100.0	96.1	102.2
June 1.....	105.2	104.3	104.2	103.3	97.9	103.6
July 1.....	109.4	103.2	102.7	108.9	97.9	103.8
Aug. 1.....	106.8	102.4	100.7	129.1	98.0	105.2
Sept. 1.....	102.7	109.8	100.7	130.0	96.6	107.1
Oct. 1.....	102.6	101.6	99.3	129.1	95.9	103.9
Nov. 1.....	116.6	96.2	98.1	123.2	98.9	103.0
Dec. 1.....	112.7	94.7	99.3	106.0	90.5	99.1
Averages, 12 months	103.1	100.9	101.2	111.5	95.5	102.5
Relative Weight by Economic Areas as at Dec. 1, 1931....	8.6	23.1	41.0	14.2	8.1	100.0

¹The average for the calendar year 1926, including figures up to Dec. 31, 1926, being the base used in computing these indexes, the average index here given for the 12 months Jan. 1-Dec. 1, 1926, generally shows a slight variation from 100.

Employment in Leading Cities.—Monthly statements are compiled for eight of the leading industrial centres in the Dominion, namely, Montreal, Quebec city, Toronto, Ottawa, Hamilton, Windsor and the adjacent Border Cities, Winnipeg and Vancouver.

The level of employment was higher during 1931 in Quebec city and Ottawa than in the other centres for which separate tabulations are made. The greatest falling-off in activity as compared with the preceding year was in Windsor and the adjacent Border Cities, and was a reflection of the depression in the automobile industries. During the year, considerable works were undertaken by the municipalities for the relief of unemployment; these were very important factors in the employment situation, and were reflected in the index numbers.

Employment by Industries.—An analysis of the data by industries shows that during 1931 employment was more active in construction than in other groups, largely as a result of public works undertaken to relieve unemployment. Employment in services and trade continued at a higher level than in most industries, although the index numbers were lower than in 1930. In mining and communications, employment was maintained at a fairly steady level above the 1926 basic averages, while in manufacturing, logging and transportation, activity was generally low, reflecting unfavourable marketing conditions at home and abroad.

Index Numbers of Employment as Reported by Employers, by Industries, as at the first of each month, November, 1930, to December, 1931, with Yearly Averages since 1921.

Year and Month	Manu- factur- ing	Log- ging	Mining	Com- muni- cations	Trans- porta- tion	Con- struc- tion and Main- tenance	Ser- vice	Trade	All Indus- tries
1921—Averages...	87.7	103.0	98.0	90.2	94.1	71.1	83.6	92.7	88.8
1922—Averages...	88.3	85.1	99.5	86.4	97.8	76.7	81.9	90.8	89.0
1923—Averages...	96.6	114.2	106.2	87.6	100.3	80.9	87.9	92.1	95.8
1924—Averages...	92.4	116.7	105.3	93.7	99.1	80.3	93.8	92.5	93.4
1925—Averages...	93.0	105.4	99.8	95.5	96.6	84.9	95.4	95.1	93.6
1926—Averages...	99.6	99.5	99.7	99.6	99.7	99.2	99.5	99.2	99.6
1927—Averages...	103.4	109.3	107.0	103.8	102.5	109.0	106.2	107.4	104.6
1928—Averages...	110.1	114.5	114.4	108.2	105.9	118.8	118.1	116.1	111.6
1929—Averages...	117.1	125.8	120.1	120.6	109.7	129.7	130.3	126.2	119.0
1930—									
Nov. 1.....	104.6	90.9	121.9	119.9	108.0	148.8	126.9	129.2	112.9
Dec. 1.....	100.6	106.5	117.8	115.3	102.5	127.3	123.9	134.8	108.5
Averages—									
12 months.....	108.9	108.0	117.8	119.8	104.6	129.8	131.6	127.7	113.4
1931—									
Jan. 1.....	93.7	107.6	114.4	110.9	95.9	110.7	123.2	132.9	101.7
Feb. 1.....	96.1	192.2	111.6	106.6	94.0	104.5	122.2	123.1	100.7
Mar. 1.....	97.6	82.7	109.5	103.9	93.2	101.1	121.8	122.0	100.2
April 1.....	99.7	42.9	108.1	103.3	94.3	96.8	122.0	123.1	99.7
May 1.....	100.7	55.9	106.0	104.0	96.6	108.6	123.1	123.3	102.2
June 1.....	99.4	53.3	105.3	104.7	98.6	121.8	125.9	124.0	103.6
July 1.....	97.2	38.5	104.1	104.8	97.7	137.1	130.8	124.0	103.8
Aug. 1.....	94.7	28.8	104.5	105.9	97.8	162.8	133.0	120.9	105.2
Sept. 1.....	94.7	30.5	105.6	105.8	97.8	176.8	134.8	120.5	107.1
Oct. 1.....	91.8	42.2	108.2	104.2	95.2	164.5	125.5	120.8	103.9
Nov. 1.....	88.8	63.7	107.9	102.4	95.4	165.4	117.5	122.8	103.0
Dec. 1.....	89.6	73.1	107.5	100.5	93.5	128.8	116.1	125.6	99.1
Averages—									
12 months.....	95.3	60.1	107.7	104.7	95.8	131.4	124.7	123.6	102.5
Relative Weight by Industries as at Dec. 1, 1931..	49.0	2.2	5.3	2.9	12.1	16.2	2.3	10.0	100.0

¹See footnote to table on p. 169; also headnote.

Within the manufacturing division, the iron and steel industries suffered especially from the depression which prevailed during 1931. The index for this group towards the close of the year was more than 19 points lower than in the autumn of 1930, which in turn had shown an important falling-off from 1929. The pulp and paper, rubber, food, building material, chemical, electrical apparatus, non-ferrous metal,

tobacco and lumber groups also afforded less employment in 1931, than in the preceding year. On the other hand, leather-using factories showed greater activity than in 1930, and in the textile industries, as a whole, employment was maintained at a level nearly as high as in the preceding year.

Unemployment in Trade Unions.—A picture of the industrial situation from the viewpoint of organized labour is presented in the monthly reports on unemployment tabulated by the Dominion Department of Labour from leading trade unions throughout Canada. During the first ten months of 1931, some 1,800 of these reported an average membership of 201,082, of whom 32,714 were, on the average, unemployed. This was a percentage of 16.3, as compared with that of 10.2 recorded in the months, January to October, 1930. Unemployment among trade unionists in all provinces and practically all industries was greater than in the preceding year, but towards the latter part of 1931, some improvement over the early months of 1931 was shown in New Brunswick and Saskatchewan. The accompanying table contains percentages of unemployment among trade union members in the different provinces from October, 1930, to October, 1931, with yearly averages since 1919.

Percentages of Unemployment in Trade Unions, by Provinces, 1919-31

Year and Month	N.S. and P.E.I.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	R.C.	Canada
1919—Averages...	3.1	2.0	3.4	2.7	2.1	3.2	2.0	7.9	3.4
1920—Averages...	1.8	2.0	7.2	3.4	3.1	3.2	2.8	11.2	4.9
1921—Averages...	11.3	8.5	16.0	9.7	8.5	7.8	7.8	23.5	12.7
1922—Averages...	7.1	4.3	8.6	5.0	8.9	5.4	6.1	12.4	7.1
1923—Averages...	3.0	2.0	6.7	3.7	5.8	3.0	6.0	5.8	4.9
1924—Averages...	5.1	4.0	10.9	6.1	6.5	4.3	5.4	5.8	7.2
1925—Averages...	5.0	3.6	10.9	5.5	5.1	3.3	8.4	5.7	7.0
1926—Averages...	7.8	2.1	6.8	4.2	3.6	3.0	4.0	5.5	5.1
1927—Averages...	3.7	1.9	6.8	4.1	4.4	3.2	4.1	5.5	4.9
1928—Averages...	4.0	1.2	6.1	3.5	4.2	3.0	4.2	5.1	4.5
1929—Averages...	4.0	1.6	7.7	4.3	7.1	5.3	6.4	5.9	5.7
1930—									
Oct.....	4.1	4.6	14.5	11.2	8.8	7.7	9.2	10.5	10.8
Nov.....	4.4	5.1	19.2	13.9	10.9	12.7	10.9	14.0	13.8
Dec.....	7.5	8.7	22.8	17.3	14.2	15.9	13.8	16.8	17.0
Averages, 12 months.....	5.4	3.7	14.0	10.4	9.6	10.6	13.3	11.6	11.1
1931—									
Jan.....	7.4	10.5	16.1	18.4	15.1	18.3	15.7	16.9	16.0
Feb.....	6.7	8.5	15.7	17.1	15.6	19.0	18.2	16.3	15.6
Mar.....	6.6	10.0	14.0	10.0	14.7	19.5	21.8	18.8	15.5
Apr.....	7.2	9.8	14.9	15.2	14.4	14.6	20.3	17.8	14.9
May.....	0.4	10.3	20.5	15.6	13.0	12.8	22.0	14.2	16.2
June.....	7.2	6.5	20.0	16.2	14.1	13.5	21.7	15.6	16.3
July.....	7.2	7.0	17.0	16.6	14.7	14.5	25.3	16.3	16.2
Aug.....	9.3	7.7	16.9	15.2	15.7	11.8	24.4	16.4	15.8
Sept.....	8.2	10.4	22.7	18.7	19.0	12.3	16.0	17.9	18.1
Oct.....	8.6	9.2	23.6	18.3	17.7	12.7	16.4	19.7	18.3
Averages, 10 months.....	7.5	9.1	18.1	16.7	15.4	14.9	20.2	17.0	16.3

