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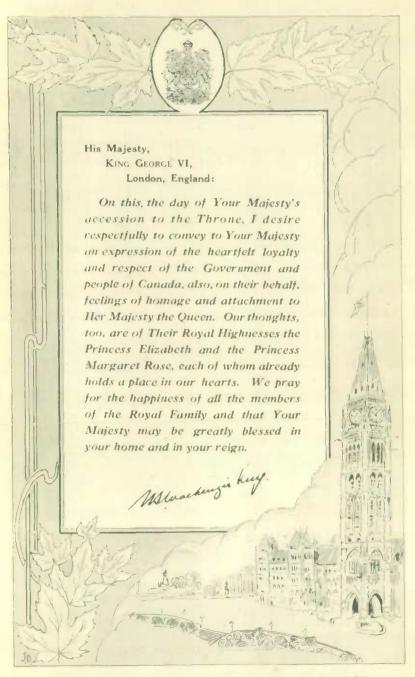
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Camada 1937

The Official Handbook of Present Conditions and Recent Progress



MESSAGE SENT TO HIS MAJESTY KING GEORGE VI BY THE RIGHT MONOURABLE W. L. MACKENZIE KING. PRIME MINISTER OF CANADA ON THE OCCASION OF THE KING S ACCESSION TO THE THRONE DEC. 12 1936.





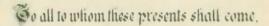
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Sis Exicilency the Right Monourable -Savon Euccetsmur of Stoffeld Anaghr Grand. Gress of the New Destinguished Order of Maint Nichael and Saint George, Thember of the Order of the Companions of Bonour, Governor General and Commander in Cheef of the Domanon of Canada



GREETING:

hevers by an Instrument of Aboication, dated the teuth day of December instant. Dis former Majesty King Coward The Cighth did declare Wis irrevocable determination to renounce the Chrone for Himself and His descendants, and the said Aboication has now taken place, whereby the Imperial Crown of Great Britain, Ireland and all other Dis former Majesty's dominions is now solely and rightfully come to the High and Might Prince Albert Frederick Arthur George, Now Know He that I the said Right Donourable Baron Eweedsmuir of Elstield.

Sovernor General of Canada as aforesaid, assisted by Dis Ma-

jesty's Privy Council for Canada do now hereby with one voice and consent of tongue and heart publish and proclaim that the high and Wighty

is now become our only lawful and rightful Siege Sord George the Sixth by the Grace of God of Great Britain. Freland and the British Dominions beyond the Seas KMY. Defender of the Faith. Emperor of India. to whom we acknowledge all faith and constant obedience with all hearty and humble affection. beseeching God by whom all Kings and Queens do reign to bless the Royal Prince

with long and happy years to reign over us.

Gwen under my Band and Soul'ar Comes at Ollawa this twelfth day of December, in the year of Our Rord one thousand nine hundred and thirty six and in the frameword the March of receipts

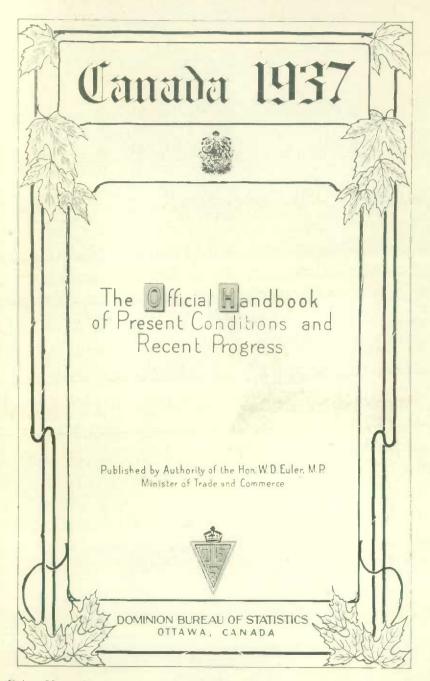
Sommand.

ferrand dinfert

Secretary of State of Canada.

GOD SAVE THE KING

Engressed under the derection of Hechennen



Price 25 cents

FOREWORD

HE need for a publication designed to set forth in brief and readable form the recent progress and present condition of the Dominion has been demonstrated by the increasing demand for past editions of this handbook by all sections of the public.

The current reports of the Dominion Bureau of Statistics deal in great detail with the subjects of population, production, external and internal trade, transportation, criminality, etc., but these detailed publications are intended mainly for those who are specially interested in particular phases of our national life. Again, the Canada Year Book, which summarizes these and other official publications, is itself of too detailed and expensive a character for wide distribution. The present publication presents the results of an effort to survey the current Canadian situation—comprehensively but at the same time succinctly—in a popular and attractive format, and at a cost which makes possible its use on a general scale.

The handbook is designed to serve two very necessary purposes. To those outside of Canada, it will give a well-rounded picture of the Canadian situation from Atlantic to Pacific. In Canada itself, the handbook will be of assistance in the general discussion of the economic situation incidental to the New Year national stocktaking, and will help in this way to provide a better

basis of information for dealing with current problems.

W. D. EULER.

Minister of Trade and Commerce.

OTTAWA, January 1, 1937.

NOTE

This handbook is planned to cover, in eighteen chapters, the current economic situation in Canada, the weight of emphasis being placed from year to year on those aspects which are currently of most importance, since there is not space to deal adequately with all. Chapter I is ordinarily reserved for the treatment of any subject of national or general interest which warrants special attention, but this year extra space has been given to the Introduction which comprises a short review of materials more fully set out in the succeeding chapters, brought up to the actual time of going to press, while Chapter I deals with the regular material on population revised to date.

The 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.

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OFFICIAL VISIT OF THE PRESIDENT OF THE UNITED STATES TO CANADA



Group outside the Governor General's quarters at the Citadel, Quebec, on the occasion of the visit of the President of the United States to the Governor General at Quebec, July 31, 1936. In the front centre of the group, left to right, are: His Excellency Lord Tweedsmuir, G.C.M.G., Governor General of Canada; Franklin D. Roosevelt, President of the United States: his son James; Her Excellency Lady Tweedsmuir; the Right Honourable W. L. Mackenzie King, Printe Minister of Canada; Mrs. Armour and Norman Armour, United States' Minister to Canada. Inset: His Excellency Lord Tweedsmuir, G.C.M.G., bidding President Roosevelt good-bye at the conclusion of his visit.

Courtesy, Canadian Government Motion Picture Bureau.

INTRODUCTION

THE ECONOMIC POSITION OF CANADA AT THE CLOSE OF 1936

The World Situation



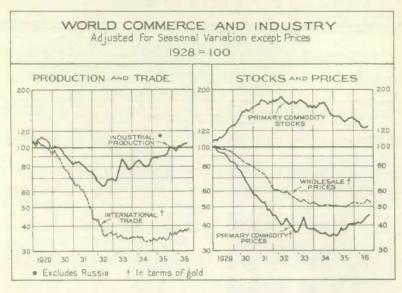
How William D. Eulen, M.P., Minister of Trade and Commerce

International Trade. The Economic Intelligence Service of the League of Nations has recently indicated that the percentage of the favourable balhave of trade to the value of total imports is this year greater in Canada than in any other major trading mation in the entire world. The favourable balance, or surplus of total expects over imports, amounted to \$346,301,000 for the cleven months ended November, 1936, which ex-1935 by exactly 40 p.c. Converted to the former Canadian gold basis, this balance was substantially greater than for any corresponding eleven months since 1919, except 1925 and 1926; its value in present Canadian dollars, however, was the largest for the same rleven months of any year since the Great War.

Throughout 1936 the effort to promote amicable trade relations with all countries was continued. The foreign commerce of Canada, particularly the export trade, has expanded during the

economic recovery at a much quicker pace than total international trade. In terms of gold, the latter has tended slowly upward in the past two years, especially since the autumn of 1935; but by last September it had reached only the height of the early summer of 1932. International trade has been restricted by quota systems, exchange controls, rising tariffs and similar measures of economic nationalism. The importance of foreign trade in the economy of Canada is emphasized by the fact that in exports per capita this country surpasses nearly every other nation. Substantial relaxation of import restrictions by other countries would, therefore, be a potent factor in the betterment of general business conditions throughout the Dominion.

Among present forces tending to speed up the usually slow process of lifting international trade barriers are world-wide decreases in surplus stocks of many commodities, rising prices and a continuation of the upward trend in the consumption of goods; but the resumption of international lending and a higher degree of mutual confidence are also essential to the complete revival of normal trading. By and large, however, the outlook for international trade is undoubtedly more hopeful than at the close of 1935.



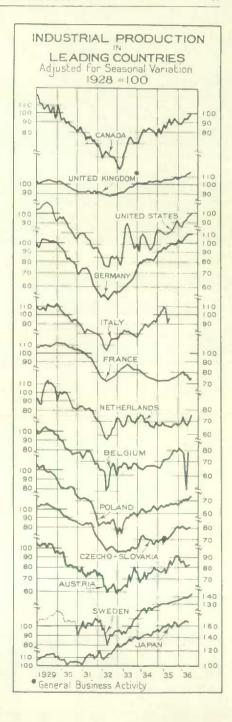
An index of the gold value of international trade by months since 1929 is depicted on this page in the chart on world commerce and industry; four other indexes are also plotted, viz., industrial production in nineteen countries combined, primary commodity prices, general wholesale prices and primary commodity stocks; on the adjacent page is another chart in which indexes of industrial production of Canada and twelve other leading countries are compared. All these series except the two on prices are adjusted for seasonal variation and indexes are based on 1928.‡ The charts, therefore, present a comprehensive and coneise picture of the world economic situation which, on the whole, has been showing considerable improvement.

World Industrial Production.—The index of world industrial production, adjusted for seasonal variation and shown in the first chart, has exceeded the average of 1928 since the late spring of 1936 and is this autumn above November, 1929. If the United States were excluded from this composite of nineteen nations, the index for the group of remaining countries as a whole would show that in the early autumn of the latest year production attained a new all-time record, greater even than the highest peak of 1929. The second chart shows that almost every leading country, except France, has shared at least to some extent in the recovery and that Japan, Sweden, the United Kingdom and Germany have risen above their 1929 heights of industrial or business activity.

The curves in the charts on pp. 10 and 11 are reproduced from THE ANNALIST of Nov. 20, 1936, the indexes of general wholesale prices and world industrial production being its own; the Sept. 18 number gives various details of the series and the sources of the data, some of which are from the Economic Intelligence Service of the League of Nations.

General business conditions in the United Kingdom since the early autumn of 1935 have remained above the 1929 high, the upswing having continued notably in 1936. The Rt. Hon. Neville Chamberlain, Chancellor of the Exchequer, has recently stated that in the United Kingdom the boom in house-building. as distinct from the whole building industry with its many ancillary trades, cannot alone have played a major part in the present recovery and that the same could be said of the armaments program. In other parts of the globe promising conditions also prevail; in fact, "the economic barometer is still set fair in the majority of countries".

International Exchange and Banking .- One of the year's chief developments in international exchange was the devaluation of the franc on Sept. 26, and coincident with it the tripartite currency pact between France. United Kingdom and United States. The object of the pact was the establishment and maintenance of a higher degree of equilibrium international exchange. Some effects of the devaluation and agreements accompanying it have already been reflected in revived international confidence and increased world trade. One of largest banks in United Kingdom states that the new situation which this development presented the trading world provides "the first basis in five years for greater normalization of economic relations over a wider area of the world's surface than we have been able to envisage throughout the long depression".



The devaluation by France and her agreement with Great Britain and the United States is part of what appears to be a world-wide movement toward universal adoption of managed currencies. The volume of credit and amount of currency in the Dominion is managed by the Bank of Canada—an institution of the people of Canada, controlled by their Government which now owns over 50 p.c. of the capital stock. (For details see pp. 154-5.)

International Political Conditions.—Political conditions in Europe and other quarters have remained unsettled during 1936. Many potential sources of disturbance persist, but continuing effort was made throughout the year to avert conflicts or at least to localize them. Amongst other disquieting portents is the armament race which, nevertheless, is tending to reduce to some extent the ranks of the unemployed. The 17th Assembly of the League of Nations in late September and early October showed a disinclination for general commitment to coercive and punitive methods and a preference for policies of mediation and conciliation.

The Canadian Situation

General Conditions. General economic conditions in Canada have been improving since 1933 and are reaching that stage of the business cycle which might be described as the period of well-advanced recovery. A combined index of the volume of production in the manufacturing and mining industries has attained in 1936 an average almost equal to that of 1929; in fact, the mining industry is now paying out an average of a million dollars a day in payrolls, supplies and dividends. Newsprint output and electric power production are the highest on record, but the construction industry is lagging and the number of employed in most industries has increased only moderately. The agricultural industry suffered from shortage in the volume of most crops but has been encouraged by better prices for grains, especially wheat; the visible supply of wheat in Canada has been nearly halved in the past year. Expenditures in the Dominion by tourists from abroad, which, in 1935 and 1936, exceeded the value of the entire wheat crop and, in 1935, also surpassed the exports of gold and newsprint combined, have climbed markedly; their excess over those of Canadian tourists abroad was, in 1935, larger than the exports of either newsprint or gold. Total exports in November, unadjusted, were more than in any month since 1928. Real purchasing power is the greatest since 1929, which partly accounts for the very heavy volume of Christmas trade. Practically all major branches of the Canadian economic structure are showing good progress—the recovery movement has gained a strong momentum.

Dominion-Provincial Conferences.—Committees appointed at the Dominion-Provincial Conference in December, 1935, have made headway in 1936. The Committee dealing with company law sat for five days in November and its report is being submitted for the approval of the Provincial Governments, all but one of which were represented. The establishment of the National Employment Commission which was promised at the 1935 Conference was one of the most notable achievements of the year; and the fifty million dollar government-sponsored home renovation program which the Commission recommended was put into effect on Nov. 2, 1936. Two conferences between the Dominion and the Provincial Governments were attended in Ottawa by the Premiers of eight of the nine provinces during the second week of December. Some

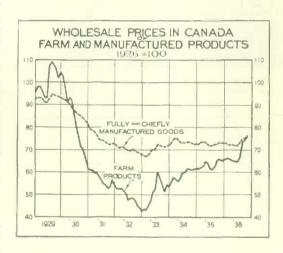
items on the lengthy agenda were: financial and taxation problems, old age pension administration, financing of unemployment relief, a rehabilitation policy for the drought areas in the Prairie Provinces, and the promotion

of the marketing of farm products.

A Dominion-Provincial Conference on Agricultural Statistics met in Ottawa between Mar. 30 and April 2, 1936. Officially represented were the Departments of Agriculture of all the leading provinces, the Dominion Department of Agriculture and the Departments of National Revenue, and Trade and Commerce, including senior officers of the agricultural and related branches of the Dominion Bureau of Statistics. The National Research Council was also represented. Others attending included the Chairman of the Crop Reporting Board of the United States Department of Agriculture and members of several non-official bodies from coast to coast. At the sessions of this Conference much was accomplished toward the standardization of crop-reporting methods and technique and the elimination of overlapping in various important phases of this type of statistical work, the main purpose having been to promote further the broad and effective co-operation among all Dominion and provincial agencies concerned primarily with the collection of agricultural statistics but also with their analysis and interpretation.

Wholesale Commodity Prices.—The index of total wholesale commodity prices in Canada, which had run on almost an even keel for more than two and a half years, jumped suddenly upward in July and

August, 1936, and continued to rise in September and October. This advance resulted mainly from much firmer prices products, farm especially of wheat and to a less extent of other grains; prefarm viously the products index had tended irregularly but decidedly upward, beginning with January, 1933. Although the prices of manufactured goods participated to some extent in the upswing of the second half of 1936.



they had exhibited a slightly downward tendency since the spring of 1934. Accordingly, a gap between these two price series—manufactured goods and farm products—which was most pronounced in 1932 and 1933 and was gradually being reduced in the following two years, was finally closed in October, 1936, for the first time since July, 1930. (See accompanying chart.)

Agriculture.—The areas devoted to the principal field crops of Canada in 1936 were more than a million acres greater than in 1935. Wheat, barley and flaxseed showed large increases while the area sown to oats was reduced by about 900,000 acres.

After a normal start in the spring and early summer, lack of rain and hot weather caused very serious damage in July and the first two weeks of August. This damage was widespread in the southern portion of the Prairie Provinces and in parts of western Ontario. Normal conditions obtained in British Columbia and Quebec. Excellent growing weather prevailed in the Maritime Provinces during most of the summer and that portion of Canada experienced a year of bountiful production. The damage in the Prairie Provinces and in Ontario was so serious that, for the whole of Canada, physical volume of production of food and feed crops for 1936 was less than that of 1935 and very appreciably below the average of the period 1926 to 1930.

The first estimate of the gross value of production of the principal field crops was \$594,139,000, an increase of \$85,000,000 over the 1935 figure and the highest for any year since 1930. The increase in value was brought about through higher prices for most of the crops. The value of wheat produced was estimated at \$200,085,000 as compared with \$178,333,000 in 1935. The 1936 oat crop was worth \$16,000,000 more, the barley crop \$19,000,000 more and potatoes \$13,000,000 more than in 1935. The total value of fodder and hay crops was about the same in 1936 as in 1935.

The reduced production of feed crops resulted in a general scarcity of feed-grain supplies and local scarcities of fodder supplies in the drought areas. Increased exports of Canadian wheat coupled with the two successive years of low yields combined to reduce the supply of wheat in Canada available for export. During the first four months of the 1936-37 crop year, Canadian wheat moved briskly into export channels at prices 25 to 30 cents higher than in the previous season.

Total animal units on farms at June 1, 1936, were slightly higher than at June 1, 1935. The number of horses was 13 thousand less, cattle 29 thousand less, sheep were 6 thousand less, while hogs showed an increase of 600 thousand. Marketings of hogs and cattle in 1936 were appreciably higher but marketings of sheep and lambs were lower. Exports of live cattle to the United States reached the quota limit set by the Canada-United States Trade Agreement and in addition the movement to the United Kingdom was more than six times that of 1935. The production of creamery butter was higher than in 1935 and factory cheese production was appreciably greater. Exports of cheese showed a gain in line with the increased production.

As a result of the reduced supply of many crops and a rise in urban income, prices of farm products rose rapidly during the late summer and early fall of 1936. The rise was sufficient to bring the wholesale prices of Canadian farm products above the wholesale prices of all commodities on a 1913 base. Thus, while from the standpoint of price relationships, the position of agriculture was greatly improved, the reduced crop production was a serious handicap to those areas affected by drought. The effects will be carried over in these areas until well on in the 1937 season.

Mining.—Better prices for base metals, an active interest in prospecting and development work, a record production of gold, and improvement in the output of many non-metallic minerals and structural materials, all combined to make 1936 the greatest year in the history of Canadian mining. Several gold mines reached the production stage for the first time in 1936; lead and zinc topped all former records and nickel output was greater than ever before. Asbestos production was 46 p.c. over 1935, and coal, gypsum and salt showed improvement.

The preliminary official estimate of the value of mineral production in 1936, released as this volume was on press, indicated a total production of \$360,500,000, an increase of 15 p.c. Metals increased 16 p.c. in

value; fuels, 11 p.c.; non-metallics, other than fuels, 32 p.c.; and structural materials, 15 p.c. (For details, see p. 62.)

Forestry.—One of the features in the rise in the foreign trade of the Dominion during 1936 has been the increased exports of forest products, especially lumber and newsprint. The United States market was re-opened by the reduction of the former high duties imposed on Canadian lumber in 1930 and 1932. The forestry industry employs a large labour force and the employment indexes in logging, sawmilling and paper-making showed marked gains. Exports of forestry products in the twelve months ended October, 1936, were valued at \$203,377,499, an increase of \$31,457,877 or over 18 p.c. above the previous comparable period. Exports to the United Kingdom and to the United States both increased. Exports of planks and boards amounted to 1,625,276,000 feet in the same period, an increase of nearly 23 p.c. as compared with the same twelve months of 1935. Newsprint production rose from 2,245,703 tons in the first ten months of 1935 to 2,602,411 tons in the same period of 1936, an advance of nearly 16 p.c. The index of employment in the logging industry stood at 206.9 on Nov. 1, 1936 (1926 = 100).

Fisheries.—The current trend of the fisheries is best shown by the amount of sea fish caught and landed. In the first ten months of 1936, there was a substantial increase compared with the preceding year. The weight was over 800,000,000 pounds against 717,973,000 pounds, and the value increased by more than 10 p.c. Exports in the twelve months ended October, 1936, were valued at \$24,568,897, an increase of \$1,847,213, or nearly 8-1 p.c. over the corresponding period for 1935.

Manufactures.—The latest statistics of manufactures relate to the year 1934 and are given in Chapter IX. Nevertheless, sufficient evidence is at hand from the index of employment in manufactures to indicate that a considerably higher level of employment was maintained in 1935 and the first ten months of 1936 than in 1934. The gain of employment in manufacturing plants, unaffected to any important extent by relief measures, has continued without important interruptions since May, 1933, when the turning point of the downward depression movement was reached. The index of manufacturing employment averaged about 7 p.c. higher in 1936 than in the preceding year. Manufacturing operations showed further acceleration in October, the index of the physical volume of production moving up to 122.2, a new high point in the present movement. A slight gain was shown in foodstuffs; the imports of raw materials of the textile industry recorded a sharp gain; and newsprint production reached a new high point in history.

Employment.—Employment in 1936 continued in greater volume than in immediately preceding years, the gains made following the low point of the depression in 1933 having been consolidated and extended during 1936. From April 1 to Nov. 1, the upward movement was uninterrupted, and at the latter date the index of employment stood at 111.0, the highest point since Nov. 1, 1930. During 1936 (up to December), an average of 9.717 firms reported staffs averaging 979,741, and the mean index was 103.7; in the same period of 1935, the co-operating establishments averaged 9.248, and their employees, 933,085, while the average index was 99.4. In 1934, the twelve-month mean was 96.0, in 1933, 83.4, and in 1932, 87.5. The index for Dec. 1, available when this handbook was on the press, was 110.1. The 1926 average is the base, or 100 p.c., used in calculating these index numbers.

Industries with decidedly increased employment during 1936 were manufacturing, logging and mining, but transportation, communications and services also reported improvement. The index for "trade" at Dec. 1 reached the highest level for the year and showed substantial improvement over immediately preceding years; the high level of employment in trading and service establishments was partly due to an active tourist season. Construction, however, continued quiet in 1936.

Electric Power.—The production of electricity for light and power purposes continued to establish new high records almost every month during 1936 and at the end of October the total output was 9·4 p.c. above that of 1935. An estimate for the year is 26 billion kilowatt hours. The production of secondary power for electric boilers has also increased rapidly, amounting to 27 p.c. of the total output for the first ten months of the year, or 5,608,000,000 kilowatt hours. Total output less secondary power delivered to electric boilers and exports to the United States, which is the consumption of firm power in Canada, including all line losses, also established new high records in each month except February and the index number, based on the average of 1926 as 100, rose to 194·73 for October making a total of 1,630,139,000 kilowatt hours for the ten months. Increased activities in the pulp and paper industries, in mining, in electro-chemical and electro-metallurgical and other industries and in the residential uses have all contributed to this increase, the first two being the most important.

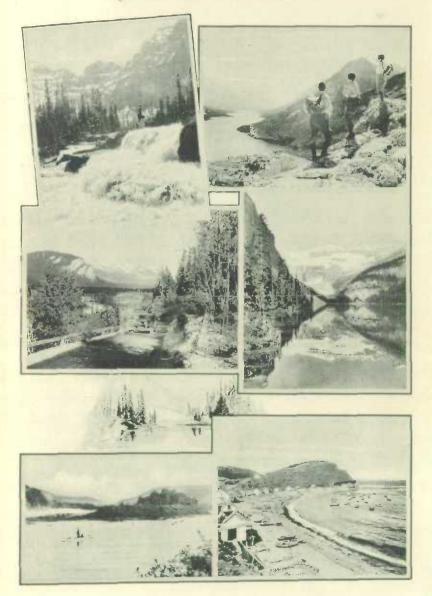


The year 1936 marked the fiftieth universary of the first through transcontinental train in Canada. This train left Montreal on June 28, 1886, and arrived at Port Moody on July 4, 1886. The hundredth anniversary of the first railway in Canada was also celebrated in 1936; this railway, the Champlain and St. Lawrence, illustrated above, operated between Laprairic and St. Johns, Quebec. Courtesy, Canadian National Railways.

Construction.—According to statistics tabulated by the MacLean Building Reports, Limited, the value of construction contracts awarded during the first eleven menths of 1936 stood at \$156.469,200, as compared with the total of \$155.940,100 reported in the same period of 1935, an increase of only about 0·3 p.c. The 1936 aggregate substantially exceeded the totals of \$119,749,300 and \$89,082,200 in the same periods of 1934 and 1933 respectively; it was, however, considerably lower than normal. Recovery in residential building and renovation will be affected by the public response to legislation (see pp. 103 and 104) enacted by the Dominion Government. For modernization and repair loans, the bank rate of 3½ p.c. is the lowest-cost instalment plan available in any country.

Railway Traffic.—The rate of improvement in railway freight traffic experienced in 1934 over 1933 was not maintained in 1935 although the year ended with a gain of 1.6 p.c., but in 1936 each month showed a heavier movement than in 1935 and at the end of September the total was

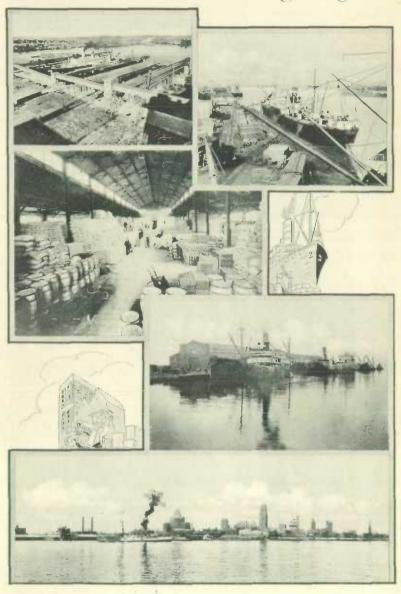
GIMPSIS OF SCENIC CANADA



Upper left shows the Giants' Steps, Banff National Park, Alberta; Upper right, Upper Waterton Lake from Mount Crandell; Left centre, Road from Field to Glacier showing President Group, Yoho National Park, in the distance; Right centre, Reflections in Lake Louise, Banff National Park, Alberta; Lower left, Fishing on the Restigouche River, New Branswick; Lower right, Little Fox River, Gaspé Coast, Quebec.

Courtesy, National Parks of Canada and Canadian National Railways.

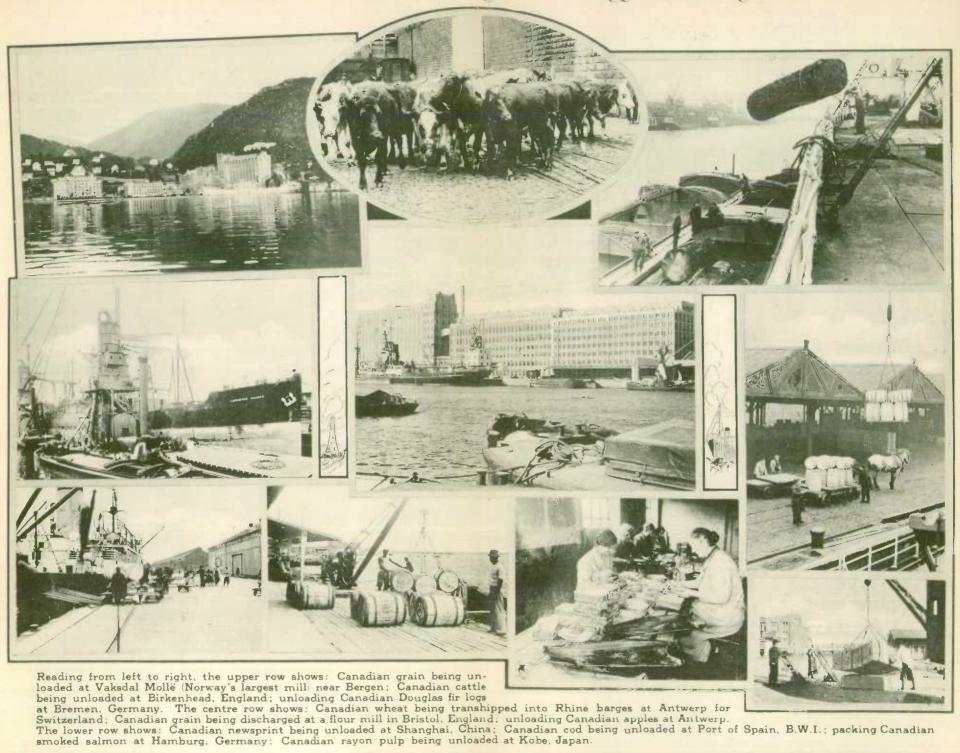
A FEW OF CANADA'S HARBOURS



With the exception of Saint John Harbour, those shown in the layout do not come under the jurisdiction of the National Harbours Board (as do Canadia) larger searcoast harbours) but under the old form with local commissioners. Upper left, Berths A and B end Navy Island Quay, Saint John, New Brunswick. Upper right, A busy harbour scene in the easterly section of the New Westminster Harbour showing the M.S. "Moveria" of the Donaldson line in the foreground loading lumber and bar metal for the United Kingdom. Upper centre, Interior view of warshouse of the Hamilton Harbour Commission, Wellington Street terminal. Lower centre, Ocean-going boat discharging cargo from Norway, and a lake carrier. Below, A section of Toronto's Harbour front: skyline of city in the background.

Courtesy, Department of Marine, Ottawa.

TYPICAL CANADIAN EXPORTS TO WORLD COUNTRIES



Courtesy, Department of Trade and Commerce.

9.5 p.c. heavier than in 1935. An early and heavy movement of western grain was an important factor, but grain in store in prairie elevators at the middle of November was less than 40 p.c. of the 1935 holdings. Other classes of freight, however, give promise of offsetting the lighter grain movement anticipated in the last quarter of this year. Gross earnings for the first nine months were \$17,656,000, or 8 p.c. over 1935 revenues.

Public Finance.—In the first eight months (April-November) of the current fiscal year of the Dominion, ordinary revenue amounted to \$303,006,000, as compared with \$258,023,000 in the same period of 1935—an increase of \$44,983,000 or 17·4 p.c. Gains were shown in all branches, but thirfly in excise and income taxes.



The "Dorchester"—21 feet in length and with 4 driving wheels—in operation 100 years ago on the Champlain and St. Lawrence Railway.

Courtesy, Canadian National Railways.

The ordinary expenditure in the same period was \$249,575,000, as compared with \$246,132,000 in 1935, an increase of \$3,443,000 or 1.4 p.c. The surplus of ordinary revenue over ordinary expenditure was \$53,431,000. Special expenditure, which includes disbursements under relief legislation and the deficits of the Canadian National Railways, showed a decrease from \$75,806,000 in 1935 to \$71,242,000, or 6 p.c. Capital expenditure also decreased from \$5,824,000 to \$3,355,000 while loans and investments called for an outlay of \$57,853,000 as against \$77,059,000 in 1935.

As in 1935, refunding operations were carried out. The results of lower interest rates are beginning to be evident, the interest on the public debt for the period under review being \$100,875,000, as compared with \$102,224,000 for the same period in 1935.

Loan transactions show the issue of \$268,000,000, of which \$221,000,000 was for conversion or refunding of maturing loans and \$47,000,000 was the increase in bonds outstanding. Financing by means of short-term low yield treasury bills has been developed, and the amount outstanding is now \$125,000,000.

Banking.—The salient feature of the banking situation was the considerable gain in deposit liabilities. Notice deposits alone showed a gain of over \$45,000,000 on Oct. 31, over the same date of 1935. Current loans showed a contrary tendency, the decline having been nearly \$148,000,000. The excess of notice deposits over current loans at the end of October was no less than \$802,000,000—a gain of nearly 32 p.c. since October, 1935. In consequence of this situation, security holdings and readily available assets rose to new high points in the history of Canadian banking.

Sales of Life Insurance.—Sales of life insurance based on 90 p.c. of business in Canada have increased 5 p.c. for the first ten months of 1936 compared with the same period of 1935.

Prices.-After fluctuating within narrow limits for two years and one-half, commodity prices commenced to move definitely upward again in July, 1936. The subsequent advance of approximately 7 p.c. to November was comparable to the earlier increase in 1933, but differed fundamentally in one respect. Whereas the first movement was dominated by speculative activity, the current rise has been mainly attributable to a healthier supply situation in basic materials and to genuine improvement in demand. It is particularly significant because it has restored wholesale prices of farm products to levels comparing favourably with those for manufactured goods. The November index for farm products was 77.1, compared with 75.5 for fully and chiefly manufactured goods (1926=100). Living costs, so far, have not been affected materially by increases in primary products, and the Canadian living cost index of 81.7 for November recorded a net increase of only 2.4 p.c. for the year. Security prices registered sharp advances in the industrial and base metal groups. Utilities advanced moderately and gold issues also moved into slightly higher ground, but remained below earlier peaks touched in 1935. High-grade bond prices made all-time records and yields were correspondingly lower.

Retail and Wholesale Trade.—The upward movement of consumer purchasing, in evidence in Canada since the spring of 1933, was continued in 1936. Increases in 1936 over 1935, while not spectacular, were general, all kinds of business for which menthly figures are available reporting gains. Substantial increases in the hardware, radio and music and furniture trades were modified by smaller gains for dealers in less durable lines of merchandise, resulting in aggregate sales for the first ten months of 1936 advancing 5·2 p.c. above the amount recorded for the corresponding period in 1935. Retail sales of new motor vehicles which had shown marked expansion in 1935 and 1934 over earlier years continued to advance in 1936. The number of new passenger cars sold in the first ten months of 1936 was 8·9 p.c. greater than in the same period of 1935 and an increase of 13·5 p.c. was shown for commercial vehicles.

Monthly statistics on wholesale trade reveal continued improvement in dollar value of sales. Increases of 5 p.c., 8 p.c. and 10 p.c. for the first three quarters of 1936, respectively, were reported as compared with 1935.

External Trade.—Merchandise exports of Canadian produce, including non-monetary gold, in the year ended October, 1936, reached \$967,743,000, as compared with \$794,229,000 in the preceding year, an increase of \$173,514,000, or about 21.8 p.c. This increase was of a general character and covered practically all classes of commodities. The exports of coin and bullion showed an increase, amounting to \$8.165,000, as compared with \$8,115,000. The grand total exports of Canada, including exports of foreign products, amounted to \$988,724,000 for the twelve months ended October, 1936, as compared with \$813,153,000, an increase of \$175,571,000.

Several causes have contributed to the wide expansion in the export trade of the Dominion during 1936, but the chief factor was the economic recovery in practically all the principal countries with industrial production, particularly in the capital goods industries, developing rapidly.

Merchandise imports reached \$610,552,000 in the twelve-month period ended October, 1936, as compared with \$544,779,000 in the preceding year, imports of iron and steel products showing a particularly satisfactory increase, indicative of industrial recovery. The total favourable balance of visible trade was \$376,496,000 in the twelve-month period ended October, 1936, as against \$267,188,000 in the previous twelve-month period.

As to distribution of trade, in the period under review 39.2 p.c. of our merchandise exports went to the United Kingdom, compared with 36.4 p.c. one year ago and 41.4 p.c. two years ago. Of Canada's total exports of farm products and manufactures therefrom, about 65 p.c. is shipped to the United Kingdom where such produce is exempted from the tariff. Exports to Empire countries were 47.7 p.c. in the same year, as compared with 45.3 p.c. one year earlier and 50.0 p.c. two years earlier. In trade with the United States, imports were 57.6 p.c. of total imports for the year, compared with 57.2 p.c. for the preceding twelve months and exports of Canadian merchandise were 40.6 as compared with 44.0 p.c.*

Trade Agreements with Foreign Countries.—In addition to the recent trade agreement with Japan (whereby the tariff war with that country was satisfactorily concluded) and also that with the United States, arrangements were made during 1936 with the Soviet Socialist Republic of Russia and with Germany. By the agreement in force for the past twelve months, the Japanese Government removed a 50 p.c. ad valorem surtax on trade which came into force in July, 1935, on several principal Canadian exports to Japan, notably wheat, flour, lumber, wood pulp and packing paper. Canada cancelled an ad valorem surtax of 33\frac{1}{2} p.c. on Japanese goods imposed since August, 1935, and some Canadian assurances were given in regard to customs valuations. Imports from Japan have increased from \$3.057.000 in 1935 to \$3.365,000 in the first ten months of 1936, while exports to Japan rose from \$11,149,000 to \$15,907,000.

The agreement with the United States which took effect Jan 1, 1936, opened for Canada wider markets for approximately sixty commodities, and has stimulated trade between the two countries. Total trade with the United States showed an increase of \$73,002,000 or 13·1 p.c. in the first ten months of the calendar year. Deducting the exports of non-monetary gold, amounting to \$49,865,000 in 1936 as against \$73,546,000 in the corresponding period of 1935, the total merchandise trade amounted to \$580,525,000 of which \$301,846,000 was accounted for by imports and \$278,679,000 by exports. Imports increased by \$39,509,000 or 15·1 p.c. while merchandise exports increased by \$57,174,000 or 25·8 p.c. The increases on this basis in these ten months of 1935 over the same period of 1934 were 7·3 p.c. for imports and 24·4 p.c. for exports.* Of the merchandise exports of \$278,679,000 in the first ten months of 1936, about \$174,000,000 represents items covered by the agreement. The exports of cattle were over \$8,400,000 against \$5,400,000 in the same months of 1935.

The embargo against the imports into Canada of certain goods from Russia was cancelled in September. The Soviet order of 1931 against purchases in Canada and the chartering of Canadian vessels was also annulled. The result of this agreement was the restoration of normal commercial relations between Canada and the Soviet Union.

A provisional trade agreement was entered into with Germany, becoming effective in November, 1936. The agreement provides for mutual favoured-nation treatment and a collateral exchange of goods and amounts—this principle being the present basis of Germany's foreign trade. Germany will buy as much from Canada as Canada buys from Germany, and each country will treat the goods from the other no less favourably than like articles produced in a third country.

^{*}According to November trade figures, published after the above had gone to press, during the eleven months ended Nov. 30, 1936, exports affected by the agreement with the United States were valued at \$194,667,373, compared with \$152,284,930 in the same period of 1935. Imports also show a strong tendency to rise with returning prosperity largely owing to increased activity in the heavy industries.

CHAPTER I

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

Population

The population of the earth is estimated at approximately 2,000,000,000.* The British Empire which covers slightly less than one-quarter of the land area of the earth, has slightly less than one-quarter of the world's population. Canada, which occupies over one-quarter of the area of the British Empire, has only about one-forty-eighth of the Empire population. 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 the British Empire and its Principal Component Parts for 1931, or nearest year available, Compared with 1921.

(Source, Canada Year Book, 1934-35)

Country	Area in	Population,	Population,
	Square	Census of	Census of
	Miles	1921	1931
British Empire ¹ United Kingdom of Great Britain and N. Ireland. Irish Free State ⁴ Canada Union of South Africa. Australia ⁸ New Zealand ¹⁰ Newfoundland and Labrador India.	13,318,000	445,247,860	492,621,046
	93,991	47,123,000 ² ,8	46,042,000*
	26,601	2,971,992 ⁴	2,957,000*
	3,694,9004	8,787,949	10,376,786
	471,917	6,928,580	8,132,600*
	2,974,581	5,435,734	6,629,839
	103,415	1,218,913	1,442,746*
	275,134	263,033	281,549*
	1,805,252	318,885,980	351,399,880

¹ The totals, especially for population, can only be given approximately since certain of the figures are estimates of native populations, and in other cases data are not available. ¹ Inclusive of Irish Free State. ⁴ A census of Ireland was not taken in 1921 and 1931. The figures include the estimated population of Ireland at the middle of 1921 and of Northern Ireland at the middle of 1931. ⁴ The first census of the Irish Free State was taken in 1926 and the figures shown above under 1921 relate to that census. ⁴ Estimated figures. ⁴ Inclusive of 228,307 sq. miles of fresh water. ↑ Estimated mean population—a census of Europeans only was taken in 1931. ⁴ The population is exclusive of full-blooded aborigmes, of which \$4,848 were enumerated at a census taken June 30, 1934. ⁴ Census was postponed in 1931. These are 1933 figures. ¹ The area (293 sq. miles) and population (15,204 persons in 1931) of the Cook and other annexed islands are excluded, as are also uninhabited 'outlying islands' with an area of 307 sq. miles. The Maori population (69,141 persons in 1931) and the inhabitants of the Tokelau Islands Dependency (4 sq. miles—population 1,048 in 1931) are also excluded.

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

[•] The Statistical Year Book of the League of Nations, 1935-36, gives the population of the world as 2,077,000,000 not including estimates of certain populations, chiefly in Asia and Africa, where censuses are incomplete or do not exist.

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.

Growth of the Canadian Population, 1871-1931.—The first census after Confederation (1871) saw the Dominion launched with a population of 3,689,257. After 1873 and until the end of the century economic conditions within the Dominion were anything but buoyant. The Censuses of 1881, 1891 and 1901 reflected this state of affairs. That of 1881 showed a gain of 635,553 or 17-23 p.c., but in neither of the next too decades was this record equalled, the gains in each being under 550,000 or 12 p.c. At 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.

Statistics of Population in Canada, Census Years 1871 to 1931

Province or Territory	1871	1881	1891	1901	1911	1921	1931
Ontario. Quebec. New Brunswick. Nova Scotia. British Columbia. Prince Edward Island Manitoba. Saskatchewan. Alberta. Yukon. N.W.T.: Canada.	25,228	1,926,922 1,359,027 321,233 440,572 49,459 108,891 62,260 56,446	2.114.321 1.488.535 321.263 450.396 98.173 109.078 152.506 	2,182,947 1,648,898 331,120 459,574 178,657 103,259 255,211 91,279 73,022 27,219 20,129 5,371,315	2,527,292 2,005,776 351,889 492,339 392,480 93,728 461,394 492,432 374,295 8,512 6,507	2,933,662 2,360,665 ² 387,876 523,837 524,582 88,015 610,118 757,510 588,454 4,157 7,988	3,431,683 2,874,255 408,219 512,846 694,263 88,038 700,139 921,785 731,605 4,230 9,723

¹ The 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 Yukon and to extend the boundaries of Quebec, Ontario and Manitoba.

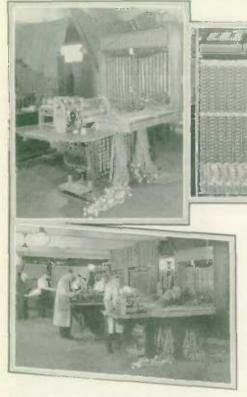
¹ Revised in accordance with the Labrador Award of the Privy Council, Mar. 1, 1927; total includes 485 members of the Royal Canadian Navy.

The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that decade 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, where 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 population growth 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. and in 1931, 29.50 p.c.—3,061,745 people compared with 110,000 at Confederation.

Rural and Urban Population.—As regards rural and urban distribution, though we are still largely agricultural, our town dwellers now, for the first time, exceed the numbers living upon the land (5,572.058 urban and 4,804,728 rural in 1931). Sixty years ago the towns and cities of Canada accounted for only 19.58 p.c. of the people (722,343 urban and 2,966,914 rural), and at the beginning of the present century the percentage was but 37. In 1871 the Dominion had 14 cities, 49 towns and 134 villages; in 1921 there were 101 cities, 461 towns and 881 incorporated villages; and in 1931, 112 cities, 476 towns and 1,017 incorporated villages.

It is the larger cities that have grown the fastest. Preliminary figures of the Quinquennial Census of the Prairie Provinces, 1936, shown on p. 25, indicate that many of the cities and towns in these provinces have lost thousands of people and so also have the drought-stricken areas. On the other hand, rural areas generally and especially the more northerly sections

THE 1936 QUINQUENNIAL CENSUS



The New Tabulator Machine.—As a result of experiments carried out by the highly skilled mechanical staff of the Dominion Bureau of Statistics, an ingenious new tabulator machine has been designed which gives extraordinary results in increased speed of statistical tabulation at a minimum cost. This machine is not to be confused with the improved sorter-tabulator used in the Census of 1931 and described in previous editions of this handbook.

The new machine takes the standard commercial card of 45 columns of information, as compared with 24 columns on the old census card, and tabulates the entire information thereon in one operation and at the rate of 300 cards per minute. It analyses 3-, 4- and 5-way combinations of data simultaneously and takes final aggregates of each class of data. Cards which have been once tabulated in this way can be sorted into another category and a series of new combinations can then be made on the tabulator. The superior efficiency of the machine is indicated not merely by the number of columns of data handled, but by the extent of the permutations of the cross-classifications made possible. Indeed, there is no practical limit in the number of classifications that may be made.