Applications, Vacancies and Placements of the Employment Service of Canada.—In co-operation with the provinces, the Dominion Department of Labour maintains local employment offices in some 73 centres throughout the Dominion. The volume of business transacted in these bureaus is to some extent indicative of current labour conditions. Up to Nov. 15, 1931, 737,217 applications for work and 428,141 vacancies were registered, while the regular and casual placements effected numbered 152,435 and 262,338 respectively; in the same period of 1930, the applicants numbered 502,204, the positions notified 310,943, and the regular placements 166,104, while the casual positions filled numbered 128,239. The increases over 1930 shown in applications, vacancies and casual placements were largely due to the unemployment relief works initiated by various authorities. The number of regular placements effected was smaller than in the same period of the preceding year.

Unemployment Relief

Unemployment Relief Act, 1930.—The Dominion Unemployment Relief Act, 1930, was enacted by the Seventeenth Parliament in September, 1930. The Act specified that \$20,000,000 might be expended "in constructing, extending or improving public works and undertakings, railways, highways, bridges, and canals, harbours and wharves; assisting in defraying the cost of distribution of products of the field, farm, forest, sea, lake, river and mine; granting aid to provinces and municipalities in any public work they may undertake for relieving unemployment and reimbursing expenditures made by provinces and municipalities in connection with unemployment, and generally in any way that will assist in providing useful and suitable work for the unemployed". Administration of the Act was vested in the Minister of Labour and an advisory committee on expenditure consisting of the Minister of Railways and Canals, the Minister of Public Works, the Minister of the Interior and the Minister of Marine. Under the regulations governing the administration of the Act the Minister was authorized to enter into agreements with the several provinces for the expenditure of the \$20,000,000 appropriated under the Act, either for the purpose of immediate relief or for assisting local public works undertaken to provide employment. The sum of \$4,000,000 was set aside to provide for the payment to municipalities of one-third of their expenditures in the direct relief of persons for whom work could not be procured, the Provincial Governments and the municipalities each being required to assume responsibility for one-third of the expenditure for this purpose. To December, 1930, the Dominion commitments approved on public works costing \$59,939,172 amounted to \$11,065,192. Details of allotments made and expenditures were given in *Canada, 1931*. To Oct. 16, 1931, the commitments made totalled \$14,434,401, allotments of \$1,157,038 had lapsed and the unexpended balance was \$4,408,561.

Unemployment and Farm Relief Act, 1931.—The Second Session of the Seventeenth Parliament, which closed Aug. 3, 1931, enacted the Unemployment and Farm Relief Act, 1931—an Act to confer certain powers upon the Governor in Council in respect to unemployment and farm relief and the maintenance of peace, order, and good government in Canada. The administration of the Act is vested in the Minister of Labour, subject to the approval of the Governor in Council.

The Act specifies that moneys may be expended from the Consolidated Revenue Fund for the purposes of: providing for the construction, extension or improvement of public works, buildings, undertakings, railways, highways, subways, bridges and canals, harbours and wharves, and any other works and undertakings of any nature or kind whatsoever; assisting in defraying the cost of the production, sale and distribution of the products of the field, farm, forest, sea, river and mine; assisting provinces, cities, towns, municipalities, and other bodies or associations, by loaning moneys thereto or guaranteeing repayment of moneys thereby, or in such other manner as may be deemed necessary or advisable; taking all such other measures as may be deemed necessary or advisable for carrying out the provisions of the Act.

The Act will expire on the first day of March, 1932. No specific amounts are set forth for unemployment and farm relief. The amount of unemployment in each province governs the amount approved for expenditure.

Agreements have been signed between the Dominion Government and various provinces, and general regulations issued. Work has been started in all provinces; also a large number of Dominion public works are being carried out under the provisions of the Act.

The following table shows the amount of employment afforded up to Sept. 30, 1931, on projects to which the Dominion Government contributed. These figures do not represent final figures as in some cases, such as the railways, work will not be completed until Dec., 1931.

**Employment Afforded by the Unemployment Relief Act to
September 30, 1931**

Province, etc.	Individuals Given Em- ployment ¹	Number of Man-Days Work Given	Province, etc.	Individuals Given Em- ployment ¹	Number of Man-Days Work Given
P. E. Island.....	2,195	19,389	Alberta.....	23,957	407,160
Nova Scotia.....	33,457	532,121	British Columbia...	34,724	756,186
New Brunswick.....	21,097	283,900	Yukon.....	150	2,096
Quebec.....	89,006	1,225,100	C. N. R.....	7,775	243,296
Ontario.....	43,000	2,384,000	C. P. R.....	11,067	376,439
Manitoba.....	36,107	392,971	Banking N.S. Coal ² ..	—	65,759
Saskatchewan.....	29,418	630,154			
			Totals.....	331,953	7,318,571

¹ These figures do not include repeaters, i.e. no one individual is counted more than once.

² The number of individuals given employment is not available.

Old Age Pensions

The Old Age Pensions Act, 1927.—An Act respecting Old Age Pensions (R.S.C., 1927, c. 156), was adopted by the Dominion Parliament in 1927.

The Act is administered by the Department of Labour and makes provision for the establishment of a Dominion-provincial pension system to be effective in such provinces as have enacted and given effect to special legislation for this purpose. To this end the Governor in Council is authorized to make an agreement with the Government of any province for the payment, to such a province, quarterly, of 75 p.c.¹ of the net cost of old age pensions paid out by that province. The provinces now operating under such agreements are: British Columbia, Alberta, Saskatchewan, Manitoba, and Ontario, but in Nova Scotia, New Brunswick, and Prince Edward Island Acts have been passed which are to take effect on proclamation. The following table gives the payment made under the Act and the number of pensions, by provinces, as at Sept. 30, 1931.

¹ The proportion paid by the Dominion as set in the Act of 1927 was one-half, but this was increased at the Second Session of the Seventeenth Parliament to 75 p.c. to be effective from July 31, 1931.

Summary of Old Age Pensions in Canada, by Provinces, as at Sept. 30, 1931

Item	Ont. Effective Nov. 1, 1929	Man. Effective Sept. 1, 1928	Sask. Effective May 1, 1928	Alta. Effective Aug. 1, 1929	B.C. Effective Sept. 1, 1927	N.W.T. Effective Jan. 25, 1929	Total
Total numbers of pensioners as at Sept. 30, 1931	39,925	6,600	6,812	3,912	6,031	5	63,285
Average monthly pensions	19.03	19.47	19.66	19.11	19.26	19.84	-
Total amounts of pensions paid since inception of Old Age Pensions Act to Sept. 30, 1931	\$ 13,715,485	3,745,366	3,349,915	1,371,733	3,948,290	2,852	26,133,681
Dominion Government's share of expenditures	\$ 6,857,742	1,872,683	1,674,957	685,887	1,974,145	2,852	13,068,266

CHAPTER XIX

EDUCATION—RESEARCH COUNCILS—LIBRARIES

Education

Throughout the Dominion of Canada public education is a matter of provincial concern, except for the task of instructing the Indians who are wards of the Dominion Government. The administration of education is one of the chief functions of Provincial Governments, and there has developed in each province a school system with its own individuality, though the similarities are striking among all except French-speaking Quebec. As the following summary shows, only about 5 p.c. of the school population under university grade are in schools other than those of the provincial systems. Six of the provinces have provincial universities, and the remaining three have certain colleges belonging to the higher educational system.

Statistics of Education in Canada, 1930

Item	Number of Institutions	Number of Pupils	Number of Teachers	Expenditure
				\$
Provincially Controlled Schools—				
(a) Ordinary day	30,188	2,106,878	64,880	} 135,901,082
(b) Technical day	100	47,742	1,784	
(c) Technical evening	340	111,301	2,914	
(d) Normal Schools	46	7,360	467	
(e) Blind and deaf	11	1,764	309 ¹	
Privately-Controlled Schools—				
(a) Ordinary day	795	92,275	5,518	} 6,762,000 (Est.)
(b) Business training	182	29,120	679	
Dominion Indian Schools.....	342	15,743	500 ¹	2,330,437
Universities and Colleges—				
(a) Preparatory	46 ¹	19,783	1,394	} 20,367,679
(b) University grade	152	37,400	4,708	
(c) Others	7 ²	21,257		
Totals.....	32,209	2,490,623	83,144	185,361,198

¹ Approximate.

² Including only affiliated schools that are not enumerated in (b).

Ordinary Day Schools of General Education.—The provincially-controlled schools in this category care for 2,106,878 pupils, the privately controlled, 92,275, making in all 2,199,153. Except in Quebec these pupils are distributed over twelve grades, each requiring about one year for the average child to complete. The first eight grades are elementary, the remaining four are secondary or high school and included in 1930 over 13 p.c. of the total. One of the outstanding features of the schools in recent years has been the rising proportion of pupils continuing into these upper grades, it having risen to the present figure from 8 p.c. in 1921.

Several factors have contributed to this result, the chief among them doubtless being the more general and more rigid enforcement of attendance in the elementary grades. The proportion of the years' enrolment in average daily attendance in 1930 was over 70 p.c. in every province and 77 p.c. for the Dominion as a whole, where it was only 64.7 p.c. in 1919. Since this means that the average pupil is attending school at least a month more in each year than a decade ago it is not surprising that the result is a higher proportion reaching the upper grades. In Nova Scotia in 1930, for instance, the percentage of attendance had increased 12 p.c. relatively to 1921, while the average grade of children at 14 years had risen 6 p.c. (allowing equal weight to each grade); in Saskatchewan the average attendance had risen 18 p.c., the grade 8 p.c. In the years 1930 and 1931 the difficulty that adolescents have been experiencing in securing employment, in common with their elders, has resulted in many of them remaining in school, or even returning to school after absence of a year or more, when they would in normal times have found places in industry, and this in turn is serving to swell still further the enrolment in high school grades.



A Consolidated Rural School

For every 32 pupils there is a teacher, the average number of pupils to a classroom ranging from 30 to 36 in all provinces except Ontario, where there are calculated to be 39, and Prince Edward Island, where there are only 28. The proportion of men in the teaching profession has increased steadily to 21.1 p.c. for the Dominion as a whole since the close of the war when it was at the abnormally low figure of 15.5 p.c., which compares with 19.2 p.c. for the last year before the outbreak of the war. In the matter of certification of teachers there has been outstanding improvement in recent years. In 1914 the proportion of teachers with second

class or higher certificates, in the eight provinces where licences are thus classed, was only 67 p.c.; by 1919 it had risen to 74 p.c.; by 1924 to 85 p.c.; and by 1930 to 95 p.c. In the provinces from Ontario westward third class and similar temporary certificates have practically disappeared, and this fact provides a very good indication of the increasing permanence of the profession. The average length of experience of the Manitoba teacher in 1923, for example, was less than four years; now it is six years.

Numerous factors have contributed to the more permanent status that the teaching profession has assumed. Teachers' pension schemes have been introduced in all provinces except Alberta, in most cases within the last few years, adding much to the stability of the profession. Each of the provinces, and the Dominion as a whole, now has a teachers' professional organization and these since their origin a few years ago have held consistently before them the ideal of improvement within the profession. Summer schools conducted by the universities and Departments of Education, enabling teachers to improve their standing, have become increasingly numerous and well-patronized, now enrolling about 7,500, or more than one-tenth of all teachers annually. Teacher training departments for graduates have been added to the universities in all provinces except Manitoba where a special class is conducted at the Normal School.

Technical and Vocational Schools.—To an increasing extent in recent years, technical and industrial schools are coming to supplement the work of the schools of general education, due in considerable measure to the stimulus given to this type of education by Dominion subsidies. In 1913 the Agricultural Instruction Act provided for the distribution of \$10,000,000 among the provinces in ten years; in 1919 a similar sum was voted for the advancement of technical education on condition that the provinces themselves each spend an additional amount equivalent to its share; in 1929 the time limit in which the provinces might qualify for their shares was extended five years; in 1931 an annual sum of \$750,000 for fifteen years was voted for the same purpose. Thus continuance of the central stimulus is assured for a further period, and the relative importance of vocational schools in the educational system may be expected to further increase.

The enrolment in day courses in 1930 was 47,742, practically all of post-elementary grade, and 25,558 of whom were in the province of Ontario where a general system of secondary technical schools has developed further than in other provinces, as would be expected from the greater number of its industrial cities. The technical schools are something more than trade schools, as is evidenced from the fact that boys are outnumbered by girls in the enrolment, the latter generally following business training, household science or art courses. Indeed, in five of the provinces there are schools in this category confining their instruction entirely to the fine arts, keeping in mind the practical aspects of applied art as required in commerce and industry. Evening classes in the technical schools enrolled 111,301 pupils in 1930, and included a wide variety of courses, all of which were not of secondary grade.

In addition to the enrolment above mentioned which includes, with two exceptions, only the pupils in Dominion-subsidized schools, there are many independent schools of a technical character conducted by private enterprise. The most numerous type, generally termed business colleges, one or more of which is established in all of the cities and larger towns, train annually thousands of young people for office positions. Their enrolment in 1930 was 29,120, one-third of whom attended evening classes.

Indian Schools.—Scattered throughout the provinces and territories of the Dominion are 78 residential and 272 non-residential schools for the children of native Indians. They were attended in 1930 by 15,743 pupils, almost half of whom were in residential schools, in the operation of which the Department of Indian Affairs works in close co-operation with the Roman Catholic, Anglican, United and Presbyterian Churches. The school curriculum of the province in which the Indian school is situated is generally followed, but the enrolment in advance of elementary grades is small. Girls are given training in domestic science, boys in agriculture and certain trades, in the residential schools. In 1919 school attendance of all physically fit Indian children between the ages of seven and fifteen was made compulsory, and average daily attendance has since increased 50 p.c.

Teacher Training Schools.—Each province has one or more normal schools, 46 in all, in which there were 7,360 teachers in training in 1930. In all cases except Quebec and Prince Edward Island, where a part of high school training is received in the normal schools, the courses are not of more than one year's duration. Except in Quebec some attendance at a normal school is now prerequisite to the receipt of a teaching certificate. This does not apply to university graduates, however, who may receive their professional training in a university school of education during, or at the end of, their degree course. Several such colleges of education have been founded within the last few years, in the University of Saskatchewan, the University of Alberta, McGill University, and the two Pedagogical Institutes affiliated to the University of Montreal, one for men and one for women.

Universities and Colleges.—Canada has 152 institutions providing higher educational facilities. About 60 of these offer only arts courses, a further 35 are theological colleges, and 15 others confine their instruction to one line of professional training such as agriculture or engineering. Some of these grant degrees but the majority are affiliated to one of the 18 universities which grant more than 95 p.c. of all degrees in the country. In many of the higher educational institutions French is the chief language of instruction, the three largest being the University of Montreal, Laval University at Quebec city, and the University of Ottawa.

There were 37,400 students of university standard in 1930, and a number half as great in the preparatory or high school courses conducted by many of the colleges, including the Quebec classical colleges exclusive of students in the four final years. The importance of a third class of work done by the universities is difficult to express numerically. Exten-

sion activities include over 18,000 in evening and Saturday classes, summer schools, and other short courses, but extend beyond the walls of the universities to reach hundreds of thousands every year by lectures, radio broadcasts, travelling libraries, lantern slide sets, educative gramophone records, and regular sections in the daily or weekly press.