The above lay-out shows: upper left, the intricate wire connections of the new tabulator exposed; upper right, the traverse dial upon which the cross-classifications are recorded; below, mechanics at work adjusting the

machine.

show increases. Out of every 1,000 persons in the country, 463 were resident, on June 1, 1931, in rural and 537 in urban communities, as compared with 505 in rural and 495 in urban communities on June 1, 1921. The table below shows rural and urban population, by provinces, for 1921 and 1931. Details of the population of all cities and towns having 25,000 inhabitants and over, are given by censuses from 1891 to 1931 in a second

Rural and Urban Populations, by Provinces, 1921 and 1931

Province or Territory	1	921	19	931	Numerical Increase in Decade 1921-31		
	Rural	Urban	Rural	Urban	Rural	Urban	
Prince Edward Island Nova Scotin New Brunswick Quebec Ontario Manitoba Suskutchewan Albertu British Columbia Yukon Northwest Territories Royal Canadian Navy	296,799 263,432 1,038,096 1,227,030 348,502 538,552 365,550 277,020 2,851	19,093 227,038 124,444 1,322,569 1,706,632 261,616 218,958 222,904 247,562 1,306	67,653 281,192 279,279 1,060,649 1,335,691 384,170 630,880 453,097 299,524 2,870 9,723	20,385 231,654 128,940 1,513,666 2,095,992 315,969 290,905 278,508 394,7391 1,360	- 1,869 -15,607 15,847 22,553 108,661 35,668 92,328 87,547 22,504 19 1,735	1,292 4,616 4,496 491,037 389,360 54,353 71,947 55,604 147,177 54	
Canada	4,435,827	4,352,122	4,804,728	5,572,058	368,991	1,219,936	

¹ This includes South Vancouver and Point Grey, with 1921 populations of 32,267 and 13,736

respectively, which were then classified as "rural". Members of the Royal Canadian Navy were counted at their homes in the Census of 1931.

Populations of Cities and Towns having over 25,000 Inhabitants in 1931. Compared with 1891, 1901, 1911 and 1921

Note.—In all cases the populations for previous censuses have been re-arranged as far as possible to compare with those of the same areas in 1931.

		Populations						
City or Town	Province	1891 1901		1911 1921		1931		
Montreal	Quebec		328, 172	490,504	618,506	818,57		
Toronto	Ontario.	181,215	209,892	381,833	521,893	631,20		
Vancouver	British Columbia	13,709	29,432	120,847	163,220	246,59		
Winnipeg	Manitoba	25,639	42.340	136,035	179.087	218,78		
Hamilton		48,959	52.634	81,969	114.151	155,54		
Quebec	Quebec	63,090	68,840	78,710	95, 193	130,59		
Ottawa		44, 154	59,928	87,082	107,843	126,87		
Calgary		3,876	4.392	43,704	63,305	83.76		
Edmonton			4.176	31,064	58,821	79.19		
London	Ontario	31,977	37,976	46.300	60,959	71,14		
Windsor		10.322	12, 153	17,829	38.591	63,10		
Verdun	Quebec	296	1.898	11,629	25,001	60.74		
Halifax		38,437	40,832	46,619	58,372	59,27		
Regina	Saskatchewan.	-	2,249	30.213	34,432	53,20		
Saint John		39.179	40.711	42,511	47, 166	47.51		
askatoon		-	113	12,004	25,739	43,29		
Victoria		16,841	20.919	31.660	38.727	39,0		
Three Rivers		8.334	9.981	13.691	22.367	35.43		
Kitchener			9.747	15, 196	21,763	30.79		
Brantford			16.619	23, 132	29.440	30, H		
Hull		11.264	13.993	18.222	24.117	29.43		
	Quebec		11.765	18,405	23.515	28.93		
Outremont			1.148	4.820	13.249	28,6		
Fort William		2.176	3.633	16,499	20 541	26.2		

All the larger cities have in their neighbourhoods growing "satellite" towns or other densely settled areas in close economic relationship with the central municipality. Computed on this basis of "metropolitan area", the total populations of the larger cities at the Census of 1931 were as follows: "Greater Montreal", 1.000,159; "Greater Toronto", 808,864; "Greater Vancouver", 308,340; "Greater Winnipeg", 284,129; "Greater Ottawa" (including Hull), 175,988; "Greater Quebec", 166,435; "Greater Hamilton", 163,710; "Greater Windsor", 110,385; "Greater Halifax", 74,161; and "Greater Saint John", 55,611.

Racial Origins.—The object of securing information on racial origin at the census is to ascertain from what basic ethnic stocks the Canadian population, more particularly the recently immigrated population, is derived. The answer "Canadian" is not accepted under this heading, as the purpose of the question is to obtain, in so far as possible, a definition of "Canadian" in terms of racial derivation. It is clear that to accept the answer "Canadian" to the question on racial origin would confuse the data and defeat the purpose for which the question is asked.

Racial Distribution.—The total increase in population over the decade 1921-31 was 1,588,837. The population of English origin increased by only 196,061 compared with 722,208 in the previous decade; that of Scottish origin by 172,725 compared with 175,745; and that of Irish origin by 123,005 compared with 57,419. The population of British origin, taken together, increased from 4,868,738 to 5,381,071, or 512,333, between 1921 and 1931. This represented 32 p.c. of the total increase as compared with 61 p.c. of the total increase for the previous decade. On the other hand, the population of French origin increased from 2,452,743 in 1921 to 2,927,990 in 1931, or by 475,247 (slightly under 30 p.c. of the total increase for the decade) and showed the greatest absolute increase for any decade since 1871.

Birthplaces.—In addition to, or as supplementary to, the question of racial origin, it is important to know the birthplaces of the population—how many of the population are born, for instance, in Canada. These may be of any racial origin, e.g., French, English, German, etc. The following table gives the birthplaces of the population as shown in the past four decennial censuses:—

Birthplaces of the Population of Canada, 1901, 1911, 1921 and 1931

Year			Foreig	n Born		Percen	tages of T	otal Population			
	Canadian Born	British	Born	Born	Total			Foreign Born			
		Born	in United States	in other Foreign Countries		Canadian Born	British Born	United States Born	Other Foreign Born		
	No.	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.c.		
1911 1921	4,671,815 5,619,682 6,832,224 8,069,261	834,229 1,065,448	127,899 303,680 374,022 344,574	449.052 516,255	5,371,315 7,206,643 8,787,949 10,376,786	77-98	7 · 84 11 · 58 12 · 12 11 · 42	2·38 4·21 4·26 3·32			

¹ Includes some hundreds of persons born at sea.

Religions.—Of the total population in 1931 (10,376,786), 4,285,388 or 41.30 p.c. were members of the Roman Catholic faith (including 186,654 Greek Catholics).* The United Church of Canada, with 2,017,375 members, or 19.44 p.c. of the population, was second and the Anglicans, with

^{*} See footnote 1 to table at top of p. 25.

1,635,615 or 15·76 p.c., third. The Presbyterian was the next largest group with 870,728 members or 8·39 p.c. in 1931. According to the census returns, 0·15 p.c. did not state their religion and 0·20 p.c. gave "no religion". Statistics of religions for the past four census years follow:—

Membership of the Eight Leading Religious Denominations in Canada, 1901, 1911, 1921 and 1931

Religious Denomination	1901	1911	19214	1931
Roman Catholic United Church Anglican Presbyterian Baptist ^a Lutheran	2,229,600 	2,833,041 1,043,017 1,116,071 382,720 229,864	3,389,626 1,407,780 1,409,406 421,730 286,458	4,285,3881 2,017,3751 1,635,615 870,7281 443,341 394,194
Jewish Greek Orthodox	16,401	74.564	125, 197	155.614 102.389

¹ Including 186,654 Greek Catholics. In earlier censuses only small numbers were involved and Greek Catholics and Greek Orthodox were included under the general term "Greek Church". A rapid increase in membership of both Greek Catholics and Greek Orthodox has been shown for recent censuses and, since the former owe obedience to the Pope in matters of faith, they have been included with the Roman Catholics for 1931.

² Practically all Methodists and Congregationalists and a large number of Presbyterians united to form the United Church in Canada in 1925.

³ Including Tunkers.

⁴ Figures adjusted according to the Labrador Award of the Privy Council, Mar. 1, 1927.

Sex Distribution.—The population of Canada in 1931 was made up of 5,374,541 males and 5,002,245 females. Thus there were 518 males and 482 females per thousand. The masculinity of the population has increased in the eastern provinces and decreased in the western ones, where it was formerly greatest. A preponderance of males is common in all new countries where immigration has played an important part in building up the population.

The Quinquennial Census of the Prairie Provinces, 1936.—According to preliminary figures, the population of each of the Prairie Provinces at June 1, 1936, was: Manitoba, 711,000; Saskatchewan, 931,000; and Alberta, 772,000. Thus Manitoba indicates an increase of 10,861 since 1931, Saskatchewan an increase of 9,215 and Alberta an increase of 40,395.

As already noted on p. 22, the urban populations have generally decreased. In the ten cities tabulated below, increases are shown in but three cases and only in the case of Edmonton is this significant.

Populations of Ten Cities in the Prairie Provinces, Census of 1936, Compared with 1931

City	19361	1931	City	1936 1	1931
Brandon Calgary Edmonton Lethbridge Medicine Hat	83,304 85,676 13,520	17,082 83,761 79,197 13,489 10,300	Moose Jaw. Regina. St. Boniface. Saskatoon. Winnipeg.	53,289 16,255 41,606	21,299 53,209 16,305 43,291 218,785

¹ Preliminary figures.

Vital Statistics

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 of births, deaths and marriages for 1934 and 1935 are compared, by provinces, with those of 1926 in the following tables.

Births, Deaths	and Marri	ages in Car	nada, 1926	, 1934 ar	id 1935
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Descripes		Births			Deaths		Marriages		
Province	1926	1934	1935	1926	1934	1935	1926	1934	1935
	No.	No.	No.						
P.E. Island	1.752	1.943	2.010	898	1.033	975	459	536	51
Nova Scotia	10,980	11,407	11,573	6,366	6,028	6,141	2,861	3,756	3,94
New Brunswick.	10,340	10,164	10.348	5,002	4,665	4,768	2,938	3,045	3,19
Quebec	82,165	76,432	75,267	37,251	31,929	32,839	17,827	18,242	19,96
Ontario	67,617	62,234	63,029	35,909	35, 119	36,305	23.632	25,874	26,84
Manitoba	14,661	13,310	13,335	5.335	5,169	5,781	4,537	5,296	5,34
Saskatchewan	20,746	19,764	19,569	6,060	5,924	6, 126	5,483	5,519	6,03
Alberta	14,456	16,236	16, 129	5, 159	5,337	5.723	4.503	6,053	6,00
Br. Columbia	10.063	9,813	9,966	5,474	6,378	6,853	4,418	4,771	5,03
Canada1	232,759	221,393	221,226	107,454	101,582	105,511	66,658	73,092	76,88

¹ Exclusive of Yukon and the Northwest Territories.

Birth, Death and Marriage Rates per Thousand Population in Canada, 1926, 1934 and 1935

Province	Births			Deaths			Marriages		
riovince	1926	1934	1935	1926	1934	1935	1926	1926 1934 per M per M	1935
	per M	per M	per M	per M	per M	per M	per M		per M
P.E. Island	20-1	21.8	22 - 6	10.3	11-6	11-0	5.3	6-0	5-8
Vova Scotia	21.3	21.7	22.0	12.4	11.5	11-7	5.6	7-2	7.1
New Brunswick	26-1	23·9 25·3	24·1 24·6	12·6 14·3	11.0 10.6	11-1	7·4 6·8	7·2 6·0	6-
Quebec	31.6	17.5	17.5	11.3	8.0	10.1	7.5	7.3	7.
Manitoha	22.9	18-2	18-0	8.3	7.1	7.8	7.1	7.2	7.
askatchewan	25.2	20.5	20.0	7-4	6-1	6.3	6.7	5-7	6-
Alberta	23.8	21 - 1	20.7	8.5	6.9	7.3	7-4	7.9	7.
Br. Columbia	16-6	13 - 5	13-6	9.0	8.8	9 - 3	7.3	6.6	6.
Сапада!	24.7	29.5	29.2	11-4	9 - 4	9-6	7-1	6.8	7.

¹ Exclusive of Yukon and the Northwest Territories.

Births.—Vital statistics for the whole of Canada on a uniform basis have been made available only since 1926 when the province of Quebec came into the Registration Area. From 1926 to 1930 the number of births, though not the rate, showed an upward trend, rising from 232,750 in the former year to 243,495 in the latter.

Since 1930, however, the movement has been reversed. The number of births has declined to 221,226 in 1935 and because of the growing population the rate shows a still more decided reduction, having fallen from 23.9 per thousand population in 1930 to 20.2 per thousand in 1935.

Multiple Births in Canada.—During the ten-year period 1926-35, out of a total of 2.367,123 recorded confinements 28,683, or 1 in 82.5, were multiple confinements. Of these 28,398 were twin and 283 were triplet confinements, while one, in British Columbia in 1931, was a quadruplet confinement from which all the children died within a few hours of birth. The remaining multiple confinement resulted in the birth of the Dionne Quintuplets (May 28, 1934).

Infant Mortality.—A good measure of the efficiency of the health services of a country is provided by its infant mortality. In Canada during recent years this rate has shown a substantial reduction, falling from 102 per thousand live births in 1926 to 71 in 1935. The Canadian

rate, however, ranks fairly high as compared with those of other countries, and room for improvement is still great. Among the causes in which this improvement may be hoped for are gastro-intestinal diseases and diseases of the respiratory tract.

Infant Deaths (under One Year of Age) and Death Rates per Thousand Live Births in Canada, 1926, 1933, 1934 and 1935

Province	Deaths under One Year				Rate per 1,000 Live Births			
Flovince	1926 -	1933	1934	1935	1926	1933	1934	1935
Prince Edward Island Nova Scotia	123 882	118 791	130 807	145 837	70 80	61	67	7:
New Brunswick	1,095 11,666	821 7.270	878 7,388	865 6,939	106 142	82 95	86 97	8.
Ontario	5,302	3,804	3,523 734	3,514	78 77	60	57 55 55	56 66
Saskatchewan Alberta British Columbia	1,681 1,233 588	1,231 966 439	1,093 891 426	1, 194 935 457	81 85 58	61 60 46	55 43	5:
Canada ¹	23,692	16,284	15,870	15,723	102	73	72	7

Exclusive of Yukon and the Northwest Territories.

Main Causes of Death in Canada.—The death rate has been declining in general along with the birth rate in Canada, but the resultant rate of natural increase has been slightly downward since 1930. The deaths in 1935 showed an increase over the preceding year, 105,511 as against 101.582, and the rate was 9.6 per thousand against 9.4. Diseases of the heart, considered as a group, formed the most important cause of death in 1935. Cancer stood second, and over the period 1926-35 the cancer death rate advanced in almost every year. However, a considerable part of the increase can be accounted for by the ageing of the Canadian population. Next in importance in 1935 were "diseases of the arteries", which have also shown an apparent upward trend since 1926. Pneumonia was in fourth place in 1935, though up to and including 1932 this cause ranked before diseases of the arteries. Diseases of early infancy stood fifth in order. These diseases showed a well-marked downward movement between 1926 and 1935. Tuberculosis, which in all its forms stood sixth as a cause of mortality in 1935, showed a slight increase over the preceding year in number of deaths and rate, but this is an exception to the general trend in recent years, which has shown much improvement. These six causes of death accounted for well over half of the total deaths in Canada in 1935.

Marriages.—As in the neighbouring country (the U.S.A.), the recent accountie depression exercised a marked influence on the number of marriages and the marriage rate in Canada. The year 1935, however, showed a very marked recovery. In 1929 marriages in Canada numbered 77.288. They declined to 71.657 in 1930, 66.591 in 1931 and 62.531 in 1932. The corresponding rates were 7.7 per thousand in 1929, 7.0 in 1930, 6.4 in 1931 and 6.0 in 1932. The year 1933 showed a slight upturn in the number of marriages, 63.865 as against 62.531 in the preceding year, though the rate remained unchanged at 6.0 per thousand. In 1934 the number of marriages increased by more than 9,000, reaching the figure of 73,092, with a rate of 6.8. The year 1935 showed a further increase in number to 76.883, while the rate advanced to 7.0.

Divorces.—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, to 875 in 1930, but decreased to 692 in 1931, owing to fewer divorces granted in

Ontario as a result of the change in system and delay in dealing with applications during the transfer from Dominion to provincial jurisdiction. For the calendar year 1932 a new high total of 995 was recorded, a decrease to 923 was shown in 1933; in 1934 the number was 1,106, and in 1935, 1,376.

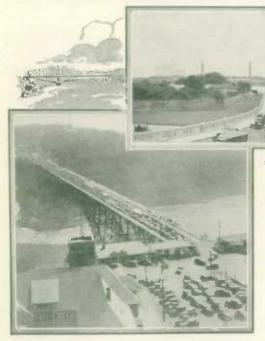
Immigration and Land Settlement

Immigration.—Total immigrants into Canada during the fiscal year 1936 numbered 11,103 as compared with 12,136 in the fiscal year 1935 and 13,903 in 1934.

The number of English, Scottish, Irish and Welsh from overseas was 2,049 as compared with 2,198 and 2,260 in 1935 and 1934 respectively; immigrants from the United States totalled 5,121 in 1936 as compared with 5,960 and 7,740 respectively for the two previous years; from other countries the number was 3,933 as compared with 3,978 and 3,903 respectively.

Land Settlement.—Settlement on the land of families with agricultural background from the cities, and the placement in farm employment of single men otherwise unemployed, have been important activities of the Department of Immigration and Colonization* since the encouragement

* Now the Immigration Branch of the Department of Mines and Resources.



A shough tourists entering Canada and Canadians returning from abroad are not immigrants, their admittance is subject to regulations applied by the Immigration Branch of the Department of Mines and Resources and represents a large part of the present immigration activities of that Department. During the twelve months ended Aug. 31, 1936, the Department admitted into Canada no less than 15.921.598 tourists in addition to 11,-159,434 others, including

Canadians—a total amounting to more than twice the population of the whole Dominion. Marching eight abreast and six feet apart, they would form an unbroken procession from Halifax to Vancouver. The above layout shows: (1) Tourist cars crossing the Peace Bridge at Fort Eric, Ontario. (2) Incoming automobile travel at the Falls View Bridge, Niagara Falls, during the Labour Day week-end, 1936.

Courtesy, Department of Mines and Resources and Department of National Revenue, of immigration was discontinued in 1930. In the period from Oct. 1, 1930, to June 30, 1936, the Department, with the active co-operation of the Canadian Pacific and Canadian National Railways, has placed 19,702 families on farms and 44,034 single men in farm employment. On the basis of five persons to the family, this represents a landward movement of 142,540 individuals. This settlement was effected without financial assistance from public sources. In addition, from June 1, 1932, to May 15, 1936, a total of 4,358 families consisting of 22,870 persons were established on farms under the Relief Land Settlement Plan which provides for co-operation between the Dominion Government and the Provincial Government and municipality concerned in extending modest financial assistance toward the establishment on the land of suitable families who would otherwise be on relief in the cities.

The Aboriginal Races

Indians.—The Indians of Canada, comprising persons of paternal blood with the exception of such of them—few in number—as have been enfranchised, are wards of the Dominion and number, according to the latest census taken by the Department of Indian Affairs in 1934, 112,510 made up by provinces as follows: P.E.I., 224; N.S., 2,093; N.B., 1,734; Que., 13,281; Ont., 30,631; Man., 12,958; Sask., 11.878; Alta., 10,900; B.C., 23,598; Yukon, 1,359; N.W.T., 3,854. According to the Dominion Census of 1931, the total number of Indians was 122,911 (62,943 males and 59,968 females) made up by provinces as follows: P.E.I., 233; N.S., 2,191; N.B., 1.685; Que., 12,312; Ont., 30,368; Man., 15,417; Sask., 15,268; Alta., 15,249; B.C., 24,599; Yukon, 1,543; N.W.T., 4,046.

The difference between the figures of the Department and those of the Dominion Census may be accounted for by the inclusion in the latter of persons of Indian blood who have not Indian status under the Indian Act.

Indians are minors under the law and their affairs are now administered by the Indian Affairs Branch of the Department of Mines and Resources 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 Branch. The activities of the Branch, as guardian of the Indians, include the control of Indian education, the care of 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 is conducted through the Branch's agencies, of which there are well over 100.

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law. 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. Indians who become enfranchised lose the special protection attached to their wardship, so that it is necessary to guard against premature enfranchisement.

Eskimos.—The Eskimos of Canada are found principally on the northern fringe of the mainland and on islands in the Arctic Archipelago and in Hudson bay, although in the Baker Lake-Chesterfield Inlet area on the west side of Hudson bay there are bands of Eskimos who are essentially an inland people, and subsist chiefly on caribou. The diet of the coast Eskimos is largely marine mammals and fish, varied at times by caribou obtained from the interior during the seasonal migrations of these animals. The skins of the caribou are used for winter clothing.

The wandering life of the Eskimos and the vast area over which they are scattered present great difficulties in ascertaining their total numbers. The total for the entire Dominion, according to the latest returns, is about



An Indian Village Street with Totem Poles, Alert Bay, B.C.

Courtesy, Canadian Government Motion Picture Burcau.

6,000 located mainly in the Northwest Territories, with approximately 1,590 in Quebec, 85 in the Yukon Territory, 62 in Manitoba and 3 in Alberta.

The administrative care of Eskimos outside of the organized provinces devolves upon the Lands, Parks and Forests Branch of the Department of Mines and Resources, which, by regulative measures (including the setting aside of game preserves where only natives may hunt), con-serves the natural resources necessary to their subsistence. To augment these resources the Branch imported in 1935 a substantial herd of reindeer. Contact with the Eskimos is maintained through permanent stations in the Eastern, Central and Western Arctic, at a number of which medical officers are located, and by means of the annual Canadian Eastern Arctic Patrol by steamship. Law and order in all reregions in Canada inhabited by Eskimos is maintained by the Royal Canadian Mounted Police.

CHAPTER II

WEALTH, PRODUCTION AND INCOME— CAPITAL INVESTMENTS

National Wealth

The economic concept of national wealth is concrete and purely material, since economics is not able to take cognizance of the immense field of intangible wealth created by churches, schools and other institutions, nor of such things as climate, location, health, etc., which promote individual and national welfare and are often referred to as wealth, but in a different sense from that meant here. The definition includes all our farms, factories, equipment, merchandise in stock, real estate, roads, highways, developed resources and the thousand and one material things which we as a nation possess.



A Field of Stocked Wheat in Western Canada.

Courtesy, Canadian Government Motion Picture Bureau.

Great difficulty arises when we try to reduce all the things which go to make up this wealth (things which once created are not themselves subject to violent change) to a common denominator for statistical purposes. Estimates of national wealth must always be expressed in terms of the national currency and thus, normally, in terms of gold dollars. Yet the purchasing power of the currency unit is always fluctuating and since 1929 had at one point increased by more than 50 p.c. (Feb., 1933) in terms of wholesale prices. In 1930, the average index of wholesale prices was

down by nearly 10 p.c. from 1929, while in December of 1930 the index was 19 p.c. lower than in December of 1929. The index continued to decline until February, 1933, though there has been definite improvement since then.

The effect of such drastic reductions in prices is first felt by the commodities which are being currently produced. Ultimately a persistent decline of this character affects the capital values of real estate, buildings, machinery, etc., and its influence is then felt in a reduction in the national wealth as stated in dollars.

The following table shows the national wealth of Canada, by items, as in 1933.

Estimate of the National Wealth of Canada as in 1933

Classification of Wealth	Aggregate Amount	Percentage of Total	Average Amount per head of Population	
Farm values (land, buildings, implements, machinery	\$	p.c.	\$	
and live stock)	4,760,844,000	18-48	445.73	
traders	802,946,000	3-11	75 - 17	
Totals, Agricultural Wealth	5,563,790,000	21-59	520 - 90	
Mines (capital employed) Forests (estimated value of accessible raw materials,	800, 292, 000	3-10	74-93	
pulpwood and capital invested in woods operations) Fisheries (capital invested in boats, gear, etc., in prim-	2,090,821,000	8 · 11	195 - 75	
ary operations). Central electric stations (capital invested in equip-	25,380,000	0 · 10	2.38	
ment, materials, etc.)	1,309,801,000	5-08	122 - 63	
capital in rural lands and buildings)1	949,721,000	3-69	88 - 92	
Manufactures (materials on hand and stocks in process)1	368,070,000	1.43		
Construction, custom and repair (estimated invest-			34-46	
ment in machinery and tools and materials on hand) Trading establishments (estimated value of furniture,	32,385,000	0-13	3 - 03	
fixtures, delivery equipment and materials on hand).	708,043,000	2.75	66 - 29	
Steam railways (investment in road and equipment).	3,365,464,000	13-06	315.09	
Electric railways (investment in road and equipment)	223,704,000	0.87	20.94	
Telephones (cost of property and equipment)	330,491,000	1.28	30 - 94	
assessors and for roads, sewers, etc.)	6,913,530,000	26.83	647-27	
1934)	267,671,000	1.04	25 - 06	
1934)	502, 264, 000	1.95	47 - 02	
Shipping (including aircraft)	135,506,000	0.53	12 - 69	
registered)	392,211,000	1.52	36.72	
Highways, etc Household furnishings, clothing, etc. (value estimated	689,333,000	2.68	64 - 54	
from production and trade statistics)	913,397,000	3-54	85 - 52	
ment, chartered banks and the general public	186, 362, 000	0.72	17-45	
Totals	25,768,236,000	100 - 00	2,412-53	

¹ Duplication excluded.

The first official estimate issued by the Dominion Bureau of Statistics was for 1921, being based on the census data collected in that year. It placed the national wealth at \$22,195,000,000. Later estimates were \$25,673,000,000 for 1925 and \$27,668,000,000 for 1927. The figure for 1929, as published in Canada 1936, has now been revised in view of certain improvements introduced into the 1933 estimate. The above estimates for 1921, 1925 and 1927 are, therefore, not exactly comparable but are

sufficiently so for most purposes. The revised estimate for 1929 is \$31,276,000,000, and the 1933 estimate \$25,768,000,000. The former presents a picture at the peak of domestic prosperity, whereas that of 1933 reflects the writing down of values resulting from the depression.



Courtesy, International Nickel Company of Canada,

Aggregate and Per Capita Wealth by Provinces, 1929 and 1933.—As regards the provincial distribution of wealth in 1933, Ontario ranked first with an estimated aggregate wealth of \$8,796,000,000 or 34·14 p.c. of the total; Quebec second with \$6,738,000,000 or 26·15 p.c.; Saskatchewan third with \$2,527,000,000 or 9·81 p.c.; and British Columbia fourth with \$2,431,000,000 or 9·43 p.c. of the whole. While Ontario and Quebec led in absolute wealth, the western provinces came first in per capita wealth. British Columbia held first rank with a per capita wealth of \$3,414, Alberta second with \$2,689 and Saskatchewan third with \$2,657.

Production

Under the term "production" are usually included the activities of agriculture, fishing, mining, forestry, trapping, power development, manufactures and construction. This does not imply that many other activities such as transportation, merchandising, personal and professional services,

are not also "productive" in a broad economic sense. It is customary, 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 below, which shows the gross and net value of production in each of the divisions of industry above mentioned. In a second table on p. 36, 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, fuel and purchased electricity consumed in the process of production. This net figure is a much better

criterion for measuring the value of an industry than the gross.

After recording successive declines for five years, the net value of production turned upward in 1934 to register a substantial gain over 1933. The net value of commodities produced, as estimated by the Dominion Bureau of Statistics on the basis of data compiled by its various branches, was \$2,381,000,000 in 1934 against \$1,996,000,000 in the preceding year. The gain of 19 p.c. represents the marked betterment in productive operations and commodity prices over the preceding year. It is definitely indicated, therefore, that the turning point of the depression was reached in 1933. Each of the nine main branches of production participated in the 1934 advance.

Summary, by Industries, of the Value of Production in Canada, 1933 and 1934

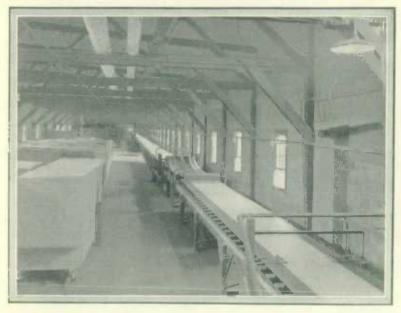
Industry	193	3	1934		
Industry	Gross	Net	Gross	Net	
	\$	\$	\$	\$	
Agriculture Forestry Fisheries Trapping Mining Electric power	890,164,3114 197,325,273 35,736,596 7,258,527 264,737,816 117,532,081	581,316,218 128,624,803 27,558,053 7,258,527 221,495,253 115,663,653	1,006,257,616 4 236,089,129 45,661,143 8,636,885 356,487,142 124,463,613	673,950,200 156,859,181 34,022,323 8,636,885 278,161,590 122,461,993	
Totals, Primary Production	1,512,754,604	1.081,916,507	1,777,595,528	1.274.092.172	
Construction	97,289,800 72,186,994 2,086,847,847 ³	63,238,370 50,244,698 1,048,259,450	186,198,890 87,646,270 2,533,758,954 ²	115,406,755 58,617,595 1,222,043,899	
Totals, Secondary Pro- duction ¹	2,256,324,6411	1,161,742,518	2,807,604,1141	1,396,968,249	
Grand Totals'	3,331,663,1521	1,996,450,893	4,042,933,1961	2,380,716,629	

¹ In conformance with Resolution 23 adopted by the Conference of British Commonwealth Statisticians of 1935, the cost of fuel and purchased electricity was deducted from the gross value of manufactured goods for 1933 and 1934. To this extent these figures were rendered incomparable with preceding years. ² Statistics of custom and repair shops, including custom clothing, dyeing and laundry work, boot, jewellery, automobile and bicycle repairing, and custom and repair work by foundries, were not collected after 1921. The totals for 1933 and 1934 were estimated according to the percentage change in the data for manufacturing. ² The item "Manufactures" includes dairy factories, sawmills, pulp-mills, fish canning and curing, electric power production, shipbuilding and certain mineral industries, which are also included in other headings above. The duplication, amounting in 1933 to a gross of \$437,416,093 and a net of \$297,208,132 and in 1934 to a gross of \$542,266,446 and a net of \$290,343,792, is eliminated from the grand total.
4 This 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 1934 shown on p. 49.

The gain in the output of electric power in 1934 was less than in other lines, but even here an increase of nearly 6 p.c. was shown. The greatest absolute gains were recorded in manufacturing and agriculture, but the

largest percentage increases were in construction and mineral production with fisheries following closely in third place.

The percentage gain in the new business obtained by the construction industry was outstanding. Contracts awarded in 1934 were \$125.800,000, a gain of 29 p.c. over the preceding year. The official total of work completed was \$186.200,000 in 1934, no comparable statistics being available for 1933. Deducting materials used, the net value of construction in 1934 was \$115,400,000. A very substantial gain was shown in mineral production, especially in the output of metals.



A Large Gypsum Wallboard Machine in Operation at an Ontario Plant.

Courtesy, Gypsum, Lime and Alabastine, Canada, Limited.

While the gain in agricultural production was proportionately less than in some of the other branches, the net output was greater than in any other year since 1930. The increase over 1933 was about 16 p.c., the total for the year under review being nearly \$674,000,000. The percentage gain in manufacturing output was slightly greater than in agriculture, the value of the former being up \$175,000,000. The totals for the two preceding years were surpassed in 1934.

Manufacturing continues to be the predominant factor in Canadian production, having assumed a definite precedence over agriculture in net value of production since 1925. However, the abnormal and rapid decline in agricultural prices in recent years has tended to exaggerate this lead. Agricultural production in 1934 represented 28.3 p.c. of the net output of all branches of industry while the corresponding figure for manufactures was 51.4 p.c.

Price and volume indexes indicate that a further gain in net production occurred in 1935. The index of wholesale prices averaged 0.7 p.c. higher than in the preceding year. The gain in the index of industrial production was nearly 8.7 p.c., and the index of general employment 25967—32

recorded an advance of 3.5 p.c. The increases in these indexes indicate a higher level for the net value of commodity production than in 1934.

Relative Production by Provinces.—Ontario held, in 1934, first place among the nine provinces in the creation of new wealth, producing 43·1 p.c. of the Dominion total compared with 43·0 p.c. in 1933. Quebec followed with an output of 24·9 p.c. against 25·5 p.c. in the preceding year. British Columbia and Alberta were in third and fourth places, respectively, the contribution of the former in 1934 being 7·9 p.c. compared with 7·5 p.c. for Alberta. Saskatchewan and Manitoba were in fifth and sixth places, respectively, Nova Scotia, New Brunwick and Prince Edward Island following in the order named.

Summary, by Provinces, of the Value of Production in Canada, 1933 and 1934

Province	19	333	1934		
Province	Gross	Net1	Gross	Net1	
	\$	\$	\$	\$	
Prince Edward Island	17.446.777	11,638,883	17,864,849	11,429,80	
Nova Scotia	108,802,323	70,448,029	132.936,541	88,570,589	
New Brunswick	81.180,773	47,089,788	98,700,994	58,732,37	
Quebec	884,694,474	508,518,084	1,054,450,210	593,066,12	
ntario	1,462,091,162	858, 272, 832	1,799,433,421	1,025,262,17	
Manitoba	165,273.233	96,685,194	196,750,708	115,068,44	
Saskatchewan	161,004,065	100,521,270	191,256,574	119,617,50	
Alberta	200.997,231	144,210,672	256.721,783	178, 043, 428	
British Columbia.	240,847,161	155, 740, 188	291,501,318	187,609,393	
Yukon	3,325,953	3,325,953	3,316,798	3.316,79	
Сапада	3,331,663,152	1,996,450,893	4,042,933,196	2,380,716,629	

¹ Gross value minus cost of materials, fuel and purchased electricity consumed in the production process.

National Income

The exact measurement of the national income is, of course, an impossibility. There must always be a margin of error in estimates of this kind apart from the fact that, as in the case of national wealth (see p. 31), values have to be measured in dollars, whereas the fluctuations in the price level change the purchasing power of those same dollars from year to year. Moreover, non-money incomes are more common in Canada than in some older countries of the white man's world and in rural areas constitute a very important part of the total income of most families.

Despite all these difficulties, the estimate of national income is one of the most important and the most comprehensive of all national statistics, and the accuracy with which it is approximated is, generally, a measure

of the value of the national statistical system.

A partial total of national production is given in the general survey of production immediately preceding this section. The industries there dealt with, as was pointed out, are not inclusive of such activities as transportation, merchandising or personal or professional services, which do not produce commodities as such, but are nevertheless equally productive in the broader sense of the term. According to the Census of 1931, the workers engaged in the actual production of commodities were only five-eighths of the total gainfully occupied population. If we are justified in considering the other three-eighths of the workers as equally productive in the broad sense, our problem of establishing a reasonably correct figure of national income is simplified.

An estimate of the wealth produced by those workers engaged in rendering services rather than working up commodities, that is, in the creation of "place, time and possession and service utilities" rather than "form utilities", has been facilitated by the Census of Merchandising for 1930, owing to the larger volume of statistics regarding distributive workers which is now available, and the conclusions reached from studies made indicate that workers not connected with production as defined in the Survey of Production are, in fact, equally productive in the broader sense.

The total recorded estimated net production of commodities for 1934, as given on p. 34, is \$2,380,716,629. If five-eighths of the gainfully occupied of the nation may be said to produce a net product valued at \$2,380,716,629, then by taking eight-fifths of this we get the estimated total of \$3,809,147,000 as the value of production of all the gainfully occupied.

In order to arrive at an estimate of national income from these figures of total production, items such as depreciation of equipment engaged in production, the net balance of interest payments payable from outsiders to Canadians and from Canadians to outsiders, etc., must be considered.

As regards depreciation of capital equipment, this item is considered to be at least offset by the consumption of materials on maintenance, which go into production but do not show as products thereof, and by the fact that no allowance has been made in the estimate of total production for the value of garden produce, poultry, etc., raised by householders,* for casual earnings, and for other means by which national income is increased, which it is not possible to record but which must reach a substantial total in the aggregate.

The balance of interest payments due to outsiders is carefully estimated by the Bureau of Statistics each year. For 1934 the figure was \$195,000,000. Subtracting this from \$3,809,147,000, the 1934 income of the Canadian people may reasonably be placed at \$3,614,147,000 which compares with \$2,969,321,000, worked out on the same basis, for 1933.

There are ways of estimating national income on other bases than that of production which has been employed here, but there is every reason to believe that when the problem is approached from other angles, such as total earnings of the people or total purchases at retail for consumption, the estimate is not materially affected. The problem was approached from all of these avenues by the Bureau of Statistics for the year 1930 and it was found that the results checked very closely.

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 the United States.

United Kingdom and in the United States.

In Canada the income tax is a more recent innovation than in either of the above-mentioned countries; also, in a newer country, 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 the United Kingdom or the United States. Nevertheless, the data collected by the Income Tax Branch of the Department of National Revenue, 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.

In the fiscal year ended 1935, individuals and corporations paid Dominion income tax on 1933 incomes aggregating \$928,555,030, so that for that year slightly less than one-third of the national income (estimated as \$2,969,321,000 in 1933) would appear to have been subject to income tax

by Dominion authorities.

^{*} Such produce to the value of nearly \$19,000,000 was raised elsewhere than on farms in 1930 according to the Census of 1931.

As regards the amount of income tax paid by various income groups, it is noteworthy that, in 1935, nearly 26 p.c. of the amount (\$25,073,614) collected from individuals with classified incomes was from those with incomes of \$50,000 and over (such individuals might be considered as in the millionaire class and numbered only 259 out of a total of 184,195 individual taxpayers). The percentage of the gross total receipts contributed by this class in 1934 was slightly over 30 p.c. On the other hand, individuals with incomes under \$10,000, who numbered 178,539 or about 97 p.c. of total individual taxpayers in 1935, contributed 31 p.c. of the total for that year as compared with 27.6 p.c. of the 1934 total. In the case of corporations, those with incomes over \$50,000 contributed by far the major part (over 84 p.c.) of the total gross receipts (\$36,363,794) from all corporations, but the number of such companies was a very much higher proportion of the total than in the case of individuals.

Outside Capital Invested in Canada

In the opening decades of the century the marked expansion in Canada was largely based on capital imported from the United Kingdom (see table), at least \$1,500 millions being imported during 1900-12. During the War the latent capital resources of Canada itself were for the first time exploited on a large scale, nearly \$2,000,000,000 being raised by the Dominion Government. Between 1919 and 1931 the outstanding feature in the situation was the considerable importation of capital from the United States; in 1914 U.S. capital investments were about \$904,000,000, while in 1931 they exceeded \$4,000,000,000. British investments in Canada had in the meantime declined by nearly 19 p.c. Since 1931, United States investments have declined somewhat and British investments have increased to the highest level over the period (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.

Capital Investments by Other Countries in Canada

Country	19141	19192	1929:	19312	19322	19342
	\$000	\$000	\$000	\$000	\$000	\$000
United States United Kingdom Other countries	904.455 2,711.841 177,729	1,800,435 2,606,848 173,493	3,608,521 2,128,489 155,409	4,107,803 2,204,858 165,217	4.065,783 2.677,717 95,752	3,983,231 2,734,197 95,933
Totals	3,794,025	4,580,776	5,892,419	6,477,878	6,839,252	6,813,361

¹ Estimated by various authorities.

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 \$2,028,787,000 at the end of 1934, or nearly 27 p.c. of the amount of outside investments in Canada. Of this, \$1,254,246,000 was placed in the United States, \$109,997,000 in the United Kingdom and \$664,544,000 in other countries.

² Estimated by Dominion Bureau of Statistics.

CHAPTER III

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 considerable regional difference in crop production. In certain areas, especially adapted to their production, potatoes and apples are important cash crops. Hay and clover occupy the greatest proportion of the general field-crop area while, on large acreages of dykelands adjacent to tide water, hay raising is a specialty.

Dairy products supply a large proportion of the farm income.

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 while, among the strictly cash crops, potatoes occupy the greatest area. The rural population lives "off the farm" to a greater extent than in any other province. Considerable revenue is derived from such items as maple syrup and sugar, cordwood and domestic work.



A Scene in the Mixed Farming District of the Eastern Townships, Quebec.

Courtesy, Canadian Government Motion Picture Bureau.

While mixed farming predominates in the province of Ontario, considerable attention has been given to the development of specialized farming enterprises such as the growing of fruits, truck crops and tobacco. As in Quebec, a great majority of the cultivated area is planted to forage crops and coarse grains but the acreages of cereals are much higher than in Quebec. In some counties such as Kent, Essex, Middlesex and Simcoe

the fall wheat crop contributes a fair proportion of the cash income. Sugar beets are an important crop in the southwestern end of the province. Dairy farming is carried on throughout the whole province with considerable specialization in the areas surrounding the larger centres of population, in Oxford county and eastern Ontario. Fruit and vegetables are grown extensively in the Niagara and Essex peninsulas and in other districts bordering the Great Lakes and Georgian bay while, in the counties of

Essex, Kent, Elgin and Norfolk, tobacco is an important crop.

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 grain crops with wheat predominant. Roughly speaking, the specialized wheat 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 areas of coarse grains and natural hay used for live-stock feeding. In southwestern Saskatchewan and southern Alberta, cattle and sheep ranching is an important industry.



Barn Raising.—Events of this kind and the construction of buildings of this type are comparatively rare to-day in the older settled parts of Canada. Now, few "square timber" barns are built; the plank frame and, more recently, the steel structure have superseded them and, with these modern types, there is less need for man power in the mass. However, the majority of the weather-beaten farm buildings of our countryside, erected some time during the past century and a half, and still fulfilling well their purpose, took form as shown above.

Courtesy, Provincial Travel and Publicity Bureau, Toronto.

In British Columbia agriculture exhibits possibly a greater degree of diversity than in any other province, ranging from the highly specialized fruit and vegetable farms to the ranches of the interior. Fruit and truck crops are most important in the Okanagan and Kootenay valleys. Dairying and poultry raising are specialties on Vancouver island and in the lower Fraser valley.

Canada has about 350 million acres of land suitable for farming purposes and of this total, 163½ million acres are in occupied farms, of which nearly 86 million acres are improved land. Farm land was valued in 1935

at \$2,323,164,000, which represented a slight increase over the previous year. Buildings on farms represent a further investment of \$1,342,924,000.

according to the Census of 1931.

Although Canada has a relatively small non-agricultural population for the absorption of surplus production, approximately 85 p.c. of our total agricultural production is consumed within the country with the remaining 15 p.c. finding markets abroad. Agriculture, however, is the basis of fully 40 p.c. of the total national export trade, the most important items being grain and grain products, live stock, meats and hides, cheese, apples and tobacco. Agriculture is taking a leading position in the general trade recovery. During the eight months ended August, 1936, the increase in total trade over the same period of the previous year was \$150.960.814, of which amount products based on agriculture accounted for \$89,010,211, practically 60 p.c.

Canadian agriculture is so diversified that imports of agricultural products form a small proportion of our total imports. Among the principal agricultural commodities imported are tropical fruits, nuts and spices, tea, coffee, cocoa, rubber, sugar and its products, grain and grain products, alcoholic beverages and vegetables. Well over half of our agricultural imports are of products which cannot be produced economically in Canada. Among the processed products of agricultural origin, cotton and silk manu-

factures form the largest proportion.

Government Assistance to Agriculture DOMINION DEPARTMENT OF AGRICULTURE

The assistance rendered to agriculture by the Dominion Government covers such a broad field that it cannot be adequately treated in any one year in the space available here. In Canada 1936, the organization of the Department of Agriculture and the clear-cut duties of the various Branches as they function at the present time were dealt with; this year the important fields of research which the Experimental Farms and Stations cover with regard to farm crops and forest protection is described.

Research in Farm Crops and in Forest Protection

Grass Crops.—The improvement of old grasses and the introduction of new ones is a type of work that is carried on at all the Dominion Experimental Farms and at a special forage-crops laboratory located at the University of Saskatchewan, Saskatoon. Varieties of forage crops from all parts of the world are tested to determine their adaptability to Canadian conditions and to provide basic breeding material for plant improvement. In four years there have been under test 134 perennial and permanent grasses, 49 grasses which have to be reseeded each year, 41 perennial and biennial legumes, 92 annual legumes and 12 other grasses and legumes. Much of this material is native to Canada, but many varieties and strains which offer special promise under Canadian conditions have been imported from foreign countries.

A serious situation confronts Western Canada, due to drought and soil drifting, and investigations with crested wheat grass and progress made with seed production of an improved variety of this grass will be of great value in helping to solve this problem. In Eastern Canada the forage crop specialists are co-operating in the development of special grasses for eastern pastures. Work is also being conducted on the development of

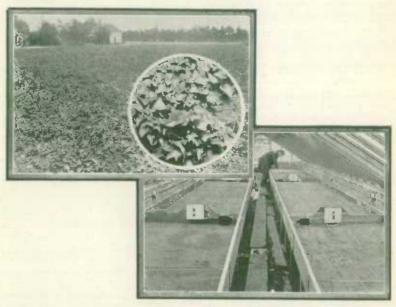
other forage crops, such as mangels and swede turnips.

Canadian farmers spend a great deal of money in "balancing" rations with imported cottonseed-meal and linseed-meal. As neither cotton nor flax grows in Canada in sufficient quantities to provide these feed by-products, the soy bean is being rapidly introduced as a high-protein feed. The bean produces meal for live stock feeding and a large amount of oil.