University College, Toronto University.

Courtesy Canadian Government Motion Picture Bureau.

Research Councils

The work of the universities in providing a body of skilled men and women to investigate problems of applied science and industry has been facilitated as well as supplemented within the past few years by the formation of organizations for research by the Dominion and several of the Provincial Governments. What is now the National Research Council was first established in 1916, the Research Council of Alberta in 1921, the Ontario Research Foundation in 1928, and the Research Council of Saskatchewan in 1930. Close co-operation is maintained with the universities on the one hand and industrial concerns on the other. The directors of research are generally drawn from the university staffs and are assisted by a selection of young graduates.

The Alberta Council has dealt mainly with fuels, road materials, geological and soil surveys, due to the predominance of agriculture and non-metallic minerals among the province's resources, and space at the provincial university has been used for laboratories. The Ontario Research Foundation is housed in Queen's Park, Toronto, in close proximity to the university, and in 1931 has been conducting studies in six main departments: textiles, metallurgy, veterinary science, chemistry, bio-

chemistry and physiology. The scheme of organization under which the Foundation operates provides that half of the cost shall be borne by the Legislature and half by the subscriptions of industries and private individuals.

Five years ago the Government authorized the National Research Council to establish its first laboratory, and early in 1930 investigations were begun in a temporary building in Ottawa in chemical, physical and aeronautical problems. About the same time construction of new laboratories at a cost of \$3,000,000 was begun and these are now practically ready for occupancy. (See p. 106 for illustration). Pending completion the existing laboratories have been used to capacity and the nucleus of a scientific staff has been organized in the three departments mentioned. The Council itself consists of 15 members, and two classes of associate committees work in conjunction with it. Advisory committees have been established on chemistry, physics, botany, mining and metallurgy, nitrogen fixation, electrical measuring instruments and engineering standards, their function being to report on problems referred to them by the Council. The other type of committee is appointed to direct or undertake definite research problems in co-operation with the Council, and usually has in its membership representatives from other organizations making investigations into the same problems. The Council gives financial assistance to researches in university, industrial and other government laboratories, to facilitate the purchase of equipment or the provision of technical assistance essential to researches that are in hand. Over 100 investigations of this kind are at present being assisted in 25 different laboratories. Further, in order to give graduates of Canadian universities specialized training in scientific investigation, the Council has established a system of post-graduate scholarships. They are of four main classes varying with the qualifications and experience of the applicants; bursaries of the annual value of \$600, studentships \$750, fellowships \$1,000, and a few travelling fellowships valued at \$1,500. All except the last are tenable at the various Canadian Universities. These involve an annual expenditure of about \$50,000.

Libraries

The library is sometimes called "the poor man's university"; but it is more than that, for the university man or woman cannot get along without it, neither can the successful businessman or woman. There are Canadian libraries available to all classes of people, the libraries themselves being of several classes. Statistics have been secured for 1,109 libraries, 862 of these being public or parish libraries, 133 connected with universities, colleges or normal schools, 57 directly operated by the Dominion or Provincial Governments, 20 belonging to Law Societies and 37 to technical or commercial organizations. In addition to the libraries to which access to the shelf or desk may be had, some of the Governments and universities operate travelling libraries. These again are of several types: the single book or parcel of books borrowed through the mail, though this is perhaps not so distinctly of the travelling library type; the box of books, selected either by the borrowers or by the librarians; and, perhaps

best of all, the library van. The latter form of travelling library was adopted by Acadia University in June 1930 for regular service through the three Maritime Provinces. A similar service is being considered by the British Columbia Government.



University Extension Work.—One of the most recently developed of Canadian Universities' varied extra-mural activities is the equipment of "book-mobiles" by Acadia University which call periodically at towns throughout the Maritime Provinces to lend their volumes to students.

Photo, courtesy President F. W. Patterson.

Library commissions are organized bodies whose duties are to survey, supervise or assist libraries throughout the territory which they cover. Some form of library commission is now in operation in eight of the provinces and the remaining province has access to the McGill University Travelling Library Department and the Acadia Library vans. Five of the library commissions are directly under Provincial Governments.

Library associations are groups of librarians, or others directly interested in libraries, organized for the improvement of library service especially in their own communities. In addition to the Canadian Library Association there are at present four provincial associations, a branch of the American Library Association, the Pacific Northwest Association (which is international) and the Maritime Association, also one city association.

Professional library training is given in several universities, McGill in 1930-31 offering the post-graduate degree of Bachelor of Library Science. The Ontario College of Education at the University of Toronto and Acadia University give one-year courses in library science. Short courses are given by McGill University and the Ontario Department of Education. Instruction in the use of libraries is compulsory to first-year students at the University of Western Ontario. Some library instruction is given at a number of the Ontario normal schools. Several of the large public libraries have apprentice classes from which assistants are drawn in times of emergency.

CHAPTER XX

MISCELLANEOUS STATISTICS

Judicial Statistics

The progress of a community, from the moral point of view, is often judged by the number of convictions for "major" offences, as these are less affected than "minor" offences by extraneous circumstances and the varying methods of law enforcement in different areas and in different years. However, in the study of such statistics it is important to have comparable figures over a period of years, and even then it is essential that the limitations of such figures be recognized for just as regard for law, or morality, is not measured by the number of people who remain out of our gaols and penitentiaries so disregard for law is not fully shown by the number of convictions made. Nevertheless judicial and criminal statistics are important and valuable, when comparable figures are given, in drawing attention to a trend or tendency, and when interpreted in this way they serve a very necessary purpose.

Before Confederation each province had its own system of criminal jurisprudence founded on the criminal law of England and introduced by the Royal Proclamation of 1763. At Confederation, criminal law was assigned by sec. 91 of the British North America Act to the Dominion. In 1869 a number of Acts were passed establishing a uniform system of criminal legislation. These Acts were known as "The Criminal Law Consolidation and Amendment Acts of 1869".

The collection and publication of criminal statistics was first authorized by an Act of 1876 (39 Vict., c. 13), and the results have been published upon a comparable basis from that time to the present, and are now collected and published by the Dominion Bureau of Statistics under the Statistics Act (8-9 Geo. V, c. 43). In consideration of what has been said above it should be remembered that while the criminal code undergoes little change over periods of time, the figures of summary convictions depend very much upon the changes in the customs of the people, and are apt to increase with the increasing urbanization of the population. The most significant column of the following table is the figure of criminal offences per 100,000 of population. Attention may be drawn to the increase in the proportion of both criminal offences and minor offences to population in recent years, convictions for criminal offences having risen from 277 per 100,000 population in 1924 to 410 per 100,000 population in 1930 and convictions for minor offences from 1,535 per 100,000 in 1924 to 3,068 per 100,000 in 1930.

It should be understood that the classification of offences in the following table is irrespective of the more technical classification into "indictable" and "non-indictable" offences under the Criminal Code, the object here being to show a broad record of criminal and minor offences respectively since 1920.

Convictions for Criminal Offences, by Groups, and Total Convictions for Minor Offences, years ended Sept. 30, 1920-1930, with Proportions to Population

Year	Criminal Offences						Minor Offences			
	Offences against—			Other Felonies and Misdemeanours	Total of Criminal Offences					
	The Person	Property with Violence	Property without Violence							
	No.	No.	No.		No.	No.	P.c. of all offences	Per 100,000 pop.	No.	P.c. of all offences
1920...	8,281	2,310	11,634	2,059	24,284	14.9	281	138,424	85.1	1,604
1921...	8,197	2,609	12,059	2,081	24,946	14.2	284	152,227	85.9	1,731
1922...	7,291	2,783	11,607	2,610	24,291	15.3	271	134,049	84.7	1,498
1923...	7,550	2,076	11,482	3,075	24,183	15.1	266	135,069	84.8	1,487
1924...	7,595	2,536	12,790	2,635	25,556	16.3	277	141,663	84.7	1,535
1925...	7,826	2,749	13,892	2,644	27,111	15.3	289	150,672	84.7	1,610
1926...	7,799	2,296	14,262	2,679	27,036	13.8	287	159,171	86.2	1,803
1927...	8,343	2,671	15,154	2,809	28,977	13.1	304	191,285	86.9	2,009
1928...	8,140	2,991	16,072	3,856	32,059	11.6	332	243,123	88.4	2,517
1929...	10,392	3,529	17,271	4,001	35,193	10.9	359	286,773	89.1	2,927
1930...	11,052	4,647	18,498	6,584	40,781	11.8	410	304,860	88.2	3,068

Of the total convictions for criminal and minor offences for 1930, *viz.*, 345,641, the sentences imposed were: gaol or fine, 266,777; penitentiary, 3,013; reformatory, 943; death, 17; and other sentences, 74,891. Death sentences, which numbered 28 in 1919 and 26 in 1920, fell to 15 in 1923, rose to 22 in 1924, dropped to 18 in 1925, 15 in 1926, 12 in 1927, and rose again to 19 in 1928 and 26 in 1929, then dropped again to 17 in 1930.