It is also a source of human food and of materials which are used in various industries. The Experimental Farm at Ottawa is introducing a particu-

larly good strain of soy bean for use in Eastern Canada.

Fibre Plants.—In Quebec the Department has co-operated extensively in the development of flax production. Special pedigree varieties of fibre flaxseed have been imported through the Department of Agriculture from Northern Ireland. These varieties have proved so satisfactory that the farmers have been able to obtain an increased return for seed, while the yield of fibre has been increased from 10 to 20 p.c. per acre. Research work is being conducted in the special problems of weaving, bleaching and other processes in the use of flax for the production of cloth. The extension services rendered by the Department, in co-operation with other agencies, in the spinning, weaving and bleaching of homespuns, have been most efficient in the various farm home organizations throughout the province of Queboc.



Rural Electric Service in Ontario.—Electric soil heat enables certain crops to be grown which cannot easily be produced commercially by other methods. The upper illustration shows a field of sweet potatoes grown at Burlington, Ontario, sprouts for which were produced by electric soil heat. Inset: An enlarged view showing the excellent foliage. The lower illustration shows the interior of a low-set greenhouse equipped for electric soil-heating experiments. This type of greenhouse, built at low cost and with automatic control of temperature, may be used advantageously by market gardeners.

Courtesy, Hydro-Electric Power Commission of Ontario.

Grain Crops.—Canada has an enviable position in the world's grain trade. No account of the work of the Department of Agriculture in maintaining this position would be complete without mention of the position occupied by Marquis wheat. The story of the development of Marquis has been told often but, valuable as is Marquis wheat, it is not everywhere perfect under the wide range of conditions existing on the prairies. Experts in the Cereal Division in co-operation with the Botany Division of the Experimental Farms Branch have developed new varieties

to combat inroads of diseases and pests in order to make the production of wheat less hazardous. New rust-resistant varieties of wheat and oats are being developed. Smooth-awned varieties of barley are also being produced. When it is remembered that losses from stem-rust of wheat average approximately \$25,000,000 per year, the value of this work can easily be realized. Similar work has reduced the loss from smut of the wheat crop in Western Canada.

Next to rusts and smuts one of the most serious detriments to grain growing is root rots of grain. Extensive work is being carried on to provide resistant varieties or to develop effective treatments for the control of

these diseases.

The fighting of insect pests is also a serious problem. One of the most spectacular of the pests which have had to be fought is the grasshopper, owing to serious infestations of recent years.

Grasshopper Control.—During the years 1931 to 1936 inclusive, the three Prairie Provinces of Canada experienced the most widespread and intense outbreak of grasshoppers in the history of Canadian agriculture. Beginning in 1931 the outbreak increased in intensity and destructiveness until 1934 when 78,000,000 acres in the provinces of Manitoba, Saskatchewan and Alberta became involved, requiring organized control activities upon

37,000,000 acres of cropped land.

In each of the years 1932, 1933 and 1934, the outbreak was so widespread and the insects so abundant that, unchecked by control campaigns, there is not a shadow of doubt but that over 50 p.c. of the grain and feed crop in the greater proportion of the prairies would have been lost. The threatened calamity was averted by the prompt organization and effective operation of control campaigns in each province by Provincial Governments, assisted by officers of the Entomological Branch, the Seed Branch and the Experimental Farms Branch. Dominion entomologists, for the most part, acted virtually as officers of the Provincial Governments in this work and their direct aid and technical advice was absolutely essential to the successful conduct of the campaigns. The services rendered by the Dominion Department of Agriculture consisted in aiding in the organization and supervision of the campaigns, experimenting with poisoned baits, the making of annual surveys of adults and eggs, the preparation of posters and publicity material and the annual publication of a map forecasting the distribution and the general intensity of the outbreak threatened for the succeeding year.

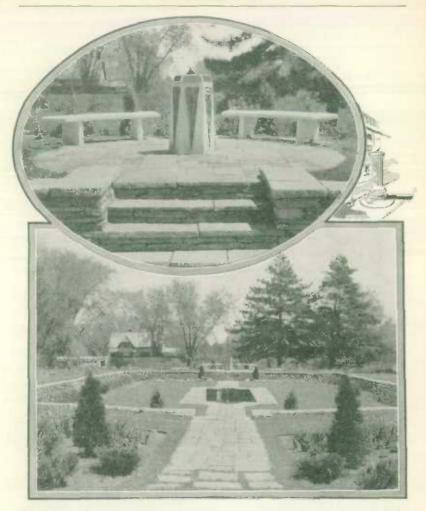
The campaigns were very successful and at a minimum estimate the savings in 1934 of all grains in the Canadian West due to the control campaigns must have been at least 70,000,000 bushels, at a cost not in

excess of \$850,000.

Similar work to that done with grasshoppers has been done with the pale western cutworm, an insect which, in 1932 for example, was present in destructive abundance throughout an area of approximately 150,000 square miles.

Research in Specialized Crops.—As the type of farming shifts from the pioneer grain-growing stage to the more intensive type found in densely populated urban areas, the problems in growing vegetables, small fruits and other highly specialized crops, become intensified. This is particularly true with the growing of garden vegetables. Each variety of vegetable does best under certain specialized soil conditions, and every one has its own particular diseases and pests. Through the co-operation of the horticulturist and the plant disease specialist, new disease-resistant varieties of improved quality are produced.

The work of the Department in the development of new varieties of apples is well known. During recent years such varieties as Melba. Lobo, Pedro, Joyce and Hume, all of which are earlier in season than the McIntosh, have been coming into general use. New varieties, originated at Morden, Manitoba, are being tested over a wide area on the prairies,



The Macoun Memorial Garden, Central Experimental Farm. Ottawa.—This memorial garden, built on the site of the late Dr. Macoun's former home, was opened in 1936 by the Prime Minister, the Rt. Hon. W. L. Mackenzie King, to commemorate the valuable work of this official who was Dominion Horticulturist prior to his death in 1933. Inset: Au enlarged view of the sundial.

**Courtesy. Canadian Government Motion Picture Bureau.

where there is a decided need for an increase in the list of hardy fruits. In the recognized fruit areas investigations in spraying, thinning and many related orchard practices, are conducted. One of the recent developments has been the study of surplus apple utilization. Laboratories have been established in some of the main fruit areas to study the development of cider and other fruit-juice products in order to find a market for surplus apples of many varieties which no longer find favour as dessert apples. Closely related to this is the work on cold storage of apples and small fruits. Apples are stored at various temperatures and studies made regard-

ing the various types of breakdown that occur under storage conditions. The influence of fertilizer treatment, maturity at picking dates and other factors are being observed. Strawberries and raspberries have been frozen and kept by the "frozen pack" method for later marketing.

Tobacco Research.—The rapid development of tobacco growing in Canada has been based to a considerable extent on research work done in the improvement of new and earlier varieties and strains better adapted to Canadian climatic and soil conditions. A new Burley variety, "Harrow Velvet", was introduced in 1934. In co-operation with the Canadian Seed Growers' Association, a scheme for the registration of tobacco seed was initiated in 1933. A comprehensive series of fertilizer experiments has been carried out during the past five years, and fertilizer recommendations are given annually to growers and the fertilizer trade. In 1933, a new substation was established at Delhi, Norfolk County, Ontario, where a wide range of fertilizer, cultural and varietal work was initiated on flue-cured tobacco. Similar work is being done in the Sumas area of British Columbia, and in the tobacco-growing areas of Quebec.

Intensive work was begun in 1933 in co-operation with the plant pathological services on the study of virus and other diseases of tobacco. In connection with marketing, special studies have been made of the requirements of the British manufacturers with regard to types, varieties and strains. As a result, the general quality and market adaptability of the Canadian crop has been greatly advanced and the export trade now appears to be firmly established on a sound basis, in which quality is a governing factor. The most outstanding factor has been the development in the export of flue-cured tobacco to the United Kingdom. Although 11,499,712 pounds were exported in 1933, the average for the past three years (1933-34-35) amounted to 6,885,485 pounds. Prior to 1930 exports of this type of tobacco were negligible.

Forest Insect Protection.—The Dominion Department of Agriculture not only conducts research work in connection with food production and distribution, but is largely interested in the protection of the forest resources of Canada against the inroads of destructive diseases and insects. While complete control of forest insects over wide areas is almost a physical impossibility, yet by studying the habits of the various pests and by attacking outbreaks in the early stages, it is possible to effect a remarkable degree of control over some of the more important pests.

In connection with the European pine shoot moth, for example, special attention has been paid by the Department to the examination of nurseries and to the prevention of its spread to reforested areas. In 1934, a total of 296,738 pines were examined individually. It has been found that the timely application of poisoned sprays will effectively arrest the spread of the pest. This method of control, supplemented by the introduction of

parasites, should greatly reduce the danger.

Much work is under way with the European spruce saw-fly, which was first brought to the attention of the Entomological Branch of the Department in 1930 when an outbreak was reported in the Gaspé and adjoining districts. At present more than 7,000 square miles of spruce stands are threatened with complete destruction. The biological control method is being vigorously developed. Many millions of living parasites of the saw-fly have been liberated in Eastern Canada in the hope that the species will become established and assist in reducing the saw-fly infestations. The Quebec and other Provincial Governments as well as the Quebec Forest Industries Limited are contributing financial assistance to provide for the introduction of these foreign parasites.

The control of forest insects is not entirely an eastern problem. In the Prairie Provinces, the success of the tree-planting policy of the Department is evidenced by the tremendous increase in the number of plantations established in recent years. A conservative estimate places the total value of trees now planted in the prairies at \$25,000,000. In the latest four or five years, several pests have caused serious damage in many areas and unless practical control measures are applied this may result in the loss of entire plantations. Probably the most destructive of these pests is the spruce mite. It is widely distributed and is responsible for the killing of a high percentage of newly planted spruce each year. An intensive study of this pest in all its stages has resulted in the development of a cheap and effective spray. This has been a distinct service to hundreds of tree planters. The pine leaf scale is another important enemy of evergreens for which an equally effective control has been devised by the officers of the Indian Head Entomological Laboratory. It has been the policy of this laboratory to place before the public the results of investigations by the establishment of an active extension service.

The problem of ambrosia beetles in lumber became of considerable economic importance through the practice of shipping green hemlock lumber to foreign countries. Hemlock logs are extremely subject to ambrosia beetle attack and several cargoes of lumber have been refused entry at foreign ports, causing serious financial loss to shippers. The Australian authorities threatened to place an embargo against the importation of British Columbia timber. An investigation conducted at the Vancouver Entomological Laboratory in co-operation with the Forests Products Laboratory led to the discovery of a kiln treatment which destroys effectively all beetles present in the lumber. Field studies have also brought out the fact that logs may be cut between Sept. 1 and Mar. 31 without fear of beetle attack, provided the lumber is removed from the

forest before spring,

Forest Pathology.—In recent years it has been realized that the forest resources, far from being inexhaustible as they once were thought to be, are, in fact, within measurable distance of depletion. The forest industries of this country will soon be dependent upon current growth instead of subsisting upon cumulative capital stock. It is in the management of these succeeding crops that forest pathology will be of the greatest value. It is obvious that the problems confronting the Department are as diverse as they are numerous. Naturally foremost consideration must be given to problems of direct economic importance to the forest industry and their solutions depend in large measure upon original research.

The "economic" aspect has been rightly stressed in all the projects so far undertaken; indeed most of the projects have been suggested as urgent and of importance by representatives of the Canadian forest industries. A study of the decay in balsam fir, one of the important pulpwoods nowadays, has furnished knowledge of the principal causes of decay, its prevalence in typical stands and the age at which balsam ordinarily becomes

seriously affected.

A similar study of decay in Jack pine is under way. The spruce forests of Gaspé have suffered appalling devastations due to insect attacks, which it is feared may eventually affect the entire spruce range of Canada. The pathological aspect here which is of concern is the problem of how long insect-killed spruce will remain free from attacks of destructive fungi before it may be profitably salvaged. The wide extent of this disaster—for such it is—indicates clearly the services expected of forest pathology. Again in the case of poplars, which are important species to manufacturers of match splints and pulp, researches by the Department have clearly indicated that an appreciable proportion of the trees left in the bush as worthless actually contain sound logs of high grade.

The Canadian white pine is one of the most valuable of our soft woods. Blister rust threatens the complete destruction of this prolific species unless control methods which have been evolved are followed by all interested parties. The forest resources of Canada are constantly threatened by invading fungi—the elm disease, larch canker and scores of others have been recorded as present on the continent, but have so far not been observed in the Dominion. The destructive nature of forest fungi-their insidious method of attack-demands vigilance of a high order on the part of the forest pathology services.

PROVINCIAL ASSISTANCE

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

With her prairie grain fields far removed from the seaport outlets, Canada suffers a natural disadvantage in the export of grain to the markets of Europe. This handicap has been largely overcome through continued efforts to improve both handling and transportation facilities. For years, the Great Lakes-St. Lawrence waterway has provided the most important outlet and during the crop year of 1935-36 exports by way of the St. Lawrence ports of Montreal, Quebec and Sorel amounted to 72,190,145 bushels, almost double the quantity shipped the previous year. The Canadian seaboard ports of Saint John, N.B., and Halifax, N.S., exported 12.873,198 bushels. The only other Maritime port exporting grain was North Sydney which shipped 7,378 bushels. The above-mentioned figures include small quantities shipped to the United States for consumption. Exports through United States Atlantic ports amounted to 75,429,096 bushels in addition to which some 30,852,093 bushels were exported from Canada to the United States for consumption. No account has been taken of re-routed grain which should be added to the Canadian port movement and deducted from the exports via the United States ports.

Although established some time previously, it was not until the season of 1921-22 that the westward route through Vancouver accounted for any appreciable volume. In that year, the movement reached 18,212,826 During the year 1935-36 shipments from Vancouver totalled 56,684,940 bushels. The only other western port exporting grain that year was New Westminster which handled 3,296,975 bushels. Shipments through the port of Churchill on Hudson bay were first made in 1931 and

during the past season amounted to 2,407,000 bushels.

Ample elevator facilities have been provided for regulation of the grain movement at both interior and terminal points. Keeping pace with the expansion of the grain trade, the number of elevators licensed under the Canada Grain Act has grown from 523 with a capacity of 18,329,352 bushels at the close of the last century to 5,870 with a capacity of 420,643,920 bushels in 1936. These elevators are divided into three principal groups, the Western Country, the Terminal and the Eastern.

The Western Country elevators handle the grain direct from the farmer. In 1900-01, they numbered 518 with a total capacity of 12,759,352 bushels and by 1935-36 the number had increased to 5,729 with a capacity of 189,931,000 bushels. Some of these elevators have not operated during

the recent period of light crops.

Terminal elevators, as defined by the Canada Grain Act, are located at Fort William, Port Arthur, Churchill and Vancouver. The number of licensed elevators at the head of the lakes has grown from 5 in 1900-01, with a capacity of 5,570,000 bushels, to 27 with a capacity of 92,542,210 bushels in 1935-36. Vancouver reported for the first time in 1906-07 when there were two elevators with a capacity of 200,000 bushels. By 1935-36, the number had grown to 18 with a capacity of 20,873,000 bushels.

The Eastern elevators are located along the Lower Lakes, the St. Lawrence river and the Canadian seaboard. In 1935-36 they numbered 30

with a total capacity of 79,913,800 bushels.

In 1912 the Board of Grain Commissioners was established for the control of the Canadian grain trade. The Board exercises supervision over the grading, and facilities for cleaning and drying are available at both interior and terminal elevators. Grading is closely supervised in order to analytam the high quality of Canadian grain.



Canadian Pacific Railway Gravity Classification Yard. Winnipeg. Winnipeg is the transportation hub of the Prairie grain district and is one of the largest railway centres in the world.

Courtesy, Royal Canadian Air Force.

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, 407,564,186 bushels of wheat and wheat flour (expressed as wheat) were exported from Canada. 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 few years, this position has been well maintained. During the past crop year, 1935-36, the exports of wheat and wheat flour (the latter expressed as bushels at 4½ bushels to the barrel) amounted to 254,424,275 bushels, while the production of wheat was 277,339,000 bushels. A large portion of the above export comprised wheat accumulated from former years.

Agricultural Wealth and Revenue

The preliminary estimate of the gross agricultural wealth of Canada, 1935, is \$5,797,104,000 as compared with \$5,620,173,000, the revised estimate for 1934 and \$5,563,790,000, the revised estimate for 1933. The gross value of the agricultural production was \$943,081,000 in 1935, an increase of \$516,000 as compared with 1934.

The tables below give the agricultural wealth of Canada by provinces for 1935, and the agricultural revenue by items, 1930-35. Ontario had about 28 p.c. of the total wealth, Saskatchewan 23 p.c. and Quebec 18 p.c.

in 1935.

Estimated Gross Agricultural Wealth of Canada, by Provinces, 1935,1 with Totals for 1934 and 1933

Province	Lands	Build- ings	Imple- ments and Ma- chinery	Live Stock	Poultry	Animals on Fur Farms	Agri- cultural Pro- duction	Total
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
P.E. Island Nova Scotin New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	20,092 39,160 35,002 414,347 507,321 179,393 649,485 405,247 73,117	19,687 43,890 38,680 257,918 487,009 88,389 223,795 137,332 46,224	10,554 13,253 97,270 151,928 54,847 185,510 116,301	5,507 10,810 12,155 87,331 159,376 37,500 86,360 74,570 15,717	655 770 1,028 5,843 17,863 2,836 5,299 3,596 2,402	446	27,042 25,278 174,758 313,077 56,530 154,896	132,618 126,252 1,038,947 1,638,035
	2,323,164 2,226,366 2,323,164	1,342,924	650,664	489,326 413,837 403,135	40,292 35,398 33,456	7,653 8,419 7,501	942,565	5,797,10 5,620,17 5,563,79

Figures for 1935 are preliminary.

Gross Annual Agricultural Revenue of Canada, 1930-351

Item	1930	1931	1932	1933	1934	1935
	\$000	\$000	\$000	\$000	\$000	\$000
Field crops	662,041	435,966	452,527	453,598	549,080	506.61
Farm animals	166,630	96,778	65,185	89,063	99,438	120.07
Wool	2,311	1,644	1,093	2,005	1,899	2,23
Dairy products	237,068	191,390	159,074	170,829	183,791	191,49
Fruits and vegetables	49,417	39,692	32,157	33,208	43,531	49.78
Poultry and eggs	95,227	56,298	42,078	38,060	45,515	50,43
ur farming	4,925	3,557	3,284	4,062	4,534	4,12
Maple products	5,251	3,456	2,706	2,059	3,040	3,52
Cobacco	7,058	7,178	6,088	6,531	7,232	10,76
lax fibre	371	179	170	159	250	32
Clover and grass seed,	2,482	1,497	962	1,362	2,010	1,68
Honey	2,538	2,246	1,470	2,010	2,245	2,02
Totals	1,235,319	839,881	766.794	802,946	942,565	943.08

¹Figures for 1935 are preliminary.

Severe and prolonged drought conditions which prevailed over most of the inland provinces during the summer of 1936 retarded agricultural recovery in the southern parts of the Prairies and much of Ontario. The total volume of production of food and feed crops was again low, being about 80 p.c. of the average of the period 1926 to 1930. Very small yields of wheat and coarse grains were chiefly responsible for the low output recorded in 1936. Higher prices of grains and the more satisfactory yield from potatoes and fodder crops resulted in an increase of the gross cash

income from field crops in 1936. Winter injury, spring frosts and summer drought combined to lower the yields of all fruit crops. Returns from the 1936 crop will be below those of the previous year. Greater marketings of hogs and cattle in 1936 more than offset the lower prices realized for these animals, so that they contributed a substantial increase in gross cash returns. Sheep and lamb marketings were lower, but higher prices brought returns equal to or slightly in excess of 1935. Exports of cattle to the United States and the United Kingdom were much larger in 1936 than in 1935. Dairy production showed an increase in volume with prices higher than those of the previous year. The poultry industry experienced a favourable year, gross cash income from that source of farm revenue being appreciably greater. It is estimated that the total gross cash income from farming in 1936 was from 10 to 15 p.c. greater than in 1935. Eastern Ontario, Quebec and British Columbia showed moderate increases, while the Maritime Provinces recorded the greatest gains. In the southern portion of the Prairie Provinces, considerable relief was necessary. While the prices of goods purchased by farmers increased, the gain in farm income was sufficient to more than compensate for this. At the end of 1936, Canadian farmers were in a slightly better economic position than they were at the close of the previous year.

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 about 58 million acres in 1936, an increase of 272 p.c. during the forty-six 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 during 1913-19 alone the area under field crops increased about 50 p.c.

Wheat.—The remarkable growth in the production of wheat from 1870 is indicated by the table shown below.

Production, Imports and Exports of Wheat for Canada, 1870-1936

Note.—(1) In the table below, 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, 1871-1901, and July 31, 1911-35. (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.

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 *1880 *1890 *1910 *1910 *1920 1921 1922 1923 1924 1925	16,724 32,350 42,223 55,572 132,078 226,508 300,858 390,786 474,199 262,097 395,475	4,304,405 965,767 406,222 314,633 407,639 454,749 372,942 397,519 40,741 619,404 379,194	3,127,503 4,502,449 3,443,744 14,773,908 62,398,113 166,315,443 185,769,663 279,364,981 346,566,561 192,721,772 324,592,024	1926. 1927. 1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935.	407, 136 479, 665 566, 726 304, 520 420, 672 321, 325 443, 061 281, 892 275, 849 277, 339 1 233, 500 2	407,119 473,308 1,345,881 1,374,726 244,220 216,328 173,014 413,165 896,674 296,510	292, 880, 996 332, 963, 283 407, 564, 186 186, 267, 210 258, 637, 886 207, 029, 553 264, 304, 327 194, 779, 875 163, 751, 305 254, 424, 275

¹ Subject to revision.

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. At that time the abnormally high 1915 crop of 393 million bushels set a record for a number of years until 1922, when nearly 400 million bushels

² Provisional estimate.

was produced. New high records were attained in 1923 (474 million bushels); in 1927 (480 million bushels); and in 1928 (567 million bushels). Except for the years 1930 and 1932 when production exceeded 400 million bushels, the years from 1929 to 1936 were marked by unfavourable climatic conditions and yields were correspondingly low. Rust in 1935 was a serious damaging factor, whereas in 1936 drought reduced the crop to 233-5 million bushels, the smallest yield since 1919.

Other Grains.—These grains consist of oats, barley, flaxseed, rye, buckwheat, peas, mixed grain and corn. The first two 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. The area under crop has expanded from 3,961,356 acres in 1890 to 13,118,000 acres in 1936, when the production was estimated at 276,265,000 bushels. 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 for 1936 is now estimated at 72,726,000 bushels. Rye production amounted to 1,064,358 bushels in 1870, increased to 32,373,400 bushels in 1922 and recorded to 4,368,000 bushels in 1936.

The Field Crops of Canada, 1936 According to estimates of Nov. 12, Nov. 18 and Dec. 9, 1936)

Field Crop	Area	Total Yield	Total Value	
	acres	bush.	\$	
Wheat	25,289,000	233,500,000	200.085.00	
Ints	13.118,000	276, 265, 000	109,433.00	
Barley	4,432,500	72,726,000	43.316.00	
Rye	635,000	4,368,000	2.410.00	
'eas	92,500	1.153.000	1,480.00	
Beans	64.000	433,400	1,699.00	
Buckwheat	398,000	8,664,000	5,892,00	
dixed grains,	1.172,800	34,381.000	18,477.00	
laxseed	467.750	1,779,300	2,481,00	
Corn for husking	164,400	5,935,000 cwt.	3,027.00	
Potatoes	496.400	39,063,000	43.761.00	
Turnips, mangolds, etc	181,800	37.854.000	13.407 00	
anathal titted order order	102,000	lens	10, 101 0	
fay and clover	8,786,800	13,893,000	110.287.00	
lfalfa	853,600	1.956,300	18,022.00	
odder corn	408,500	3.118,300	10.624.0	
irain pay	1,045,000	1.010.000	6,473,0	
lugar beets	56.100	569,000	3,355,0	

Prices of field crops were at an unusually high level during the War and until 1919, then slumped steeply, falling to a low level in 1923. Recovery followed in the years up to 1930, when sharp declines commenced, bringing the prices of many crops to the lowest recorded levels. The value of the field crops of Canada, which in 1910 was \$384,514,000, 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 \$1,537,170,000. This value receded to \$899,266,200 in 1923 but the recovery of prices combined with excellent harvests, brought the value up to \$1,173,133,600 in 1927 and \$1,125,003,000 in 1928. Since then it declined to \$948,981,000 in 1929, \$662,040,000 in 1930 and \$432,199,400 in 1931. With the exception of 1935, there has been a gradual gain in value until the 1936 season when the value of field crops, estimated at \$594,139,000, stood at the highest level since 1930. Comparative figures for the intervening years are: 1932, \$452,526,900; 1933, \$453,958,000; 1934, \$549,079,600; 1935, \$508,910,900. Higher prices per unit are chiefly responsible for the increased value of the 1936 production. Despite the reduced yields of many crops, the 1936 production is valued at 85 million dollars more than that of 1935 from the same crops.

The Flour-Milling Industry.—This most important manufacture connected with the field crops dates back to the first settlement made by the French in 1605. The milling of flour on a large commercial scale began with the competition between the two processes, stone and roller milling. About 50 years ago, the roller process secured a virtual monopoly of the industry and local country mills gave way to large mills served by elevators at central points. The high quality of Canadian wheat soon became recognized throughout the world and Canada's huge export trade in wheat and its products developed rapidly.

The production record of the flour-milling industry in Canada, established in 1928-29 and amounting to 20.872,000 barrels, has not been maintained since that year. Wheat ground in commercial mills for the crop year ended July 31, 1935, totalled 63.518,102 bushels and the flour produced was 14.168,621 barrels. Preliminary figures for the year ended July 31, 1936,

were 67,719.816 bushels of wheat and 14,910,380 barrels of flour.



Filling Bags in a Large Canadian Flour Mill.

Courtesy, Ogilvie Flour Mills, Ltd.

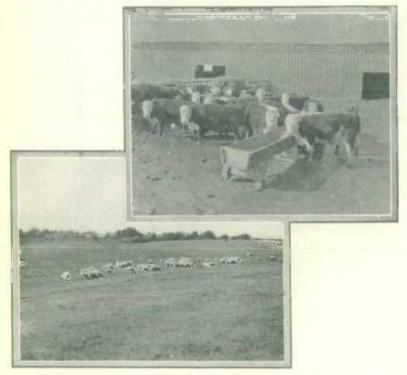
The total daily capacity of Canadian flour mills in 1935-36 was approximately 105,000 barrels. The largest flour mill has a daily capacity of 12,000 barrels and the largest milling company controls an active daily capacity of 18,725 barrels.

In 1935, according to the preliminary estimate, there were 1,300 mills including 875 chopping mills; the capital invested was \$59,000,000, while the value of the products was \$100,000,000. There has been a remarkable growth in the export trade in wheat flour. For the fiscal year 1868-69, the exports were 357,219 barrels, valued at \$1,948,696. By 1898, exports passed the million-barrel mark when a total of 1,249,438 barrels, valued at \$5,425,760, was shipped abroad. The peak year for flour exports was the crop year ended July 31, 1924, when shipments amounted to 12,021,424

barrels, valued at \$61,896,251. For the year 1935-36, exports totalled 4,978,917 barrels having a value of \$20,020,094. Canada continues to occupy second place among the world exporters of wheat flour, being surpassed by Australia.

The Live-Stock Industry

The live-stock industry occupies an important place in Canadian agriculture and is carried on in all provinces of the Dominion. Cattle raising is the leading branch of the industry and embraces both the breeding of dairy cattle and the raising and finishing of meat animals. In the latter case, ranching is followed mostly in the Prairie Provinces while the finishing of cattle for market is more common to Ontario and Quebec where



These pictures illustrate two phases of Canada's live-stock industry. Upper right, a group of Hereford steers raised in Western Canada and finished at the Central Experimental Farm, Ottawa; below, a farm flock of sheep in the park belt of the Prairie Provinces.

Courtesy, Canadian Government Motion Picture Bureau.

abundant supplies of all feeds are available. Cattle numbers rose successively from 7.973,000 in 1931 to 8.951,900 in 1934 but declined to 8.819,100 in 1936. Ontario is the leading province in hog raising but the availability of abundant supplies of barley in the park belt of Alberta and Saskatchewan is responsible for the rapid development of hog raising in those areas. Swine numbers have fluctuated sharply in sympathy with market prices. From a point of 4.699,900 in 1931, they dropped to 3.549,200 in 1935 but advanced again to 4,139,700 in 1936. Sheep numbers have remained fairly

constant during the past few years and in 1936 were estimated at 3,370,000. Farm poultry numbers have declined from a high point of 65,152,600 in 1931 to 59,298,200 in 1936. This latter figure represents a slight increase over the previous year. The raising of horses still occupies a prominent place in the live-stock industry. The numbers of horses on farms declined rapidly after the War, but in recent years the decrease has been small. In 1936, horses on farms numbered 2,920,900.

Slaughtering and Meat Packing.—This is the most important manufacturing development connected with the live-stock industry. Returns for 1935 show 139 establishments engaged in slaughtering and meat packing as compared with 147 in 1934. The capital invested increased from \$56,765,624 in 1934 to \$58,207,715 in 1935. During 1934 the number of employees was 10,119 and the following year this was increased to 10,674. Salaries and wages also advanced from \$11,608,338 in 1934 to \$12,448,347 in 1935. The cost of materials used in 1935 was \$108,191,810 while the products of the industry were valued at \$133,379,312.

During the first nine months of 1936, exports of live cattle were more than double those for the same period of the preceding year. Both the United Kingdom and the United States took larger numbers of Canadian cattle, the total quantity for the period being 249,271 head valued at \$10,905,854, of which 29,313 head valued at \$2,263,237 went to the United Kingdom and 215,976 head valued at \$8,494.059 to the United States. During the same period of 1935 the total exports were 109,635 head, of which 6,520 went to the United Kingdom and 100,126 to the United States.

Exports of bacon and hams amounted to more than a million hundred-weight for the nine-month period. The actual figures for 1936 were 1,099,602 cwt. as compared with 994,402 cwt. during the same period in 1935. The respective values of the shipments were \$18,195,117 and \$15,756,171. In both years, the United Kingdom provided practically the entire market, the quantities shipped there in 1936 being 1,075,831 cwt. valued at \$17,605,886. Exports of beef fell off in 1936; the total quantity for the first nine months was 56,562 cwt. as compared with 115,260 cwt. in 1935. The 1936 exports were valued at \$503,959 while those of the previous year were worth \$1,075,413. The total export value of all meats was \$22,339,357 as compared with \$18,962,697 in 1935.

Total exports of animals and animal products increased from \$69,352,910 in 1935 to \$89,169,131 in 1936. Of the latter amount, shipments to the United Kingdom were valued at \$47,265,847 and to the United

States. \$33,744.022.

Special Crops

A feature of Canadian agriculture is the number of crops which are grown in localities especially suited for their production. Some of the more important of these are tobacco, sugar beets, maple syrup and sugar and vegetable crops.

Various types of tobacco are now grown in different parts of Quebec, Ontario and, to a small extent, in British Columbia. The production in 1935 was 54,473,000 pounds from 46.870 acres. The preliminary estimate

of production for 1936 is 43,245,000 pounds.

Quebec leads in the output of maple products. For 1936 the value of sugar and syrup produced in all Canada was \$3,714,000 as compared with

\$3,522,000 in 1935.

Sugar-beet production is centred in southwestern Ontario and near Raymond, Alberta, although there are other areas sown to this crop in Quebec and Manitoba. In 1935, the latest year for which factory statistics are available, the output of refined beetroot sugar amounted to 119,857,668 pounds valued at \$4,617,733.

The growing of fresh vegetables for market is an important occupation in many parts of Canada, particularly in suburban areas. Truck farms located in especially favoured regions provide raw materials for the vegetable-canning industry as well as catering to the demands of the fresh vegetable market. Other special crops of lesser importance are clover and grass seed, hops, that and becap for fibra.



Cultivating Tobacco near Delhi, Ontario.—In the background are the kilns in which the tobacco is cured.

Courtesy, Imperial Tobacco Company of Canada.

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 selective breeding are noticeable in the improved quality of eggs and dressed poultry. The grading of marketed products is also receiving more attention.

The production of honey is common to all provinces, with Ontario, Manitoba and Quebec the leaders. In 1935 the estimated Canadian production was 24,284,000 pounds as compared with 24,270,000 pounds in 1934. The 1935 crop was valued at \$2,025,000.

Dairying

Dairying has long held an important place among Canadian industries. The early settlers produced home-made butter and cheese for consumption and for local sale. As the population increased, creameries and cheese factories were established, followed by the development of an export trade in dairy products. The export market grew; during the fiscal year ended Mar. 31, 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 declined, especially butter exports which dropped to 44,019 cwt. valued at \$818,996 in 1934, and then to only 4,466 cwt. valued at \$104,758 for the fiscal year ended Mar. 31, 1935. During the fiscal year ended Mar. 31, 1936, exports were 76,911 cwt. valued at \$1,795,784, and between April 1 and Oct. 31, 1936, the exports

amounted to 49.185 cwt. valued at \$1,123,649. The principal movement took place in June, July and August. Cheese exports for the fiscal year ended 1934 were 747,669 cwt. valued at \$8,176,271; for 1935, 692,130 cwt. valued at \$6,480,947. From April 1 to Oct. 31, 1936, exports were 440,286

cwt. valued at \$5,030,637.

An analysis of production figures since 1916 indicates a general tendency toward increase in the manufacture of creamery butter. In 1916 the output was 82,564,130 pounds valued at \$26,966,355 which in 1924 had increased to 178,893,937 pounds valued at \$60,494,826. During the next five years the production was fairly steady, but in 1931 a new high record of 225,955,246 pounds was established. Production fell in 1932 to 214,002,127 pounds valued at \$40,475,479. In 1934 the creamery butter output increased to 234,852,961 pounds valued at \$48,168,600, and in 1935 to 240,892,472 pounds valued at \$52,222,604. For the first ten months of 1936 the creamery butter output amounted to 226,205,658 pounds, an increase of 4 p.c. over the same period of 1935.



Ayrshire Herd, near Simon, Ontario, Courtesy, Provincial Travel and Publicity Bureau, Toronto.

Factory cheese production in 1917 was 194,904,336 pounds valued at \$41,180,623. In 1919 the total quantity produced had fallen to 166,421,871 pounds with a total value of \$44,586,168 which was the peak in values. During the next five years the production fluctuated between 136 and 162 million pounds, and again in 1925 a high production of 177,139,113 pounds valued at \$36,571,556 was reached. In 1926 the production was 171,731,631 pounds valued at \$28,807,841, but since that time and particularly from 1929 to 1934 there has been a very marked falling-off in production with low valuations. Quantities were as follows: 118,746,286 lb. in 1929; 119,105,203 lb. in 1930; 113,956,639 lb. in 1931; 120,524,243 lb. in 1932; 111,146,493 lb. in 1933; 99,346,617 lb. in 1934; and 100,427,390 lb. in 1935. Values for these years are given in the table on the following page. For the first ten months of 1936, production totalled 108,004,362 lb. Comparing the ten-month production in the provinces of Ontario, Quebec, Alberta and British Columbia with the output for the same months of 1935, it shows an increase of 17.2 p.c.

Fundamental changes have been going on in the industry and some of the milk that formerly went into cheese appears now to be made into butter or sold in the fluid form. 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; the unusually low prices for all dairy produce prevailing during 1931, 1932 and 1933 materially reduced the values for those years. Commencing with 1933, prices began to improve and this improvement is still continuing.

Values of the Dairy Production by Provinces, 1935, with Dominion Totals for 1925-35

Province	Dairy Butter	Creamery Butter	Home- made Cheese	Factory Cheese	Miscel- laneous Factory Products	Milk Otherwise Used	All Products ¹
	8	8	\$	\$	\$	\$	\$
P. E. Island. Nova Scotia Nova Scotia New Brunswick. Quebec. Ontario Manitoba Saskatchewan Alberta. British Columbia.	341,000 1,516,000 1,476,000 2,736,000 5,308,000 1,434,000 2,972,000 1,950,000 449,000	1,237,640 689,201 15,894,249 19,122,230 4,306,371 4,505,800 4,588,917	23 3,000 1,000 28,000 13,000 12,000 16,000 22,000	32,010 2,074,660 7,923,183 162,320 73,870 168,280	676,642 243,595 2,601,460 10,270,181 506,974 380,831 480,227	2,272,000 1,917,000 24,539,000 39,700,000 2,955,000 4,626,000	5,937,282 4,681,806 49,832,369 84,902,594 10,414,665 13,565,501 14,352,424
1932 1931 1930 1929 1929 1925 1927	17,492,000 16,623,000 15,311,000 21,450,000 27,385,000 29,163,000 30,435,121 28,252,777	52,222,604 48,168,600 48,475,478 50,198,878 56,670,594 65,929,782 64,702,538 65,709,986 61,753,390 63,008,097	100,021 94,021 94,120 108,500 115,555 82,800 70,654 80,240	9,797,690 11,127,984 11,379,922 12,824,695 18,980,870 21,471,330 38,494,463 25,522,148 28,807,841	29,581,498 18,879,335 17,767,271	84,974,009 78,016,009 71,627,000 78,876,009	297,625,347 294,874,590 277,304,979

Uncludes the value of skim milk and buttermilk for the years 1930-35.

The Fruit-Growing Industry

In certain sections of Canada, the climate and soil are eminently adapted to fruit growing. The Annapolis valley of Nova Scotia, the Niagara peninsula in Ontario and the Okanagan valley of British Columbia are world-famous centres of production. Experimental shipments of Nova Scotia apples were first made in 1861 but not till 20 years later did the trade



Packing Apples in Nova Scotia for Export to the British Market.—The bulk of Canadian apples exported goes to the United Kingdom market.

Courtesy, Canadian Government Motion Picture Bureau.

develop into a successful commercial venture. Up to 1890, the annual production of apples in Nova Scotia rarely exceeded 100,000 barrels; but after that date there was a pronounced increase in acreage and in production which later reached 1,000,000 barrels in 1909 and 1,900,000 barrels in 1911. The all-time high record for production was established by the crop of 1933 which reached the total of 2,438,000 barrels. The great bulk of the Nova Scotia crop finds its way to the markets of the Old Country. In Ontario, where the commercial production of all varieties of fruits has reached its highest development, apples have been grown from the middle of the 18th century but commercial orcharding has developed only during the past 60 or 70 years, and was only possible when the building of the railways permitted the fruit to be transported rapidly. In addition to apples, practically all other temperate-zone fruits are grown in Ontario but the strawberry, peach and grape are the most important from the revenue producing standpoint. Some Ontario fruit is exported to British and continental European ports but most of it is marketed in the province and in other parts of Canada. In British Columbia, commercial fruit growing is of comparatively recent origin, growth in production having been particularly rapid since 1910. The high point was reached in 1934 with a crop of 5,404,000 boxes of apples. Other tree fruits such as pears, plums and prunes, cherries, peaches and apricots are all grown in commercial quantities while all the berry crops are grown extensively in the province. The markets of the Prairie Provinces and Eastern Canada absorb a large part of the production while considerable quantities of apples are exported to British and foreign markets. In New Brunswick and Quebec, fruit growing is also fairly important with production gradually increasing. Apples and strawberries are the principal crops.

In 1935, the total value of commercial fruit production in Canada was \$19,356,000, including: apples, \$12,753,000; pears, \$604,000; plums and prunes. \$372,000; peaches, \$897,000; cherries, \$552,000; strawberries, \$2,396,000; raspherries, \$1,030,000; apricots, \$85,000; and grapes, \$667,000.

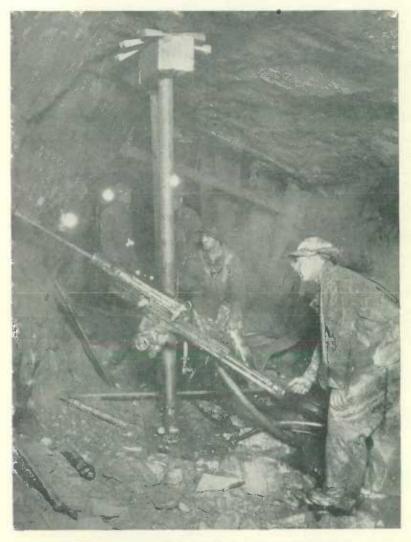


An Orchard in Bloom, Penticton, B.C.

CHAPTER IV

MINES AND MINERALS

The Story of Canadian Mining.—Mining is one of the most important of Canada's primary industries and in total annual value of production is exceeded only by agriculture. Since the turn of the century the mining



A Compressed Air Drill in a Copper Mine in Manitoba.

Courtesy, Department of Mines and Resources.

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industry of this country has shown remarkable progress and to-day. among the countries of the world, Canada ranks first in the output of nickel, platinum metals and asbestos, second in zinc and radium, third in copper and gold and fourth in lead. New towns and cities are being built up in the vicinity of the mines and the export trade in metals and minerals is growing annually. In the development and operation of the mines and metallurgical works, much machinery and equipment and many food products are required and thus, in an indirect manner, prosperity in mining is reflected throughout the length and breadth of the land.

History records the fact that the discovery of minerals in Canada is closely associated with the early exploration of the country. Iron and silver, and later coal, were reported in Nova Scotia by some of the first French adventurers. During the French régime and long after, the smelting of the bog-iron ores of Quebec was a very important industry.

Bellin's maps published in 1744 indicated the existence of silverlead not ten miles distant from the now famous Cobalt Silver Camp. On the western coast similar conditions prevailed; coal was found on Vancouver island in 1835, the gold rush to the Cariboo followed in 1859; later came the copper-gold deposits of Rossland, the silver-lead in the Kootenays and, in 1898, the last major placer gold rush into the Yukon Territory.

While the eastern and western sections of the Dominion were making mining history, very little advance was recorded in prospecting that part of the country from which Canada now derives such a large part of her present mineral output. In the Lake of the Woods country of western Ontario spasmodic attempts were made to produce gold successfully and the operation of the rich Silver Islet mine in Lake Superior was outstanding though short-lived. In 1883, when the Canadian Pacific railway was being built to link up the Prairies and the Pacific coast with the East, the now famous nickel-copper deposits of the Sudbury district were uncovered. An attempt was made to smelt these ores for copper but this was unsuccessful owing to the fact that they contained another metalnickel.*—and an entirely new metallurgical process had to be developed in

order to separate the nickel from the copper.

But shortly after the turn of the century mining began to show rapid growth in central Canada. The Government of Ontario projected a railway north to tap the great Clay Belt for the purpose of opening it up for settlement. In the construction of this railway, when blasting at Long Lake (later Cobalt Lake) in 1903, a rich deposit of silver ore was found. This was the beginning of the famous Cobalt Silver Camp. The success attendant upon this discovery furnished an incentive to further prospecting. The Precambrian shield soon began to indicate its great possibilities and discovery followed discovery. Gold was found at Porcupine in 1909 and Kirkland Lake was discovered in 1911. Active prospecting was curtailed during the war years but in 1921 the Rouyn Camp of northwestern Quebec was developed. This has been followed by the development of many more properties in recent years. The aeroplane furnished a means of comparatively easy access to remote districts and the discovery of new deposits of minerals increased annually. Gold mines were brought to the production stage in eastern Manitoba and northwestern Ontario. An intrepid prospector went farther afield and uncovered silver-radium ores at the easterly end of Great Bear lake. On the Manitoba-Saskatchewan boundary a large copper-zinc-gold deposit was developed.

Between 1931 and 1934 gold advanced in price from \$20.67 per fine ounce to \$35.00-a new incentive to production. Gold-bearing rock which would not pay to mine at the old price became immediately valuable. Mines which were beginning to run out of ore were rejuvenated. New mines were found with the result that during the past three years the

^{*} The word "nickel" originated among the miners in Saxony when they attempted to treat an ore containing nickel in the eighteenth century. They attributed their difficulties to the presence of a metal which they named kupfer-nickel (copper-nickel) after "Old Nick" and hence the name "nickel".



An Aerial View of the Noranda Development in Northeastern Quebec.—
The main shaft of the mine, the extensive smelting plant and part of
the townsite which has sprung up around the development are shown.

Courtesy, Noranda Mines, Limited.

growth of gold mining in Canada has been the most rapid in her history and new discoveries are constantly being reported from Great Slave Lake and Lake Athabasca in the West to Chibougamau in the East.

While all these activities were taking place in the Precambrian area of the country, the Cordilleran region of British Columbia was not being neglected. The Consolidated Mining and Smelting Company of Trail, B.C., owned the Sullivan mine, a large silver-lead-zinc deposit at Kimberley, B.C. The ore was very complex and difficulty was experienced in separating the metals. A successful process was eventually worked out with the result that the largest non-ferrous smelting and refining works in the British Empire is now operating at Trail. This province is also expanding in gold production and the Bridge River area can boast of several successful operating gold mines and, in addition, properties in other parts of the province which were shut down a few years ago are now operating successfully because of the increase in price of the yellow metal.