Police

Police statistics are collected by the Bureau of Statistics from cities and towns having populations of 4,000 and over. In 1929 there were 139 such municipalities from which returns were received. The following table gives these statistics by provinces.

Police Statistics, by Provinces, calendar year 1930

Province	Number of—					Number of the Population to each Policeman	Number of Arrests per Policeman
	Cities and Towns	Population	Police	Arrests	Summons		
Prince Edward Island	1	12,347	8	564	390	1,543	70
Nova Scotia	14	175,500	145	7,304	2,125	1,210	50
New Brunswick	5	81,219	88	2,752	983	823	31
Quebec	30	1,004,694	2,109	37,101	26,144	477	18
Ontario	104	1,396,634	1,802	44,982	99,937	750	24
Manitoba	7	241,665	311	7,584	23,205	777	26
Saskatchewan	6	100,366	139	3,409	3,716	726	24
Alberta	4	150,725	191	5,548	6,250	780	28
British Columbia	8	203,852	448	10,947	20,224	455	24
Canada	139	3,367,602	5,301	120,191	182,974	635	23

Offences reported to the police numbered 352,783; there were 260,087 prosecutions, resulting in 204,042 convictions. The number of automobiles reported stolen was 12,298 and 11,842 were reported recovered. The value of other goods stolen was \$2,056,412, and the value of goods recovered was \$1,316,687.

Royal Canadian Mounted Police.—The Royal Canadian Mounted Police is a Dominion force, for use in any part of Canada, organized in twelve divisions under a Commissioner. The headquarters of the force is at Ottawa, Ontario, and the training depot at Regina, Saskatchewan. In August, 1931, the strength of the force was 60 officers, 1,085 non-commissioned officers and constables, and 135 special constables.

In general terms, the duties of the force are to enforce Dominion Statutes (except the Criminal Code which is enforced by the provincial authorities), to assist the various Departments of the Dominion Government in prevention of crime, and also in some cases in administrative matters, and to afford police supervision to government buildings and dockyards. The R.C.M.P. also police all National Parks and many of the important Indian reserves. In the Yukon Territory and Northwest Territories the R.C.M.P. enforce all laws, including Territorial as well as any municipal by-laws.

Assistance from time to time is also rendered in certain circumstances to provincial authorities, and by an agreement which came into effect on June 1, 1928, the R.C.M.P. enforce all provincial laws in the province of Saskatchewan, under the direction of the Attorney General of the province, in addition to all Dominion laws, including the Criminal Code.

Police supervision in the Canadian Arctic and sub-Arctic is becoming increasingly important, and detachments of the force are distributed at strategical points to afford protection to the native population and enforce all laws, including those for the conservation of game and wild life.

National Defence

Militia.—Canada is organized in 11 military districts, each under a Commander and his District Staff.

The militia of Canada is classified as active and reserve, and the active is subdivided into permanent and non-permanent forces. The permanent force consists of 11 units of all arms of the service, with an authorized establishment limited to 10,000, but at present the strength is about 3,800. The non-permanent active militia is made up of cavalry, artillery, engineers, machine gun, signalling, infantry and other corps. The total establishment of the Canadian non-permanent militia totals 9,050 officers and 116,545 other ranks.

The reserve militia consists of such units as are named by the Governor in Council and of all able bodied citizens between the ages of 18 and 60, with certain exemptions. The reserve of the active militia consists of (1) reserve units of city and rural corps, (2) reserve depots, (3) reserve of officers. The above organizations are supplemented by numerous cadet corps and rifle associations.

The appropriation for the militia for the year ending March 31, 1932, is \$10,232,000, as compared with an expenditure of \$11,087,800 for the fiscal year 1931.

Navy.—The Royal Canadian Navy was established in 1910. Its authorized complements are: 104 officers and 792 men of the permanent force (Royal Canadian Navy); 70 officers and 430 men of the Royal Canadian Naval Reserve; and 70 officers and 930 men of the Royal Canadian Naval Volunteer Reserve. The vessels at present maintained in commission are: the destroyer *Champlain* and the mine-sweeping trawlers *Festubert* and *Ypres*, based on Halifax, N.S.; the destroyer *Vancouver* and the mine-sweeping trawlers *Armentières* and *Thiepval*, based on Esquimalt, B.C. Two British-built destroyers, the *Saguenay* and the *Skeena*, of 1,320 tons each, have been completed and were delivered to the Canadian Government in July, 1931. They have recently been placed in commission. H.M.C. Dockyards are at Halifax and Esquimalt, having been taken over from the Imperial Government in 1910. Naval depots are maintained at both bases, and are used as training headquarters for the personnel of the R.C.N., R.C.N.R., and R.C.N.V.R.

The appropriations for naval services for 1930-31 amounted to \$3,600,000. The estimated expenditure for the year ending Mar. 31, 1932, is \$3,375,000.



The H.M.C.S. *Saguenay* Recently Placed in Commission on the Atlantic Seaboard.—This vessel and her sister ship, the H.M.C.S. *Skeena*, are modern British-built destroyers of 1,320 tons. The armament of each consists of four 4.7" guns and eight 21" torpedo tubes.

Courtesy Department of National Defence.

Air Services.—The Air Service in Canada is divided into four Divisions, viz., (1) The Royal Canadian Air Force, (2) Civil Government Air Operations, (3) Aeronautical Engineering, and (4) Controller of Civil Aviation.

The Royal Canadian Air Force controls and administers all Air Force Service training and operations. The R.C.A.F. personnel employed in all air services on Aug. 1, 1931, was 182 officers and 703 other ranks. This does not include 92 provisional pilot officers receiving flying training and 25 boys who are taking a course of technical instruction at Camp Borden.

The Civil Government Air Operations Division controls all air operations carried out for Government Departments; and the Controller of Civil Aviation is concerned with the administration of Air Regulations and the control of commercial and private flying. The Aeronautical Engineering Division acts in an advisory capacity on technical matters to the other three Divisions.

The total appropriation for aviation for the fiscal year 1931-32 is \$5,142,000 as compared with \$7,475,700 for the previous fiscal year. Of this amount \$2,266,000 is required for the R.C.A.F.; \$2,776,000 for civil air operations generally, and \$100,000 to provide for expenses in connection with air mail routes.

Newspapers and Periodicals in Canada

The condition and influence of the press of a country is an important indication of advancement or retrogression, and the fact that Canada possesses many excellent periodicals that have grown up with the country and its institutions and developed character with individuality, in spite of strong outside influences, is a tribute to the enterprise of her editors and newspapermen.

Our magazines in particular (apart from the university quarterlies and such special publications) have had to struggle against the keenest of competition from abroad and have done so with growing success. The chief Canadian dailies compare favourably with any on the American continent. Indeed the Canadian press, as an educational influence, as guardian of the public interest, and as a constructive critic of policy, has taken a very important part in national development. In 1901 the number of Canadian newspapers and periodicals was 1,249. This had increased by 1931 to 1,633. Figures for 1921 and 1931 are given below:—

Newspapers and Periodicals¹

Province	1921						1931					
	Daily	Bi-Tri-Semi- and Weekly	Bi-Tri-Semi- and Monthly	Quarterly	Miscellaneous	Total	Daily	Bi-Tri-Semi- and Weekly	Bi-Tri-Semi- and Monthly	Quarterly	Miscellaneous	Total
Pr. Ed. Island...	3	6	-	-	-	9	2	5	-	-	1	8
Nova Scotia...	13	52	8	-	-	73	9	42	8	1	2	62
New Brunswick...	8	30	8	-	-	46	6	26	10	-	-	42
Quebec...	19	109	77	9	1	215	19	134	125	5	8	291
Ontario...	41	387	151	10	2	591	42	350	208	15	5	620
Manitoba...	6	101	34	-	-	141	7	106	51	-	1	165
Saskatchewan...	6	171	7	-	-	184	5	176	10	-	-	191
Alberta...	6	111	8	-	-	125	6	114	12	2	-	134
Br. Columbia...	14	59	24	-	-	97	16	73	26	-	1	116
Yukon...	1	2	-	-	-	3	1	2	-	1	-	4
Totals	117	1,028	317	19	3	1,484	113	1,028	450	24	18	1,633

¹ The statistics in this table are taken from McKim's *Canadian Newspaper Directory*.