In the non-metallic mineral field, Canada holds an important place. Coal is produced in Nova Scotia, New Brunswick, British Columbia, Alberta, Saskatchewan, Manitoba and Yukon. The value of production of coal in 1935 represented 13 p.c. of the total value of all mineral production. The asbestos mines of Quebec have long supplied the major part of the world's demand. Feldspar, mica, quartz, graphite, gypsum, salt and many other industrial minerals are produced both for the home market and abroad. Natural gas is produced in Alberta, Ontario, New Brunswick, Saskatchewan and Manitoba, and crude petroleum is recovered in the first three of these provinces. Sodium sulphate, found in Saskatchewan, which is used in the metallurgical treatment of nickel ores and by paper manufacturing companies, is a development of recent years. Sulphuric

acid is made from the sulphur fumes of waste smelter gases and a recent further step is the recovery of elemental sulphur from the same source.

Mineral Production, calendar year 1935, and Official Estimate for calendar year 1936

**	19	35	193	51
Item	Quantity	Value	Quantity	Value
Management		\$		\$
METALLICS Gold fine oz. Estimated exchange on gold produced. Silver fine oz. Nickel lb. Copper lb. Lead lb. Zinc lb. Platinum metals fine oz. Other metals.	3,284,890 16,618,558 138,516,240 418,997,709 339,105,079 320,649,859 190,146	67,904,700 47,690,579 10,767,148 35,345,103 32,311,624,772 9,936,908 5,408,667 1,811,012	3,720,505 18,089,000 167,713,000 414,137,000 377,965,000 326,916,000 233,652	76,910,000 53,419,000 8,164,000 43,471,000 38,665,000 14,643,000 10,765,000 7,741,000 2,557,000
Totals	***	221,800,849	-	256,335,000
Non-Metallics Fuels				
Coal ton Natural gas Mcu. ft. Petroleum, crude brl. Peat ton	13,888,006 24,910,786 1,446,620 1,340	41,963,110 9,363,141 3,492,188 5,761	15,052,000 25,806,000 1,495,000 2,300	47,576,000 9,808,000 3,608,000 10,000
Totals,	-	54.824,200		61,002,000
Other Non-Metallics Asbestos	210,467 17,742 541,864 -223,002 360,343 44,817 67,446	7,054,614 144,330 932,203 480,084 424,882 1,880,978 343,764 654,235 171,532 431,386	307, 596 17, 582 758, 287 1, 047, 172 ³ 384, 149 89, 654 105, 256	10.131,000 124,000 1.252,000 722,000 540,000 1,654,000 928,000 172,000 405,003
Totals	-	12,504,008	-	16,533,000
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS Clay products (brick, tile, sewer pipe, pottery, etc.). Cement bri. Lime. ton Stone, sand and gravel.	3,648,086 405,419	3,012,563 5,580,043 2,925,791 11,697,003	4,439,628 463,009	3,201,000 6,936,000 3,206,000 13,327,000
Totals	AND	23,215,400	200	26,670,000
Grand Totals	-	312,344,457	-	360,540,000

¹Preliminary figures. ²In sulphuric acid made and in pyrites shipped. ³Includes ailiea sand used for smelter flux in 1936.

Mineral Production of Canada, by Provinces, 1933, 1934 and 1935

Province or Territory	1933		1934		1935	
Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba Saskatchewan Alberta British Columbia. Yukon Northwest Territories. Totals	\$ 16,966,183 2,107,682 28,141,482 110,205,021 9,026,951 2,477,425 19,702,953 30,794,504 2,041,223 31,829 221,495,253	p.c. of total 7.7 0.9 12.7 49.8 4.1 1.1 8.9 13.9 0.9	\$ 23,310.729 2,156,151 31,269,945 145,565,871 9,776,934 2,977,061 20,228,851 41,206,965 1,628,879 40,204 278,161,598	p.c. of total 8-4 0.8 11.2 52.3 3.5 1.1 7.3 14.8 0.6	\$ 23,183,128 2,821,027 39,124,966 158,934,269 12,052,417 3,816,943 22,289,681 48,692,050 1,302,308 127,938	p.c. of total 7.4 0.8 12.5 50.8 3.4 1.2 7.1 15.6

Review of Conditions in 1936

An analysis of statistical data, as collected and co-ordinated by the Dominion Bureau of Statistics during 1936, emphasizes the value of mine products as a factor of increasing importance in the economic structure of the Dominion.

This growth in the production of mineral wealth was particularly apparent on completion of the regular half-yearly survey of the industry when the total value of mineral products for the six-month period ended June 30, 1936, was estimated at \$165,482,425, or an increase of 19·2 p.c. over the corresponding period of 1935.

The almost general expansion experienced throughout the industry was evident at mid-year at which time the total value of production for each of the major industrial groups, including metals, fuels, asbestos and various industrial minerals and structural materials, showed distinct increases over those for the first half of the preceding year. The outputs of gold, lead, zinc, nickel, platinum metals, selenium, tellurium, bismuth and cadmium were higher during the period January to June, 1936, than for any corresponding months in the history of the Canadian mining industry. Exceptional interest was taken in gold mining in 1936, and the year witnessed intensive and widespread exploration and development programs in both old and new areas. Base-metal mining and smelting was featured by extensive construction in the metallurgical plants of the nickel-copper industry of the Sudbury district, while recovery in the building trades and construction was reflected in an increase in the production of structural materials including stone, eement, clay products and lime.

The increasing movement of the products of Canadian mines, refineries and smelters into the markets of the world was pronounced in 1936. Nonferrous metal products exported during the twelve months ended August were valued at \$214,769,289 as compared with \$191,186,395 for the corresponding period of 1935. Outstanding in these exports was an increase in the value of nickel from \$29,989,475 to \$43,058,379. For the twelve months ended August, 1936, the value of non-metallic mineral products exported totalled \$21,425,209 as against \$16,582,810 for the preceding period and in this group asbestos showed an increase from \$6,067,308 to \$8,924,086.

Among non-ferrous metals, copper rose almost steadily from 9.28 cents per pound at Montreal in January to 10.30 cents per pound in September. Lead advanced from 4.36 cents per pound in January to 4.61 cents per pound in March when a recession set in which carried prices to 4.09 cents per pound in June. Thereafter prices advanced and by September quotations averaged 4.70 cents per pound. After rising for the first three months of 1936, zinc prices moved downward to 3.80 cents in July. A slight recovery thereafter brought the market price to 3.89 cents in September as compared with 4.22 cents per pound in January. Silver at New York fell from 47.3 cents per ounce (Canadian funds) in January to 44.7 cents in February. From then onward, quotations ranged between 45.1 cents in April and 44.7 cents in September. An average for the nine months, of gold at New York, calculated in Canadian funds, was \$35.04 as against the 1935 nine-month average of \$35.11 per ounce.

The most out-standing currency development of 1936 occurred when, on Sept. 25, M. Vincent Auriol, the French Finance Minister, announced that the French Government had decided to devalue the franc. He stated that its new value would be between the limits of 49 and 43 milligrammes of gold 0-900 fine (compared with the previous rate of 65.5 milligrammes) and that an exchange stabilization fund of 10,000 million francs would be set up. At the same time, M. Vincent Auriol revealed the terms of a monetary agreement reached by the French, British and United States Governments. Devaluation was later followed by Switzerland, Latvia, Turkev, Holland and Italy.

With a view to stimulating further exploration and development of mineral resources in Canada, the Minister of Finance announced in his Budget Speech on May 1, 1936, that certain exemptions from income tax would be granted to mines subsequently coming into production. Accordingly, an amendment to the Income Tax Act was made providing that any metalliferous mine coming into production between May 1, 1936, and January I, 1940, shall be exempt from income tax for its first three fiscal periods following the commencement of production. The Minister of National Revenue, having regard to the production of ore in reasonable commercial quantities, shall determine which mines, whether new or old, qualify for this exemption, and a certificate will be issued accordingly. General regulations covering depletion allowance to precious metal mines are unchanged from the previous year and remain on the basis of 33\frac{1}{2} p.c. for mining companies, with the allowance in the case of dividends received by shareholders standing at 20 p.c.

Nova Scotia.—The mining of coal continues to be one of the most

important industrial operations in this province by the sea.

The Sydney coal-field, of carboniferous age, stretches for a distance of 35 miles from Cape Dauphin in the west to Morien Basin in the east.



Main Shaft of a Coal Mine in Alberta. Inset: Hoisting house showing the engineer in control.

Courtesy, Canadian Government Motion Picture Bureau.

The Cumberland coal-field, distant some 250 miles from Sydney, is also of carboniferous age and stretches 25 miles inland from Joggins, on the Bay of Fundy—where the seams run under the sea—to the town of Springhill. The average width of the coal-field does not exceed 12 miles.

The Pictou coal-field lies in a narrow east-west syncline, which has a length of about 10 miles and a maximum width of 3 miles. The town of New Glasgow is centrally situated on the northern boundary. This coal-field is well known, being noted for the number and thickness of its coal seams. There are also rich beds of oil-shale among the measures.

Nova Scotia coal is of the bituminous variety and the output during 1935 totalled 5,822,075 short tons valued at \$20,391,227. Evidence of improvement in the industry was apparent during the first half of 1936 when the output for the six months totalled 2,904,066 short tons as compared with 2,738,158 short tons for the corresponding months of 1935. Output, in the order of tonnage during the period Jan. 1 to June 30, 1936, came from the Cape Breton, Cumberland, Pictou and Inverness fields.

The revival in gold mining throughout the various gold-bearing areas of the province continued during 1936. Mining operations were reported from Halifax, Queens and other counties. Gold shipments during the six months of 1936 totalled 5,039 fine ounces, a 60-4 p.c. increase over the corresponding period in 1935. The year also witnessed the resumption in shipments of silver-lead-zinc ores from the Sterling mine; other mineral products included diatomite, gypsum, quartz, salt, silica brick and various structural materials including brick, stone, lime and sand and gravel.

New Brunswick.-Mineral production in New Brunswick is almost entirely restricted to non-metallic minerals. As in Nova Scotia, the most important product is coal, the output of which originates in the Minto-Chapman district. In 1936 to the end of June the output of coal in the province totalled 178,537 short tons representing a slight falling-off from the same period in 1935. Natural gas is produced in the Stoney Creek field, a small field which supplies Moncton; the gas is also piped into Hillsborough. Production in 1936 up to mid-year totalled 367,329 thousand cubic feet as against 388,274 thousand cubic feet for the same period in the preceding year. Petroleum production in the province also comes from the Stoney Creck field. The output during the first six months of 1936 amounted to 8,091 barrels as compared with 5,833 barrels for the first half of 1935. An excellent quality of gypsum has been mined for some years at Hillsborough, Albert county, and shipments during 1936, especially during the early part of the year, showed an increase over 1935. The gypsum industry, which is largely dependent on building activity, has steadily improved during recent months and gives promise of a distinct improvement in the future. New Brunswick also makes an important contribution of clay products, stone and other structural materials. Antimony, tungsten and manganese minerals also occur in New Brunswick, while prospecting in the southern part of the province has revealed diatomite ponds, some of which contain muds capable of producing high quality calcined diatomite.

Quebec.—Quebec has made remarkable progress during recent years in the development of its mineral wealth, and the increase from a total value of \$25,638,466 for its mineral production in 1932 to \$39,124,696 in 1935 reflects the stability and growing importance of this great basic industry. Metal mining is largely centred in the northwestern part of the province and the products of metal mines consist largely of copper, gold and silver. Development and exploration of auriferous gold deposits during 1936 were both intensive and widespread throughout the gold-bearing areas of northern Quebec. Expansion in gold production was reflected in the monthly statistics collected during 1936; production to the end of August totalled 438,412 fine ounces as compared with 286,590 ounces during the first eight months of 1935 and for the first half-year periods the total value of all metals produced rose from \$10,745,000 in 1935 to \$14,664,100 in 1936. One of the more outstanding events in the mining of gold ores in Quebec during 1936 was the penetration underground, in the O'Brien mine, of one of the most spectacular depositions of native gold ever encountered in Canadian gold mining. At Noranda the copper-gold-silver ore of the Horne mine was smelted continuously



Drilling into the Ore Body in a British Columbia Gold Mine. The lighter vein structure of gold quartz is clearly discernible.

Hauling Ore from a Chute Leading from a Stope in an Ontario Gold Min .



Courtesy, Vancouver Province and Prairie of Trans and Publisher Bureau, Toronto.

throughout the year and steady operations were maintained in the Eastern Townships at the Eustis Copper and Pyrites mine; silver-lead-zinc ores continued to be produced at the Tetreault mine, Montauban-les-Mines.

A pronounced improvement was almost generally realized during 1936 in the non-metal mining industries. Asbestos production totalled

173.258 short tons for the first eight months as compared with 121,263 short tons for the same period of 1935, and for the corresponding months the value of clay products totalled \$445,246 in 1936 as against \$335,339 in the preceding year. Cement production reflected a revival in construction, shipments increasing from 1,284,000 barrels during the first nine months of 1935 to 1,652,000 barrels during the similar nine months of 1936. Other mineral products produced during 1936 included chromite, selenium, tellurium, feldspar, iron oxides, magnesitic dolomite, mica, phosphate, quartz,

limestone, lime, granite and soapstone.

Ontario. Of the total mineral wealth produced in Canada during 1935, Ontario contributed \$158,934,000, or 50.9 p.c., and of this amount 89.5 p.c. or \$142,305,000 represented solely the value of Ontario metal production. Ontario is now the Dominion's premier producer of gold, copper. graphite, salt and various of the structural materials. Gold-bearing deposits are widely distributed throughout the Precambrian areas of the During recent years gold has been found in many widely scattered areas including those of Red Lake, Woman Lake and Central Patricia, and at various other locations throughout the northern part of the province and development programs were particularly pronounced in both the new and old gold camps of Ontario during 1936. Several properties were added to the list of gold producers during the year while numbers of the older mines succeeded in extending the economic limits of their ore bodies. At mid-year strong evidence of a new all-time record gold production for 1936 was indicated in the production of 1,147,259 fine ounces for the half-year as compared with the previous high record of 1,052,639 ounces for the corresponding period of the preceding year.

In the nickel-producing area contiguous to Sudbury, the International Nickel Company of Canada conducted construction on a new smelter and additions to its concentrator, while at Port Colborne the nickel refinery was being enlarged to produce 12,000,000 pounds of electrolytic nickel a month. Falconbridge Nickel Mines, Ltd., the other large Canadian nickel producer, expanded its plant facilities in 1936, both in the Sudbury area and in Norway, to enable a 25 p.c. increase in productive capacity; plans were also under way for the production of various nickel alloys at Orillia, Ontario.

The electrolytic copper refinery of the International Nickel Company was in steady operation at Copper Cliff, while at Sault Ste. Marie, Ontario, chromite ores mined at Obango Lake were utilized in the manufacture of ferro-alloys; at Deloro Ontario, the plants of the Deloro Smelting and Refining Company, Ltd., were in continuous operation in the production of arsenic, cobalt and cobalt compounds, silver and other primary products.

A new non-metallic mine product—nepheline syenite—was produced commercially in Ontario for the first time in 1936. The mineral is

employed chiefly in the glass and pottery trades.

Manitoba. Interest in mining operations in Manitoba was focussed principally in 1936 on the mining and smelting operations conducted by the Hudson Bay Mining and Smelting Company at Flinflon and the various activities throughout the gold-mining districts. During the year the company improved its sorting, milling, smelting and other treatment processes and practices and added cadmium to its list of products. The other metal constituents of the Flinflon ore include silver, copper, gold, zinc, tellurium and selenium. Gold has been found at various places within the northern and eastern parts of the province. In the Gods Lake district, milling, together with extensive underground exploration, was conducted at the Gods Lake mine while in the same area diamond drilling and other exploration was conducted at several other properties. At Herb Lake the Laguna mine came into production and in the Rice-Beresford-Long Lake district milling and mining operations were continued throughout the year at the Central Manitoba and San Antonio mines; commencing in May, the Gunnar Gold Mines was a new producer in this area.

In addition to the metals referred to above, the province in 1936 produced small quantities of coal and natural gas, feldspar, gypsum, quartz, salt, clay products, cement and various other structural materials.

Saskatchewan.—The metal production credited to Saskatchewan during recent years represents the estimated metal content of ore mined from that part of the Flinflon mine located west of the Saskatchewan-Manitoba boundary. Operations pertaining to this deposit in 1936 are referred to in the review for Manitoba.

Interest in the new goldfield at Lake Athabasca increased in 1936, important development and exploration work was completed by several operating companies and prospecting extended into more remote areas,

During the year, 9.000 acres were acquired along the strike of the Eagle Hills anticline in the Battleford area. Interest was taken in this section by parties interested in the natural gas possibilities as conditions in the area were reported favourable for the accumulation of natural gas.

Saskatchewan produces important quantities of lignite coal, production of which in 1935 amounted to 921.785 short tons. Production data collected for the first six months of 1936 showed an output of 464,452 tons as compared with 408,289 tons during the corresponding period of 1935. Other non-metallic minerals produced in 1936 included quartz, clay products, sand and gravel and sodium sulphate, the last-named mineral being utilized in the pulp and paper and nickel-smelting industries.

Alberta.—Coal is the most important mineral product in Alberta and the probable reserves of this mineral in the province, including seams of one foot or over at a depth of 4,000 feet, have been estimated at 673,554,600,000 metric tons. Coal production during 1935 totalled 5,462,894 tons valued at \$14,094,795; production during the first six months of 1936 amounted to 2,566,899 tons as compared with an output of 2,346,304 tons during the first half of 1935. The province is also an important producer of natural gas and petroleum, the output of the first product totalling 9,650,000 thousand cubic feet for the period January to June, 1936, while the petroleum output for the same months amounted to 585,300 barrels valued at \$1,438,000. Considerable drilling was conducted in the various gas and oil fields during 1936 and the possibilities of locating additional oilor gas-bearing strata have been considered favourable. There are also large deposits of bituminous sands in the northern part of the province.

Alberta's mineral production in 1936 also included brick, tile and refractories, cement, lime, sand and gravel and stone. A small quantity of alluvial gold is recovered annually from Alberta streams.

British Columbia.—Metal production during the first half of 1936 was valued at \$20,634,526 as compared with \$17,992,117 in the corresponding period of 1935. This province on the Pacific is now one of the world's greatest sources of lead and zinc, the production of the former metal increasing from 158,978,531 pounds during the first half of 1935 to 178,722,270 pounds for the first six months of 1936; zinc output for the same months increased from 118,405,399 pounds in 1935 to 122,109,829 pounds in 1936.

The mining of silver-lead-zinc ores at the Sullivan mine and operations at the Trail metallurgical plants of the Consolidated Mining and Smelting Company were maintained at a steady rate during 1936; products at Trail now include refined lead, zinc, silver, gold, cadmium and bismuth together with sulphuric acid and various non-metallic products suitable for agricultural or industrial purposes. The mining of copper-gold-silver-zinc ores at Britannia Beach by the Britannia Mining and Smelting Company was continued during 1936. The shipment to Japan of 500 tons of picked nickel ore from the property of B.C. Nickel Mines at Choate was reported in August, 1936.

Both placer and lode-gold mining operations appeared, early in the year, to be more numerous and of greater intensity than for many years past. This was particularly so in the Bridge River, Caribou, Hedley, Port-

land Canal and other of the more important gold-bearing districts, where some of the larger producers increased exploration and development.

A strengthening in the non-metal mining industries was evidenced toward the middle of 1936; this was quite apparent on completion of the regular half-yearly survey of the mineral industry. Production of coal during the first six months of 1936 totalled 762,155 short tons valued at \$2,814,413 as compared with a tonnage of 657,696 and a value of \$2,471,913 for the corresponding period of 1935. Other non-metallics to show distinct gains during the first half of 1936 were gypsum, magnesium sulphate and sulphur (salvaged sulphur from smelter fume).

Yukon and Northwest Territories.—Alluvial gold mining is carried on extensively in Yukon by well established companies which operate on a large scale. In the Mayo area the Treadwell Yukon Company increased its mill capacity at the Elsa property on Galena Hill where silver-lead ore was obtained from old dumps and underground workings. High-grade ore was shipped from here and from two shafts on the Hector group; work

was discontinued at the Hope Gulch property on Keno Hill.
At Great Bear Lake in the Northwest Territories, Eldorado Gold Mines Ltd. completed important underground development work and the finding of high-grade silver ore with pitchblende was reported on the 465-foot level of the mine; concentrates are shipped by this company to its refinery at Port Hope, Ontario, for the recovery of silver, radium and uranium products. In addition to work at the Eldorado property, development and exploration work was conducted on various other silver-pitchblende deposits occurring in the Great Bear Lake area.

In the Great Slave Lake district prospecting for gold-bearing veins was conducted over a wide area, development and exploration work on auriferous lodes in this district being especially pronounced in the Yellowknife River basin where favourable results were recently reported.

Production in 1936.—The growing status of the mining industry as a factor of major importance in the economic life of the Dominion is distinctly reflected in the official estimate of Canadian mineral production for 1936, given on p. 62,

The total value of production, as estimated for the entire industry, established an all-time high record. Increases over 1935 were realized for all the principal divisions, including metals, fuels, structural materials and

miscellaneous industrial non-metallics.

Expansion was particularly pronounced in metal mining where all previous records in quantities produced were surpassed for gold, lead, nickel, tellurium and the platinum metals, while the output of zinc, copper and other of the more important non-ferrous metals approximated those of the preceding year. Exports of Canadian mineral products are correspondingly greater.

Among the non-metallic minerals an increase over 1935 of 46 p.c. in the tonnage of asbestos shipments was especially noteworthy and this, together with the almost general increase in production of cement, lime and other structural materials is an indication of the revival in construction

Exploration and development programs conducted throughout the various metal-bearing areas during 1936 would suggest a still further increase in the production of gold and some of the base metals in Canada during 1937.

CHAPTER V

THE FOREST WEALTH OF CANADA— LUMBERING—PULP AND PAPER

According to the latest figures of the value of production, the forests of Canada rank third, after agriculture and mining among the primary industries. It is estimated that forest products make up about 17 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 \$158,559,112 for the fiscal year ended March, 1936, constitutes an influential factor in Canada's international trade.

Of the total forested area of 1,254,082 square miles, about 31.6 p.c. carries merchantable timber, and 32.2 p.c. carries young growth. The

remaining 36:2 s.e. is non-productive under creent conditions.



A Forest Fire in the Incipient Stage.—The chief cause of forest fires in Canada is human carelessness, and thousands of acres of merchantable timber are ruined annually, thereby causing unnecessarily rapid depletion of our forest resources.

Courtesy, Topographical Survey, and Royal Canadian Air Force.

The total volume of standing timber has been estimated at 273,656 million cubic feet capable of being converted into 425,250 million board feet of humber and 1,746,639,000 cords of pulpwood, ties, poles and similar forest products. The eastern provinces are estimated to contain about 56 p.c., the Prairie Provinces about 15 p.c., and British Columbia about 29 p.c. of this total volume. The average annual drain on the forests, including loss by fire, etc., is estimated at 4 billion cubic feet. But it does not follow that our capital will be exhausted in the sixty-eight 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 twenty-six millions at the average annual rate of use, which amounts to about 271 cubic feet per capita.

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 conferous, but the wood of these forms 80 p.c. of our standing

timber, and 95 p.c. of our sawn lumber,



Courtesy, Publicity Dissions, Department of Trade and Commerce, Octobra

Operations in the Woods

The value of forest production resulting from operations in the woods of Canada is, according to latest figures (1934) \$105,500,000 annually, being made up of logs and bolts for sawmills valued at \$29,000,000; pulpwood for domestic use and export valued at \$38,000,000; firewood valued at \$31,000,000; hewn railway ties valued at \$1.542,000; poles valued at \$1,091,000; and other primary forest products, such as square timber, fence posts and rails and wood for distillation. The total value of forest products for 1934 shows an increase over 1933 with increases in all the principal products except wood for distillation. (See table on next page.) It has been estimated that this rate of total primary forest production

involves the cutting of about 2,300,000,000 cubic feet of standing timber annually. The felling and harvesting of a hundred cubic feet of standing timber (roughly equivalent to half a thousand board feet of sawlogs or a cord of pulpwood) is a liberal allowance for an average day's work for men employed in the woods and in the transportation of forest products to the mills or the market. Logging, however, is a seasonal operation at which the average labourer works less than a hundred days a year. It is therefore evident that the annual harvesting of our 2 billion cubic feet of standing timber provides regular employment for at least 200,000 men. Probably twice that number are given at least part-time employment in the woods. This work is provided chiefly during the winter months when employment in other fields is at its lowest ebb. The steadying effect of operations in the woods on the employment situation and the fact that it provides a source of cash income for farmers and settlers during the winter should be more fully appreciated. 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 tanbark, 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 1930 to 1934 inclusive.

Value of the Products of Woods Operations, by Products, 1930-34

Product	1930	1931	1932	1933	1934
	\$	\$	\$	\$	s
Logs and bolts	75,563,041	32,889,204	18,029,759	23,158,381	29, 115, 515
Pulpwood	67,529,612	51,973,243	36,750,910	31,141,104	38,302,80
Firewood	43,786,064	44,237,948	30,627,632	33,213,973	31,489,524
Hewn railway ties	5,038,899	4, 144, 169	1,353,664	1,370,750	1,541,90
Square timber	2,945,748	151,114	99,403	1	1
Poles	6,733,259	3,057,546	1,411,209	963,951	1,091,04
Round mining timber	885,343	958,681	809,700	841,982	954.05
Fence posts	1,585,985	1,388,074	990,568	969,291	988,884
Wood for distillation	335,330	266, 080	251.281	342,107	286,847
Fence rails	624,968	454.205	253,077	215,521	262.519
Miscellaneous products	1,825,245	1.603,666	1,529,049	1.556,082	1,506,63
Totals	206,853,494	141,123,930	92,106,252	93,773,142	105,539,732

^{&#}x27;Included with "Miscellaneous products" in 1933 and 1934

The Lumber Industry

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 1934, 2,578,411 M feet board measure of sawn lumber, valued at \$40,509,600. 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 2,408,616 thousand shingles, valued at \$4,422,578; 177,988 thousand lath, valued at \$412,844;

as well as numerous other products to the value of \$9,477,417, bringing the total value of the products of the industry up to \$54,822,439, an increase of 39 p.c. over the value of production for the previous year.

Production of Lumber and other Sawmill Products in Canada, 1934

Province	Lumber I	roduction	Other Sawmill Products	Total All Products	
	M ft. b.m.	\$	\$	8	
Prince Edward Island. Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	317,754 43,305 21,256	87,737 2,080,491 3,241,670 4,887,380 7,013,030 518,665 351,036 945,169 21,383,822	21,797 356,310 618,563 2,256,016 2,799,680 40,898 18,720 179,918 8,020,937	109,534 2,436,801 3,860,233 7,143,396 9,812,710 559,563 370,356 1,125,087 29,404,759	
Totals	2,578,411	40,500,600	14,312,839	54,822,439	

The above table gives the production of lumber and other saw-mill products, by provinces, in 1934. B.C. produced over 52 p.c. of the total value; Que., 12 p.c.; Ont., 17 p.c.; followed by N.B., N.S., Alta., Man., Sask., and P.E.I. in the order named.

Markets for Canadian lumber now include practically all the more important countries of the world. Canadian timbers enjoy a preference in the British market and, since 1932, the value of exports of unmanufactured timber to Great Britain has increased from \$4,673,692 to \$16,273,650. The housing schemes which have been recently undertaken and the changed trend in type of construction have greatly increased the quantity of timber going into dwellings. Canadian timbers are well-regarded in that market.



Raits and Log Conveyor, Powell River, B.C.

Courtesy, Pulp and Paper Magazine, Gardenvale, Que.

The Pulp and Paper Industry

The pulp and paper industry ranks first among Canadian manufacturing industries in gross and net values of products, as well as in total number of employees and wages and salaries paid. Its development has taken place for the most part during the present century, and is due chiefly to the existence in Canada of abundant water powers adjacent to

extensive resources of the various pulpwood species.

The value of 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 \$232,000,000 in 1920. This was followed, in 1921, by a drop which was general throughout the industrial field. From that year on there was a steady recovery resulting in a total for 1929 of \$243,970,761 followed by successive decreases to \$123,415,492 in 1933. The large decreases of these four years were due to both lower price levels and diminished production; however, for 1933, production was substantially greater than for the previous year although the total value was nearly 10 p.c. less. In 1934 and 1935 quantity and value production both increased. The gross value of production increased by 23.7 p.c. in 1934 and by 6.6 p.c. in 1935 when it reached a total of \$162,651,282.

The following statement gives the gross and net values of production

for the industry as a whole for the six years 1930 to 1935.

	Gross	Net
	Production	Production
1930	\$215,674,246	\$107.523.731
1931	174, 733, 954	87.858.357
1932		66.855.923
1933		56.880.641
1934		77.253.752
1935		81 944 813

The net value of production, which represents the difference between the values of raw materials, fuel, etc., 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 salaries distribution since 1922, when it replaced the sawmills in this respect, and it has been first in gross value of products since 1925, exceeding flour milling.

There are three classes of mills in the industry. These, in 1935, comprised 28 mills making pulp only, 43 combined pulp and paper mills, and

24 mills making paper only.

Production of Wood Pulp in the Two Principal Provinces, and in Canada, 1927-35

Year	Quebec		Ont	ario	Canada	
	Quantity Value		Quantity	Value	Quantity	Value
	tons	8	tons	8	tons	\$
1927 1928 1929 1930 1931 1931 1932 1933 1933 1933	1,749,965 2,018,566 2,174,805 1,833,000 1,513,658 1,240,442 1,360,704 1,813,096 1,916,382	60,884,169 67,467,328 69,286,498 58,703,067 41,884,387 31,124,954 29,860,706 36,837,402 38,235,076	785, 405 867, 417 999, 935	35, 034, 468 35, 708, 079 39, 963, 767 31, 463, 873 22, 944, 943 18, 735, 105 18, 644, 259 21, 000, 769 22, 866, 369	3.608,045 4,021,229 3.619,345 3,167,960 2,663,248 2,979,562 3,636,335	114, 442, 55 121, 184, 21 129, 033, 15 112, 355, 87; 84, 780, 81; 64, 412, 45; 64, 114, 07; 75, 726, 95; 79, 722, 03;

In 1935 the 71 mills making pulp produced 3,868,341 tons valued at \$79,722,039, representing an increase of 6.4 p.c. in quantity and an increase of 5.3 p.c. in value from 1934, and of this about 79 p.c. by quantity was

made in combined mills and used by them in papermaking. About 4 p.c. was made for sale in Canada and 17 p.c. was made for export.

Of the total pulp production in Canada in 1935, 64 p.c. was ground wood, 17 p.c. unbleached sulphite, 10 p.c. bleached sulphite, 6 p.c. sulphate

and the remaining 3 p.c. screenings.

The total production of paper in 1935 was 3,280,896 tons, which, with certain converted paper products, was valued at \$130,212,776. Newsprint and similar paper made up 2,765,444 tons, or 84 p.c. of the total, valued at \$91,762,201, paper boards made up 10 p.c., wrapping paper 3 p.c., book and writing paper 2 p.c., and miscellaneous papers the remainder.

In the last few years there has been a tendency in Canadian paper mills toward the further conversion of many of these basic papers and boards into more highly manufactured products such as napkins, towels, packaged toilet papers, coated and treated paper, envelopes, stationery and

other cut paper and boards.

These converted paper products in 1935 were valued at \$1.298,358 and the value added to the basic stock by the conversion was \$1,115,417 which, with other products than paper valued at \$18,973, made a total value to be added of \$1,134,390. The bulk of this paper converting is still carried on by separate converting mills classified in other industrial groups.

Production of Newsprint and other Paper in Canada, 1927-1935

	Newsprint Paper		Other l	Paper ¹	Total Paper	
Year	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	8	tons	\$
1927 1928 1929 1930 1931 1931 1932 1933 1934 1935	2,082,830 2,444,393 2,725,331 2,497,952 2,227,052 1,019,205 2,021,985 2,604,973 2,765,444	132,286,729 144,146,632 150,800,157 136,181,883 114,419,637 85,539,852 66,959,501 86,811,460 91,762,201	385,861 434,806 471,818 328,835 384,173 371,562 397,455 464,543 515,452	35,944,011 40,158,773 42,189,095 37,123,991 32,210,252 28,333,271 29,730,374 34,080,765 37,316,185	2,468,691 2,849,199 3,197,149 2,926,787 2,611,225 2,290,767 2,419,420 3,069,516 3,280,896	168, 230, 74 184, 305, 40 192, 989, 25 173, 305, 87 143, 629, 88 113, 873, 12 96, 689, 82 120, 892, 22 129, 078, 38

¹ These figures include book and writing paper, wrapping paper, paper boards and other paper products.

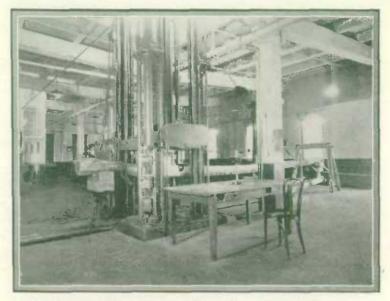
The Canadian production of paper has increased more than three and three-quarter times in the period from 1917 to 1935, in spite of the decreases in 1921, 1930, 1931 and 1932. Practically all the different kinds of paper used in Canada at the present time can be produced in Canadian mills.

Canada's newsprint production in 1935 was more than three times 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 with less than 30 p.c. for the United States. Since 1926 there has been an actual, as well as a relative, decrease in the United States production.

The latest monthly figures of Canadian newsprint production are:

	_	_			
1936—	tons	1936-	tons	1936	tons
January	227,955	May	 267,067	September	269,782
February	221,569	June	 270,051	October	301,106
March	243,900	July	 274,627	November	285,771
April	258, 721	August.	 270.053	December	_

Trade in Newsprint and Other Forest Products.—A striking reflection of the increased production of newsprint between 1910 and 1936 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, and even during the subnormal fiscal year 1933-34 Canada exported 2,024,057 tons of newsprint valued at \$73,238,482. For the fiscal year 1935-36 the exports were 2,663,081 tons valued at \$90,761,379. This single item of export thus, at present, ranks second only to wheat. Canadian newsprint is exported to more than thirty countries and our total exports are greater than those of the rest of the world combined.



Testing the Strength of Telephone Poles, Forest Products Laboratories, Forest Service, Department of Mines and Resources.

Courtesy, Forest Service, Department of Mines and Resources.

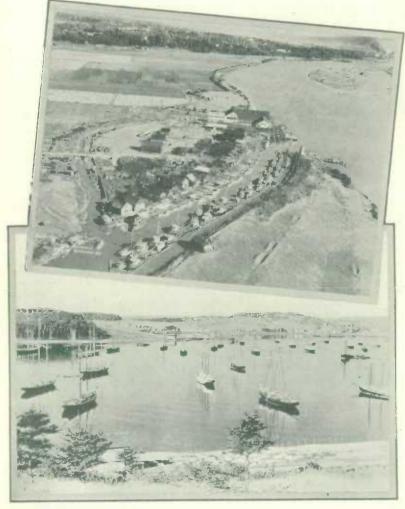
During the earlier stages of industrial development the exports of the wood and paper group were made up largely of unmanufactured products such as square timber and logs. At the time of Confederation these raw materials made up over 41 p.c. of the total export trade. To-day, while the wood and paper group forms a smaller part of the total (about 21 p.c. for the fiscal year 1935-36), its character has changed. Fully or chiefly manufactured goods now form about 71 p.c. and unmanufactured or partly manufactured, 29 p.c. Raw materials form only a small part of the total.

Industries Founded on Wood and Paper.—According to the latest available statistics there were, in 1934, 4,408 establishments using lumber or paper as principal raw materials. These consisted of 1,999 depending on sawmills and 2,409 depending on the paper mills for their materials. They employed 67,093 workers who were paid \$69,935,726 and their products were valued at more than \$196,969,121. For further reference to these industries which depend on wood and paper as the principal component material of their products the reader is referred to page 98, but it should be borne in mind that many other industries use wood or paper to a limited though necessary extent and that no industrial activity is entirely independent of the use of paper or wood in some form.

CHAPTER VI

THE FISHERIES OF CANADA

Fishing is one of the earliest and most historic industries of Canada. In 1497 Cabot discovered the cod banks of Newfoundland when he first



The Upper Picture shows: A Fleet of Fishing Boats at a Salmon Cannery near Vancouver. Below: The Deep Sea Fishing Fleet in the Harbour at Lunenburg, Nova Scotia.

Courtesy, Canadian Government Motion Picture Bureau.

sighted the mainland of North America, and Fernandez de Navarette mentions in his records the French, the Spaniards and the Portuguese as trequenters of the "Grand Banks" before 1502. Cape Breton, one of the earliest place names in America, is a memorial of the early French fishermen. The fishing then was by hand lines over barrels attached to the bulwarks to prevent fouling, the vessels remaining during fine weather and then returning to France with their catches. Voyages along the coast soon showed the cod as plentiful inshore as on the outer banks and it became common for a crew to anchor in a bay, erect a hut on shore and make daily excursions to the fishing grounds, the product being salted and dried on land and at the end of the season shipped to France. Soon the fishermen began to remain all winter and thus permanent fishing settlements were established. Until the arrival of the United Empire Loyalists, the cod fishery was the only one systematically prosecuted, and attention had been given to the shore fishery alone. No deep-sea fishing vessel put out from Lunenburg, now the chief centre of the deep-sea fishery, until 1873.

Canada has perhaps the largest fishing grounds in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the 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 area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. The Pacific coast of the Dominion measures 7,180 miles in length, and inland lakes contain more than half of the fresh water on the planet. Canada's share of the Great Lakes alone has an area of over 34,000 square miles.

Canada's list of food fishes embraces nearly 60 different kinds, chief amongst which are the salmon, the lobster, the cod, the herring, the whitefish, the halibut, the haddock, the pickerel and the trout.

The Government and the Fisheries

At the present time the Dominion Government controls the tidal fisheries 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, Ontario and the Prairie Provinces 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. The fisheries under the control of the Dominion Government are administered by the Department of Fisheries, which was created a separate department in 1930. A large staff of inspectors, guardians and supervisors 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 regula-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 fishing operations generally. Stations under the direction of the Biological Board of Canada for the conduct of biological research are established at Halifax, N.S., St. Andrews, N.B., and Nanaimo and Prince Rupert, B.C. A marine biological station, chiefly for oyster investigation work, is conducted at Ellerslie, P.E.I., and a substation for salmon investigation at Cultus Lake, B.C. The Biological Board employs a permanent staff of scientists, and in addition voluntary research workers are drawn from various Canadian universities from time to time as required, chiefly professors and trained scientists. Other aids to the industry, inaugurated by the Government, may be mentioned. Beginning in 1927, fish collection services were operated on several stretches of the Atlantic coast. These services, which have since been discontinued, were operated to extend the areas in which the facilities of the fresh fish

markets were open to the fishermen. For several seasons, also, a lobster transportation service was operated, under departmental arrangement, between eastern Nova Scotia and Massachusetts, in order to develop the live lobster business in those districts of Nova Scotia which were without adequate transportation facilities. The success of the trial led to the establishment of privately operated services. Most of the fishing vessels are now equipped with radio receiving sets and a system is now in operation for broadcasting radio reports as to weather probabilities, bait and ice supplies and ice conditions along the coast. Educational work is carried on by permanent officers of the Department of Fisheries in instructing the fishermen in various areas as to the best methods of handling and processing their catches, and in bringing to the attention of the public the value of fish as a food. By an Act of 1882 (45 Vict., c. 18) for the development of the sea fisheries and the encouragement of boat building, provision was made for the distribution among fishermen and the owners of fishing boats of \$150,000 annually in bounties, representing the interest on the amount of the Halifax Award. An Act of 1891 (54-55 Vict., c. 42) increased the amount to \$160,000, the details of the expenditure being settled each year by Order in Council. At the 1935-36 session of the Dominion Parliament provision was made for \$300,000 "to aid, in co-operation with the Provincial Governments concerned, in the re-establishment of needy fishermen", and an amount of \$200,000 "to aid in expanding the sale of the products of Canadian fishermen in foreign and domestic markets"



Feedlag Time.—Provincial Government Trout Hatchery, Normandale, Noriolk County, Ontario.

Courtesy, Travel and Publicity Bureau of Ontario.

Fisheries Production

The Modern Industry.—The present fishing industry of Canada is the growth of the past century. In 1844 the estimated value of the catch was only \$125,000. It doubled in the following decade and by 1860 had well passed the million mark. The highest record was reached in 1918 with over 60 millions, but this was at the close of the Great War, in a

period of greatly inflated prices. In 1930 came the world-wide depression and in 1932 the lowest point of the past 25 years was reached with a total of only slightly over 26 millions. Since then there has been a yearly advance and in 1935 the value amounted to \$34,427,854. This figure represents the total value of the fish as marketed, whether in a fresh, dried, canned or otherwise prepared state.

The tables following show the production of the industry, by provinces,

for the years 1914, 1934 and 1935, and the production by principal kinds for

the years 1934 and 1935.

Production of the Fisheries, by Provinces, 1914, 1934 and 1935

Province	Val	Percentages of Total Value				
	1914	1934	1935	1914	1934	1935
	8	\$	\$	p.c.	p.c.	p.c.
Prince Edward Island	1, 261, 666	963,926	899,685	4.1	2.8	2.
Nova Scotia	7,730,191	7,673,865	7,852,899	24.7	22-6	22 -
New Brunswick	4,940,083	3,679,970	3,949,615	15.8	10-8	11-
Quebec	1,924,430	2,306,517	1,947,259	6-2	6.8	5-
Ontario	2,755,291	2,218,550	2.852,007	8-8	6.5	8.
Manitoba	849, 422	1,465,358	1,258,335	2.7	4.3	3.
Saskatchewan	132,017	219,772	252.059	0-4	0.7	0 -
Alberta	86,720	245,405	225,741	0.3	0.7	0.
British Columbia	11,515,086	15, 234, 335	15, 169, 529	36.8	44-8	44 -
Yukon	69, 725	14,625	20, 725	0-2	0.0	0.
Totals	31,264,631	34,022,323	34,427,854	100 - 0	100.0	100 -

Fisheries Production, by Principal Kinds, 1934 and 1935

(Each over \$1,000,000 in value and arranged by value in 1935)

Kind	19	34	1935		
Kind	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed	
	Cwt,	8	Cwt.	8	
Salmon	1,696.856	12,875,257	1,824,205	12,540,30	
Lobster	361,992	4,269,764	319,969	4,378.74	
Ood	1.714,059	3,327,507	1,539,150	2,758.14	
Herring	1,901,874	1,799,967	2,060,320	1,817,54	
Willenst	144,615	1,358,692	147.456	1,432,07	
Sardine	191.549	1.039.002	187.666	1.335.79	
Ialibut	123.152	1.134.307	132, 130	1.285.58	
Haddock	356.068	1.075.529	368.426	1,129,69	

The Canadian fisheries give employment to a large number of persons, both in the primary operations of catching and landing the fish, and in fish-canning and -curing establishments. The number of fishermen employed during the year 1935 was 68,557 and the number of employees of fish-canning and -curing establishments, 14,361, making a total number of employees for the industry as a whole, of 82,918.

From 1900 to 1918 there was an almost continuous yearly increase in the capital investment of the fisheries industry, reaching in the latter year a total of over \$60 millions. In the following 17 years, however, there was considerable fluctuation in value. In 1929 the value jumped to the high record of \$62½ millions, while in 1933 the lowest value was reached with a total of \$41 millions. In 1935 it rose again to \$43,617,888. This total comprises \$26,473,082, the value of the vessels, boats, raps, etc., used in connection with the catching and landing of the fish, and \$17,144,806, the amount invested in fish-canning and -curing establishments.

Capital Invested and Employees Engaged in the Fisheries, 1933-35

Item	1933	1934	1935
Capital	8	8.	\$
Vessels, boats, nets, traps, etc. Fish-canning and -curing establishments.	25.381.282 15.532,775	26,212,703 17,372,799	26,473,082 17,144,806
Totals, Capital	40,914,057	43,585,502	43,617,888
Employees	No.	No.	No.
On vessels and boats, and in fishing without boats	65,506 14,042	68,634 14,802	68,557 14,361
Totals, Employees	79,548	83,436	82,918

The salmon fishery of British Columbia gives to that province first place with respect to value of production, the position which in earlier times belonged to Nova Scotia on account of her cod fishery. Nova Scotia is now second with regard to value of output, with New Brunswick third and Ontario fourth. Lobstering on the Atlantic coast is second in value only to the salmon fishery of the Pacific. Lobstering commenced about the year 1870 with three canneries and has expanded until it is now the largest fishery of the kind in the world. In 1935 the lobster canneries numbered 304 and gave work to more than 6,000 people; 30,000,000 lobsters is a normal catch. In New Brunswick the canning of sardines, which are young herrings and not a distinct type of fish, is comparable in importance in that province to the lobster industry, exceeding it in value in occasional



Salmon Fishing on the Nimpkish River, British Columbia.

Hauling in the drag seine.

Courtesy, Canadian Government Motion Picture Bureau.

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years. There are only 4 sardine canneries in the province, but they are of large capacity, and gave work in 1935 to 429 people. The salmon canneries of the Pacific numbered 43 and gave employment to 4.819 persons. There are a few salmon canneries on the Atlantic coast, but their output is small. The fish-canning and -curing industry is connected entirely with the sea fisheries, the plants being scattered along the coasts in locations of easy accessibility to the fishermen in delivering their catches.