APPENDIX

Official Sources of Information Relating to Canada

The official statistics of Canada are centralized under the Dominion Bureau of Statistics, which was established by special legislation in 1918 and has a universal mandate in statistics. Statistics that originate in, or are of special interest to, particular Departments are collected and published under a series of agreements between the Bureau and the Departments in question. The same method is followed in statistics originating under Provincial Governments, which in accordance with the Canadian constitution have the primary jurisdiction in certain important social and economic fields. The organization of statistics on a national scale, however, devolved upon the Dominion Government under the British North America Act.

The statistical work at present under the Bureau covers the following fields: (1) population or demography, which includes (a) the census, (b) vital statistics, and (c) the statistics of migration; (2) social statistics, which includes such subjects as criminology and education; (3) production, which includes (a) agriculture, (b) the fisheries, (c) forestry and forest industries, (d) mining and metallurgy, (e) water powers and central electric stations, (f) general manufactures, and (g) construction; (4) external trade, or the statistics of imports and exports; (5) internal trade, which includes statistics relating to the marketing of grain, livestock and animal products, wholesale and retail trading establishments, the stock markets, prices, etc.; (6) transportation and communications, which includes railways, tramways, highways and motor vehicles, express companies, shipping, telegraphs and telephones; (7) finance, Dominion, provincial and municipal public finance, also currency, banking, interest and exchange.

There is, in addition, a General Statistical Branch in the Bureau which brings out several publications of an *omnibus* character, the most important being the *Canada Year Book*, a *précis* or compendium of all statistical data relating to the Dominion; also the *Monthly Review of Business Statistics*, which re-issues the more important "barometric" figures collected in the several branches of the Bureau in succinct form and by the application of methods that assist the business community in judging of current economic trends and their probable course in the future; and the handbook of Canada, *Canada 1932*.

The various Departments of the Dominion Government publish valuable information, which is on the whole descriptive or technical in nature and which deals with the progress made in administration, research work of a highly scientific character or progress in their own specific fields. A brief summary of their reports follows. This is intended to direct the inquirer to the proper source from which he or she may obtain detailed information concerning a particular field of interest. Complete lists of publications may be obtained on application to the Departments concerned.

Agriculture.—Reports, bulletins and pamphlets on field crops, live stock, dairying, poultry, orchard and garden insects, plant diseases and miscellaneous topics.

Auditor-General.—Annual Report.

Board of Railway Commissioners for Canada.—Annual Report, pamphlets on judgments, orders, regulations, etc.

Civil Service Commission.—Appointments, promotions, transfers, classification, regulations, examinations.

Dominion Fuel Board.—Reports on various fuels, methods of heating, etc.

External Affairs.—Annual Report.

Finance.—Reports on the public accounts, chartered banks, estimates.

Health.—Pamphlets on various diseases, sanitation, hygiene, etc.

APPENDIX—concluded

Immigration and Colonization.—Information for immigrants, land settlement, farm opportunities, citizenship, various atlases, etc.

Indian Affairs.—Annual Report, etc.

Insurance.—Reports on the various kinds of insurance, loan and trust companies, etc.

Interior.—Pamphlets, reports and bulletins respecting land surveys, Canadian national parks, forestry, water powers and reclamation, Northwest Territories and the Yukon, the work of the National Development Bureau, Dominion Observatories, etc.

International Boundary Commission.—Reports, maps, etc.

Justice.—Annual Report on Penitentiaries.

King's Printer and Controller of Stationery.—The *Canada Gazette*, judgments of the Board of Railway Commissioners, law reports, statutes, acts, Canadian Postal Guide, Hansard, etc.

Labour.—Information relating to labour, wages, employment, industrial disputes, combines, old age pensions, technical education, government annuities, labour organization, labour legislation, etc.

Marine.—Marine Annual Report, lists of shipping, ports, lights, information on tides, currents, navigation, charts of coast lines, lakes, bays, harbours, etc. Radiotelegraph.

Fisheries.—Annual Report, monthly bulletin, etc.

Mines.—The Department's principal branches—Geological Survey, Mines Branch, National Museum, and Explosives Division—publish reports, pamphlets, etc., covering all phases of mining from preliminary explorations and surveys of territory through the mining, milling, smelting and refining of ores to the marketing and utilization of the finished product.

National Defence.—Reports on Militia and Defence, Naval Service and Civil Aviation.

National Research Council.—Reports, bulletins, etc., on various researches.

National Revenue.—Annual Report on imports, exports, excise and income.

Post Office.—Annual Report, *Postal Guide*, regulations, information.

Public Works.—Annual Report.

Railways and Canals.—Annual Report.

Secretary of State.—Annual Report. The Arms of Canada.

Trade and Commerce.—Annual Report. Reports of the Board of Grain Commissioners. Reports on weights and measures inspection service, gas and electricity inspection service, conferences and trade agreements. The Commercial Intelligence Service publishes a weekly journal and various bulletins, etc., relative to trade and commerce.

Dominion Bureau of Statistics.—*Census*—Reports of decennial and quinquennial censuses of population and agriculture, showing population by provinces, electoral districts, cities, towns, etc., sex, age, conjugal condition, birthplaces, citizenship, year of immigration, naturalization, language, origins, religions, literacy, school attendance, dwellings, occupations, blindness, etc.—Farm holdings, farm tenures, field crops, live stock, fruits, etc.—Intercensal estimates of population. *Vital Statistics*—Births, deaths, marriages, divorces. *Production*—General summary, differentiating primary and secondary production, gross and net. *Agriculture*: The Monthly Bulletin of Agricultural Statistics—Monthly and annual reports on field crops, live stock, poultry, dairying, tobacco, fruit, honey, maple products, etc.—Weekly, monthly and annual reports on the marketing of grain, live stock and their products. *Forestry*: Reports on logging, lumber, pulp and paper and the various wood and paper-using industries. *Fisheries*: Annual reports on fish caught, marketed, prepared, etc. *Furs*: Reports on trapping and fur farming. *Mines*: Monthly, semi-annual and annual reports on the various metals, non-metallic minerals, coal, structural materials, and the numerous industries based thereon. *Manufactures*: Reports on various manufactures classified under the following heads: food and animal products, textile and allied industries, wood products, iron and steel and their products, non-ferrous metal products, non-metallic mineral products, chemicals and allied products, miscellaneous. *Construction*: Railway, telephone and telegraph construction, government and municipal construction, ship-building, building permits, etc.. *External Trade*—Monthly, quarterly and annual reports on imports and exports. *Internal Trade*—Wholesale and retail prices and the cost of living, security prices, census of trading establishments, capital movements, balances of international payments, etc. *Transportation, Communications and Public Utilities*—Railways, trauhvays, express, telegraphs, telephones, highways and motor vehicles, canals, central electric stations. *Public Finance*—Dominion, provincial and municipal finance. *Justice*—Criminal statistics, juvenile delinquency. *Education*—Elementary and secondary schools, universities, business colleges, private schools, illiteracy, playgrounds, public libraries, etc. *General*—Estimates of national wealth and income, monthly and annual reports on employment, commercial failures, bank debits—"The Monthly Review of Business Statistics"—"The Canada Year Book", being the official statistical annual of the physiography, resources, history, institutions and social and economic conditions of the Dominion, with a statistical summary of the progress of Canada, maps, diagrams, etc.—"Canada 1932". *Administration*—Annual Report of Dominion Statisticians.

N.B.—Information relating to the different provinces is contained also in various publications issued by the respective Provincial Governments. The publications of Provincial Governments are listed in the Bureau.