The New Brunswick Sardine Industry.-Fishermen laying a weir.

The present per capita consumption of fish in Canada is estimated at about 21 pounds, but it is hoped to increase this by a campaign which is being carried on at the present time to bring to the attention of the public the excellence of the Canadian fish, its palatableness and its health value.

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 and other rivers of the Maritime Provinces; the black bass and speckled trout of the Quebec and Ontario highlands; the red trout of the Nipigon and the salmon and rainbow trout of British Columbia. 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.

Export Trade in Fish.—Canada depends largely upon foreign markets as an outlet for her fisheries production, and exports are annually around 70 p.e. of the total. The value of fish and fishery products of Canadian origin exported during the year 1935 was \$24.859.486, an increase over the preceding year of \$2,362.351, or 11 p.c. The chief items, in order of value, were canned salmon (\$7,394.632), canned lobster (\$2.274.783), fresh lobster (\$1.641,300), dried cod (\$1.538.203) and fresh and frozen salmon (\$1,228,162). Each of these items, excepting dried cod, showed an increase over 1934. The principal countries of destination were the United States (which took products to the value of \$10,321,296), the United Kingdom (\$6,759.505) and Australia (\$2,060,351). The value of exports to these three countries combined represented 77 p.c. of the total exportation during the year.

CHAPTER VII

THE FUR TRADE

Statistics of the Modern Industry.—Fur trading is still one of the important industries of Canada, but great changes have taken place since the early days when it dominated all other pursuits. The railway first revolutionized conditions throughout the country and, more recently, the advent of the motor vehicle has influenced the extension of highways to the borders of settlement and beyond. Boats now ply the larger takes and rivers and aeroplanes transport furs from the more inaccessible districts.

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, these reports at first being based on returns supplied to the Bureau by the fur traders, but more recently prepared from statements furnished by the provincial gaine departments, which are based on returns of royaltics, export tax, etc. 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, 1922-35 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 13 p.e. in 1928-29, 26 p.e. in 1930-31 and 31 p.e. in 1934-35, thus indicating the growing importance of fur farming (see pp. 86-87).

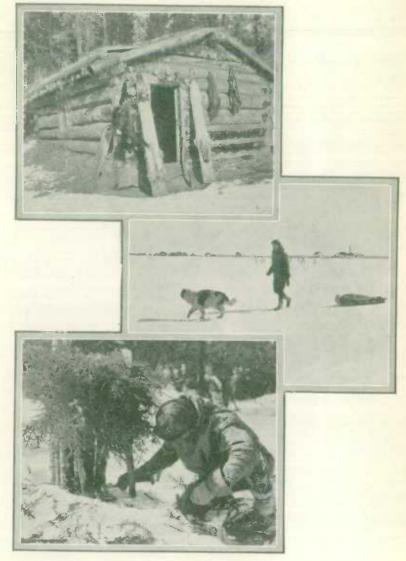
Numbers and Values of Pelts Taken, Seasons 1921-22 to 1934-35

Season	Number of Pelts	Total Value	Season	Number of Pelts	Total Value
		8			\$
1921-22 1922-23 1923-24 1924-25 1925-26 1925-26 1926-27 1927-28	4,366,790 4,963,996 4,207,593 3,820,326 3,686,148 4,289,233 3,601,153	17.438,867 16,761,567 15.643.817 15.441.564 15,072.244 18.864,126 18,758,177	1928-29 1929-30 1930-31 1931-32 1932-33 1932-33 1933-34	5, 150, 328 3, 798, 444 4, 060, 356 4, 449, 289 4, 503, 558 6, 076, 197 4, 926, 413	18,745,473 12,158,376 11,803,217 10,189,481 10,305,154 12,349,328 12,843,341

The principal item is silver fox, whose value of \$4,343,823 represented 34 p.c. of the total value of raw fur production in the 1934-35 season. Silver fox is the product almost entirely of the fur farms and, owing to the expansion of the fur-farming industry throughout the Dominion, has shown an increase in pelt production in nearly every season from 1920-21 onward. The value of pelts of other kinds of foxes added to the silver fox brings the total for all fox pelts to \$6,903,792, or 54 p.c. of the total for all furs. Following silver fox in order of importance, but with considerably smaller total values, are muskrat (\$1,784,252), mink (\$1,540,684) and white fox (\$1,043,028).

The total number of all kinds of pelts combined was 4,926,413, compared with 6,076,197 in 1933-34. The decrease in total is attributable chiefly to reductions in the numbers of muskrat, erinine, rabbit and squirrel. Decreases are also shown for mink and beaver. This is the first season since 1927-28 that the number of muskrat pelts has been less than two million, while the number of mink pelts, although less than in the previous season, is rather above the average. The reduction in the number of beaver skins is due in part to the scarcity of the animals and in part

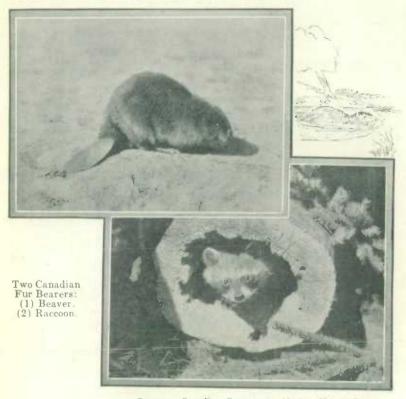
FUR TRAPPING



The layout shows, reading downward: (1) A trapper's cabin in the foothills of the Canadian Rockies. The two pelts on stretching boards are: left, Canada lynx; right, brush wolf. A silver fox is shown just as taken from the trap. (2) Fur trapper starting out to inspect traps. (3) Fur trapper baiting and setting a trap.

Courtesy, Canadian Government Motion Picture Bureau.

to the restrictions placed by the provincial authorities upon trapping with a view to the conservation of this historic fur bearer. Increases in numbers of pelts are recorded for all of the different kinds of foxes, and for coyote, fisher, lynx, marten, otter, wild cat, welf and wolverias.



Courtesy, Canadian Government Motion Presure Bureau

In 1934-35, considerable variation from the preceding season was shown in average prices of principal furs. Beaver, blue fox, silver fox, lynx, marten, mink and muskrat followed an upward trend, while lower prices were recorded for ermine, fisher, fitch, patch or cross fox, red fox, white fox, otter, raccoon and wolf. The highest priced fur was fisher with an average of \$45.62 per pelt and second was silver fox with \$36.06.

An important adjunct of the fur trade is the industry of fur dressing and dyeing. The work is chiefly on a custom basis, that is, the furs are treated for owners and a charge made according to the amount of work involved. The number of plants engaged in the treatment of furs during the year 1934 was 14, the number of skins treated 6.097,995, and the amount received for the work, \$1,499,789. There is also the fur goods industry, which supplies practically the entire quantity of fur goods—coats, scarves, muffs, caps, gauntlets, etc.—consumed in the Dominion. This industry in 1934 provided employment for 2.888 persons, paid in salaries and wages, \$2,963.630, and produced goods to the value of \$12,656.722. There were establishments from coast to coast to the number of 320, although the industry was chiefly centred in Ontario and Quebec.

Export Trade in Furs.—Prior to the War, London and Leipzig held the positions of outstanding fur markets of the world, but during 1914-18 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 thus brought about has been that Montreal, Winnipeg, and, to a lesser extent, Edmonton and Vancouver, have become important fur marts for buyers from the large world centres. Montreal held the first fur auction sale to take place in Canada in 1920. Quarterly auctions at Montreal and sales at Winnipeg, Edmonton and Vancouver are now held.



Fur Trade Post of the Hudson's Bay Company on Hudson Strait.

Courtest, Canadian Government Motion Picture Bureau.

In 1667 exports of furs to France and the West Indies were valued at 550,000 francs. In 1850, the first year for which trade tables of the Customs Department are available, the value of raw furs exported was £19,395 (\$93,872); for the year ended June 30, 1920, the value was \$20,417,329; for 1925, \$17,131,172; for 1930, \$17,187,399; and for 1934, \$13,944,821. For 1935 exports were \$15,224,342, of which \$9,755,922 went to Britain and most of the rest to the United States.

Fur Farming.—From the early custom of keeping foxes caught in warm weather alive until the fur was prime, 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. The pioneers of the fox-farming industry raised the foxes chiefly for the sake of the pelts, as high as \$2,600 being received for a single pelt of exceptional quality, and it was not until 1912 that there was any general sale of foxes. With increased interest in fur farming came a large demand for foxes to be used as foundation stock in newly established ranches. Fabulous prices were obtainable for the live animals, sales of proved breeders in 1912 being recorded at from \$18,000 to \$35,000 per

pair. The number of fur farms from this time forward rapidly increased, companies as well as individuals engaging in the business, but as larger numbers of foxes became available for sale, prices naturally declined. In 1919 the number of silver foxes on the farms was 7,181, of which 5,401 were credited to Prince Edward Island. The average price of a pair of silver

foxes at that time was around \$650.

Fox farming is now carried on in all provinces of the Dominion, and the number of farms is steadily increasing. The Prince Edward Island Silver Fox Breeders' Association was formed in 1915, and the Canadian Silver Fox Breeders' Association in 1920. Branch associations of the parent association are established in most of the provinces, and silver foxes are eligible for registration in the Canadian National Live Stock Records. The Dominion Department of Agriculture conducts at Summerside, Prince Edward Island, an experimental fur farm for the study of matters affecting the health of wild fur-bearing animals, especially the silver fox, in captivity. The Ontario Department of Game and Fisheries and the Quebec Department of Public Works, Game and Fisheries, also operate experimental farms in their respective provinces. Reports and pamphlets are issued from time to time and the advice of the officers in charge of the stations is available at all times to the fur farmers.

Although the fox is of chief importance, other kinds of wild furbearing animals are being raised successfully. The mink, in particular, is easily domesticated and thrives in captivity if care is exercised in the selection of environment and proper attention given to its requirements in the matter of diet. The raccoon is another species which can be easily domesticated, although it has not attained the importance of the mink in the fur-farming industry. Muskrat farming, also, is a branch of the industry to which attention is being directed, and numerous areas of marsh land are being utilized for raising this fur bearer. The farming of muskrats consists chiefly of making provision for an adequate food supply for the animals and in giving protection from their natural enemies, i.e., hawks, owls, etc. On many of the muskrat farms the areas have been enclosed

with strong wire fencing.

In 1934 there were in operation in Canada a total of 7,019 fur farms, an increase over the preceding year of 546. Of the total number, 6,083 were fox farms and the remainder, farms raising various other kinds of fur-bearing animals. In the miscellaneous class the mink farms are the most numerous, with a total of 624, and following are raccoon farms with a total of 182. The total value of property is recorded at \$14,637,355, this total comprising \$6,209,788, the value of the land and buildings used in connection with fur farming, and \$8,427,567, the value of the fur-bearing animals on the farms at the end of the year. The number of fur-bearing animals of all kinds born on the farms (exclusive of muskrat and beaver for which particulars cannot be supplied by the fur farmers) during the year was 203,491, including 155,043 silver foxes, 7,584 foxes other than silver and 40,864 animals of the miscellaneous group. The number of silver foxes born was the largest recorded in any year in the history of fur farming, and was an increase over 1933 of 30,812, or 25 p.c. The number of minks born on the farms was 35,375, an increase over the preceding year of 10,179, or 40 p.c. The sales of live fur-bearing animals from the farms were chiefly those of silver foxes and minks, the former showing a total of 8.762, valued at \$488,847, and the latter a total of 3,625, valued at \$68.708. The total amount received from the sales of live fur-bearing animals was \$573.051, compared with \$354.462 in 1933. The pelts sold from the farms in 1934 had a total value of \$3.966.010, an increase over 1933 of \$253,567. To the total value, the sales of silver fox pelts contributed \$3,690,431, or 93 p.c., and of mink pelts, \$145,680, or 4 p.c. The highest price received by any one farm for a single silver fox pelt during the year 1934 was \$176, compared with a high of \$230 in the preceding year. Altogether, the farms received from the sales of live fur-bearing animals and of pelts during 1934 a total of \$4,539,061, compared with \$4,066,905 in 1933.

CHAPTER VIII

THE WATER POWERS OF CANADA

Canada, notwithstanding her limited population, much of it in scattered agricultural areas, has become the second greatest manufacturing country of the British Empire and the attainment of this position has been mainly due to the fortunate occurrence of abundant and readily developable water powers in proximity to her other great resources of field, forest and mine.

Canada's known water powers are estimated to provide for a commercial installation of 43,700,000 h.p. and their capacity for future development is indicated by the fact that only slightly less than 18·2 p.c. has so far been utilized. The installation as of Jan. 1, 1937, totalled 7,945,590 h.p., somewhat less than one-half that of the United States but exceeding by 2 million horse-power the next largest installation, that of Italy. On a per capita basis, Canada, with an installation of 720 h.p. per 1,000 of popula-

tion, stands second only to Norway.

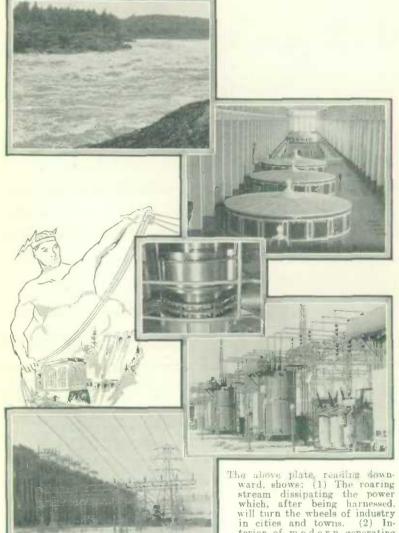
The table below shows the hydraulic turbine installation as at Jan. 1, 1937, and also the estimated potential power by provinces. These estimates include only rivers where the flows and heads have been measured; they are based on continuous power available twenty-four hours each day at 80 p.c. efficiency, 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, by Provinces, Jan. 1, 1937

	Available 2 at 80 p.c. l	m 11	
Province or Territory	At Ordinary Minimum Flow	At Ordinary Six Months' Flow	Turbine Installation
	h.p.	h.p.	h.p.
Prince Edward Island	3,000	5,300	2,439
	20,800	128,300	120,667
	68,600	169,100	133,681
QuebecOntario	8.459.000	13,064,000	3,883,320
	5.330.000	6,940,000	2,561,905
Manitoba	3,309,000	5,344,500	392,825
Saskatchewan	542,000	1,082,000	42,035
Alberta	390,000	1,049,500	71,597
British Columbia. Yukon and Northwest Territories	1,931,000	5, 103, 500	718,922
	294,000	731, 000	18,199
Totals	20,347,400	33,617,200	7,945,590

The progress of water-power development in Canada has been extremely rapid. At the opening of the century the hydraulic turbine horse-power installed was only 173,323 and had not exceeded 2,000,000 by 1914.

STEPS IN GENERATION AND TRANSMISSION OF HYDRO-POWER



in cities and towns. (2) Interior of modern generating station wherein great generators produce electricity, to be transformed to high voltage for transmission to the point of consumption. (3) A close-up of

a revolving turbine shaft. (4) Hage transformers outside the power house which "step up" the voltage for the journey to the city. (5) From the buss bars of the transformers, shown in (4), the power is carried at high tension over these transmission towers for long distances, after which the voltage is "stepped down" for distribution.

Courtesy, Montreal Light, Heat and Power Consolidated.

Provincial Distribution of Water Power.—The water powers of the Maritime Provinces, while small in comparison with the sites in other provinces, constitute a valuable economic resource, the development of which is supplemented by power from abundant indigenous coal supplies. Quebec, with almost double the available water power and more than one and three-fifths times the hydraulic installation of Ontario, the province next in order, has achieved a remarkable development during the past ten years, installation considerably more than doubling in that period. Almost 85 p.c. of her total installation is operated by nine large joint-stock company central station organizations. Ontario, like Quebec, without local coal supplies, also has abundant water-power resources. The Hydro-Electric Power Commission of Ontario, a co-operative municipally-owned enterprise, province-wide in its field, operates plants aggregating almost 63 p.c. of the total hydraulic installation of the province and serving 766 municipalities. Of the Prairie Provinces, Manitoba has the greatest power resources and the greatest development, 78 p.c. of the total hydraulie development of the three provinces being installed on the Winnipeg river to serve the city of Winnipeg and adjacent municipalities and, over the transmission network of the Manitoba Power Commission, about 60 municipalities in southern Manitoba. British Columbia, traversed by three distinct mountain ranges, ranks fourth in available power resources and her hydraulic development is exceeded only in Quebec and Ontario. The water powers of the Yukon and Northwest Territories, while considerable, are so remote from markets as to limit their present commercial development to local mining uses.

Construction During 1936.—Although no new hydraulic construction of any magnitude was initiated between 1931 and 1936 the completion of plants under construction and the development of sites to meet local needs provided for substantial annual additions to Canada's hydraulic installation up to and including 1935, but resulted in a comparatively small increase, 36.475 h.p., during 1936. The upward swing in the consumption of electricity, which became evident in May 1933 and still continues, is operating to reduce the margin between the supply of and demand for

Hydraulic installation during 1936 was confined to the addition of a 30,000 h.p. unit to the High Falls plant of the Maclaren-Quebec Power bringing the plant to its ultimate designed installation of 120,000 h.p., the addition of a 1,750 h.p. unit to the Ontario Government's Rat Rapids plant and the addition of a 4,300 h.p. unit to the Ruth Falls plant of the Nova Scotia Power Commission. Four small plants aggregating 425 h.p. were also installed in British Columbia to meet local power needs.

Central Electric Stations

Over 88 p.c. of all water power developed in Canada is developed by central electric stations and, although there are a large number of stations (259) which derive their power entirely from fuels and 42 hydraulic stations which also have thermal auxiliary equipment, 98 p.c. of all electricity

generated for sale is produced by water power.

The production of electricity by central electric stations amounted to 5,500,000,000 kilowatt hours in 1919, the first year for which such data are available. Six years later it was almost doubled, by 1928 it had more than trebled and by 1930 it amounted to 18,000,000,000 kilowatt hours. With continued depression in manufacturing industries the output started to decline late in 1930 and continued into 1933, but from June, 1933, to date there has been an almost continuous succession of increases each month after adjusting for normal seasonal variations. The output for October, 1936, at 2,378,000,000 kilowatt hours was the largest in the history of the industry and an estimate for the year is a new high at 24,300,000,000 kilowatt hours, or close to four and a half times the output of 1919. Only one other country (Norway) has a greater output per capita and only one other country (United States) has a greater total output irrespective of size.

One reason for this large use of electricity produced by central stations is the absence of coal in the central provinces and the large quantities of water power available within transmitting distances of the principal manufacturing centres. The pulp and paper industry which uses enormous quantities of power, has also been an important factor in this rapid



Straightening a Generator Shaft—A shaft may become best as the result of local over-heating due to the failure of a bearing or some other cause. Usually a bent shaft is straightened by re-machining, which involves complete dismantling of the unit. The Ontario Hydro-Electric Power Commission has been successful in straightening a large generator shaft by the local application of heat. The picture shows this operation being performed. The shaft was straightened while standing in a vertical position, without removing the rotor or field-pole assembly. The total weight of the shaft and rotor was 320 tons.

Courtesy. Hydro-Electric Power Commission of Ontario.

increase and now uses about 40 p.c. of the total energy produced by central electric stations in addition to power produced within the pulp and paper mills. The use of electric furnaces has been growing and about 7 p.c. of the total central electric station output is now consumed by them.

RURAL ELECTRIC SERVICE IN ONTARIO



Courtesy, Hydro-Electric Power Commission of Ontario,

Low rates and reliable service have increased the domestic use for lighting, cooking, water heating and other household uses; the average consumption has risen to 1.240 kilowatt hours per annum which is about twice as high as in the United States where living standards are very similar. Secondary power used in electric boilers, mainly in pulp and paper mills, has increased from a very small quantity in 1924 to over 6.000,000,000 kilowatt hours in 1935. Although the production of this secondary power swells the total output, the consumption of firm power, or total output less secondary power for electric boilers and exports to the United States, has continued to increase and reached a peak in September, 1936, (latest data available) of 1,420,284,000 kilowatt hours, the adjusted index number being 185 (1926 average=100).

The rated capacity of electric motors in manufacturing industries in Canada in 1934 was 78.5 p.c. of the total capacity of all power equipment in these industries, the increase from 61.3 p.c. in 1923 being almost continuous. In the mining industries this conversion to electric drive has been almost as great, growing from 57.3 p.c. in 1923 to 75.1 p.c. in 1934. Over 83 p.c. of these electric motors in manufacturing industries and 86 p.c. in mining industries in 1934 were driven by power produced in central stations. The remainder were driven by power produced within the industries.

Mechanical power, particularly electric motors, has been increasing in manufacturing industries much more rapidly than the number of employees during the past decade. From 1923 to 1934 power equipment, measured in horse-power, increased by 97.7 p.c., whereas the number of employees increased by only 3.1 p.c. Of course employees decreased from 1929 to 1934 while power equipment continued to increase, but even at the peak of employment in 1929 the increases over 1923 were 80.2 p.c. for power equipment and 31.9 p.c. for employees. These percentage increases are affected by the relative status of each class of power at the beginning of the period and also by the more or less general practice of installing a surplus of motor capacity in plants where each machine has its own motor. One horse-power is equivalent approximately to the capacity of ten men. Consequently in 1923 for each employee there was power equipment with a capacity of 42 men and by 1929 this had grown to a capacity of 57 men. The load factor, or extent to which the available power equipment and man power were used, is not known, but quite probably the ratio between use and available capacity was changed very little during these six years.

Electricity, principally hydro-electric energy, is also displacing coal and oil to heat furnaces, ovens and boilers, and is doing enormous quantities of work in electrolytic refining of metals, production of fer-

tilizers, metal plating and so forth.

Investments in central electric stations amounted to \$1,430,852,000, which was larger than for any other manufacturing industry; revenues for 1934 amounted to \$124,464,000 and 1,379,153 domestic customers were served. These are approximately 60 p.c. of all families in Canada, both urban and rural.

The average monthly outputs of the large central electric stations in Canada, 1926-36, are shown below.

Average Monthly Output, Central Electric Stations in Canada, 1926-36

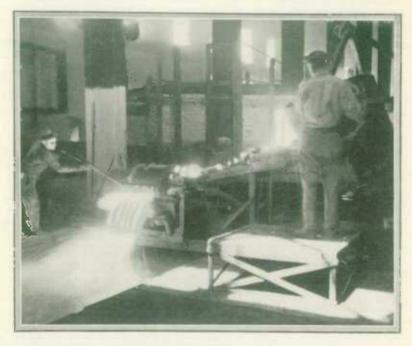
Year		From Water	From Fuel	Total	
		000 k.w.h.	000 k.w.h.	000 k.w.	
26		991,041	16,746	1.007.	
27		1,193,481	18,944	1.212.	
28		1.340.292	21, 192	1.361.	
29		1.441.203	27,622	1,468,	
30 <mark></mark>		1,463,330	25,230	1.488.	
31		1,339.907	26,071	1.365.	
3 <mark>2 </mark>		1,296,360	25,845	1,322,	
3 <mark>3</mark>		1,436,486	26,150	1.462.	
3 4		1,733,810	29.484	1,763,	
3 <mark>5</mark>		1,917,958	32,410	1,950,	
36 (nine-month average)		2.022.307	35,772	2.058.	

The above figures are interesting as showing the consistent progress of the industry from 1926 to 1930. Even in the worst of the depression years, 1932, the drop in output was only a little over 11 p.c. of the maximum, and, from July, 1933, onward there has been very rapid and fairly continuous increase. The index number adjusted for seasonal variations reached an all-time high point at 222.99 in April, 1936, the average for 1926 being equal to 100.

CHAPTER IX

THE MANUFACTURES OF CANADA

The present century has witnessed the chirf forward movement in Canadian manufactures, mainly as the result of two great influences: first, 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 left a permanent imprint upon the variety and efficiency of Canadian plants. By 1920, the gross value of Canadian manufactured products was no less than \$3,772,000,000, the capital invested \$3,372,000,000, and the number of employees 609,586. Hundreds of millions of capital had been attracted from outside (see p. 38) 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 table on page 95 shows.



"Shotting" Nickel.—The molten nickel, white hot and alive, pours from the lip of the ladle at the right like a miniature torrent, spilling out in small streams against jets of water and plunging into the pool in the foreground. Samples of the metal, taken from the pool, look like small silvery beads.

Courtesy, International Nickel Company of Canada, Limited.

Effects of the Depression on the Manufacturing Industries of Canada.—The downward trend in manufacturing operations which began in the autumn of 1929 continued with increasing force to about the middle of 1933. The first pronounced increase was reported for the month of

June, but thereafter, each succeeding month recorded a slight gain over that of the preceding month. The gains in the latter part of the year were not, however, sufficiently pronounced to overcome the losses of the beginning of the year. As a result of this, the output of manufactured products in 1933, valued at \$2,086,847,847, was the lowest annual average reached in the period. This was a decrease of 48·2 p.c. as compared with the peak year of 1929. In 1934 the value of production amounted to \$2,533,758,954, an increase of 21·4 p.c. over the previous year but still 37·1 p.c. below the 1929 level. The number of persons employed dropped from 694,434 in 1929 to 493,903 in 1933, a fall of 28·9 p.c. In 1934, however, the number of employees rose to 545,162, an increase of 10·4 p.c. from the 1933 figures. In spite of this increase, the employees in 1934 still numbered 21·5 p.c. below the 1929 figures. The percentage decline in salary and wage payments greatly exceeded that of the number of employees, the drop between 1929 and 1933 being \$347,487,753 or 42·7 p.c. In 1934 the increase in salary and wage payments amounted to \$68,032,545.

Historical Summary of Statistics of Manufactures, 1870-1934

Year	Estab- lish- ments	Capital	Capital Employees		Cost of Materials	Net Value of Products ³	Gross Value of Products	
	No.	8	No.	8	8	8	5	
1870. 1880. 1890. 1900'. 1910'. 1920''. 1929''. 1931''. 1931''. 1932''. 1933''. 1933''.	24,544 25,232	1,247,583,609 3,371,940,653 5,083,014,754 5,203,316,760 4,961,312,408 4,741,255,610	609,586 694,434 644,439 557,426 495,398 493,903	100, 415, 350 113, 249, 350 241, 008, 416 732, 120, 585 813, 049, 842 736, 092, 766 624, 545, 561 505, 883, 323 465, 562, 090	124, 907, 846 179, 918, 593, 250, 759, 292, 266, 527, 858, 601, 509, 018, 2,085,271, 649, 1,666, 983, 902, 1,223, 880, 011, 955, 968, 683, 969, 188, 574, 1,230, 977, 053	129,757,475 219,088,594 214,525,517 564,466,621 1,686,978,408 1,894,910,456 1,665,631,770 1,390,409,237 1,097,284,291 1,048,259,450	309, 676, 068 469, 847, 886 481, 053, 375 1,165, 975, 639 3,772, 250, 057 4,029, 371, 340 3,428, 970, 628 2,126, 194, 555 2,086, 847, 847	

¹ Includes all establishments employing five hands or over.

² Includes all establishments irrespective of the number of employees but excludes construction and custom and repair work,

³ For and since 1929 the figures for the net value of production represent the gross value less the cost of materials, fuel and electricity. Prior to this, only the cost of materials is deducted.

Analysis by Groups of Industries.—The iron and its products group was hit hardest by the depression. In gross value of products, the output of this group was reduced by 71·3 p.c. in 1933 compared with 1929. In salaries and wages paid the reduction was 62·8 p.c. and in employees 46·4 p.c. The wood and paper group and those of non-ferrous metals and animal products suffered severely but not by any means as much as the first group named. The records of central electric stations, the chemical and the textile industries were particularly good; the first-named showed the least reduction of all groups in gross value of production, but the chemicals showed the smallest reduction in both employees and salaries and wages.

From the low year of the depression, so far as the manufacturing industries are concerned, viz., 1933, while there has been a marked improvement in all groups, non-ferrous metals and iron and its products have shown the greatest improvement in gross value of products and quite naturally central electric stations have shown the least. In salaries and wages paid, iron and its products is also the leader, but in employees engaged the miscellaneous group takes first place. It is of interest to note that in comparing 1934 data with those of 1929 as regards employees engaged, two industrial groups—chemicals and textiles—actually show increases, although that for textiles is very small.

The improvement begun in the summer of 1933 is being maintained. It is estimated that production for 1935 will reach the \$2,800,000,000 mark with present indications of another substantial increase in 1936.

Census of Manufactures, by Provinces and Industrial Groups, 1934

Province or Group	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products	
PROVINCE	No.	\$	No.	\$	\$	\$		
P.E. Island. Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan. Alberta. B.C. and Yukon		119,064,747 123,476,314 1,678,486,302 2,063,721,375 183,937,703 65,975,159 98,418,699	181,546 259,621 21,723 5,986 11,565	600,216 12,401,325 11.367,625 161,197,908 270,834,102 22,020,990 6,093,983 11,775,745 37,302,741	28,497,123 24,637,918 357,751,720 610,485,807 54,719,469 24,289,080 40,381,587	380,453,666 611,303,863 48,484,665	60,844,581 54,057,847 766,498,000 1,255,325,701 105,358,000 42,261,723 69,389,118	
Canada	25,663	4,703,917,730	545,162	533,594,635	1,230,977,053	1,222,943,899	2,533,758,954	
INDUSTRIAL GROUP								
Vegetable Animal Textiles Wood and paper Iron, etc Non-ferrous	5,858 4,504 2,234 8,075 1,258	210,260,801 328,362,816 884,503,673 547,892,157	57,199 115,695 116,691 81,782		226,262,465 174,532,597 155,389,258 154,055,806	94,998,316 160,723,494 223,240,884 143,369,504	404,435,948 308,303,352	
Mon-metallics Chemicals Miscellaneous Central electric	488 1,164 736 508	307,338,479 156,788,418	21,959 17,130	24,905.554	84,508,166 41,998,776	71,357,3 5 2 62,216,030	166,782,852 108,052,039	
stations	1,043	1,430,852,166	14,974	21,829,491	Nil	122,461,993	124,463,613	

¹ Gross value less cost of materials, fuel and electricity.

According to the latest census available, Canada possessed, in 1934, 25,663 manufacturing establishments with capital investment in lands, buildings, equipment, etc., amounting to \$4,703,917,730, employing 545,162 persons with salaries and wages amounting to \$533,594,635. They consumed \$1,230,977,053 worth of raw materials (not including fuel) and produced

goods to the value of \$2,533,758,954.

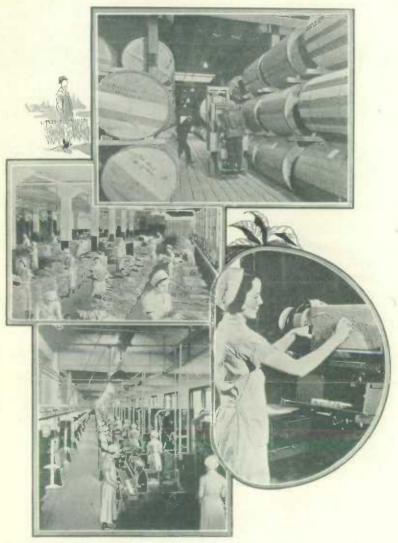
In gross value of production, the industries of the vegetable products group ranked first in 1934 with an output valued at \$480,314.618. This group is of considerable importance in the industrial life of Canada and some of the more important commodities manufactured by these industries, such as flour, rubber, alcoholic beverages, cereal foods and malt, enter into our export trade. The wood and paper products group, which ranks second in gross value of production, is the most important as regards its contribution to the foreign trade of Canada. Newsprint, the leading commodity of the group, is also the leading manufactured commodity exported from Canada. Textiles and textile products rank third, followed by animal products, iron and its products, non-ferrous metal products, non-metallic mineral products, central electric stations, chemical products and miscellaneous industries.

In employment, the ranking of the groups is somewhat different. The wood and paper products group with 116,691 employees occupies the premier position, followed closely by textiles with 115,695. Iron and its products ranked third, followed by vegetable products and animal products, etc. The textile industries occupy a unique position in the opportunities for employment they offer to female workers. Out of a total of 128,488 female workers, 61,213 or 48 p.c. were employed in textile plants.

Notes on, and detailed treatment of, some of the groups which are of

current importance follow:-

Animal Products.—The leading industry of this group is that of slaughtering and meat packing, while butter and cheese ranks second. These two industries produced about 66 p.c. of the production of the entire group.



Processes in the manufacture of transco and cigarettes are shown above.

The pictures from top to bottom show: (1) An ageing warehouse, where hogsheads of tobacco are stored. (2) Blending—the process that determines flavour—is a very exacting operation and, while blends differ for each "brand", the blend for any one "brand" must always be exactly the same. (3) Cigarettes being made by machine which cleans the tobacco, fills, rolls and cuts the cigarettes. (4) Cigarettes undergoing final inspection.

Courtesy, Imperial Tobacco Company of Canada, Limited.

Wood and Paper Products.—The manufacture of lumber, which depends to a large extent on building and construction operations and the export market, has shown wide fluctuations. The peak, reached in 1911 with a total cut of 4,918,000 M ft, b.m., has never been equalled. It was followed by a general decline to the 2,869,000 M ft. reported for 1921. Production subsequently increased with fair regularity to a second peak, in 1929, of 4,742,000 M ft. and then decreased to the 1,810,000 M ft. reported in 1932. In 1934 production stood at 2,578,000 M ft.



have been in service are being overhauled during the winter months.

Courtesy, MacDonald Bros. Aircraft Limited.

shown; and be-

Those manufacturing industries which draw their principal raw materials from the sawmills reached their maximum production in 1929 with a gross value of \$146,950,000 which had declined to \$52,289,000 in

1933, but there was an increase to \$57,860,721 in 1934.

The pulp and paper industry is a comparatively recent development. In 1881 there were only 36 paper and 5 pulp mills in operation in Canada. By 1923 the industry had displaced flour milling as Canada's most important manufacturing industry and in spite of recent vicissitudes has held that position ever since. The peak of production was reached in 1929 when 4.021.000 tons of wood pulp and 3,197,000 tons of paper were produced. In that year there were 108 pulp and paper mills in operation, consuming 5,278,000 cords of pulpwood and using hydro-electric power valued at more than \$13,000,000. During 1926, Canada, for the first time, produced more newsprint paper than the United States and became the world's chief producer and exporter of that commodity. She has maintained that position ever since. During 1934 this industry produced 3,636,335 tons of pulp and 3,069,516 tons of paper. Of this paper, 2,604,973 tons was newsprint and exceeded the United States production by over 150 p.c. More detailed figures of production are given on pp. 74 to 75.

Iron and Its Products.—Four concerns make pig iron in Canada, one being in Nova Scotia and three in Ontario. The former uses Nova Scotia coal and iron ore from the great Wabana deposits, which it controls, on Bell island, Newfoundland, while the Ontario works are dependent on foreign ore and coal, which are brought from the United States. These companies have blast furnaces with a rated capacity of 1,500,000 long tons of pig iron per annum, but the highest tonnage yet attained was 1,080,160 long tons in 1929. Open hearth steel furnaces and rolling-mills are also operated by these companies, which produce steel ingots, blooms and billets, bars, rods, rails, structural shapes, plates, sheets, rail fastenings, etc. In 1934, the output of primary iron and steel was valued at \$29,101,463 compared with \$18,492,549 in the previous year.

Among the secondary industries, the production and maintenance of railway cars, locomotives and parts is of first importance. In 1934 there were 37 such plants and 16,095 workers were employed. The value of products was \$34,352,911, which was \$70 millions lower than in 1930.

Automobile manufacturing is one of Canada's largest industries with 9.674 employees, products valued at \$76,133,448 and a capital investment of \$34,520,938 in 1934. In 1929, 16.435 people were employed and cars and parts worth \$177,315,593 were produced. In 1934, automobiles and parts valued at \$19,619,016 were exported to other countries.

There are also numerous works for the manufacture of machinery, agricultural implements, sheet metal products, foundry products and similar articles of iron and steel, and the variety of products made in

these establishments is increasing yearly.

Chemicals and Allied Products.—Canadian producers of chemicals and allied products now manufacture about 80 p.c. of the country's requirements and also make an important contribution to export trade. According to statistics for 1934, the domestic production amounted in value to \$108,052,039, exports to \$14,349,689 and imports to \$28,149,508.

Sulphuric, nitric, muriatic, phosphoric and acetic acids are made in Canada, but organic acids such as stearic, tartaric, citric, etc., are not made here. Output of acids in 1934 was approximately \$4,500,000, exports were worth \$2,842,000, and imports, principally organic acids, totalled \$1,138,000, giving \$2,796,000 as the Canadian consumption of which about 60 p.c. was made in this country.

The glacial acetic acid works of Shawinigan Chemicals Limited at Shawinigan Falls, Quebec, is the largest of its kind in the Empire. It was started in the war years to meet urgent demands for acetone and acetic acid—the former essential for the manufacture of T.N.T. explosives

and the latter for making cellulose acetate for the treatment of aeroplane wings. After the War the manufacture of acetone was discontinued but the market for acetic acid has grown with the remarkable development of rayon, automobile lacquers, cellophane, etc., and the plant has been gradually expanded to its present capacity. The raw material for these chemicals is calcium carbide which the company manufactures at this point in huge electric furnaces. Acetic acid and calcium carbide are shipped to all parts of the world. Ethyl acetate, butyl acetate, amyl acetate, lead acetate, paraldehyde, acetylene black and vinyl acetate resins are also made in this plant.

Sulphuric acid is now made in Canada in 6 different works, 2 of which operate entirely on waste sulphur-bearing gases from metal smelters. The first commercial plant of this kind was erected by Canadian Industries Limited near the International Nickel Company's smelter at Coniston, Ontario, in 1929, and the second was built a few years later by the Consolidated Mining and Smelting Company of Canada, Limited, in connecting

tion with their base metals smelter at Trail, British Columbia.

Other inorganic chemicals made in Canada are: soda ash, caustic soda, calcium chloride, liquid chlorine, sodium silicate, salt cake, nitre cake, sulphur dioxide, hydrogen peroxide, ferric chloride, synthetic ammonia, calcium cyanamide, sodium cyanide, phosphorous, sodium phosphate, sodium chlorate and acid calcium phosphate. Canadian factories supply about 40 p.c. of the country's needs of chemicals of this class and export about as much as they dispose of in Canada. Production was valued at \$14,600,000 in 1934, imports at \$11,000,000 and exports at \$7,300,000.

The largest cyanamide works in the world is operated by the North American Cyanamid Company, Limited, at Niagara Falls, Ontario. Calcium cyanamide is used chiefly as a fertilizer and is made by absorbing nitrogen in powdered calcium carbide at white heat. The carbide is made in electric furnaces from limestone and coke; the nitrogen is extracted from the air. The capacity of this works has increased from 5,000 tons of calcium cyanamide per year in 1909 to the present capacity of 355,000 tons. A proportion of the cyanamide is used to make cyanide which is used chiefly by the mining industry; the remainder is largely exported.

The salt deposits of southwestern Ontario provide a base for important chemical works. Salt brine is utilized by the Brunner, Mond, Canada, Limited, at Amherstburg, to make soda ash and by Canadian Industries Limited at Sandwich, Ontario, to make caustic soda, hydrochloric acid and liquid chlorine. The latter company has recently opened a new caustic soda-chlorine plant at Cornwall, Ontario, to serve the pulp

and rayon industries of eastern Ontario and Quebec.

The above references refer only to the manufacturers of heavy chemicals but many other concerns make chemical products such as soaps, paints, fertilizers, etc. One of the largest plants in the latter group is at Trail. British Columbia, where the Consolidated Mining and Smelting Company of Canada, Limited, have completed a ten-million dollar project for the manufacture of fertilizers. Here the company uses the smelter gases to make sulphuric acid, utilizes surplus power to make electrolytic bydrogen, extracts nitrogen from the air and with these raw materials, together with phosphate rock imported from United States, makes large tonnages of ainmonium sulphate, ammonium phosphate and superphosphate. At present the bulk of these products is exported but there is a vast potential market in the Prairie Provinces which is being diligently cultivated by the company.

In 1934, a total of 736 establishments in the chemicals and allied products group reported production valued at \$108,052,039 including medicinals at \$19,484,094, paints at \$18,618,371, soaps and cleaning preparations at \$13,614,464, heavy chemicals at \$16,494,139, explosives at \$9,037,788,

toilet preparations at \$5,977,563, fertilizers at \$5,467,154, compressed gases at \$2,803,840, inks at \$2,411,001, coal tar products at \$2,004,715 and other products at \$12,138,910.

Leading Individual Industries, 1934.—A prominent feature of Canadian manufacturing development in recent years has been the growth of central electric stations and non-ferrous metal smelting. These industries, based upon water-power and mineral resources, have taken their places among the leading manufactures along with the industries based upon

forest, agricultural and live-stock resources.

In 1934 pulp and paper was again in the lead, according to gross value of production, followed by non-ferrous metal smelting and refining, central electric stations, slaughtering and meat packing, flour and feed mills, butter and cheese, etc. Compared with 1932, there have been some marked changes in the order of the leading industries. Some of the more important changes were as follows: cotton yarn and cloth advanced from sixteenth place to ninth place, non-ferrous metal smelting from sixth to second place and sawmills from seventeenth to twelfth place, while electrical apparatus and supplies dropped from tenth to fifteenth place, betweeness from eighteenth to twentieth place and sugar refineries from fourteenth to twenty-first place.

Principal Statistics of Fifteen Leading Industries, 1934

Industry	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products	
	No.	\$	No.	\$	\$	\$	
Pulp and paper Non-ferrous metal smelting	95	554,973,891	26,993	33,307,043	53,426,534	152,647,756	
and refining Central electric stations		146,047,422 1,430,852,166		11,059,206 21,829,491	78,325,552 -	149,936,239 124,463,613	
Slaughtering and meat pack- ing	147 1,310 2,632	59, 293, 426	10,119 5,633 14,389	11.608,338 5,135,312 13.140.844	98,417,162 74,048,243 63,763,974		
Petroleum products Automobiles	51 21 36	67,021,041 34,520,938	4,957 9,674	6.379,226 12,938,933 13,768,278	56.969.015 52,693,074	76,337,513 76,133,448	
Bread and other bakery products	3,173	,,	18,562	15,794,117		57.295,522	
wear	8,572 790		11,079 22,605 16,353	10,858,637 14,118,200 21,975,805			
Clothing, factory, women's,, Electrical apparatus and sup- plies	577 174	19,389,407 77,980,366	17,000	13,591,131 15,220,022	30,473,677 21,308,006	51,533,091 50,234,811	
Totals, Fifteen Leading Industries	13,687	2,822,456,670	212,399	220,724,583	647,347,937	1,237,291,402	
Grand Totals, All Industries	25,663	4,703,917,730	545,162	533,594,635	1,230,977,053	2,533,758,954	
Percentages of Fifteen Leading Industries to All Industries	53.3	60-0	38-9	41-4	52-6	48.04	

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 the fiscal year 1935, these exports reached \$422,000,000 in value, whereas in 1900 they were below the \$100,000,000 mark and fourteen years later were but \$159,000,000.

Among the industrial groups, the vegetable products group occupies an important position in trade. Wheat flour, rubber tires, canvas shoes with rubber soles, prepared cereal foods, sugar and alcoholic beverages are

some of the more important articles of export.

Manufactures in Leading Cities.—Montreal proper and Toronto proper had manufactures in 1934 of \$361,000,000 and \$358,000,000 respectively; "Greater Montreal" was also ahead of "Greater Toronto" in the gross value of its production. After these two cities came Hamilton with \$100,000,000, Vancouver with \$63,000,000 and Winnipeg with \$61,000,000. Ten other places also had manufactures with a gross value of production of over \$20,000,000 in 1934.

Cities of Canada with a Manufacturing Production of over Twenty
Million Dollars in 19341

City	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products	
	No.	\$	No.	\$	8	8	
Montreal	. 2,360	373,098,770		84,228,834	185, 459, 720	361,058,213	
Toronto	2.627	392,080,083	81,629	89,569,170	174.820,861	357, 706, 74	
Hamilton	. 494	174,755,759	24.072	25,772,958	44,548,853	100, 272, 873	
Vancouver	. 773	84,254,515	13.206	13.595,812	34, 258, 919	63,475,10	
Winnipeg	. 612	75,513,530	15,745	15,985,206	31,761,326	60,860,44	
Montreal East	. 13	40,070,842		1,991,271	27,333,620	38,648,83	
London	. 245	36,898,295	8,221	8,464,833	14,488,112	34,329,66	
Oshawa	. 42	19,241,638	4,813	5,882,525	21,891,578	34.078.99	
Kitchener	. 150	31,969,175	7,612	7,028,649	14,461,710	32,457.83	
Walkerville	. 72	27,061,036	3,883	4,668,434	19,451,113	30,402,70	
East Windsor	. 12	15,700,078	4,505	6,038,388	18,201,787	28.729.86	
Quebee	. 312	46,904,725	8,721	7,328,663	11,202,852	25,952,57	
Calgary	. 160	29,657,531	4.091	4.328.896	16,041,206	25, 293, 37	
Three Rivers		54,410,110	5.070	5,027,959	8.701.649	22.246.59	
Ottawa		35,355,381	6, 196	6,930,886	8,343,380	20,926,21	

¹ Copper Cliff, Port Colborne and Trail are also among the leading cities. Statistics, however, cannot be published because there are fewer than three establishments reporting.

Conditions During the Years 1931-36.—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 reporting establishments normally employ about 600,000 work-

people.

The severity of the depression which set in toward the end of 1929 is strikingly illustrated by the monthly employment indexes shown below. From a high of 121.6 attained in August, 1929, employment kept steadily decreasing until January, 1933, when the index stood at 74.4. In February of the same year, however, employment took an upward swing and with the exception of minor interruptions showed steady and substantial improvement until October, 1936, when the index stood at 109.0. The index for the first eleven months of 1936 averaged 103.1, or nearly 7 p.c. higher than in the same period of 1935.

Indexes of Employment in Manufactures

Month	1931	1932	1933	1934	1935	1936	Month	1931	1932	1933	1934	1935	1936
Jan. 1 Feb. 1 Mar. 1 April 1 May 1 June 1	93·7 96·1 97·6 99·7 100·7 99·4	83·9 85·9 87·0 87·3 85·8 86·0		84 · 2 86 · 5 88 · 1 90 · 2	87-4 90-1 92-7 93-9 95-6 98-4	98·5 99·5 101·1 102·7	July 1 Aug. 1 Sept. 1 Oct. 1 Nov. 1 Dec. 1	97·2 94·7 94·7 91·8 88·8 89·6	85 · 4 82 · 6 83 · 1 84 · 1 81 · 7 80 · 3	83.0 85.2 86.8 86.7 86.5 84.4	93·8 94·2 94·3 94·4 92·8 91·3	98·5· 99·8 100·8 103·3 103·5 101·4	104 105 109

CHAPTER X

CONSTRUCTION

The construction industry in its various phases is dealt with in this chapter, which presents available data respecting construction work undertaken by public authorities and by private enterprise.



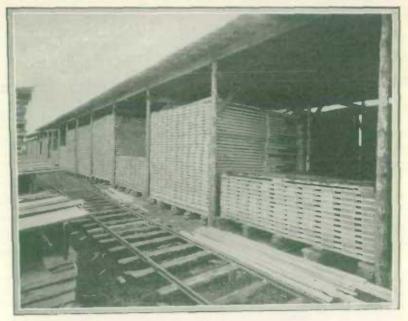
The rapid growth of the mining industry in Canada is releasing large sums of money for the construction of shafts, buildings and living accommodation. This picture of an Ontario gold mine in the early stages gives a good idea of the extensive surface developments which such undertakings call for.

Courtesy, Royal Canadian Air Force.

In the past few years of depressed business conditions, public construction work has been of especial importance, both in stabilizing and stimulating the industry. However, since 1933 there have been evidences of increased activity in private and commercial construction undertakings, the former, in the residential field, receiving considerable stimulus from the Dominion Housing Act.

The Dominion Housing Act.—Administered by the Finance Department, the Dominion Housing Act, 1935, has a twofold purpose: (1) to assist in the improvement of housing conditions, and (2) to assist in the absorption of unemployment by the stimulation of the construction and building material industries. The Minister of Finance is empowered to make advances and to pay expenses of administering the Act to the extent of \$10,000,000. The Act provides for loans for the construction only of new dwellings (including single-family houses, duplexes and apartment

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Method Used for Protection of White Pine Deals during Air Seasoning.

Courtesy, Forest Products Laboratories, Lands, Parks and Forest Branch,

Department of Mines and Resources.

houses), the security taken being in the form of a first mortgage running jointly to an approved lending institution and to the Dominion Government. In most cases, the loans will be for 80 p.c. of the cost of construction of the dwelling or its appraised value, whichever is the lesser; of the loan of 80 p.c., the lending institution will advance 60 p.c. and the government 20 p.c. The remaining 20 p.c. is to be provided by the borrower. Provision is also made in certain cases for loans of 70 or 75 p.c., where desired by the borrower or deemed advisable by the lending institution. The interest rate paid by the borrower is 5 p.c. This is made possible by the fact that the Government's funds are advanced on an interest basis of 3 p.c. Loans are made for a period of 10 years subject to renewal for a further period of 10 years upon revaluation of the security and on conditions satisfactory to all parties concerned. Interest, principal and taxes are payable in monthly instalments. Amortization of principal is effected at a rate sufficient to pay off the loan in 20 years, but more rapid amortizations may be arranged to suit the convenience of the borrower. The Act requires sound standards of construction and contains other clauses safeguarding the mortgage.

The Government Home Improvement Plan.—To supplement the operations carried on under the Dominion Housing Act, the Government announced in September, 1936, the inauguration of a Home Improvement Plan. This plan provides for chartered banks and certain approved lending institutions making loans to owners of residential property (including farm buildings) for repairs, alterations and additions (including built-in equipment) to urban and rural dwellings. The loans shall not exceed \$2,000 on any one property and are repayable in equal monthly instalments or in suitable instalments to fit the conditions of the individual borrower. Loans shall not be made for terms in excess of three years. The maximum charge for loans shall be 3½ p.c. discount for a one-year loan repayable in equal

monthly instalments and proportionate rates for other periods. Loans made in accordance with approved conditions will be guaranteed by the Government to the extent of 15 p.c. of the aggregate amount of loans made

by each approved lending institution.

The limit of the aggregate loans is \$50,000,000 and the limit of the Government's guarantee is \$7,500,000. Pending the enactment of the necessary legislation, the chartered banks and certain other approved lending institutions are now making loans on the assurance that appropriate

legislation will be introduced at the 1937 session of Parliament.

Railways.—The expenditures of railways on maintenance of way, and structures and equipment are not included in the census figures of the construction industries given below and are therefore summarized here. Both steam and electric railways showed increased expenditures for these purposes in 1935 compared with 1934. For steam railways they amounted to \$112,674,951 as against \$107,507,797 for 1934 and \$194,000,000 in 1929. For electric railways the total was \$5,401,772 as against \$5,376,389 in 1934 and \$9,000,000 in 1929. Expenditures on new line of steam railways were \$90,000 in 1935 compared with \$11,000 in 1934, whereas in the years 1928-31 they averaged \$30,000,000 per year.

Annual Census of the Construction Industries.—The institution of an annual census of the construction industries is an important development in the field of statistics in Canada. The first of these censuses to be taken since 1920 refers to the year 1934, and covers public works undertaken by municipal, provincial and Dominion authorities, including harbour commissions, as well as those carried on by private contractors and construction companies. The table below briefly summarizes the returns.

Of the 1934 total value of work performed, \$115,988.781 represented entirely new construction, while \$70,210,109 was for alterations, repairs, maintenance, etc. The value of the work performed by construction and trade contractors and subcontractors was \$99,381,822, the remaining \$86.817.068 representing work carried out by public authorities.

Preliminary figures of the Census of Construction for 1935 indicate that

there has been increased activity in these industries.

Statistics of the Construction Industry, by Provinces, 1934

Province	Capital Invested	Persons Employed	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed
	\$	No.	8	\$	\$
Prince Edward Island Nova Scotia Now Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia Not segregated Canada	312.628 3.592.613 5.360.232 36.588.913 59.752.823 6.689.209 4.772.964 5.769.791 7.082.054 1,120.424	261 5,631 5,730 27,207 90,483 6,431 10,895 10,382 11,421 4,712	138,020 4,082,210 2,997,145 17,567,595 53,564,447 3,685,638 3,825,577 4,558,647 6,021,436 5,167,513	140,913 2,536,027 2,163,390 18.364,750 33,536,993 2,595,277 2,452,851 2,062,599 3,616,681 3,322,654	6,502,768

Volume of Construction, 1936.—Current data showing the value of construction contracts awarded throughout the Dominion are collected by the MacLean Building Reports, Limited. The totals for the latest complete years are as follows: 1935, \$160.305,000; 1934, \$125.811.500; 1933, \$97.289,800; 1932, \$132.872,400 and 1931, \$315,482,000. The following table gives figures for the first eleven months of 1935 and 1936.

The Dominion Bureau of Statistics maintains a record of the value of building work currently undertaken as indicated by the construction permits taken out in 58 leading Canadian municipalities; monthly data are available since 1920, while the records for 35 of these cities go back to 1910.

Construction Contracts Awarded in Canada, Eleven Months, 1935 and 1936

(MacLean Building Reports, Ltd.)

m - 4.64		1935		1936
Type of Construction	No.	Value	No.	Value
		8		8
Apartments	227	3,197,000	173	3,750,300
Residences	10.839	31,175.500	12,820	37, 190, 100
Totals, Residential	11,066	34,372,500	12,995	40,940.400
Churches	190	1.625,500	231	2,460.70
Public garages	585	2,195,200	675	2,719,000
Hospitals	67	2,951,700	71	2.079.308
lotels and clubs	427	2,145,500	350	1.892.50
Office buildings	270	1.638.500	319	3,043,800
Public buildings	549	20.091.700	441	6,451,100
Schools	354	5.391.500	354	4,026,800
stores	1,509	4.154.900	1.766	6,448,800
l'heatres	75	1.390.800	115	2.315.000
Warehouses	429	5.938.500	502	4.465.200
Totals, Business,	4.455	47.523.800	4.824	\$5,905.200
Totals, Industrial	634	9.718.500	705	14,527,100
Bridges	302	3.300.500	172	7.578,200
Dams and wharves	136	8.469.000	118	3,056,700
Sewers and watermains	239	3.512.800	188	2.393.300
Roads and streets	899	27, 186, 300	697	22,339,200
General engineering	438	21.856.700	493	29.729.100
Totals, Engineering.	8.014	64,325,300	1.668	65.096.50
Grand Totals	18,169	155,940,100	20.190	156,469,200



Railway Construction.—A pile driver at work on the construction of a branch line of railway.

Courtesy, Canadian National Railways.

During 1935, the value of the building authorized by the 58 cities was \$46,560,623, as compared with \$27,457,524 in 1934, \$21,776,496 in 1933, \$42,319,397 in 1932 and \$112,222,845 in 1931. These totals are prepared from revised statistics furnished by municipal officials. The unrevised total for the first eleven months of 1936 was \$36,584,168, as compared with \$43,846,688 in the same period of the preceding year. The value of the building represented by the permits issued in the 58 cities from January to November of 1935 and 1936 is as follows:—

Building Permits, by Cities, Eleven Months, 1935 and 1936

City	1935	1936	City	1935	1936
	8	\$		8	8
Charlottetown, P.E.I.	166,635	157,505	St. Thomas, Ost	93,370	68,045
Halifax, N.S	1,514,214	1,030,328	Sarnia, Ont	84,402	117,404
New Glasgow, N.S	19.305	32,318	Sault Ste. Marie, Ont.	114.050	217.750
Sydney, N.S.	53,268	177,246	Toronto, Ont	9,165,643	7,126,277
redericton, N.B	19, 125	138,410	York and East York		
Moneton, N.B	106.261	85,687	Townships, Ont	1.540.778	2.211,760
Saint John, N.B.	140.280	197,524	Welland, Ont	74.549	105,665
Montreal-Maisonneuve.	2201000	-01,0-1	Windsor, Ont.1,	698.519	677.085
Que	6,688,621	6.080.433	Riverside, Ont	10.875	27.535
Quebec, Que	2.114.515	815.700	Woodstock, Ont	82.534	195.905
Shawinigan Falls, Que.	51,537	115,228	Brandon, Man,	111,135	57,211
Sherbrooke, Que	179.250	273,200	St. Boniface, Man	101.340	77,164
Three Rivers, Que	52.820	120.132	Winnipeg, Man	2,690,750	1,379,200
Westmount, Que	165.480	338,578	Moose Jaw, Sask	136, 165	48.568
Belleville, Ont	144.802	85,065	Regina, Sask	631,844	340,441
Brantford, Ont	256.688	151,847	Saskatoon, Sask	136,675	182.680
Chatham, Ont	88,041	139,230	Calgary, Alta	895.043	849.680
Fort William, Ont	152,000	205,700	Edmonton, Alta,	665,710	855, 178
Galt, Ont	387.269	139.715	Lethbridge, Alta	116,652	178,76
Guelph, Ont	283.949	99,915	Medicine Hat, Alta	17.094	25.41
Hamilton, Ont	1.829.835	1,197,655	Kamloops, B.C	66,522	85,470
Kingston, Ont	213.634	234,713	Nanaimo, B.C	30,781	163.825
Kitchener, Ont	557,235	433.028	New Westminster.		,
London, Ont	1.823.757	653,400	B,C	190.025	351.51
Niagara Falls, Ont	91,022	136 903	Prince Rupert, B.C.	42.884	15.17
Oshawa, Ont	124,900	106,577	Vancouver, B.C	3.728.880	4,428,860
Ottawa, Ont	4,066,890	1.759.712	North Vancouver,	0111000	*1 *=0 104
Owen Sound, Ont	49.652	90,285	B.C	20.250	52.859
Peterborough, Ont	192,953	265,580	Victoria, B.C	424.593	449,63
Port Arthur, Ont	162,921	204,286		,	
Stratford, Ont	45.502	51,262	Totals-58 Cities	43.846.688	36,584,168
St. Catharines, Ont	233, 264	785,933		, , , , , , , , , , , , , , , , , , , ,	-,,

¹ Includes East Windsor, Sandwich and Walkerville, amalgamated with Windsor as from July 1, 1935.

According to the 1931 Census, the 58 centres whose data are included in this table had about 36 p.c. of the total population of Canada; in 1935, the latest complete year, their building authorizations had a value equal to just over 29 p.c. of the total contracts awarded, according to the MacLean Building Reports, Limited. In the first eleven months of 1936, the building represented by the permits taken out in these cities constituted 23-4 p.c. of the value of the contracts awarded during the same period. The following table shows for the latest few years the statistics of construction permits issued, and also gives index numbers closely related to the building industry.

The indexes of wages and prices of materials are indicative of the fluctuations in building costs over the past eight years. During 1936, the preliminary wages index showed little change, standing at 160.7, as compared with 159.8 in the preceding year. The wholesale prices of building materials, however, were rather higher than in the past few years; during the first eleven months of 1936, the index averaged 85.2, while in the twelve months of 1935, the mean was 81.2. The index numbers of employment in the building industry are based upon data furnished by contractors ordinarily employing fifteen persons or more; in 1935, 669 of these reported an average payroll of 22,400 workers.

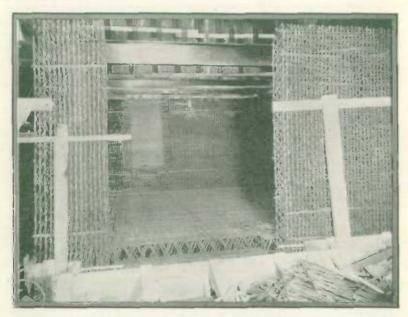
Building Permits and Indexes of Factors in the Construction Industry, 1929-36

Year	Value of Building Permits Issued	Index Numbers of Value of Permits Issued (1926=100)	Average Index Numbers of Wholesale Prices of Building Materials (1926=100)	Index Numbers of Wages in the Building Trades (1913=100)	Index Numbers of Employment in the Building Industry ² (1926=1001
1929.	\$ 234,944,549 166,379,325 112,222,845 42,319,397 21,776,496 27,457,524 46,560,623 36,584,168	150·2	99.0	197 · 5	135-3
1930.		106·4	90.8	203 · 2	134-3
1931.		71·8	81.9	195 · 7	104-3
1932.		26·7	77.2	178 · 2	54-1
1933.		13·9	78.3	158 · 0	38-5
1934.		17·6	82.5	154 · 8	47-8
1935.		29·8	81.2	159 · 8	55-4
1936 ¹ .		23·3	83.2	160 · 7 ²	55-7

¹ The 1936 figures are for the eleven months to Nov. 30; those for the other years are complete.

² Preliminary figure.

³ As reported by employers.



Massillon Vault Reinforcement.—The picture shows the specially constructed steel framework into which cement is poured to make an impregnable chamber for the safe-keeping of securities. (See also illustration on page 159.)

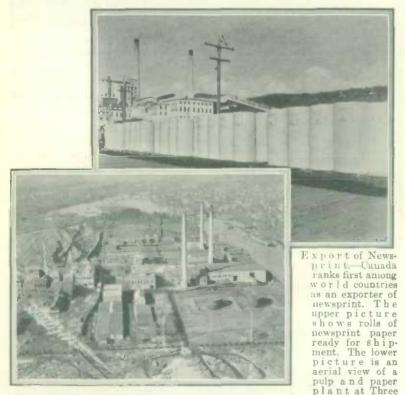
Courtesy, Imperial Bank of Canada, Toronto.

CHAPTER XI

EXTERNAL TRADE OF CANADA—NON-COMMODITY EXCHANGES

External Trade

Canada's Trade Related to World Trade.—World trade during the calendar year 1935 showed a slight upward trend compared with 1934 amounting to 23,550,000,000 gold dollars, an increase over the previous year of 1·1 p.c.; imports amounted to 12,093,000,000 gold dollars, an increase of 0·9 p.c.; and exports to 11,457,000,000 gold dollars, an increase of 1·4 p.c. Prominent factors operating to expand world trade were: (1) general economic recovery; (2) the narrowing of fluctuations in the exchange rates of various national currencies; and (3) the opening up of channels of trade by reciprocal trade arrangements. Canada has recently negotiated trade treaties or agreements with a number of countries, the most comprehensive being that with the United States.



Rivers, Quebec- the largest pulp and paper centre in the world.

Courtesy. Canadian Government Motion Picture Bureau.



Courtesy, Canadian Government Motion Picture Incua.

Canada, in the production and exportation of many staple products, leads the world. In production of asbestos, newsprint paper and nickel, she led the world in 1935; in production of copper and zinc she occupied third place; fourth place in the production of gold and lead; fifth place in the production of automobiles; and seventh place in the production of wheat. In export trade the Dominion led the world in 1935 in the exports of asbestos, newsprint paper, nickel and wheat; occupied second place in the export of wheat flour; third place in the export of automobiles; and fourth place in the export of rubber tires and wood pulp. In world trade Canada in 1935, as well as in 1934, occupied sixth position in total trade; ninth position in total imports; and fifth position in domestic exports.

TOTAL CANADIAN TRADE

Canada's total trade in each month of the fiscal year 1935-36 showed an increase over the corresponding month of 1932-33, 1933-34 and 1934-35, except for the month of June, 1934; imports and exports also showed increases in all cases with the exception of a few months in 1934. Canada's total trade in the fiscal year 1935-36 was valued at \$1,425,191,000, imports accounting for \$562,719,000 of this amount, domestic exports for \$849,-030,000 and foreign exports for \$13,442,000. The increase over the fiscal year 1931-35 amounted to \$138,475,000 or 10-8 p.c.; in imports the increase was \$40,288,000, or 7.7 p.c.; in domestic exports, \$92,404,000, or 12-2 p.c.; and in foreign exports, \$5,783,000, or 75-5 p.c. Empire countries accounted for 45-3 p.c. of the increase in Canada's total trade from 1934-35 to 1935-36, and foreign countries for 54-7 p.c. Imports from Empire countries during the same period accounted for 53-5 p.c. of the total increase in imports, and foreign countries for 46-5 p.c.; the Empire's share in the increase of domestic exports from 1934-35 to 1935-36 was 44-5 p.c., and foreign countries, 55-5 p.c. In spite of the large decrease in recent years in Canada's total trade, it is still more than ten times that at Confederation.

Canada's total trade for the fiscal year 1935-36 compared with 1934-35 showed an increase of 10·8 p.c. on a value basis, and 10·4 p.c. on a volume basis; imports an increase of 7·7 p.c. on a value basis, and 10·2 p.c. on a volume basis; the Dominion's domestic exports showed an increase of 12·2 p.c. on a value basis, and 10·4 p.c. on a volume basis.

Canada's Total Trade with Empire and Foreign Countries

Note.—These figures do not include exports of foreign merchandise. Non-monetary gold bullion, formerly included under "Coin and Bullion" is now treated as "Merchandise". In consequence, Canada's exports and total trade figures have been revised from 1926 to date.

		Total			
Fiscal Year	United Kingdom	Other British Countries	United States	Other Foreign Countries	Canadian Trade 1
	\$	\$	\$	\$	\$
13-14	347,324,375	45,844,988	559,674,963	97,938,111	1,050,782,43
28-29 29-30	623,771,866 470,925,703	169,605,632 161,320,037	1,372,173,833	468,386,891 373,794,344	2,633,938,22 2,368,531,88
30-31	368,743,891 280,415,504	129,018,931 87,456,900	934,067,581 609,456,935	274,524,959 201,206,377	1,706,355,36 1,178,535,71
32-33	270,827,074 393,683,430	71,676,177 85,726,845	429,972,778 458,260,491	161,971,993 162,081,930	934,448.02 1,099,752,69
34-35	402,567,727 439,431,620	111,818,222 137,601,169	608,361,326 679,782,020	156,309,803 154,934,671	1,279,057,07

Excluding foreign merchandise exported.

The tendency of Canada's trade during the past three or four years has been towards a greater exchange of commodities with Empire countries. The statistics in the following table, giving percentages of Canada's trade with Empire and foreign countries for a series of years, indicate that the proportion of Canada's imports from Empire countries from 1929-30 to 1935-36 increased from 20·3 to 31·6 p.c., and exports to Empire countries

from 33.9 to 47.0 p.c.; the proportion of imports from foreign countries decreased from 79.7 p.c. to 68.4 p.c. and exports to foreign countries from 66.1 p.c. to 53.0 p.c.

Percentages of Canada's Trade with Empire and Foreign Countries, fiscal years, 1929-30 to 1935-36

	Percentages of Canada's Trade with-									
Fiscal Year	Empire Countries		Foreign Countries		United Kingdom		United States			
IGMI	Imports from	Exports	Imports from	Exports	Imports from	Exports	Imports from	Exports		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.		
1929-30 1930-31	20.3	33·9 36·6	79·7 77·4	66·1 63·4	15·2 16·5	25·2 27·4	67.9	46 - 43 - 1		
1931-32, 1932-33	25·6 29·6	36·7 42·1	74·4 70·4	63·3 57·9	18-4 21-3	29·0 34·9	60·8 57·2	42.1		
1933-34 1934-35	32·4 29·9	50·9 47·3	67 · 6 70 · 1	49·1 52·7	24·2 21·4	43·3 38·4	54·9 58·1	33 -		
1935-36	31-6	47-0	68-4	53.0	21.0	37.9	56-8	42.		

The following résumé of Canada's total trade for the fiscal years 1926-27 to 1935-36 shows that for only two of the ten years have imports exceeded exports. The year of highest per capita trade in the ten-year period was for the fiscal year 1928-29, while the year of lowest per capita trade was for the fiscal year 1932-33.

Ratio of Exports to Imports, and Value Per Capita of Exports, Imports and Total Trade, fiscal years, 1926-27 to 1935-36

Nore.-Not including exports of foreign produce.

	Excess Excess of of Exports		Rate p.c. of Exports		Values per capita of→			
Fiscal Year	Entered for Consump- tion over Exports	over Imports Entered for Con- sumption	to Imports Entered for Con- sumption	Estimated Population	Exports, Canadian Produce	Total Imports	Total Trade	
	\$	\$	p.c.	No.	8	\$	\$	
1926-27 1927-28 1928-29 1929-30 1930-31 1931-32 1932-33 1933-34 1934-35 1934-35	103,335,512 89,584,647	238, 692, 028 147, 196, 219 127, 766, 443 	113-3 110-1 91-7 90-1 105-6 131-6 155-0 146-3	9,637,000 9,835,000 10,029,000 10,208,000 10,376,000 10,506,000 10,824,000 10,824,000 10,935,000 11,028,000	130·14 125·46 136·43 109·75 77·08 57·11 49·44 61·52 69·19 76·99	106-97 112-76 126-20 122-28 87-37 55-07 38-05 40-08 47-78 51-02	237 · 11 238 · 25 262 · 63 232 · 04 112 · 18 87 · 46 116 · 97 128 · 01	

IMPORTS

Canada's total imports for the fiscal year 1935-36 were valued at \$562,719,000, the increase over 1933-34 amounting to \$128,920,000 or 29 · 7 p.c., and over 1934-35 to \$40,288,000 or 7 · 7 p.c. Imports from Empire countries in 1935-36 amounted to \$177,721,000, the increase over 1933-34 amounting to \$37,317,000 or 26 · 6 p.c. and over 1934-35 to \$21,535,000 or 13 · 8 p.c. The imports from foreign countries in 1935-36 were valued at \$384,998,000, the increase over 1933-34 amounting to \$91,603,000 or 31 · 2 p.c. and over 1934-35 to \$18,753,000 or 5 · 1 p.c. Of the total increase in Canada's imports in 1935-36 compared with 1934-35, 53 · 5 p.c. was with Empire countries, and 46 · 5 p.c. with foreign countries. Of the total imports in 1935-36, 56 · 8 p.c. came from the United States; 21 · 0 p.c. from the United



Kingdom, 10.6 p.c. from other British countries; and 11.6 p.c. from other foreign countries. In 1934-35 the proportions were: from the United States, 58.1 p.c.; from the United Kingdom, 21.4 p.c.; from other British countries, 8.5 p.c.; and from other foreign countries, 12.0 p.c. The percentages of imports from the United States, the United Kingdom and other foreign countries show decreases, while the percentage from other British countries shows an increase.

Canada's Imports from British and Foreign Countries, fiscal years 1913-14 and 1928-29 to 1935-36

Fiscal Year	United Kingdom	Other British Countries	United States	Other Foreign Countries	Total Imports	
	\$	\$	\$	8	\$	
913-14	132,070,406	22,456,440	396,302,138	68.365,014	619, 193, 9	
928-29	194,041,381	63,346,829	868,012,229	140, 278, 652	1,265,679,0	
929-30 930-31	189,179,738 149,497,392	63,494,864 55,401,034	847,442,037 584,407,018	148, 156, 943 117, 307, 251	1,248,273,5 906,612,6	
931-32	106.371.779	41.440.214	351, 686, 775	79.005.136	578.503.1	
932-33	86,466,055	33,918,269	232,548,055	53,451,365	406.383.7	
933-34.	105, 100, 764	35,303,122	238, 187, 681	55,207,058	433,798,1	
934-35	111,682,490	44.503.981	303,639,972 319,479,594	62,604,710	522, 431.	

The statistics in the following table re imports into Canada from the United Kingdom, fiscal years 1924-25 to 1935-36, indicate a very marked increase in the imports of goods from the United Kingdom free under the Preferential Tariff. The proportion of imports subject to duty to total imports from the United Kingdom in 1924-25 was 82.5 p.c. and free goods 17.5 p.c.; imports free under the Preferential Tariff amounted to 0.6 p.c. and under the General Tariff to 16.9 p.c.; in 1929-30 the proportion of dutiable imports to total imports was 78.6 p.c. and free goods 21.4 p.c.; imports free under the Preferential Tariff amounted to 5.6 p.c. and under the General Tariff to 15.8 p.c.; whereas in the year 1935-36 the proportion of dutiable imports to total imports from the United Kingdom was 47.5 p.c. and free imports 52.5 p.c.; imports free under the Preferential Tariff amounted to 41.3 p.c. and under the General Tariff to 11.2 p.c.

Canada's Dutiable and Free Imports from the United Kingdom, fiscal years 1924-25 to 1935-36

Fiscal Year			PR - 1					Free In	porta		
	Total Imports			Total Free		Free under Preferential Tariff		Free under General Tariff			
		\$000	p.c. of Total	\$000	p.c. of Total	\$000	p.c. of Total	\$000	p.c. of Total		
924-25.	151,084	124,666	82-5	26,418	17-5	938	0.6	25,480	16-		
925-26.	163,731	133,125	81.3	30,606 28,968	18.7	1,242 3,563	0.8	29,364 25,405	17-		
926-27. 927-28.	163,939 186,436	134,971 150,054	80.5	36.382	19.5	4,656	2.5	31.726	17.		
928-29	194,041	154,457	79.8	39.584	20-4	10.865	5.6	28,719	14		
929-30	189,180	148,643	78-6	40,537	21 - 4	10,668	5-6	29,869	15		
930-31.	149,497	108,570	72-8	40,927	27 - 4	18,288	12.2	22,639	15		
931-32.	106,372	79,694	74.9	26,678	25-1	12.316	11.6	14.362	13-		
932-33.	86,466	55,691	64-4	30.775	35.6	22,015	25 · 4	8.760	10		
33-34.	105,101	57.038	54.3	48,063	45.7	39,666	37.7	8,397	8		
934-35. 935-36.	111,682	58,836 55,967	52·7 47·5	52,846 61,908	47·3 52·5	41,468	37·1 41·3	11,378	10		

Commodities are classified by the Bureau of Statistics into nine main groups, as follows: Agricultural and Vegetable Products; Animals 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 under each of the nine main groups in 1935-36 compared with 1934-35 show increases. The total increase amounted to \$40,288,000. The greatest absolute increases in 1935-36 occurred in the main groups of Iron and Its Products (\$1,198,000); Fibres, Textiles and Textile Products (\$8,016,000); Non-Ferrous Metals and Their Products (\$5,189,000); and Animals and Animal Products (\$4,357,000); but the greatest percentage increases were shown by Animals and Animal Products (21.8 p.c.); Non-Ferrous Metals and Their Products (18.2 p.c.); and Iron and Its Products (14.2 p.c.).

The most important group from the standpoint of imports was Iron and Its Products, under which classification imports reached \$114,254,000, the chief items under this group being: automobile parts (\$22,707,000), machinery (\$21,914,000), and plates and sheets (\$18,453,000). The other groups in order of importance of value were: Agricultural and Vegetable Products (\$110,342,000), made up chiefly of sugar (\$15,896,000), green fruits (\$12,898,000), and vegetable oils (\$12,065,000); Non-Metallic Minerals and Products (\$105,421,000), chiefly crude petroleum (\$35,565,000), and coal (\$33,835,000); and Fibres, Textiles and Textile Products (\$89,814,000), made up chiefly of wool and its products (\$24,461,000), raw cotton

(\$17,209,000), and other cotton products (\$16,363,000).

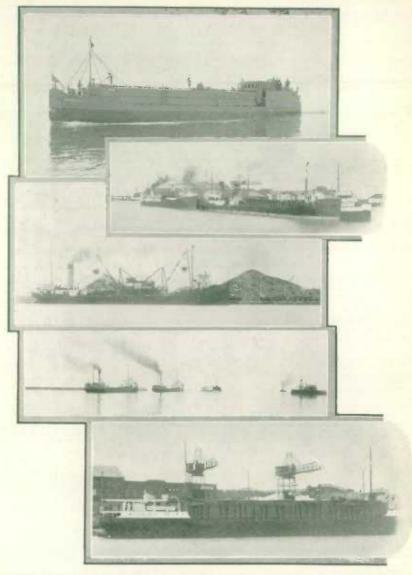
It is an interesting study to note the changing relations over a number of years between the commodities listed by rank. Commodities that occupied an important position in Canada's import trade in 1889-90 have, due to economic changes in the industrial life of the country, been materially changed in their importance in relation to other commodities in 1935-36. Crude petroleum has risen to prominence rapidly since 1920, when it was in eleventh place. Last year it occupied first place, being in second place in the previous year. Coal, now in second place, has been among the first three commodities since 1890, but machinery, which is now in fourth place, headed the list in 1930 with imports valued at \$69,000,000, and was in sixth place fourteen years ago, when its imports were valued at \$37,000,000, being outranked by sugar and products, coal, cotton goods, woollen goods and rolling-mill products. The most outstanding change is in the case of raw cotton which, from eleventh place in 1932-33, and fourteenth place in 1931-32, has now attained sixth place, being in fifth place last year; this reflects the growth of the Canadian textile industry.

Twenty Chief Commodities Imported, 1935-36 Compared with 1934-35

Ra	nk	Commodity (In order of value, 1935-36)	Total Imports, 1935-36		Increase or Decrease 1935-36 Compared with 1934-35	
1935	1936		Quantity	Value	Quantity	Value
2 1 3 4 6 5 7 9 14 10 12 8 13 11 16 23 28 24 17	1 2 3 4 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Crude petroleum gal. Coal ton Automobile parts ton Machinery, except farm. Plates and sheets, iron cwt. Raw cotton lb. Sugar for refining cwt. Fresh fruits Vegetable oils gal. Books and printed matter. Electrical apparatus. Spirits and wines Engines and boilers. Tea lh. Rubber, crude lb. Clay and its products. Noils, tops and waste wool. lb. Farm implements and machinery Raw and dressed furs Paper.	1,198,116,475 12,409,841	33, 834, 971 22, 706, 931 1, 914, 192 18, 453, 155 17, 209, 809 15, 684, 087 12, 897, 632 2, 065, 483 9, 882, 572 8, 767, 837 8, 392, 380 8, 240, 278 6, 736, 561 6, 593, 645 6, 342, 091	+ 973,900 - 1,469,562 + 436,896 + 3,891,314 	- 1,783,458 + 528,700 + 2,786,488 - 2,489,658 - 901,577 + 1,210,916 + 3,311,249 + 4,639,577 + 845,229 + 814,198

EXPORTS

The increase in total domestic exports for 1935-36 over 1933-34 amounted to \$183,076,000, or 27.5 p.c., and over 1934-35 to \$92,404,000, or 12.2 p.c. Exports to Empire countries in 1935-36 amounted to \$399,311,000, compared with an export in 1933-34 valued at \$339,006,000, and in 1934-35 at \$358,199,000. The increase in 1935-36 over the year 1933-34 amounted to \$60,305,000, or 17.8 p.c. and over 1934-35 to \$41,112,000, or 11.5 p.c.; the domestic exports to foreign countries in the fiscal year 1935-36 totalled \$449,719,000, in 1933-34, \$326,948,000, and in 1934-35 \$398,426,000; the increase in 1935-36 over similar export trade in 1933-34 amounted to \$122,771,000, or 37.5 p.c., and over 1934-35 to \$51,292,000 or 12.9 p.c. Of the total increase in Canada's domestic exports in 1935-36 compared with 1934-35, 44.5 p.c. was with Empire countries and 55.5 p.c. with foreign countries. Of the total domestic exports in 1935-36, the United States took 42.5 p.c.; the United Kingdom, 37.9 p.c.; other Empire countries, 9.1 p.c.; and other foreign countries, 10.5 p.c. In 1934-35 the proportions were: United States, 40.3 p.c.; United Kingdom, 38.4 p.c.; other Empire countries, 8.9 p.c.; and other foreign countries, 12.4 p.c. The percentages of exports to the United States and other Empire countries increased, while those to the United Kingdom and other foreign countries declined.



The pulp and paper industry is the leading manufacturing industry in Canada, based on gross value of production. The product is chiefly marketed in the United States (a large quantity across our inland waterways system). The illustrations from the top of the plate downward show: (1) A modern motor-driven barge built especially for the pulp and paper export trade to the United States. (2) Newsprint ships at Thorold, Ontario. (3) Unloading pulpwood on the upper St. Lawrence. (4) A fleet of paper carriers leaving the Welland canal for Chicago. (5) Arrival of a boat at Chicago with a cargo of Canadian newsprint.

Courtesy, Pulp and Paper Magazine, Gardenvale, Que.

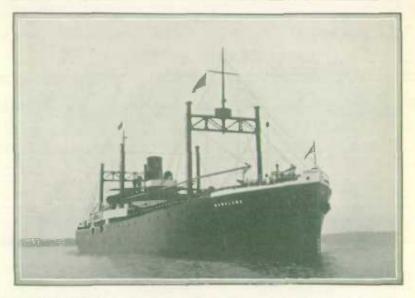
Canada's Domestic Exports to British and Foreign Countries

		Canadian F.	xports to-		777 - 4 - 1
Fiscal Year	United Kingdom	Other British Countries	United States	Other Foreign Countries	Total Domestic Exports
	\$	\$	8	8	8
1913-14 1928-29 1929-30 1930-31 1931-32 1931-32 1932-33 1933-34 1934-35 1935-36	215, 253, 969 429, 730, 485 281, 745, 965 219, 246, 499 174, 043, 725 184, 361, 019 288, 582, 666 290, 885, 237 321, 556, 798	23,388,548 106,258,803 97,825,173 73,617,897 46,016,686 37,757,908 50,423,723 67,314,241 77,754,681	163,372,825 504,161,604 515,049,763 349,660,563 257,770,160 197,424,723 220,072,810 304,721,354 360,302,426	29,573,097 328,108,239 225,637,401 157,217,708 122,201,241 108,520,628 106,874,872 93,705,093 89,416,512	431, 598, 431 1, 368, 259, 131 1, 120, 258, 300 799, 742, 667 600, 031, 811 528, 064, 278 665, 954, 071 756, 625, 925 849, 030, 417

As in the case of imports, there has been a marked change during the past four decades or so in the rank and importance of the principal commodities which comprise Canada's export trade. In the fiscal year 1889-90, wheat occupied twenty-second position in Canada's exports (\$389.000), but in the fiscal year 1935-36 it occupied first place (\$148,577.000); newsprint paper occupied second position in 1935-36 (\$90.761.000), but in 1909-10 it was in twentieth position (\$2.612.000). Non-monetary gold bullion occupied third place in 1935-36 (\$83.415.000); there were no exports of non-monetary gold bullion prior to 1925-26 when exports totalled \$5.212.000. Nickel in Canada's export trade moved up from twenty-fourth place in 1899-1900 (\$1.040.000), to fourth place in 1935-36 (\$41.644.000); wood pulp occupied thirty-first place in Canada's exports in 1889-90 (\$168.000), but in 1935-36 it was in fifth place (\$28.104.000); automobiles in 1909-10 occupied forty-second position (\$405.000), but in 1935-36 they occupied ninth place (\$23.886.000); copper in forms moved from sixty-third place in 1919-20 (\$241.000) to tenth place in 1935-36 (\$23.698.000), and wheat flour moved from eighteenth place in 1889-90 (\$521.000) to eleventh place in 1935-36 (\$19.383.000).

Twenty Chief Domestic Commodities Exported, 1935-36 Compared with 1934-35

Rank	Rank Commodity (In order of Value, 1935-36)		omestic , 1935-36	Increase (+) or Decrease (-) 1935-36 Compared with 1934-35	
1935 1936		Quantity	Value	Quantity	Value
			\$		8
1 1 2 2 2 3 4 4 5 5 5 6 6 6 8 7 7 8 9 9 9 10 10 11 11 11 11 11 12 12 12 13 12 14 14 16 17 17 17 17 17 17 17 17 17 17 17 17 17	Wheat bush. Newsprint paper cwt. Gold bullion, non-monetary oz. Nickel. cwt. Wood pulp. cwt. Planks and boards Mft. Fish cwt. Meats Automobiles. No Copper bars, rods, etc. cwt. Wheat flour. brl. Whiskey pf. gal Raw furs. Silver ore and bullion oz. Aluminum in bars cwt. Apples, fresh brl. Zinc cwt. Lead cwt. Sthingles, wood square Asbestos, raw ton	179, 124, 180 53, 261, 62 2, 383, 472 1, 609, 252 13, 722, 878 1, 382, 714 3, 212, 714 2, 986, 166 4, 858, 947 2, 991, 354 20, 191, 018 5, 588, 999 2, 288, 010 2, 894, 612 2, 940, 356 2, 867, 885 2, 867, 867 2, 867, 86	90, 761, 379 83, 414, 854 41, 644, 380 28, 103, 970 27, 606, 281 24, 435, 248 42, 220, 802 23, 886, 030 23, 697, 792 19, 382, 617 16, 288, 585 15, 738, 166 12, 473, 960 9, 355, 481, 199 8, 286, 782 8, 418, 199 8, 286, 782	+ 1,473,338 + 81,413 + 188,010 + 18,511 + 427,749 - 77,880 + 789,839 + 9,184,776 + 101,206 - 228,392 - 42,687 - 176,670 + 1,440,658	+ 8, 613, 532 - 13, 311, 077 - 13, 221, 521 + 2, 234, 674 + 2, 704, 379 + 2, 023, 836 + 1, 047, 196 + 4, 947, 196 + 4, 947, 196 + 840, 186 + 7, 116, 303 + 7, 116, 303 + 7, 1569, 885 - 602, 906 + 872, 406 - 2, 738, 034



The T.S.S. Markland (specially built for the efficient and economical ocean transport of newsprint).

Courtesy, Mersey Paper Company, Limited.

Canada's domestic exports in each main group showed increases compared with 1934-35. The total increase in the Dominion's domestic exports amounted to \$92,404,000. Of this total increase, the greatest absolute increases in 1935-36 occurred in the main groups of Non-Ferrous Metals and Their Products (\$21,201,000); Wood, Wood Products and Paper (\$20,899,000); Agricultural and Vegetable Products (\$16,629,000); Animals and Animal Products (\$14,084,000); and Iron and Its Products (\$11,632,000); but the greatest percentage increases by main groups were shown by Fibres, Textiles and Textile Products (36.6 p.c.); Iron and Its Products (25.8 p.c.); Non-Metallic Minerals and Their Products (21.9 p.c.); Animals and Animal Products (16.2 p.c.); and Wood, Wood Products and Paper (13.0 p.c.). The most important main group in Canada's exports was Agricultural and Vegetable Products, which reached \$242,862,000, the chief exports under this group being: wheat (\$148,577,000); wheat flour (\$19,383,000); and whisky (\$16,289,000). The other chief main groups in order of importance of value were: Non-Ferrous Metals and Products (\$212,547,000), principal exports being: gold bullion, non-monetary (\$83,415,000), nickel (\$41,644,000), conper in forms (\$23,608,000), and silver (\$83,415,000), nickel (\$41,644,000), copper in forms (\$23,698,000), and silver bullion (\$11,421,000); Wood, Wood Products and Paper (\$181,832,000), chief exports being: newsprint paper (\$90,761,000), wood pulp (\$28,-104.000), and planks and boards (\$27,605.000); Animals and Animal Products (\$100,932,000), principal exports being: fish (\$24,435,000), meats (\$24,221.000), and raw furs (\$15,738,000), and Iron and Its Products (\$52,368,000), chief exports being: automobiles (\$23,886,000), farm implements and machinery (\$6,344,000), and machinery, except farm (\$5,804,000).

REVIEW OF CANADA'S TRADE BY MONTHS

The monthly trade figures as available when going to press for the calendar year 1936 compared with the years 1933, 1934 and 1935, were as follows:-

Imports and Exports by Months, January, 1933, to November, 1936

		Imp	orts		Exports of Canadian Produce				
Month	1933	1934	1935	1936	1933	1934	1935	1936	
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	
January February March April May June July August September October November December	24,441 23,514 32,963 20,457 32,927 33,619 35,698 38,747 38,698 41,070 43,712 35,368	32,391 33,592 47,519 34,814 52,887 46,186 44,145 43,507 42,208 47,229 49,884 39,107	37,229 37,044 48,191 36,637 54,540 46,732 48,414 49,560 44,689 52,751 55,958 38,569	40,590 41,597 52,681 42,217 59,121 57,598 53,821 50,258 52,983 65,159	37,573 30,520 40,204 23,378 51,941 49,600 57,627 51,148 65,515 67,633 67,709 53,740	55,650 52,398 69,611 38,282 66,802 64,828 64,398 65,329 63,566 77,259 72,579 67,948	54,737 53,480 67,420 47,314 65,498 58,505 63,286 75,676 77,259 90,526 94,484 77,099	63,86 62,07 73,44 57,42 83,82 79,18 83,89 92,55 88,89 110,99	

CANADIAN TRADE BALANCE

From Confederation to 1935-36 Canada's total exports exceeded imports in thirty-one years, while imports exceeded exports in thirty-eight years. The largest excess of exports in a single fiscal year was in 1917-18, a "war year", when it amounted to \$622,637,000, while the largest excess of imports, amounting to \$294,139,000, occurred in 1912-13. The "unfavourable" trade balances occurred chiefly in the fiscal years 1902-03 to 1912-13, years of heavy capital imports. Canada's balance of trade with the United Kingdom has been favourable since 1889. With the United States it is usually unfavourable. With reference to merchandise trade balance, Canada, in the calendar year 1913, occupied seventeenth position amongst the leading commercial nations of the world, it being unfavourable in that year to the extent of \$222,900,000, or \$29.61 per capita, but in the calendar year 1935 she was in first position with a favourable trade balance of \$288,000,000, or \$26.34 per capita. In the calendar year 1935 Empire countries occupied the first three positions in trade balance per capita, Canada being in first position with \$26.31; New Zealand in second position with \$26.12; and the Union of South Africa in third position with \$15.27; while Australia was in fifth position with \$10.43.