INDEX

	PAGE		PAGE
Abnormal Importations Act.....	130	Cabinet responsibility.....	33
Aboriginal races.....	31	Cablegrams.....	116
Advisory Research Council.....	180	Cables.....	116
Africa, trade with.....	124	Canada, agricultural production.....	47-51
Agriculture.....	47	— area, land and water.....	16
Agricultural lands.....	47	— climate.....	20, 21
— production.....	44, 49	— constitution and government.....	33
— revenue of Canada.....	49	— fisheries production.....	84
— wealth and production.....	49	— Grain Act.....	53
— wealth of Canada, by provinces.....	49	— in the Empire and among the Nations.....	7, 13, 30, 137
Air mail service.....	117	— population.....	22
— navigation.....	115	— trade, external.....	118
— services.....	185-6	— internal.....	138
Alberta, area.....	16	— wealth and income.....	41
— agriculture.....	49, 61	Canadian banking system.....	154
— births.....	29	— chartered banks.....	156
— climate.....	21	— fishing grounds.....	83
— deaths.....	29	— grain trade.....	53
— finance.....	148-150	— Northern Railway.....	107
— manufactures.....	96	— Pacific Railway.....	107
— marriages.....	29	— railways.....	107-9
— minerals.....	74	— expenditure.....	108-9
— population.....	23, 26	— representatives in other countries.....	36
— wealth and production.....	42-4	— trade balance.....	131
All-Canadian Congress of Labour.....	105	— water powers.....	79
America, North, trade with.....	118	— wealth and income.....	41
— South, trade with.....	123	Canals.....	110
Annuities Act, Government.....	104	— Canadian systems.....	110
Appendix—Sources of Official Informa- tion.....	187-8	— cost of construction of.....	110, 146
Area and yield of field crops.....	51	— traffic.....	110-2
— of Canada, and provinces.....	15, 16	Capital investments.....	45
Asia, trade with.....	119	Car loadings, 1931.....	109
Australia, trade with.....	123	Census of manufactures.....	96
Australian trade treaty.....	136	Central electric stations.....	82
Automobile insurance.....	159	Chain stores.....	139
— manufacturing industry.....	97	Cheese factories.....	60, 61
— registration.....	114	China, trade with.....	119
		Cities, building permits.....	106
Balance sheet, Dominion of Canada, 1931.....	148	— populations of.....	27-8
Bank clearings and bank debits since 1924.....	156	Clay products.....	73
Banking.....	154	Clearing-house transactions.....	156
— and currency.....	152	Climate.....	20
Bank note circulation.....	153	Clover production.....	57
— notes.....	153	Colleges and Universities.....	178
Beetroot sugar production.....	57	Combines Investigation Act.....	164
Beets, sugar, production of.....	56, 57	Commercial failures.....	163
Births, by provinces; number in Canada.....	29	Commodities, prices of.....	142
Board of Grain Commissioners.....	54	Common stocks.....	141
Bonded indebtedness, provincial.....	149	Communications, transportation and.....	107
— municipal.....	151	Constitution and Government of Can- ada.....	33
British capital in Canada.....	46	Construction.....	102
British Columbia, area.....	16	— building permits.....	105-6
— agriculture.....	49-61	— contracts awarded.....	104
— births.....	29	— in transportation, etc.....	102
— climate.....	21	Convictions for criminal offences.....	183
— deaths.....	29	Co-operative associations.....	167
— finance.....	148-150	Cost of living.....	144
— fisheries.....	84	Crop of 1931.....	52
— forestry.....	66	Crops, special.....	56
— manufactures.....	96	Currency and banking.....	152
— marriages.....	29	— Canadian.....	152
— minerals.....	74	— historical sketch of.....	152
— population.....	23, 26	Customs duties.....	135-7, 147
— wealth and production.....	42-4		
British Empire, area and population.....	22	Dairy production of Canada, by prov- inces, 1930.....	61
— trade with.....	126	Dairying industries.....	59
— preferential tariff.....	135	Day Schools of General Education.....	175
Building operations.....	103	Deaths, by provinces.....	29
— permits.....	105	— number in Canada.....	29
— by cities.....	105	Debt, Dominion net.....	146
— value of.....	106		

	PAGE		PAGE
Dominion finances, expenditure.....	146	Game and scenery.....	87, 134
— Government, note circulation.....	153	Government and the fisheries.....	87
— ministry.....	34	— Annuities Act.....	164
— notes, circulation of.....	153	— of Canada, constitution and.....	33
— Parliament.....	38	— of provinces.....	39
— revenue.....	146	Grain crops.....	51-2
Economic position of Canada.....	7-14	— trade.....	53
— progress of Canada.....	15	Growth of population.....	23, 26
Education.....	175	High Commissioner for Canada.....	36
— in Canada, 1930, statistics of.....	175	Highway mileage open for traffic, 1931.....	113
— measures of progress in.....	175-7	Highways and roads.....	112
— university.....	178	Honey production.....	57
Educational expenditures.....	175	Hops production.....	57
— institutions.....	175	Hydro-electric power.....	80
— systems.....	175	— development.....	80-2
Electric railways, capital.....	112	Immigration.....	29-31
— miles of track.....	112	Imperial conferences.....	37, 38, 137
— number.....	112	— postage.....	116
— passengers.....	112	Imports.....	126
Employers' associations.....	167	— of wheat for Canada, 1870-1930.....	51
Employment by economic areas.....	169	Income and production.....	45
— by industries.....	170	Index numbers of common stocks.....	141
— during 1931.....	168	— of employment.....	169
— in leading cities.....	169	— of 20 mining stocks.....	142
Eskimos.....	32	— of security prices.....	140
Europe, trade with.....	119	— of wholesale prices.....	143
Excise taxes.....	147-8	Indexes of employment in manufactures.....	101
Expenditure, Dominion.....	146	Indian Education.....	178
— educational.....	175	— Schools.....	178
— provincial.....	150	Indians.....	31
Experimental farms and stations, work of the.....	53	Industrial disputes.....	166
Exports.....	128	— research in Canada.....	179
— of live stock and their products.....	59	Industries founded on wood and paper.....	69
— of newsprint.....	69	— statistics of 40 leading.....	97
— of wheat for Canada 1870-1930.....	51	— textile.....	98-9
Express companies.....	112	Information, official, sources of.....	187
External trade.....	118	Insurance.....	157-160
Farm Relief Act, 1931, Unemployment and.....	173	— fire.....	158
Federation of Catholic Workers of Canada.....	165	— life.....	157
Field crops, area, yield, etc.....	51	— miscellaneous.....	159-160
— of Canada, 1931.....	52	Interest rates.....	162
Finance.....	13, 145	Intermediate tariffs.....	136
— Dominion.....	145	Internal tariffs.....	138
— municipal.....	150	Internal freight movements.....	138
— provincial.....	148	— trade.....	138
— public.....	145	International payments, 1929, estimated balance of.....	133
Fire insurance.....	158	Investments in Canada, British and foreign.....	46
Fish, game.....	87	Iron and steel industry.....	96-7
— hatcheries.....	87	Japan, trade with.....	119
— industry.....	83	Judicial statistics.....	182
— trade.....	84	Labour.....	164
Fisheries of Canada.....	83	— in politics.....	166
— by principal kinds.....	84	— movement the.....	164
— by provinces.....	84	Libraries.....	180
— conditions in 1931.....	88	Lieutenant-Governors of provinces.....	39
Flax production.....	57	Life Insurance, see "Insurance".....	157
— trade.....	57	Live stock and their products.....	59
Flour mills in Canada.....	57	— industry.....	58
Foreign capital in Canada.....	46	— number in Canada, 1930.....	59
— exchange non-commodity, items of.....	132-5	Loan and trust companies.....	160
Forest wealth of Canada.....	63	Lumber industry.....	65
Forests.....	63	— production.....	66
Freight movements, 1931.....	140	Lumbering.....	63
Fruit and vegetable canning.....	62	Manitoba, area.....	16
— growing industry.....	61	— agriculture.....	49, 61
Fur farming.....	92	— births.....	29
— furs, number of.....	92	— climate.....	21
— modern industry.....	90	— deaths.....	29
— trade.....	89	— finance.....	148-150
— trade, history of.....	89	— fisheries.....	84
Furs.....	89	— manufactures.....	96
		— marriages.....	29