Trade Balances of Twenty Principal Countries of the World, calendar years, 1934 and 1935

Rank	Country		19	34			19	935	
934 1935		Aı	nount	Per	Capita	Ar	mount	Per	Capita
		\$0	00,000		8	\$00	00,000		\$
2 1 1 2 3 6 3 4 4 4 3 5 8 6 6 7 7 8 5 9 17 10 11 11 13 12 10 13 9 14 14 15 16 16 18 17 17 18 19 19 20 20 20	Canada United States Union of South Africa Argentina. British India Australia Germany New Zealand Brasil Iapan. Denmark Spain. Belgium Sweden Norway Switzerland. Notherlands Italy France. United Kingdom	+++++++++++++++++++++++++++++++++++++++	252·2 457·7 66·2 85·5 86·7 60·9 110·8 62·2 82·6 32·6 33·6 11·5 39·2 189·1 217·6 207·0 340·5 1420·5	++++++1++1111111111111	23·30 3·62 7·81 7·22 0·25 9·11 1·88 40·18 1·88 0·50 0·25 1·40	+++++++++	288 · 0 204 · 4 131 · 3 129 · 7 85 · 6 70 · 1 44 · 9 40 · 7 20 · 7 7 · 7 · 7 40 · 5 44 · 4 150 · 7 177 · 6 213 · 7 362 · 8 1,358 · 8	+++++++++	26.3 1.6 15.2 10.6 0.2 10.4 0.6 26.1 1.6 5.1 7.2 18.5 36.3 21.1 5.0 28.9

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 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.

The Tourist Trade.—An item in the above which deserves special mention is the tourist trade. For the year 1935 the tourist trade was calculated to have brought \$202,314,000 into the country, and after the deduction of \$79,399,000 spent by Canadian tourists abroad, the favourable balance was estimated at \$122,915,000. By far the most important factor is the automobile traffic between Canada and the United States, it being estimated that such United States tourists spent \$131,806,000 in Canada in 1935, while Canadian automobile tourists spent about \$39,966,000 in the United States. Tourist expenditures are, in part, the return which Canada derives from her picturesque scenery, fish and game, winter sports, etc.

Tourist Expenditures, 1926-35

	-	
Expenditures of Outside Tourists in Canada (1)	Expenditures of Canadian Tourists in Other Countries (2)	Excess of (1) over (2)
8	\$	\$
238.477.000 275.230.000 309.379.000 279.238.000	98,747,000 108,750,000 107,522,000 121,645,000 100,389,000	102,420,000 129,727,000 167,708,000 187,734,000 178,849,000
212,448,000 ¹ 117,124,000 ¹ 129,974,000	76, 452, 000 57, 403, 000 50, 860, 000 53, 658, 000 79, 399, 000	174.324.000 155.045.000 66.264.000 76.316.000 122,915.000
	of Outside Tourists in Canada (1) \$ 201,167,000 238,477,000 275,230,000 279,238,000 279,238,000 250,776,000 212,448,000 ¹ 117,124,000 ¹ 129,974,000	of Outside Tourists in Canada (1)

¹ Canadian funds. No adjustment for exchange was considered necessary in 1934 and 1935,

Apart from the revenue which Canada derives directly from the tourist trade there are many other important results. First-hand knowledge of the country, its products and resources, serves to stimulate the demand for Canadian products and increases the supplies of new capital for investment here. There is, too, a value derived from neighbours becoming better acquainted and through the exchange of ideas that cannot be measured in dollars and cents. A more widely diffused knowledge of the culture, interests and difficulties of other nations leads to a richer social and intellectual life for all and the mutual understanding which springs from such contacts is an invaluable source of international good will.

Balance of International Payments.—A nation's international transactions of a commercial or financial character are much more comprehensive than the mere exchange of goods. The commodity trade itself gives rise to transactions involving the exchange in services between nations such as the transportation services performed by one nation for another in the international movement of goods. But there are also other service transactions such as, for example, those resulting from the tourist trade. Then, too, there are the important international payments which are the result of international investments.

It is to summarize these transactions that the following statement, embracing all international transactions of a commercial or revenue character, including movements of commodities, gold and capital and the exchange of services, is drawn up. Since there are close relationships between capital transactions and the current items of goods, services and

gold, important deductions may be drawn regarding the movement of capital. It is apparent that, if the total debits and credits resulting from a nation's external transactions in goods, services and gold do not balance, there must have been some change in the long- or short-term international indebtedness to bring equilibrium to the nation's accounts by providing the necessary balance of debits or credits since these commercial and financial transactions must either be paid for or effect a change in indebtedness.

It can be seen, then, that balance of payments statements are essential in studying the movements of capital between Canada and other countries. In short, they present Canada's economic and financial position vis-a-vis the world.

Estimated Balance of International Payments, 1934 and 1935

Note.-Figures for both years are in some cases preliminary.

	19	34	19	35
Item	Exports, Visible and Invisible	Imports, Visible and Invisible	Exports, Visible and Invisible	Imports, Visible and Invisible
Current Items of Goods, Services and Gold—Commodity tradé (adjusted). Exports and imports of gold coin and bullion. Freight receipts and payments, n.o.p. Tourist expenditures. Interest and dividend receipts and payments. Immigrant remittances. Government expenditures and receipts. Charitable and missionary contributions. Insurance transactions (net figures). Advertising transactions. Motion picture earnings. Capital of immigrants and emigrants. Earnings of Canadian residents employed in the United States (net figures).	\$000,000 656.8 105.1 51.4 130.0 95.0 6.0 5.8 1.8 - 2.0 - 1.9	\$000.000 504·0 4·8 74·9 53·7 290·0 6·5 10·1 1·6 15·0 1·5 2·5 3·3	\$000,000 740.0 112.4 55.0 202.3 98.0 6.0 5.9 2.6 - 2.0 1.8	\$000.000 542.0 1.7 84.0 79.4 317.0 6.7 10.0 1.5 8.0 1.5 2.8 3.0
Totals, Current Items of Goods, Services and Gold	1.056-5	967 - 9	1.227.2	1,057-0
Capital Movement—net outflow of capital funds as per statement below. Balancing Items (net errors and omissions)	-	10·3 78·3	-	16-4 153-2
	1.056-5	1.056.5	1,227-2	1,227-2
Summary of Capital Movements— Sales and purchases of securities. Retirements. New series (including refinancing) Direct investments (long-term) Balancing Items—net outflow of capital funds	321 · 2 	312·2 129·5	301-8 - 116-5 6-0 16-4	250 · 7 190 · 0
	441-7	441-7	440.7	440-7

CHAPTER XII

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 11,028,000 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 within the country 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 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 1934 the grand total value of the activities of those occupied in production of all kinds as estimated under the heading National Income on p. 37 was \$3.809,147,000, while the money value of exports of Canadian produce was \$652,887,228.

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 distribution of goods and services, to meet the demands of consumers, requires many types of establishments which employ hundreds of thousands of persons and use many millions of dollars of capital. The 1931 Census of Merchandising and Service Establishments showed that in 1930 there were 125,000 retail stores in Canada with sales amounting to \$2,756,000,000. Including proprietors receiving a fixed salary, there were about 300,000 persons on the payrolls of these stores and approximately \$300,000,000 paid out to them in salaries and wages during the year. The capital invested in these retail stores amounted to \$1,200,000,000.

Wholesale Trade.—The supplying of goods for the retail trade requires a complex organization, made up of many types of wholesale establishments. The census of wholesale business showed that there were more than 5,000 wholesale houses in Canada with sales amounting to slightly more than one billion dollars and 8,000 other types of wholesalers handling sales and orders to the value of two billion dollars. The capital invested in both types of wholesale establishments was valued at \$759,000,000. Ninety thousand persons found employment in wholesale establishments and their earnings totalled \$146,000,000.

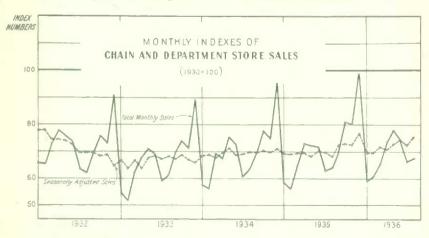
Indexes of Sales of Retail and Wholesale Establishments, by Provinces, 1930 and 1932-35

Province		Re	etail Sto	res	1	Wholesale Establishments ¹				
1 To vince	1930	1932	1933	1934	1935	1930	1932	1933	1934	1935
P.E.I	100.0	67.2	64-4	70-1	71-8)				
N.S N.B.	100-0	74·5 67·5	68-8	76·7 68·6	80.7	100-0	70.3	67.9	77.0	80 -
Que	100-0	71-4	64.7	68-6	70-8	100-0	69 - 4	65 - 9	74-7	77-
Ont	100-0 100-0	71·5 69·2	66-9 64-1	74·2 68·7	77.1	100.0	70-9	68.9	79-4	83 -
Sask Alta	100-0	59·2 65·3	54-5 61-4	59·0 68·2	63.0	100.0	65 - 2	60 - 6	67 - 7	73 -
B.C	100.0	65.5	62-2	89.0	75-3	100-0	64-8	63-5	71.6	77-
Y.&N.W.T	100-0	68.3	54-9	64-9	68.3	-	-	-	-	_
Canada	100-0	69 - 5	64-4	70-5	73-9	100-0	68-7	65-7	74.7	78-

¹ Regular wholesale houses. For a full description of the index, see the report "Wholesale Trade in Canada, 1930-33", obtainable from the Dominion Statistician.

The trend in sales of retail stores and regular wholesale houses, by provinces, for the period 1930 to 1935 is shown above. No allowances have been made in the indexes for changes in retail and wholesale prices during the period. While the decline in retail trade from 1930 to 1933 was 35-6 p.c. (34-3 p.c. in wholesale trade) some kinds of business had much heavier losses than others. How much of the decrease was due to the decline in prices and how much to a reduction in physical volume of trade, it is not possible to say. Among retail stores the food and general merchandise groups suffered the least loss in dollar sales between 1930 and 1933, while the largest declines occurred with establishments specializing in building materials and furniture and household goods. Similar differences will be found among wholesale trades.

The reports on retail and wholesale trade for 1934 and 1935 indicate that those lines of business which had the largest losses during the depression have experienced the greatest revival in trade since 1933.



Chain Stores.—In recent years, great changes have taken place in the distribution of goods, the chain store now doing a large proportion of the work of retailing merchandise. The survey of chain stores, made in connection with the Census of Merchandising, shows that chain stores (other than department store chains) do about 18 p.c. of the total retail business of the Dominion. This ratio has remained relatively constant since 1930, the first year for which such data are available. The proportion of the total business transacted by chains varies widely in different lines of trade. The modern variety store is a typical chain store development, practically the entire business of such stores being transacted by chains. The multi-unit type of distribution is also important in the food retailing field where chains accounted for 28.5 p.c. of the combined business of all grocery stores and meat markets in 1935. The trend in chain store business in Canada from 1930 to 1935 is shown below.

Summary Statistics of Chain Stores, 1930-35

Colondon Voca	Number	Number of Chain	Value of Chain Sales		
Calendar Year	Chains	Stores	Amount	P.C. of Total Sales	
			\$		
1930	518	8,504	487,336,000	17.	
931	506	8,557	434, 199, 700	18.	
932	486	8,398	360,806.200	18-	
933	461	8.230	328,902,600	18	
934	445	8.210	347, 186, 100	17.	
935	445	8.024	364.589.800	17.	

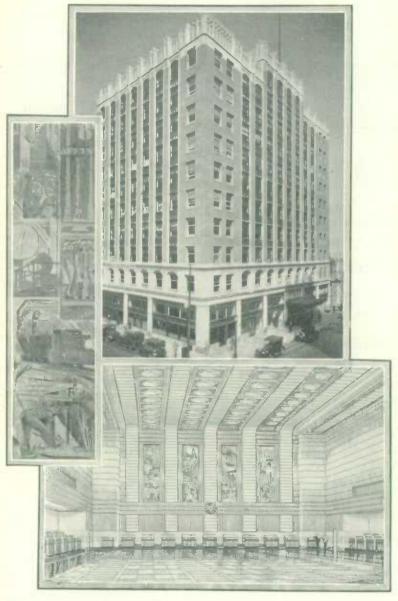
Retail Services.—More than 40,000 establishments are engaged in supplying services of various kinds to the Canadian public. The provision of amusements and domestic and personal services forms the chief business of the service groups. In 1930, \$249,000,000 were spent by consumers in such establishments which provided employment for 64,000 persons.

Internal Freight Movement

Railways, motor vehicles and water craft all play a part in this movement, but railway revenue freight provides the best available indicator of its volume. In 1935 this revenue freight totalled 68.868.815 tons, or an increase of 1.7 p.c. over 1934 traffic. 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 5.547.782 tons of freight made up largely of agricultural and animal products. The eastbound movement of wheat alone amounted to 4.775,014 tons and other grains and agricultural products brought the total net eastern movement up to 5.625.843 tons. The movement of animal products going eastward was 268.859 tons. There were cross movements of mine products, the net movement eastward of 90,358 tons consisting mostly of coal. Forest products moved eastward to the extent of 244.817 tons and manufactures and miscellaneous freight showed a westward movement amounting to 682,095 tons, fish, cement, lime and plaster, fertilizers and household goods being the only commodities listed with a net movement eastward.

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



The upper picture shows the Vancouver Stock Exchange and the lower one the architect's conception of how the new Toronto Stock Exchange will appear; to the left is one of the murals of the new Toronto Exchange, which symbolizes the mining industry—this mural will be 20 feet high.

Courtesy. Toronto and Vancouver Stock Exchanges.

widespread participation of the general public in the "bull" market which extended from 1924 to 1929. Since 1929, however, trading has fallen away considerably, due to heavy losses, business depression and caution on the part of the investing public. July, August and September, 1932, sales figures showed an advance which, however, proved but temporary. A more substantial increase both in trading and in prices occurred in the early summer months of 1933. It reached a peak in July, after which trading became gradually less active. During 1934 and 1935, security markets have handled a relatively small volume of shares, but the tendency in prices has been broadly upward.

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

Numbers of Shares Traded on the Montreal Stock Exchange, by Months, January, 1933, to November, 1936

Month	1933	1934	1935	1936	Month	1933	1934	1935	1936
January February March April May June	207,529 486,726 1,083,485	681,466 549,182 444,367 313,343	220,365 288,842 282,672 350,738	973, 102 561, 450 416, 852 371, 140	July	414.966 433.747 399.022 370.525	279,144 185,206 255,545 385,780	318,960 273,798 352,172 809,693	406, 25 705, 39 1,272, 22 1,502, 22

The record of Canadian common stock prices, extending back to 1914, is quite different from that of commodity prices. During the War and in the years immediately following, the average level of commodity prices advanced to nearly two and one-half times its height in 1914, while common stock prices averaged less than two-thirds of 1914 levels during this period. Again, during the years 1927 to 1929, the behaviour of these two price groups was very different. This time stock prices increased by approximately 100 p.c., while commodity prices drifted slowly downward. Both commodities and stocks declined subsequent to the latter part of 1929, and since the spring months of 1933 they have both moved irregularly upward.

From the extreme high of 217·1 registered in September, 1929, a general index of common stock prices dropped sharply at first, and then more gradually, until it reached 43·2 in June, 1932. Temporary recovery was followed by a secondary decline lasting until March, 1933, when the index was 48·9. Since that time, intermittent recovery has persisted as indicated by the September, 1936, number of 119·5.

Security Prices, 1933 to 1936.—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, and which constitute an important barometer of business conditions. The table below shows the course of the investors' index number for representative months in the years from 1934 to 1936 inclusive. A table of the index numbers of mining stocks by months during the years 1933-36 is also given.

The post-war peak in mining share prices was reached in October, 1927, two years prior to the highest levels in utilities and industrial stocks. At that time a price index for mining issues touched 143.8, considering prices in 1926 as equal to 100.0. It then declined irregularly to an all-time low of 46.8 during June, 1932. Subsequent to depreciation of the currency in terms of gold, the mining stock index advanced again to the boom levels of 1927, registering 143.3 at the highest point of this movement on Sept. 6, 1934. Subsequently, a gradual reaction carried prices downward as indicated by the August, 1935, figure of 115.6. The movement has been generally upward since then and by November, 1936, the index had mounted to 167.0.

Investors' Monthly Index Numbers of Common Stocks, 1934-36

Year and Month	Banks	Utilities	Industrials	Total
934 (representative months)—				
January		53-5	118.6	81-6
March	76 - 9	58-8	128-5	88-0
June	72.7	54 - 5	126-1	87-2
September	74-9	50-1	118-8	83 - 8
December	79 - 0	47-5	125 - 6	86-2
935 (representative months)—				
January	80-1	50-4	129 - 7	88 - 6
March		45-1	125-6	84-4
June	72.0	45-0	145-2	93 - 8
September		46.3	147-1	93 - 6
December		80.1	178-2	107-4
936 (representative months)—	10.7	00.7	110.7	101.4
	78-6	52-4	187-7	112.9
January		55-5	194-8	117-4
March				
June		53.8	189-3	113 - 8
September	79-7	54.8	200 - 6	119.4

Index Numbers of Twenty-Three Mining Stocks, by Months, 1933-36

Month	1933	1934	1935	1936	Month	1933	1934	1935	1936
January February March April May June	75 · 3 68 · 4 74 · 5	108-9 114-4 128-1 137-2 129-8 138-5	124 · 3 124 · 2 128 · 2 128 · 7 128 · 3 123 · 0	149 · 8 144 · 2 145 · 8 150 · 3	July August September October November December	113·4 112·2 109·4	137·2 141·1 139·2 133·5 125·5 124·9	117-9 115-6 119-1 118-6 125-5 133-6	157-6 158-1 157-6 158-2 167-0

Prices of Commodities

There have been three distinct periods in price history since the beginning of the Great War. During the first, a rapid rise and subsequent reaction occurred when the Canadian wholesale price index advanced from 64·0 to 155·9 between 1913 and 1920, and then declined to 97·3 for 1922. It remained close to this level (approximately 50 p.c. above price averages for 1913) until close to the end of 1929. This seven-year stretch of comparative stability constituted the second period. During the final period, a decline carried the wholesale index downward from 95·6 for 1929 to 66·7 for 1932, after which a gradual recovery advanced it to 72·1 for 1935. Price levels at that time exhibited a tendency to stabilize at somewhat more than 10 p.c. above pre-war levels, but higher prices for agricultural products in the second half of 1936 were largely responsible for another moderate rise of about 5 p.c.

Index Numbers of Wholesale Prices, 1913-351 and by Months, 1936

1936-1924 99.4 January ... 72.9 72.5 72.4 72.2 71.8 72.3 74.4 76.2 76.4 77.1 65-5 1925 102 - 6 February ... 70.4 1926 March.... 1915 100-0 84.3 April.. 114-3 May... 1917 1928. 96-4 127-4 95 - 6 1918. 1929 June.... 134.0 1930 86-6 July ... 155 - 9 72 · 1 66 · 7 August. 110.0 1932 September 1933 67-1 October 98-0 1934 71-6 November ... 1935 72-1 December.....

²³⁶ commodities to 1926, thereafter 502.

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.

Index Numbers of Retail Prices, Rents and Costs of Services, 1929-35, and by Months, 1936

(Average prices in 1926=100)

Year	Total Index	Food Index	Fuel Index	Rent Index	Cloth- ing Index	Sun- dries Index
29	99.9	101.0	96-4	103-3	96-9	99 -
30	99-2	98-6	95 - 7	105.9	93.9	99.
31		77.3	94.2	103 - 0	82.2	97
32		64-3	91.4	94.7	72.8	94
33		63.7	87 - 7	85.1	67.9	92
34		69 · 4 70 · 4	87·7 86·8	80·1 81·3	70-5	92
35	100	10 2	00 0	01.0	101	0.0
nuary	80.5	73.9	87.2	82-6	70.6	91
bruary		72.9	87.2	82.6	70.6	92
arch		73.4	87 - 4	82.6	70.6	92
oril	79 - 7	71.0	87-3	82.6	70.6	92
ау	80.0	71-3	87-2	83-8	70.6	92
ne		71.3	85 · 8	83.8	71.0	92
ly		72.6	85 - 8	83.8	71.0	92
agust		74 - 7	85-8	83.8	71.0	92
ptember		75 - 1	86-1	83 - 8	72.6	92
ctoberovember		74-4	86-3 86-7	84-9	72.6	92

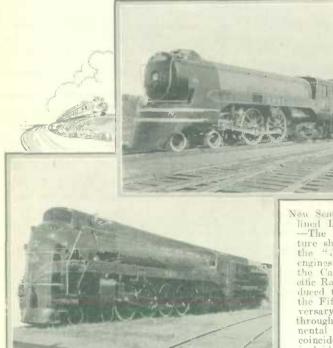
Preliminary figures.

Considering 1926 as equal to 100·0, the total index was 65·4 for the year 1913, 124·2 in 1920, 98·9 in 1928 and 99·9 in 1929. The latter part of 1929 was marked by a slight increase which extended into January, 1930, when the index stood at 102·1. There followed a protracted decline which, except for a few minor interruptions, extended over a period of forty-one months to June, 1933, when the index of 76·6 was the lowest recorded since 1916. A subsequent irregular rise carried this index upward to 81·7 in November, 1936. The firmness shown during the latter part of 1935 was due largely to increased food prices, higher rentals and seasonal advances for fuels. Higher food prices were responsible for the advance as noted in the cost of living index for August, 1936, but the clothing index, as well as those for food and fuel, moved upwards appreciably in September, and the rent index in October.

CHAPTER XIII

TRANSPORTATION AND COMMUNICATIONS

Railways.—The distance across Canada from the Atlantic to the Pacific oceans is approximately 3,500 miles and three transcontinental railways stretch from coast to coast. These, with numerous branch lines, give Canada a railway mileage per capita second only to Australia among the nations of the world.



New Semistreamlined Locomotives. -The upper picture shows one of the "Jubilee" engines built by the Canadian Pacific Railway introduced to celebrate the Fiftieth Anniversary of the first through transcontinental train which coincided with the inbilee year of Canada's third city.

lower picture shows the latest type to be developed and used by the Canadian National Railways. The designs of both these locomotives were based on models and tests of the National Research Council.

Courtesy, Canadian Pacific Railway and Canadian National Railways.

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 1935 this great system controlled 23.684 miles of railway, being the largest single system in North America. Side by side is the Canadian Pacific with its 17,289 miles of road (exclusive of 70 miles in Canada

and 3,876 miles in the United States which it controls) and its subsidiary steamship lines on the Atlantic and the Pacific. The Canadian Pacific, operating in a northern latitude, forms, with its auxiliary steamship services, a comparatively short route 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.

Conditions in 1935 and 1936.—Canada, with 42,916 miles of first track or route miles of railway in 1935 for a population of 10,935,000, was second only to Australia in railway miles per capita. In this year second track amounted to 2,507 miles and, with yard tracks and sidings, the total was 57,171 miles. All except 90 miles of the main line is standard gauge (4 ft. 82 in.); this 90 miles is in Yukon and is narrow gauge (3 ft.). The railways represent an investment of \$3,307,617,000. Gross revenues increased over those of 1933 to \$310,107,155, freight traffic showing an increase of 3.9 p.c. and passenger traffic an increase of 3.5 p.c. A third of the reduction in basic rates of pay to employees made in 1933 was restored during the year and the total payroll increased to \$172,956,217 for 127,526 employees. The improved conditions which started early in 1934 continued through 1935 and into 1936. At the end of August, 1936, gross revenues were 7.4 p.c. greater than for the first eight months of 1935, freight traffic was 10.1 p.c. heavier, passenger traffic was 5.5 p.c. heavier and the average number of employees was 5.9 p.c. larger.

The railway gross operating revenues and revenue car-loadings, by months, for 1934, 1935 and 1936 (so far as available) are shown below.

Railway Statistics, by Months, 1934-36

Month		ilway Gros ating Rever	Total Revenue Car-loadings			
	1934	1935	1936	1934	1935	1936
	\$000	\$000	\$000	No. 000	No. 000	No. 000
January February March April May June July September October November December	24,657 23,395 26,069 24,436 25,206 25,201 27,605 29,151	20,968 21,601 23,868 24,492 24,537 24,063 26,186 25,552 29,585 32,279 27,154 26,656	22,234 22,597 25,535 26,050 27,022 26,049 27,301 28,637 33,103	176 164 190 177 194 193 188 205 212 243 213	182 180 187 185 188 186 195 197 221 251 251 214	17 18 19 19 19 20 20 22 25 26 22

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 Vancouver Street Railway in 1890, 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, while suburban and inter-urban electric lines have been built.

Owing to the competition of the automobile in the cities and the automobile and motor bus outside the cities, electric railway passenger traffic has decreased seriously and many systems have ceased to operate during the past ten years. Since 1933, however, traffic has increased on some of the systems; the total of all railways was 1.67 p.c. higher in 1934

and another increase of 0.94 p.c. was shown in 1935. Total investments at the end of 1935 amounted to \$215,007,166 for 1,833 miles of main track. Gross earnings for the year were \$40,442,320 and 600,728,313 passengers were carried.

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 \$6,200,000, operating on 62,992 miles of steam and electric railways, boat lines and stage routes, and with gross receipts of \$16,592,745. Money orders and travellers cheques to the amount of \$54,829,082 were issued during 1935.

Roads and Highways.—Quite as fundamental as railways and waterways, especially in these days of extensive motor traffic, is a good road



The above picture is interesting in view of the Jubilee Celebrations recently held in Vancouver. On July 1, 1890, electric street cars made their first public run down Cordova Street. Vancouver was, in fact, the second municipality in Canada to adopt the electric railway, being preceded only by an electric system 7 miles in length opened at St. Catharines in 1887.

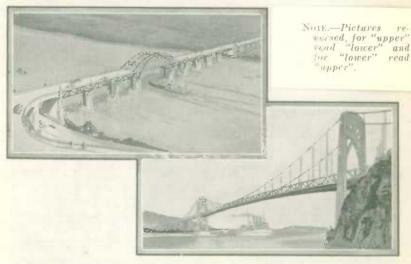
Courtesy. Vancouver Province.

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 \$131,806,000 in 1935 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 in all provinces. In 1934, Dominion, provincial and municipal* expenditures on the improvement and maintenance of rural roads amounted to \$60,556,652, and another \$6,469,608 was spent on bridges and ferries. Construction expenditures increased by \$22,289,716 or 93 p.c.

^{*} This does not include municipal expenditures on other than provincially subsidized roads. $25967-9\frac{1}{2}$

Mileage Open for Traffic, Jan. 1, 1935, and Expenditures on Highways, 1934

Class of Highway	Mileage	Expenditure ¹	8
Unimproved earth Improved earth Gravel Waterbound macadam Bituminous macadam Bituminous concrete Cement concrete Other	142,981 172,646 84,948 1,655 3,214 1,821 1,906 98	For construction For maintenance. Plant and general.	46,144,295 19,014,588 1,867,377
Total	409,269	Total	67,026,26



New Bridges Plannel for the "Coast".—The upper view shows what the contemplated Lions' Gate Bridge, connecting Vancouver and West Vancouver, will look like. The completed bridge will represent an investment of \$5,000,000 of entirely private capital. This will be one of the largest suspension type bridges in the British Empire, the central span being 1,500 feet in width and 209 feet above water. It is expected to be completed in 1938 and will be operated as a toll bridge by a private company under a fifty-year charter

The lower picture is a drawing of the new Fraser River Bridge which is under construction at New Westminster, British Columbia, by the Provincial Government. The bridge is estimated to cost \$3,500,000 and is expected to be completed in the autumn of 1937. It will be a toll bridge

carrying four traffic lanes.

Courtesy, Vancouver Province.

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. The passenger traffic on the steam railways has shown 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 CANALS 133

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. Furthermore, the automobile in recent years has seriously reduced the street and urban electric railway traffic for, despite the increase in population, the number of passengers is now less than in 1920.

Number of Motor Vehicles Registered in Canada, by Provinces, calendar years 1920, 1925 and 1930-35

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
1920	1,418	12,450	11,121		177,561	38, 257	60,325	38,015	28,000	408,790
1925	2,947 7,376	22,745 43,029	18,863 34,699		342,174 562,506	50,884 78,850	77,940 127,193	54,538	56,427 98,938	
1931	7,744	43.758	33,627	177,485	562,216	75,210	107,830	94.642	97,932	1,200,668
1932	6.982	41,013	28,041		531,597 520,353	70.840 68.590	91,275	86,781 86,041	91.042	1,113,533
1934	7,206	41,932	29,094	165,526	542,245	70,430	91,461	89.369	92,021	
1935	8,231	43,952	31,227	170,644	564,076	70,660	94,792	93,870	98,411	1,176,116

¹ The figures include vehicles in Yukon.

With increased use of motor vehicles the number of fatalities due to motor vehicle accidents has also increased. The peak was reached in 1930 when 1,316 persons were killed. The next two years showed reductions, but in 1934 and 1935, with larger registrations of motor vehicles, the number of deaths from motor vehicle accidents rose to 1,115 and 1,225 respectively.

The revenues to the provinces from registrations of motor vehicles, operators, chauffeurs, etc., in 1935 amounted to \$23,055,275 and the tax on gasolene amounted to \$31,532,645, exclusive of Dominion Government import duties. The rate of taxation is 8 cents per imperial gallon in the three Maritime Provinces, 6 cents per gallon in Quebec and Ontario and 7 cents per gallon in the four western provinces. This tax is principally on gasolene consumed by motor vehicles although other uses are included in most of the provinces. The western provinces also impose a tax of one cent per gallon for gasolene used for purposes exempt from the 7 cent tax and this revenue is included in the total shown above.

Canals.—Canals 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 which 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 on the Red river to lake Winnipeg. 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.

with the deepening of the St. Lawrence waterway.

The Welland Ship Canal.—With the opening of the Welland Ship canal in 1930 with 18 feet draught allowed and, later, 25 feet, the traffic increased from 4.769,866 tons in 1929 to 9,280,452 tons in 1934 and 8,953,383 tons in 1935. The grain traffic was not affected as much as coal, coke, iron ore, pulpwood, gasolene, oil and manufactured goods. The new canal has 30 feet of water in the locks and 25 feet of water in the stretches between the locks which can be readily deepened when corresponding depths are provided in the Detroit and Sault Ste. Marie rivers. The time of transit for the 27.7 miles, including the 8 locks, is now 7½ hours as

against 16 hours for the old canal with its 26 locks.

St. Lawrence Canals.—These canals have a maximum depth of 14 feet which in periods of low water is reduced. During the extreme low water in 1934 the allowable draught was 12 feet and in 1935 it was 12 feet 3 inches. The majority of cargoes up-bound are transferred to canal boats at Montreal. Some boats reduce cargo and proceed up the canal and during the past five or six years increasing quantities of transatlantic freight have passed up the canals without transhipment. These cargoes amounted to 418,504 tons in 1935.

Shipping.—The tonnage of sea-going and inland international vessels entered and cleared at Canadian ports showed an almost continuous increase up to 1914; and again during the fiscal years ended Mar. 31, 1920 to 1929. The effects of the depression, however, are evident here also and, for 1936, the total tonnage of 87,523,507 was 7 p.c. less than the peak reached in 1929. The tonnage of coasting vessels has also grown, increasing from 10,000,000 tons in 1876 (the first data compiled) to 85,000,000 tons in the fiscal year ended Mar. 31, 1936.

The vessels on the Canadian Shipping Registry in 1902 numbered 6,836 of 652,613 tons. Subsequently 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 1921 there has been an increase to 8,894 representing 1,389,343

tons in 1935.

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. According to the figures published by the Department of Marine, the number of vessels built and registered in Canada in 1935 was 248 of 13,636 tons gross. Of this number, six sailing, two steam and three motor vessels were built of steel, the remainder being wooden vessels, powered as follows: sail 44, steam 2, motor 191. The value of production in the shipbuilding industry in 1934, as collected by the Census of Industry, was \$6,719,459, of which only \$490.852 was for vessels built or under construction, while \$4,626,237 was for repairs and custom work and \$1,602,370 for other products, including aeroplanes, boilers, engines, structural steel, etc.

Telegraphs.—Canada's first telegraph line was erected in 1846-47 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 1935, there were 365,518 miles of telegraph wire in Canada, handling 11,138,835 messages, and the gross revenue was \$9,741,394. In addition, six transoceanic cables have termini in Canada, five on the Atlantic and one on the Pacific, and handle 2½ million cablegrams annually. There are also 30 radio stations open for commercial traffic, mostly government owned but operated in part by the Marconi Wireless Telegraph Co., in addition to stations operated in connection with shipping, or private commercial stations operated by canneries, logging companies, etc. The number of wireless messages handled is increasing and is now over 300,000 a year.

Telephones.—The telephone was invented in Canada, and the first long-distance 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 1934 the number of telephones was 1,193,729 with a wire mileage of 5,133,521, the investment being \$331,187,227. In the three Prairie Provinces there are well-organized

THE DEVELOPMENT OF THE TELEPHONE



frame telephone through which speech sounds were first transmitted in 1875. This was Bell's first telephone. Below Bell's liquid transmitter. This was the apparatus over which Dr. Bell spoke in 1876 and which marked a step forward in the development of the modern transmitter. Upper right—A section of an old style switchboard of 1880; observe the large number of operators necessary. Below—The interior of a modern automatic dial exchange. Lower left—Laying an underground telephone cable. Inset—Cable-end cut away to show the large number of separate circuits enclosed. Lower right—A modern dial telephone compared with a battery instrument in common use about 1895. Courtesy, Bell Telephone Company of Canada.

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.

Air Navigation.—The relatively recent invention of the aeroplane is now of economic importance in the transportation of passengers and supplies to remote mining areas, etc. The mileage flown by aircraft increased from 185,000 in 1922 to 7,522,102



Civil Flying in Canada. The above machine is a recent product of the aircraft industry. It is representative of a type of machine (with either wheels, skis or floats) going into service in the Canadian North. Insets: Front and side views of streamline skis on a transport plane. These skis are the first of their type and were developed by the National Research Council of Canada.

Courtesy, Canadian Plying Clubs Association,

The aeroplane has proved a boon to Canada in developing her mining, forest, fishery, water-power and other resources. By shortening the inmense 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.

THE NEW EMPIRE FLYING BOATS



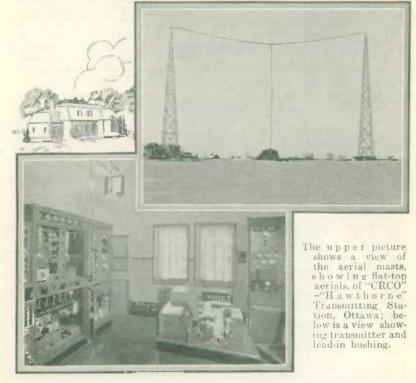
The New Empire Flying Boats.-Above are shown five views of new locals New Empire Flying Boats.—Above are shown five views of new hearts similar to those intended for the North Atlantic service. They are now undergoing trials in England and have aroused widespread interest. These all-metal monoplanes, of unbraced type and with wing-tip floats, have a normal "pay load", including crew, of between 3½ and 4 tons each. Four air-cooled, supercharged engines, made by the Bristol Aeroplane Company Limited, give a top speed of 200 miles per hour to the boats. The two lower illustrations show the interior comfort of the smoking cabin on the left and of part of the promenade saloon on the right.

Courtesy, Imperial Airways and Canadian Aviation,

preliminary surveys, which would have taken years by the older methods, are now rapidly made over large tracts of difficult and little known country.

For details regarding the air mail service see pp. 140 and 141.

National Radio.—During the 1936 session of Parliament a special committee of the House of Commons was appointed to inquire into the operations of the Canadian Radio Broadcasting Commission and its administration of the Canadian Radio Broadcasting Act of 1932, and to advise what, if any, changes should be effected in the system of radio broadcasting and whether the statutes and regulations should be amended in whole or in part, and as to what principles should govern the regulation and control of broadcasting. A. L. Beaubien, M.P., was Chairman of the Committee. After holding some twenty-five meetings, the Committee, on May 26, presented its final report in which it recommended extensive revision of the national broadcasting system and its administration.



Courtesy, Canadian Broadcasting Corporation.

The Committee recommended that the Canadian Radio Broadcasting Act of 1932, under which the national broadcasting system was established, should be repealed and a new Act substituted which would place the direction of broadcasting in the hands of a corporation with an honorary board of nine governors chosen to give representation to all parts of Canada, this board to operate through a general manager and an assistant general manager. The Committee stipulated that members of the Honorary Board of Governors should be men of broad outlook having a knowledge of the tastes and interests of the listening public and who could make a definite contribution to the solution of the problem before the Corpora-

tion. The General Manager, to be appointed by the Governor in Council on the recommendation of the Board of Governors, should be an executive of wide experience in the field of radio broadcasting. It recommended that the Corporation be given substantially the powers enjoyed by the British Broadcasting Corporation and, in addition, exclusive control over the character of all programs broadcast by private stations and the advertising content thereof, and over all wire-line networks used for carrying broadcast programs. The Committee expressed the view that the Corporation should enjoy the fullest possible freedom in its internal activities. It re-affirmed the principle of complete nationalization of radio broadcasting in Canada, but, pending the accomplishment of this, it urged the fullest cooperation between the proposed Corporation and private broadcasting It recommended that the Corporation immediately consider ways and means of extending national coverage, either by linking additional private stations to the Corporation's network or by the establishment of new stations. To provide for such new stations it recommended that the Corporation be authorized to borrow from the Government sums not exceeding \$500,000, interest and amortization charges on such loans to be a first charge on the revenues of the Corporation.

The report gave special attention to political broadcasting and recommended: that dramatized political broadcasts be prohibited; that full sponsorship of all political broadcasts be required; that the limitation and distribution of time for political broadcasts be under the complete control of the Corporation, whose duty it should be to assign time on an equitable basis between all parties and rival candidates; that no political broadcasts be allowed on an Election Day or during two days immediately

preceding same.

The Committee recommended that licensing authority for broadcasting stations and receiving sets and control over such technical matters as wavelengths, power of stations and collection of licence fees should remain with the Minister, to be exercised through the Radio Branch of the Department of Transport. It proposed, however, that there should be complete co-operation between the Minister and the Corporation in connection with the authorization of new private stations, extension of the power of such stations, assignment of wavelengths, etc., so that the location and organization of private stations would be such as to permit of the efficient

absorption of any of them into the national system.

The report of the Special Committee was adopted by the House of Commons and legislation based on it and incorporating its principal proposals introduced by the Government under the title, "The Canadian Broadcasting Act, 1936". The Act was passed, to come into force on proclamation, and it was proclaimed on Nov. 2, 1936. Prior to the proclamation of the Act, the Governor in Council appointed the Board of nine Governors of the new Corporation as follows: Leonard W. Brockington, K.C., of Winnipeg, Chairman; Réné Morin, of Montreal, Vice-Chairman; Brig.-General Victor W. Odlum, of Vancouver; J. Wilfrid Godfrey, of Halifax; Professor A. Vachon, Ph.D., of Quebec; A. L. Nathanson, of Toronto; Col. Wilfrid Bovey, of Montreal; Alan B. Plaunt, of Toronto; Mrs. Nellie McClung, of Victoria. The Board of Governors met informally on Sept. 22 and recommended that Major W. E. Gladstone Murray of the British Broadcasting Corporation be appointed General Manager of the Corporation, and Dr. Augustin Frigon, Chairman of the Quebec Electricity Commission, Assistant General Manager. These appointments were duly made, to become effective on Nov. 2. On that date the Canadian Radio Broadcasting Commission, set up in 1932 with the establishment of the national broadcasting system, passed out of existence and was succeeded by the Canadian Broadcasting Corporation.

The change in the control and conduct of the national broadcasting system was effected without disturbance to the broadcasting service. The retiring Commission had improved and made some extensions in the

service during the final months of its operations. At the time of its retirement a new 5,000-watt broadcasting station with new studios was in course

of construction for the national system at Vancouver.

The Board of Governors of the new Corporation held its first meeting in Ottawa during the first week in November. On Nov. 4, the Chairman introduced the Corporation to the listening public in a brief statement broadcast over a coast-to-coast network. In general terms he outlined the principal aims and policies of the new broadcasting authority: he announced that two surveys would be undertaken, one a coverage survey as a preliminary step toward extending the service to a larger percentage of the people of Canada, and the other a program survey. It was the hope, he said, that radio in Canada would be a welcome guest at the family fireside, a healing and reconciling force in the national life, that it would make a lasting contribution to a better understanding between the so-called French Canadian and the so-called English Canadian, between the East and the West, between the town and the country, between those fortunate enough to enjoy the privilege of labour and those denied that opportunity.

The Post Office.—The Post Office is under the direction of a special Department of the Dominion Government. The number of post offices has increased from about 3,470 in 1867 to over 12,000 in 1936, the postal revenue in 1936 being approximately \$39,203,000. Rural mail delivery dates from 1908. The Post Office Department issued money orders payable in Canada to the amount of \$115,000,000 in 1936, and payable in other countries to the value of about \$7,000,000. In addition, postal notes to the value of \$11,375,000 were issued in 1936. During the War, the domestic letter rate was increased to 3 cents per ounce, but was reduced to 2 cents as from July 1, 1926. Similarly, the 2 cent (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 3 cents in 1926 and 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 1935 each person in Canada expended approximately \$3.43. This is remarkable when it is considered that rates of postage have decreased during this period.

Official air mail service was inaugurated in October, 1927. In the first year of operation, 1927-28, the mileage flown was 9.538 and the weight of mail carried, 38.484 lb.; during 1931-32, 1,229.021 miles were flown and 443.501 lb. of mail carried; during 1932-33, 432.378 miles were flown and 454.303 lb. of mail carried; during 1933-34, 513.690 miles were flown and 592.758 lb. of mail carried; during 1934-35, 567.970 miles were flown and 691.767 lb. of mail carried; while during the twelve-month period ended Mar. 31, 1936, the figures were 852.108 miles and 1,189.982 lb. respectively.

The development of gold mining has brought about the establishment of air mail services to outlying points in Canada, principally to the districts surrounding Red Lake, McKenzie Island, Narrow Lake, Goldpines, Jackson Manion* in Ontario; Wadhope, Bissett‡ in Manitoba; Lac la Ronge, Ile a la Crosse§ in Saskatchewan; and Cameron Bay in the Great Bear Lake section of the Northwest Territories.

^{*}Casummit Lake and Pickle Crow. ‡Beresford Lake, Diana and Gods Lake. §Goldfields.

In addition to the above, there are many air mail services to remote and otherwise almost inaccessible areas, the most important of which is that between Fort McMurray, Alta., and Aklavik, N.W.T., a distance of approximately 1,500 miles. Others serve Coppermine on Coronation gulf; Fond du Lac on lake Athabaska; Atlin and Telegraph Creek in northern British Columbia; Berens River on lake Winnipeg; also Norway House and Cross Lake in Manitoba.

During the winter season Pelee Island is served by air from Leamington, Ont.; remote settlements along the north shore of the gulf of St. Lawrence from Quebec; the Magdalen islands from Charlottetown, P.E.I.

During the season of open navigation air mail service between Montreal and Rimouski is operated to connect with the principal transatlantic steamers.



The picture shows the first Empire Flying Boat which has recently gone into service on the Meditorranean route. It has a top speed of about 200 m.p.h. and carries a weight, when fully loaded, of about 18 tons. Extensive experiments are now under way with regard to a transatlantic service by similar boats.

Courtesy, Imperial Airways.

Although inter-city air mail services were seriously curtailed a few years ago, there are at present in operation the international services between Ottawa, Montreal and Albany, between Winnipeg and Pembina and between Vancouver and Seattle, as well as those services between Moncton and Charlottetown and Vancouver and Victoria.

Gold production in Canada has undoubtedly been greatly stimulated by the efficiency of the postal service rendered and this, in turn, has assisted materially in the development of first-class air transportation facilities, making the shipment of mining equipment and personnel a relatively simple matter.

The creation of a chain of landing fields across the Maritime Provinces, northern Ontario and British Columbia may be taken as indicative of the establishment of inter-city air mail services on a comprehensive scale in the not too distant future.

CHAPTER XIV

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".



Gold Chlorination Room, Royal Canadian Mint Refinery, Ottawa.

Courtesy, Royal Canadian Mint,

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 became responsible for the pre-existing debts of the provinces.

Since the main source of the revenues of the provinces was now taken over, the Dominion undertook 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; early in the present century the National Transcontinental was undertaken. Indeed, the single item of railways and canals accounted for almost the entire increase in the net direct 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 next decade witnessed the tremendous increase in the direct 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 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. Following 1923 there was a steady fall in the net direct debt to \$2,177,764,000 in 1930, but the depression, with accompanying railway deficits and large necessary expenditures for unemployment relief, has established a new high level of indebtedness of \$3,006,100,000 as at Mar. 31, 1936, or an equivalent of \$272.59 net debt per capita.