	PAGE		PAGE
Manitoba, minerals.....	74	Official sources of information.....	187
— population.....	23, 26	Old Age Pensions Act.....	174
— wealth and production.....	42-4	Ontario, area.....	16
Manufactures of Canada.....	11, 94	— agriculture.....	49, 61
— by provinces.....	96	— births.....	29
— census of 1929.....	96	— bond yields.....	162
— conditions during 1931.....	101	— climate.....	20, 21
— employment in.....	101	— deaths.....	29
— history of.....	95	— finance.....	148-150
— statistics of 40 leading.....	97	— fisheries.....	84
— trade in.....	99	— forestry.....	66
Manufacturing cities of Canada, the		— manufactures.....	96
leading.....	98	— marriages.....	29
Maple sugar and syrup.....	57	— minerals.....	74
Marriages, by provinces.....	29	— population.....	23, 26
— number in Canada.....	29	— wealth and production.....	42-4
Meat packing and slaughtering.....	59	Paper industry.....	67
Metals, see "Minerals".....	70	— production.....	67, 68
Military forces.....	184	Parliament, powers of.....	38
Milling industry.....	57	People's banks.....	167
Mineral products, value of.....	73	Periodicals and newspapers.....	186
— production of Canada, by provinces,		Police statistics.....	183
1929 and 1930.....	74	Population, growth of.....	25-7
— 1931, official estimate of.....	77	— history of.....	22
Mines and minerals, history of.....	70-1	— of Canada.....	22
— modern industry.....	71	— of cities and towns having over	
Mining industry, employment in.....	78	10,000 inhabitants.....	27-8
— prospecting and development work.....	74	— of the British Empire.....	22
Ministry, Tenth Dominion.....	34	— rural and urban.....	27
Miscellaneous insurance.....	159	Post Office.....	116
Montreal Stock Exchange, trade on.....	140	Premiers of the provinces.....	39
Motor vehicles.....	114	Prices.....	12
— registered in Canada, by prov-		— of commodities.....	142
inces, 1920-29.....	114	Primary Industries of Canada.....	7, 44
Municipal finance.....	150	Prime Ministers of Canada.....	39
— government.....	40	Prince Edward Island, area.....	16
National debt, 1868-1931.....	146	— agriculture.....	49, 61
— Defence.....	184	— births.....	29
— Income.....	45	— climate.....	21
— Research Council.....	179, 180	— deaths.....	29
— wealth of Canada, estimate of.....	41	— finance.....	148-150
— provincial distribution of.....	42	— fisheries.....	84
Naval forces.....	185	— manufactures.....	96
New Brunswick, area.....	16	— marriages.....	29
— agriculture.....	49, 61	— population.....	23, 26
— births.....	29	— wealth and production.....	42-4
— climate.....	21	Production and income.....	42-5
— deaths.....	29	— agricultural.....	44, 49
— finance.....	148-150	— by provinces.....	44
— fisheries.....	84	— fisheries.....	44, 84
— forestry.....	66	— forestry.....	44, 65
— manufactures.....	96	— fur.....	44, 90
— marriages.....	29	— grain.....	51-2
— population.....	23, 26	— manufacturing.....	44, 95
— wealth and production.....	42-4	— mining.....	44, 73
Newsprint paper.....	68	— summary of.....	44
— industry.....	68	Prospecting and development work	
— production.....	65	(mining industry).....	74
Newspapers and periodicals.....	186	Prospects for 1932.....	14
New Zealand, trade with.....	123	Provincial bonded indebtedness.....	149
Nickel, production.....	73	— distribution of the national wealth	
Non-commodity exchanges.....	132	of Canada, 1929.....	42
Non-metallic minerals.....	72	— Government.....	39
Nova Scotia, area.....	16	— legislatures, powers of.....	39
— agriculture.....	49, 61	— public finance.....	148
— births.....	29	— revenues and expenditures.....	150
— climate.....	21	— taxation.....	149
— deaths.....	29	Public finance.....	145
— finance.....	148-150	— Dominion.....	145
— fisheries.....	84	— municipal.....	150
— forestry.....	66	— provincial.....	148
— manufactures.....	96	Pulp and paper industry.....	67, 97
— marriages.....	29	— production.....	68
— minerals.....	74	Quebec, area.....	16
— population.....	23, 26	— agriculture.....	49, 61
— wealth and production.....	42-4	— births.....	29

	PAGE		PAGE
Quebec, climate.....	21	Telegraphs.....	116
— deaths.....	29	Telephones.....	116
— finance.....	148-150	— companies.....	116
— fisheries.....	84	— construction.....	103
— forestry.....	66	— development.....	118
— manufactures.....	96	Textiles industries.....	97, 98
— marriages.....	29	Timber industry.....	63
— minerals.....	74	Tobacco crop.....	56
— population.....	23, 20	Topography and drainage.....	16-20
— wealth and production.....	42-4	Tourist trade.....	134
Radio telegraph stations.....	116	Trade aggregate.....	126
Railway curloadings.....	11, 109	— analysis of current.....	124-131
— mileage of Canada.....	108	— balance of.....	131
— revenues and expenses.....	108	— export.....	128
Railways, earnings.....	108	— external.....	118
— electric.....	112	— grain.....	53
— freight.....	108	— import.....	126
— gross operating revenues.....	109	— internal.....	138
— statistics 1930 and 1931.....	109	— of principal countries.....	132
Research Councils.....	179	— staples of.....	118-124, 128, 130
Resources, forest.....	63	— total.....	124
Retail prices, index number.....	144	— aggregate, tourist.....	134
— trade.....	13, 138	— wholesale and retail.....	128
Revenue, agricultural.....	49	— of Canada with the British Em- — pire and foreign countries.....	126
— Dominion.....	145-6	— balances of the principal countries — of the world, 1930.....	132
— municipal.....	150-1	— Unionism in Canada.....	164
— provincial.....	148-9	Traders' index number of stocks.....	141
— receipts, Dominion of Canada.....	146	Trades and Labour Congress of Canada.....	165
Rivers, principal.....	17-19	Trading relations with the world, — Canada's.....	118-124, 135-7
Roads, and highways.....	112	Transportation and communications.....	107
— expenditure on.....	112	— and public utilities.....	103
Royal Canadian Mounted Police.....	184	— historical sketch.....	107
Rural and urban population.....	27	Treaty, Australian trade.....	136
— mail delivery.....	116	Trust and loan companies.....	160
St. Lawrence Waterway.....	80, 112	Unemployment in Trade Unions.....	171
Saskatchewan, area.....	16	— Relief Act, 1931.....	172
— agriculture.....	49, 61	Union benefits.....	165
— births.....	21	Unions, trade organizations of.....	164-7
— climate.....	29	— trade, unemployment in.....	171
— deaths.....	29	United States, trade with the.....	124, 126
— finance.....	148-150	Universities and Colleges.....	178
— manufactures.....	96	University education.....	175, 178
— marriages.....	29	Urban and rural population.....	27
— population.....	23, 26		
— wealth and production.....	42-4		
Sawmill products in Canada, by prov- — inces.....	66	Value of production in Canada, sum- — mary by industries.....	44
Sawmilling industry.....	64-6	— by provinces.....	44
Schools, see "Education".....	175	Values of field crops.....	52
Scientific research.....	179, 180	Vegetable and fruit canning.....	62
Security prices, 1931.....	140	Vehicles, motor.....	114
Shipbuilding industry.....	116	Vocational Schools.....	177
Shipping.....	116		
— entered and cleared.....	116		
— history of.....	115	Water area of Canada.....	16
— inland.....	115	— power, development in Canada.....	79
— ocean.....	115	— expansion of, in 1931.....	80-1
— vessels.....	115	Wealth, survey of Canadian.....	41
Slaughtering and meat packing.....	59	Welland Ship Canal, the new.....	110-1
South Africa, trade with.....	124	Wheat.....	51
Statute of Westminster.....	37	— pools.....	54
Stock markets.....	140	— quota.....	137
Subsidies, provincial, paid by Dom- — inion, 1929-31.....	145	Wholesale and retail trade.....	13, 138
Sugar beet crop.....	56, 57	— prices, index numbers of.....	143
Taxation, recent changes in.....	148	Wood pulp production.....	68
Thriff relations.....	135	Woods operations.....	64
Teacher Training Schools.....	178	World situation, Canada's relation to.....	7
Technical schools.....	177	World wheat situation, 1930 and 1931.....	55
		Yield of Ontario Bonds, 1927-1931.....	162

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