The growth of the Dominion revenue, the Dominion expenditure and

the net public debt is briefly outlined in the following table:-

Dominion Finances, 1868-1936

Fiscal Year	Revenue Receipts	Per Capita Receipts ³	Total Expenditure	Per Capita Expendi- ture ³	Net Debt at End of Year	Net Debt per Capita
	\$	\$	\$	\$	1	\$
68	13,687,928	3.90	14.071.689	4-01	75,757,135	21-
71	19.375.037	5.25	19,293,478	5-23	77,706,518	21-
81	29,635,298	6.85	33,796,643	7-82	155, 395, 780	35-
91	38,579,311	7.98	40.793.208	8-44	237,809,031	49-
01	52.516.333	9.78	57,982,866	10.80	268,480,004	49
11	117,884,328	16.36	122,861,250	17-05	340,042,052	47
21	436.292.184	49.65	528,302,5131	60-12	2.340,878,984	266
26	382,893,009	40.51	355, 186, 423 1	37 - 58	2,389,731,099	252
37	400, 452, 480	41.56	358,555,7511	37.21	2,347,834,370	243
28	429.642.577	43 - 69	378,658,4401	38.50	2,296,850,233	233
29	460, 151, 481	45.88	388,805,9531	38 - 77	2.225,504,705	221
30	445,916,992	43-68	398, 176, 2461	39.01	2,177,763,959	213
31	356, 160, 876	34.32	440,008,8541	42-40	2,261,611,937	217
32	336,721,305	32.05	450,955,5411	42.92	2.375.846.172	226
33	311,126,329	29 - 13	531,760,9831	49-79	2,596,480,826	243
34	324,471,271	29-98	457,968,5851	42-31	2,729,978,140	252
35	361,871,929	33-09	478,004,7484	43.71	2,846,110,958	260
36	372,542,040	33-78	532,531,5981	48-29	3,006,100,517	272

Includes advances to railways and transfers from active to non-active assets. Per capita figures for census years are based upon census populations and for intervening years on revised official estimates.

Fiscal Year 1935-36.—The Minister of Finance, the Hon. Chas. A. Dunning, in his Budget Speech of May 1, 1936, outlined the financial position of Canada and estimated the 1936-37 income and expenditure of the Government. Provision was made, by certain taxation changes detailed in the Budget and summarized on p. 145, for the necessary funds to bring in additional revenue of \$28 to \$30 million and reduce the deficit to less than \$100 million—but unpredictable losses in connection with wheat marketing were not taken into consideration.

The Minister gave a comprehensive survey of recent trends in leading industries and in Canada's foreign trade. He pointed out that substantial recovery had been effected in manufacturing, mining, forestry, etc. While agriculture had not made as great strides forward as had other primary industries, he hoped that great benefits would accrue to it due to the operation of the Canada-United States trade treaty.

The Public Accounts.—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 now being classified under four headings: (1) Ordinary expenditures, which include the costs of government, pensions, subsidies to the provinces, etc., (in the fiscal year ended Mar. 31, 1936, certain expenditures previously included in special expenditures have been considered as ordinary expenditures); (2) Capital expenditures on account of railways, canals and public works, for which corresponding assets are acquired; (3) Special expenditures, including unemployment relief, etc.; and (4) Government-owned enterprises, representing losses of, or non-active advances to, Government-owned enterprises which are operated as separate corporations. Previous to the fiscal year 1935-36, this type of expenditure was shown under special expenditures or loans and advances (non-active).

The public revenues increased in 1935-36 as compared with the previous year, increases being registered in excise duties, income tax and

sales tax.

Total receipts from taxation for the year 1935-36 amounted to \$317,312,000 as compared with \$304,444,000 in the previous year, \$271,851,-000 in 1933-34 and \$254,320,000 for 1932-33. Summary figures of receipts and expenditures follow:—

Summary of Total Receipts, fiscal years 1933-36

Item	1932-33	1933-34	1934-35	1935-36
	\$000	\$000	\$000	\$000
Customs Import Duties	70.073	66,305	76,562	74,005
Excise Duties	37,834	35,494	43.190	44,410
War Tax Revenue— Banks. Insurance companies. Income tax Sales tax Tax on cheques, excise taxes, etc. Tax on gold.	1,328 826 62,067 57,978 24,214	1,336 742 61,399 61,391 45,184	1,368 750 66,808 72,447 39,745 3,574	1,281 761 82,710 77,552 35,181 1,412
Totals, Receipts from Taxation	254,320	271, 851	304.444	317,312
Non-tax Revenues	52,317	52,211	54,031	54,910
Fotal Consolidated Fund Receipts	306,637 4,489	324,062 409	358,475 3,397	372,222 320
Grand Totals	311,126	324,471	361,872	372.542

Summary of Total Expenditures, fiscal years 1933-36

Item	1932-33		1934-35	1935-36
	\$000	\$000	\$000	\$000
Ordinary Expenditure	358,528 8,548 96,784 1	346,648 6,490 101,734 ²	354,368 7,027 114,869 2	373,027 6,517 102,047
Loans and Advances (non-active). Government-owned Enterprises.	67,901	3.096	1.740	50.941
Grand Totals.	531,761	457.968	478,004	532,532

Includes \$53,423,000 net income deficit of the Canadian National Railways (excluding Eastern

Includes \$33, 423,000 net income generi of the Canadian National Railways (excluding Eastern Lines deficit) incurred in the calendar year 1932 and \$36, 721,000 for unemployment relief.

*Includes \$58,955,000 net income deficit of the Canadian National Railways (including Eastern Lines deficit) incurred in the calendar year 1933 and \$35,898,000 for unemployment relief.

*Includes \$18,408,000 net income deficit of the Canadian National Railways (including Eastern Lines deficit) incurred in the calendar year 1933 and \$31,987,000 for unemployment relief.

Includes \$49,836,000 for unemployment relief.
Includes \$47,421,000 net income deficit of the Canadian National Railways (including Eastern Lines deficit) incurred in the calendar year 1935.

It will be seen from the above tables that, for the fiscal year ended Mar. 31, 1936, total receipts of \$372,542,000 compared with total expenditures of \$532,532,000 [including net income deficit of \$47,421,000 of the Canadian National Railways (including Eastern Lines deficit), \$49,836,000 for unemployment relief and \$22,630,000 representing losses incurred in connection with the marketing of wheat and other grains]. Thus the total deficit for that year was \$159,990,000, which compares with a deficit of \$116,132,000 for the fiscal year ended 1935, a deficit of \$133,497,000 for the year ended 1934 and a deficit of \$220,635,000 for 1933.

Changes in Taxation in 1936.—In the Budget delivered in May, 1936, important changes were made in various taxation rates. The ordinary rate of income tax on corporations was increased from 13½ p.c. to 15 p.c., and where returns are consolidated, the rate was increased from 15 p.c. to 17 p.c. No changes were made in the existing rates on individual incomes. In order to stimulate an expansion of mining activity, an exemption from corporate income tax was granted to any metalliferous mine coming into production between May 1, 1936, and Jan. 1, 1940, such exemption to apply to its income for the first three years following the commencement of production. A new category embracing non-residentowned investment corporations was established with provision for a rate of half the normal rate of tax on corporations.

The rate of sales tax was increased from 6 p.c. to 8 p.c. Certain changes in the exemption list were made to eliminate double taxation on materials consumed in the process of manufacture commonly known as "consumable materials"

Changes were made in the schedule of excise taxes on automobiles with a limitation providing that the tax per automobile in no case shall exceed \$250.

The excise duty on Canadian brandy was reduced from \$4 to \$3 per gallon. The duty on spirits used in the manufacture of medicines, etc., was reduced from \$2.50 to \$1.50 per gallon.

The more important tariff changes were as follows: intermediate tariff on automobiles was fixed at 17½ p.c. instead of former varying rates of 17½, 22½ and 30 p.c.; intermediate tariff on agricultural implements reduced from 122 to 72 p.c.; intermediate tariff on gasolene reduced from 22 cents to 1 cent per gallon.

Under the British preferential tariff the following were the more important changes: free listing of iron and steel machinery of a class or kind not made in Canada; the removal of existing specific duties on all

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yarns or fabrics wholly of cotton and on yarns and fabrics of artificial silk; and a reduction in rate on all unenumerated commodities made of iron or steel.

Reductions under all tariffs applied to printing machinery and equipment, various requirements for public hospitals and all articles imported

for use of the blind.

An important change was the provision for allowing Canadians returning from abroad to import free of customs duties goods to the value of \$100, for their personal use.

Provincial and Municipal 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 water powers, 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. Ordinary provincial taxation (covering taxation of corporations, lands, succession duties and amusements) has increased from \$12,575,159 in 1916 to \$42.593,417 in 1929, to \$51,621,242 in 1930, but there was a reduction to \$48,738,796 in 1931, \$44,313,514 in 1932, \$48,383,044 in 1933 and \$46.741,293 in 1934. In addition to this ordinary taxation, provincial revenues have been augmented by the control of the liquor traffic, the issuance of licences and permits for motor vehicles and by the imposition of taxes on gasolene sales. In recent years the revenues collected from these sources alone have far exceeded those from ordinary taxation, the figures being: Liquor traffic control, 1929, \$27,599,687; 1930, \$33,248,056; 1931, \$32,128,693; 1932, \$24,832,427; 1933, \$16,160,980; 1934, \$12,814,120. Motor vehicles (including licences and permits), 1929, \$21,735,827; 1930, \$20,321,307; 1931, \$19,952,575; 1932, \$20,164,291; 1933, \$20,050,667; 1934, \$20,840,513. Gasolene tax. 1929, \$17,237,017; 1930, \$20,956,590; 1931, \$23,859,067; 1932, \$24,987,273; 1933, \$25,931,480, 1934, \$26,812,275.

The increasing use of automobiles for both commercial purposes and pleasure is clearly demonstrated by the revenue figures for motor vehicles and gasolene taxes shown above. The fact that the gasolene tax revenue increased in 1931 whereas the figures for motor vehicle licences and permits showed a decline from the previous year, is not altogether attributable to a greater average mileage run per car but largely to an increased use

of the gasolene tax as a source of provincial revenue.

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 \$704,225,134 in 1925, \$708,677,426 in 1926, \$742,388,684 in 1927, \$769,260,373 in 1928, \$817.940,202 in 1929, \$919,142,905 in 1930, \$1,016,647,165 in 1931, \$1,148,-323,084 in 1932, \$1,221,372,822 in 1933, \$1,329,684,651 in 1934 and \$1,373,-321,604 in 1935. This bonded indebtedness for 1935 was divided by provinces as follows: P.E.I., \$5,754.000; N.S., \$85.866,647; N.B., \$67,562,920; Que., \$149,748,007; Ont., \$594,088,188; Man., \$92,136,606; Sask., \$121,109,740; Alta., \$129,744,260; B.C., \$127,311,236. 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 all provincial governments are shown for certain years 1873-1934 and of individual provinces for 1934 below:—

Aggregate Provincial Revenues and Expenditures

Fiscal Year	Ordinary Revenue	Ordinary Expenditure	Direct Liabilities	
	\$	\$	\$	
73	6,960,922	6,868,884	_	
81	7.858,698	8.119.701		
91	10,693,815	11,628,353	_	
01	14,074,991	14,146,059	-	
11	40.706,948	38, 144, 511	138,662,442	
21	102.030.458	102,569,515	565,470,552	
26	146, 450, 904	144,183,178	893.499.812	
9,	183,598,024	177,542,192	1,034,071,264	
0	188, 154, 910	184,804,203	1,140,953,696	
1	179, 143, 480	190,754,202	1,276,629,288	
2	193,081,576	214,389.153	1,360,904,138	
3	184,868.471	200,527,219	1,440,317,863	
4	175,867,349	229,483,726	1,558,601,630	
Prince Edward Island	1,385,777	1,656,924	5,202,083	
Nova Scotia	8.876,506	10,168,838	77,914,413	
New Brunswick	5,809.975	6,434,035	67,989,968	
Quebec	31,018.343	36,612.816	156,086,089	
Ontario	61,426,935	103,578,6861	661,431,139	
Manitoba	13.966.921	14,003,533	121,024,810	
Saskatchewan	15,585,918	16,979,911	155,477,39	
Alherta	15,178,607	17,056,639	158,809,42	
British Columbia.	22.618,367	22,992,344	154,666,31	

Ordinary expenditure in Ontario increased in 1934, largely due to expenditure on unemployment relief being classified under ordinary expenditure instead of capital payments as in 1932 and 1933.

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 4,299 municipal governments in Canada. These 4,299 municipal governments have together probably 20,000 members described as mayors, reeves, controllers, councilors, 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.

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In addition there were trust account liabilities amounting to \$41,204,982 in 1932, \$41,946,386 in 1933 and \$47,020,235 in 1934. There were corresponding offsetting trust account assets amounting to \$37,129,630 in 1934.

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 charities and social relief. The cost of these services is almost entirely met by municipal governments through local taxation. In the province of Prince Edward Island there is no municipal system outside of the city of Charlottetown and seven small incorporated towns. With regard to New Brunswick, this province has not published statistics which show the municipal revenues throughout the province. The following table shows the tax imposition and the tax receipts of municipalities in each of the other provinces for the carliest available year as compared with similar returns for the year 1934.



The city of Ottawa possesses one of the finest water purification plants on the American continent. The upper view shows the purification building into which water is pumped from the Ottawa river; below is a picture of the main operating floor.

Courtesy, W. E. MacDonald, City Water Works Engineer, Ottawa.

Municipal Tax Imposition and Receipts by Provinces

	1	laxes Impose	ed		Tax Receipts			
Province	Earliest Available Year Total Amount		1934	Earliest Available Year	Total Amount	1934		
		\$	\$		\$	\$		
Nova ScotiaQuebec. OntarioManitobaSaskatchewanAlbertaBritish Columbia.	1 1913 1913 1913 1914 1914	34,231,214 7,730,122 12,399,657 9,791,846 11,688,125	1 116,257,062 18,519,055 20,929,381 14,337,912 19,304,644	1918 1915 1924 1931 1921 1924 1917	3,462,587 33,288,115 94,526,271 6,998,963 22,278,621 10,706,183 9,382,099	7,108.035 59.729,973 117.892,884 18.187,714 16,624,783 12,218,328 18,002,475		

Statistics not available.
Revenue for municipalities; receipts for school corporations.

Municipal System of Taxation.—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, although the basis of assessment varies widely in different provinces and in municipalities within the same province. In some provinces Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

The period of depression was responsible for a very considerable delinquency in tax payments, while the burden of unemployment relief since 1930, which has been carried by the municipalities with help from the Provincial and Dominion Governments, has been increasingly heavy to bear.

Bonded Indebtedness of Municipalities.—Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather too freely during the years between 1917 and 1930. The following table shows the total municipal bonded debt outstanding in each province for the years 1919 and 1934. It also shows the amount of sinking funds held by municipal governments in each province in 1934 offsetting the bonded debt of that year.

Municipal Bonded Debt for 1919 and 1934 and Sinking Funds for 1934. by Provinces

Province	Indebt	oss Bonded edness of cipalities	Sinking Funds Offsetting Gross Bonded Indebtedness	
	1919	1934	1934	
	\$	\$	\$	
Prince Edward Island. Nova Scotia Now Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia.	970, 100 17, 863, 881 11, 188, 467 199, 705, 568 243, 226, 877 55, 562, 788 39, 585, 388 66, 870, 464 94, 741, 615	2,348,275 33,318,115 26,495,037 565,218,160 483,952,700 90,767,215 55,692,110 67,886,011 127,172,942	475.050 12.028,475 6,202,544 76,546,7471 56,610,801 36,734,019 15,306,820 20,653,877 30,804,939	
Totals	729,715,148	1,452,850,565	255,423,272	

^{*}Including \$15,120,419 reserve for depreciation.

CHAPTER XV

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

Currency

Early trade in Canada was carried on largely by barter. Beads, blankets, beaver and other furs, tobacco and wheat have been at various times used 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



Geometric Lathe used for Making Intaglio Engravings for the Printing of Steel-engraved Bank Notes, Bonds and Stock Certificates.

Courtesy, Canadian Bank Note Company.

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

The Canadian gold dollar weighs 25.8 grains, nine-tenths fine gold, and thus contains 23.22 grains of gold. Five-dollar and ten-dollar Canadian gold pieces have been soined at the Royal Canadian Mint* 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 Bank of Canada and chartered bank notes for multiples of a dollar. After the sympathetic decline of the Canadian dollar on the gold exchanges, following the suspension of gold payment by the United Kingdom on Sept. 21, 1931, the Government permitted the export of gold

^{*}The administration of the Mint, formerly known as the Canadian Branch of the Royal Mint, London, was taken over by the Canadian Government, as from Dec. 1, 1931.

only under licences issued by the Department of Finance, thus conserving the gold resources of the nation for meeting external obligations. The effect of this was to cause Canadian mines to dispose of their gold through the Royal Canadian Mint and conditions of purchase had to be laid down. At present these conditions of purchase are: such deposits of newly-mined gold containing not less than 50 ounces fine are paid for, on completion of assay, at the market price of gold in the country to which the Government is, at the time of the receipt of the deposit, exporting gold, converted into the Canadian equivalent at the average rate of exchange between Canada and such country for the week in which the gold is deposited with the Mint. The average rate of exchange for this purpose is based on the buying rates for such exchange reported to the Department of Finance at 11.00 a.m. daily. An additional deduction of 35 cents per ounce fine is made as a handling charge on newly-mined gold. Provision is also made for receiving deposits of scrap and other gold for which the handling charge is \$1 the ounce fine.



Final Caccking Operations in the Production of Canadian Bank Notes.

Courtesy, British American Bank Notes.

Bank Notes.—Canadians early became accustomed to the free circulation of paper money, either in the form of notes of the chartered banks or of notes issued by the Government.

Under the Bank Act the chartered banks may issue notes of the denominations of \$5 and multiples thereof to the amount of their paid-up capital. This amount is to be reduced by 5 p.c. per annum for a period of five years from Jan. 1, 1936, and by 10 p.c. per annum for a period of five years from Jan. 1, 1941. In case of insolvency, bank notes are a first lien on assets and for over forty years no note holder has lost a dollar.

on assets and for over forty years no note holder has lost a dollar.

In addition to notes of the chartered banks, there are also now in circulation notes of the Bank of Canada. These notes may be issued to any amount as long as the Bank maintains a reserve in gold equal to at least 25 p.c. of its note and deposit liabilities. Prior to the establishment of the Bank of Canada, the Government issued notes under certain statutory

authorities, backed in part by gold and securities. The Dominion's liability in respect of these notes was assumed by the Bank of Canada on Mar. 11, 1935. The following statement shows the average amount of bank notes and Dominion (or Bank of Canada) notes outstanding in various years.

Notes Outstanding, 1870-1936

Year	Dominion Notes Outstanding (averages for the year)	Bank Notes Outstanding (averages for the year)	Year	Dominion Notes Outstanding (averages for the year)	Bank Notes Outstanding (averages for the year)
1870 1880 1890 1900 1910 1915 1920 1928	13,403,958 t 15,501,360 26,550,465 89,628,569 159,080,607 305,806,288	15, 149, 031 22, 529, 623 32, 834, 511 46, 574, 780 82, 120, 303 105, 137, 092 288, 800, 379 176, 716, 979	1929 1930 1931 1932 1933 1933 1934 1935 1936 ²	204,381,409 174,616,019 153,079,302 165,878,510 179,217,461 190,261,981 60,217,751 100,222,327	178,291,030 159,341,085 141,969,350 132,165,942 130,362,488 135,537,793 125,644,102 120,891,538

¹Circulation on June 30. ²Averages for ten months. ³Since Mar. 11, 1935, the figures used represent Bank of Canada notes and Dominion notes assumed by the Bank of Canada.

Banking

The Canadian Banking System has, in the past, been frequently 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



The system of a few strong banks, each with an organization of branches, serving every part of the country, has proved admirably suited to Canadian conditions. The illustration typifies branches in the remote mining areas and northern outposts of civilization.

Courtesy, Bank of Montreal and Royal Bank of Canada.

to organize branches freely". Until the recent establishment of the Bank of Canada (see p. 154), the Canadian system was 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 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 is now only 10. 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. By 1902 the number, including sub-agencies, had grown to 747, by 1916 to 3,198 and by 1929 to 4,069. At the beginning of 1936 the number had again decreased to From 1867 to October, 1936, the total assets have grown from \$78,000,000 to \$3,202,000,000.

In recent years the banks of Canada have extended their business outside of the country itself and at the beginning of 1936 had among them 147 branches, not including sub-agencies in foreign countries, mainly in Newfoundland, the British and foreign West Indies, Central and South America and in the great centres of international finance, London, Paris and New York.

The number of branches, assets, liabilities, loans and deposits of the Canadian chartered banks as at Oct. 31, 1936, by banks, together with totals (yearly averages) for 1900, 1910, 1920, 1930, 1931, 1932, 1933, 1934 and 1935 are shown in the following table.

Statistics of Individual Chartered Banks as at Oct. 31, 1936, with Totals 1900-35

Bank	Branch- es in Cunada and Abroad ¹	Total Assets	Liabili- ties to Share- holders	Liabili- ties to the Public	Total Liabili- ties	Loans and Dis- counts	De- posits by the Public
Bank of Montreal Bank of Nova Scotia Bank of Toronto Banque Provinciale du Canada Canadian Bank of Commerce Royal Bank of Canada Dominion Bank. Banque Canadienne Nationale. Imperial Bank of Canada Barclny's Bank of Canada	303 176 135 576 730 130 222	\$ 000,000 805 296 132 51 630 844 136 141 151 16	\$ 000,000 75 36 15 5 50 55 14 12 15 2	\$ 000.000 729 259 116 46 577 786 1121 128 135	\$ 000,000 804 295 131 51 627 841 135 140 150 16	\$ 000,000 208 109 47 17 258 344 57 70 3	\$ 000,000 683 238 107 42 520 720 100 121
Totals, Oct. 1936. Totals, 19354 Totals, 19344 Totals, 19334 Totals, 19324 Totals, 19314 Totals, 19304 Totals, 19304 Totals, 19304 Totals, 19304 Totals, 19304 Totals, 19304	2,978 3,065 3,195 3,319 3,506 3,598	3,202 2,957 2,838 2,831 2,869 3,066 3,237 3,064 1,211 460	279 278 276 302 307 307 305 252 179 98	2,911 2,668 2,549 2,518 2,546 2,741 2,910 2,784 1,019 356	3,190 2,946 2,826 2,828 2,853 3,048 3,215 3,036 1,198 454	1.164 1,276 1,374 1,469 1,583 1,764 2,065 1,935 870 379	2,661 2,42 2,27 2,23 2,25 2,42 2,51 2,43 910 386

¹As at Dec. 31, 1935. Does not include sub-agencies.

²Barclay's Bank commenced operations in Canada in September, 1929.

⁴1911.

⁴Totals are averages from the respective monthly statements, except in the case of the numbers of branches in Canada and abroad which are as at Dec. 31.

The Bank of Canada.—Chapter 43 of the Statutes of 1934, "An Act to incorporate the Bank of Canada", provided for the establishment of a central bank in Canada. The capital of the Bank was originally \$5,000,000, divided into shares of \$50 par value. These shares were offered for public subscription by the Minister of Finance on Sept. 17, 1934, and were largely oversubscribed. The maximum allotment to any one individual or corporation was 15 shares. Shares of the Bank may be held only by British subjects ordinarily resident in Canada, or by corporations controlled by British subjects ordinarily resident in Canada. The maximum holding permitted one person is 50 shares. Directors, officers or employees of the chartered banks may not hold shares of the Bank. The Bank commenced business on Mar. 11, 1935.

By an amendment to the Act passed at the 1936 session of Parliament, the capitalization of the Bank was increased to \$10,100,000 by the sale of \$5,100,000 Class "B" shares to the Minister of Finance. The original

shareholders are now designated Class "A".

The Bank is authorized to pay cumulative dividends of 4½ p.c. per annum from its profits after making such provision as the Board thinks proper for bad and doubtful debts, depreciation in assets, pension funds and all such matters as are properly provided for by banks. The remainder of the profits will be paid into the Consolidated Revenue Fund of Canada and to the Rest Fund of the Bank, in specified Proportions until the Rest Fund is equal to the paid-up capital, when all the remaining profits will be

paid into the Consolidated Revenue Fund.

The Bank may buy and sell securities of the Dominion, the provinces, the United Kingdom and the United States of America, without restriction if of a maturity not exceeding two years, and in limited amounts if of longer maturity. It may also buy and sell securities of British Dominions and France without restriction, if maturing within six months. Short-term securities of the Dominion or provinces may be rediscounted. The Bank may buy and sell certain classes of commercial paper of limited currency, and if endorsed by a chartered bank may rediscount such commercial paper. Advances for six-month periods may be made to chartered banks, Quebec Savings Banks, the Dominion or any province against certain classes of collateral, and advances of specified duration may be made to the Dominion or any province in amounts not exceeding a fixed proportion of such government's revenue. The Bank may buy and sell gold, silver, nickel and bronze coin and gold and silver bullion, and may deal in foreign exchange.

The Bank has assumed the liability for Dominion notes outstanding and is replacing them with its own notes in denominations of \$1, \$2, \$5, \$10, \$20, \$50, \$100 and \$1,000. Provision was made in the 1936 amendment for the issuing of bilingual notes. Previously the notes were issued in English or French. The chartered banks are required (under the Bank Act of 1934) to reduce gradually during the next ten years the issue of their own bank notes in Canada to an amount not in excess of 25 p.c.

of their paid-up capital as at Mar. 11, 1935.

The Bank of Canada must maintain a reserve of gold equal to not less than 25 p.c. of its total note and deposit liabilities in Canada. The reserve, in addition to gold, may include silver bullion, balances in pounds sterling in the Bank of England, in United States dollars in the Federal Reserve Bank of New York and in gold currencies in central banks in gold standard countries or in the Bank for International Settlements, treasury bills of the United States of America or the United Kingdom having a maturity not exceeding three months, and bills of exchange having a maturity not exceeding 90 days, payable in London, New York, or in a gold standard country, less any liabilities of the Bank payable in the currency of the United Kingdom, the United States of America or a gold standard country.

The chartered banks are required to maintain a reserve of not less than 5 p.c. of their deposit liabilities within Canada in the form of deposits with

and notes of the Bank of Canada.

The Bank acts as the fiscal agent of the Dominion of Canada and may by agreement act as banker or fiscal agent of any province. The Bank may not accept deposits from individuals and does not compete with the

chartered banks in commercial banking fields.

The Governor of the Bank is its chief executive officer and Chairman of the Board of Directors, and he is assisted by a Deputy Governor and an Assistant Deputy Governor. The first appointments were made by the Government. Subsequent appointments are to be made by the Board of Directors subject to the approval of the Governor in Council.

At the first meeting of the shareholders on Jan. 23, 1935, seven directors were elected for terms to run as follows: one until the third annual general meeting (1938), two until the fourth (1939), two until the fifth

(1940) and two until the sixth annual general meeting (1941).

By the 1936 amendment the number of directors elected by the Class "A" shareholders will be eventually reduced to three who will hold office for three-year terms. The six directors appointed by the Class "B" shareholder with the approval of the Governor in Council, were announced on Sept. 11, 1936. These directors are appointed for terms to run as follows: two until the annual general meeting in 1940, two until 1941 and two until 1942. Thereafter the Government directors, each of whom shall hold office for a term of three years, will be appointed by the Class "B" shareholder with the approval of the Governor in Council, two as of the day of the annual general meeting in 1940 and two at the day of each annual general meeting thereafter. In the transaction of the business of the Bank each director has one vote except that prior to the annual general meeting in 1940 each of the directors appointed by the Class "B" shareholder shall be entitled to two votes.

There is also an Executive Committee of the Board of Directors consisting of the Governor, Deputy Governor, and one member of the Board, which must meet once a week. This Committee has the same powers as the Board but every decision is submitted to the Board of Directors at its next meeting. The Board must meet at least four times a year. The Deputy Minister of Finance is an ex officio member of the Board of Directors and of the Executive Committee, but is without a vote.

The Governor, or in his absence the Deputy Governor, only has the power to veto any action or decision of the Board of Directors or the Executive Committee, subject to confirmation or disallowance by the

Governor in Council.

The following statement gives the main items of assets and liabilities of the Bank of Canada at Oct. 31, 1935, and Oct. 31, 1936.

STATEMENT OF ASSETS AND LIABILITIES OF THE BANK OF CANADA AT OCT. 31, 1935, AND OCT. 31, 1936

1935	1936
Notes in circulation \$ 96,057,613	129.883,439
Dominion Government deposits	22,160,789
Chartered banks' deposits	182.876,698
Gold coin and bullion	179,368,973
Investments	153,419,082
Total assets and liabilities 311.853.487	348.237.739

Bank Clearings and Bank Debits.—Through the clearing houses, inter-bank transactions have been recorded since 1889; they form a valuable indication of the trend of business. They, however, do 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 1929 the grand total of bank debits for Canada increased from \$27,157 millions to \$46.670 millions. Since 1929 there was a steady decline to the 1932 levels of \$25,844 millions, but since then the movement was generally upward, being \$31,546 millions in 1935.

Bank Clearings and Bank Debits, 1925-35, and, by Months, October, 1935, to November, 1936

Year or Month	Exchanges of the Clearing Houses of Chartered Banks in Canada	Bank Debits to Individual Accounts	Year or Month	Exchanges of the Clearing Houses of Chartered Banks in Canada	Bank Debits to Individual Accounts
	\$000,000	\$000,000		\$000,000	\$000,000
1925. 1926. 1927. 1928. 1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935. October. November. December.	16,762 17,715 20,568 24,555 25,105 20,092 16,828 12,914 14,721 15,964 16,927 1,583 1,695 1,516	28, 126 30, 358 36, 094 43, 477 46, 670 37, 491 31, 586 25, 844 29, 981 32, 867 31, 546 2, 908 3, 022 2, 932	1936— January. January. March. April. May. June. July. August. September. October. November.	1,435 1,675 1,627 1,561 1,456 1,711 1,837	2,902 2,767 2,569 2,774 2,979 3,136 2,894 2,619 3,134 3,328 3,328

¹Head-office clearings have been effected through the Bank of Canada since Mar, 11, 1935, and have increased exchanges to some extent compared with previous years.

Insurance

Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States about the middle of the nineteenth century. By 1875 there were at least 26 companies, and possibly several more, competing for the available business in Canada, as against 42 active companies registered by the Dominion and a few provincial companies in 1935. Of the 42 companies registered 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 policyholder. The benefits which may now be obtained under a life insurance policy are calculated to meet the needs of the policyholder and of his dependants, whether in event of old age or in event of death or of disability. In 1919 there was 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.

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 increase in the amount of life insurance in force has been remarkable. In 1869 the total life insurance in force in Canada, by Dominion companies, was only \$35,680,000 as compared with approximately \$6,260,000,000 at the end of 1935. This latter figure was equal to \$572 per head of population. In addition there was \$158,000,000 of fraternal insurance in force by Dominion licencees and \$162,000,000 of insurance in force by provincial licencees. Thus the total life insurance in force in the Dominion at the end of 1935 was approximately \$6,580,000,000. The premium income from Canadian business of all Dominion registered companies (not including fraternal benefit societies) increased from \$90,000,000 in 1920 to \$221,000,000 in 1930 but decreased to \$203,000,000 in 1934 and to \$200,000,000 in 1935.

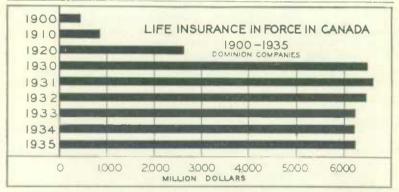
The following table shows the sales of life insurance month by month in recent years. The statistics are not complete but represent approxi-

mately 85 p.c. of the total business transacted in Canada.

Sales of Life Insurance in Canada by Months, 1934-36

Not E.—The figures in this table are those published by the Hartford Research Bureau except that totals for Newfoundland, included therein, have been deducted.

Month	1934	1935	1936	Month	1934	1935	1936
	\$000 -	\$000	\$000		\$000	\$000	\$000
January February March April May June	27,726 29,268 32,764 33,013 32,970 32,055	32,716 28,476 31,167 28,649 27,141 31,810	34,051 30,310 31,514 29,868 28,745 31,935	July	33,538 26,359 25,833 31,074 35,530 37,353	31,832 26,639 26,442 30,184 34,767 36,134	32,28 24,72 26,78 28,83 37,53



Fire Insurance.—Fire insurance in Canada began with the establishment, by British fire insurance companies, of agencies usually situated in the seaports and operated by local merchants. The oldest existing agency of a British company is that of the Phœnix Fire Office of London, now the Phœnix Assurance Co., Ltd., which opened 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, 1935, shows that at that date there were 242 fire insurance companies doing business in Canada under Dominion licences, of which 52 were Canadian, 68 were British and 122 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 79 p.c. of the total number is a very marked point of difference between fire and life insurance in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) 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. By 1880, companies with Dominion licences had fire insurance in force totalling \$411.564.271; by 1900, the one billion-dollar mark had about been reached and, by 1930, the total stood at \$9,672.997,000. At the end of 1935, besides \$8,782,698,099 of fire insurance in force in companies with Dominion licences, there was also \$1.644.023.953 in force in companies with provincial licences, or about \$10.426,722,052 in force with companies, associations, or underwriters licensed to transact business in Canada.

Miscellaneous Insurance.-Miscellaneous insurance now includes among other classes in Canada: accident,* sickness, falling aircraft, earthquake, automobile, burglary, explosion, forgery, credit, guarantee, hail, inland transportation, aviation, machinery, plate glass, rain, sprinklerleakage, steam boiler, title, tornado, and live-stock insurance, etc. Whereas, in 1880, 18 companies were licensed for such insurance, in 1935 there were 235 companies, of which 53 were Canadian, 64 British and 118 foreign.

The total net premium income for 1935 was \$26,727,601 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past twenty years, although a decrease has been shown in recent years. As recently as 1910, the premium income of companies doing an automobile insurance business was only \$80,466; in 1915 it was \$636,085 and in 1935, \$11,973,477. The premium income of personal accident insurance came second with \$2,842,908. Combined accident and sickness insurance was third in 1935 with \$1.689,975. The premium income of all accident and sickness insurance combined totalled \$7,799,903.

Loan, Small Loan and Trust Companies

The principal function of loan companies is the lending of funds on first mortgages on real estate, 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 under provincial charters, the majority operate largely 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 growth was 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.

There have been incorporated in recent years by the Parliament of Canada a number of companies which make small loans, usually not exceeding five hundred dollars each, on the promissory notes of the borrowers additionally secured in most cases by endorsements or chattel mortgages. The figures relating to the three companies of this class which have commenced operations are shown separately below. Prior to 1934 they

have been combined with those of the other loan companies.

The paid capital stock of all real estate mortgage loan companies at the end of 1935 was \$41,362,809 (Dominion companies, \$19,397,144 and provincial companies, \$21,965,665); reserve funds \$27,220,848 (Dominion companies, \$15.611,071 and provincial companies, \$11.609,777); liabilities to the public, \$130.675,193 (Dominion companies, \$101,578,778 and provincial companies, \$29,096,415); and liabilities to shareholders, \$70,925,737 (Dominion companies, \$36,410,901 and provincial companies, \$34,514,836).

The paid capital of Dominion small loan companies at the end of 1935 was \$976,750; reserve funds, \$91,480; habilities to the public, \$1.925,447; habilities to shareholders, \$1,234,144.

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 minors or incapable persons, as financial agents for municipali-

^{*} Includes employers' liability.

ties 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 at the end of 1935 were \$2,726,575,636 as compared with \$805,000,000 in 1922 (the earliest year for which figures are available). The bulk of these assets (\$2,497,100.394 in 1935) was represented by estates, trusts and agency funds. The assets of Dominion companies in 1935 amounted to \$293.691.134 and of provincial companies to \$2,432,884,502.



Bank Deposit Vaults where Securities and other Valuables are Safely Stored and Kept.

Courtesy, Royal Bank of Canada.

Miscellaneous

Commercial Failures.—The total of commercial failures in Canada for 1936 (ten months), as reported to the Dominion Bureau of Statistics under the provisions of the Bankruptcy and Winding-up Acts, was 1,002 as compared with 1,095 for the same ten months in 1935, 1,289 in 1934, 1,729 in 1933, 1,995 in 1932, 1,807 in 1931 and 1,766 in 1929.

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

Commercial Failures, by Provinces, 1929 and 1931-36

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
19361	5	29	13	477	315	33	54	45	31	1,002
1935	4	28	37	632	390	46	66	83	28	1,314
1934	8	42	38	779	474	56	36	42	57	1,532
1933	10	55	42	935	730	67	59	88	58	2,044
1932	9	62	80	968	889	86	91	131	104	2,420
1931	7	51	74	795	793	109	152	131	104	2.216
1929	1	71	61	927	762	91	84	101	69	2,167

Ten months January to October inclusive.

Commercial Failures, by Groups, 1929 and 1931-36

Year	Trade	Manu- fac- tures	Agri- cul- ture	Log- ging, Fish- ing	Min- ing	Con- struc- tion	Transportation and Public Utilities	Fin- ance	Ser- vice	Not Classi- fied	Total
19361	594 709 1.089 1,171	155 180 217 357 468 464 443	109 173 82 92 190 125 125	1 3 3 1 9 5 4	11 10 2 5 6 7	45 62 59 57 83 61 61	10 11 20 26 43 42 21	9 18 18 12 7 21 5	155 186 217 246 290 255 239	57 79 117 159 153 134 138	1,002 1,314 1,532 2,044 2,420 2,216 2,167

¹Ten months January to October inclusive.

The chief branches of business to be affected by failure are trade, manufacturing and service and for the first ten months of 1936 these three groups accounted for 76 p.c. of all failures. In that period the estimated grand total of assets of all concerns which failed was \$8,983,335 against estimated liabilities of \$12,918,385. Thus, average assets for each failure were \$8,965, against average liabilities of \$12,893.

Comparable figures for the two previous years show that for the same ten months of 1935 there were 1,095 failures, and the estimated total assets were \$10,328,781 against estimated liabilities of \$14,834,941, while in 1934 there were 1,289 failures with total assets of \$16,796,330 and total liabilities of \$20,075,961. Average assets and liabilities for each failure were therefore \$9,433 and \$13,548 for 1935 and \$13,031 and \$15,808 for 1934. Thus, both average assets and average liabilities of failures in 1936 were smaller than in either of the two previous years.

Total commercial failures in the ten months of 1936 showed a decrease of 93 or 8 p.c. compared with the same months of 1935 and 22 p.c. compared with the same period of 1934. They were at a lower level in 1936 than they have been for the same ten months in any year since 1922, when the record was commenced, although the number of commercial concerns has increased materially in the interval.

Canadian Bond Financing.—The declining trend in sales of railway and corporation bond issues, so clearly in evidence for 1933, was reversed

in 1934, and showed still further improvement in 1935.

In the latter year, sales under this head were valued at \$109,005,700. Corporation bond financing accounted for \$60,605.700 of this, so that \$48,400,000 remained for railway issues. As a result of the Dominion Government refunding operations and the increase in railway and corporation issues, the total of bond sales during 1935 was about \$378,500,000 over that of 1934 and \$447,000,000 over 1933.

Canadian investors purchased over 84 p.c. of the total offerings, while in 1934 the corresponding proportion was 83 p.c. The London market handled 0.005 p.c. of the 1935 offerings as compared with 15.94 p.c. for the New York. Since 1914, 66.7 p.c. of the total new issues of Canadian bonds have been sold within Canada. This is attributable to two main reasons: (1) the education of the Canadian public in the investment of funds in Government issues, brought about by the War, and the needs of the Government; (2) the ability of the Canadian public as a result of immediate war and post-war prosperity to purchase their own issues in greater volume than formerly.

Sales of Canadian Bonds, 1927-35

	$C[ass \alpha]$	Bonds	Dist			
Year	Govern- ment and Municipal	Railway and Cor- poration	Sold in Canada	Sold in the United States	Sold in the United Kingdom	Total
	\$	\$	\$	\$	\$	\$
1927. 1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935.	232, 537, 614, 120, 113, 088, 218, 628, 309, 409, 652, 063, 1,009, 638, 571, 450, 067, 635, 564, 171, 513, 564, 558, 132, 907, 500, 200	333,479,000 442,530,600 357,573,000 481,182,000 23,050,000	434,556,513 529,630,828		16,000,000 19,109,000 4,745,000 4,100,000 14,350,000 75,000,000 58,330,000	602, 217, 681 453, 592, 088 661, 158, 909 767, 225, 063 1,250, 820, 571 473, 117, 632 569, 556, 513 637, 960, 828 1,016,505,900

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. However, since the War, the growing importance of Dominion financing in the domestic market has made it possible to compile a Dominion index of bond yields which is representative of interest rates in Canada. Fluctuations in the Dominion of Canada long-term bond yields for the past 8 years are shown below.

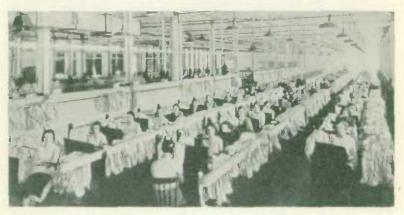
Index Numbers of Dominion of Canada Long-Term Bond Yields, 1929-36

1934 1935 1936 Month 1929 1930 1931 1932 1933 96.3 93-2 102-1 January February 98-3 93-6 96·0 97·7 91.0 73 - 2 71 - 4 72 - 2 71 - 4 73 - 4 72 - 1 71 - 6 79 - 8 78 - 9 70.8 101-4 March. 101-1 91-9 109-1 86-1 69 - 9 69 - 5 96.6 April . 100.9 99.3 90.0 100.8 83 - 8 109.3 95.0 \$1.8 \$2.1 68-8 May 100-2 98-4 89.3 93.3 66-9 98-2 88-3 111-7 June 104-0 50-1 104 - 0 88-3 95-5 77-8 77-2 92.2 63.2 95.9 100-5 August 98-7 92-4 63 - 1 93.9 September 102 - 8 103·2 107·7 111·7 93 - 6 93-5 79.3 66-2 October ... November 103 -3 94-3 74·5 75·5 65 - 1 93.6 101-4 99-4 95 - 1 December.

CHAPTER XVI

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 disputes in mines and public utility industries, has attracted favourable comment throughout the world; up to Mar. 31, 1936, 545 threatened disputes had been referred to Boards of Conciliation and Investigation established under its provisions and, in all but 39 cases, open breaks were averted. Under separate statute entitled the Conciliation and Labour Act, conciliation officers are available to assist in the settlement of labour disputes arising from time to time, and their services have been widely utilized to this end. The administration of the fair wages policy as respects building and construction works is carried out under an Act of Parliament entitled the Fair Wages and Hours of Labour Act, 1935, and as respects contracts for various classes of supplies and equipment, under the provisions of an Order in Council. The 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 also administers the Employment Offices Co-ordination Act, the Technical Education Act, the Government Annuities Act and the relief legislation and is charged with certain duties arising out of the relations of Canada with the International Labour Organization of the League of Nations.



Modern Labour Conditions in the Pinishing Department of an Octario Artificial Silk Factory.

Provincial Departments and Bureaus of Labour.—In all the provinces but New Brunswick and Prince Edward Island, departments or bureaus of labour have been set up to administer legislation dealing with the health and safety of all persons employed in industry. Laws regulating employment offices, the payment of wages, and the protection of labour generally, are also administered by these departments. Legislation providing for minimum wages for female workers, in effect in all provinces but New Brunswick and Prince Edward Island, is under the jurisdiction of special boards, which, in several provinces, are linked with the labour departments. Workmen's compensation laws are administered by independent bodies and in New Brunswick the Workmen's Compensation Board administers the Factory Act. In recent wages legislation the tendency is towards a regulation of wages of men as well as of women. In British Columbia and Manitoba, minimum wages for male workers may be established, and in other provinces minimum wages for women affect men's wages in the same employment. Under recent statutes, in Quebec, Ontario, Alberta and Nova Scotia (Halifax and Dartmouth), legal force may be given to any agreement as to wages and hours of labour between a representative number of employers and employees, and the terms of the agreement may be extended to the whole industry within the district concerned. Legislation dealing with collective agreements is administered by the provincial departments of labour.



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

Occupations of the People

At the Census of 1931, 3,927,230 persons, out of a population of 10,362,833 in the nine provinces, reported gainful occupations. Males with gainful occupations numbered 3,261,371 and represented 83.05 p.c. of the total, while the number of females was 665,859 or 16.95 p.c. of the total.

The types of occupations followed by the Canadian people and the changes that have taken place since 1921 are illustrated in the table on p. 164. It will be seen that the largest single occupation group so far as males are concerned is agriculture, although its importance was relatively less in 1931 than at the previous census. Females are chiefly found in the services, especially personal service, this group showing a tendency to increase in numbers at a faster rate than other groups in which females are found.

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Numbers and Percentages of the Gainfully Occupied in Broad Occupation Groups, Censuses of 1921 and 1931

Nore—The occupation group totals in this table account for every person following any one of the types of occupation coming under the specified groups listed here, irrespective of the industry in which the person might be employed. For example, all persons directly engaged in the making or repairing of commodities, e.g., bakers, tailors, machinists, printers, etc., are classified under "Manufacturing" in this table whether employed in the manufacturing industry or not. Similarly, all persons following such a transport occupation as truck driver are listed under "Transportation and communication", whether employed by a trucking concern or factory, store, etc. Clerical workers constitute a separate group as do labourers in all but the primary industries. The labourer on a farm is usually a farm labourer and in a mine, a mine-working labourer, but the labourer in a steel mill is not necessarily a metal worker or engaged in some "process" occupation, nor is the labourer in a steen railway a transport worker.

Onne die Con		Ma	les	Females					
Occupation Group	1921		193		19	21	193	1931	
	No.	p.c.	No.	p.e.	No.	p.e.	No.	p.c.	
Agriculture	1.023.661	38 - 15	1,107,766	33.97	17,883	3.65	24.079	3.62	
Fishing, logging	67.809	2.53	91.403	2.80	51	0.01	497	0.07	
Mining, quarrying.	48.091	1 - 79	58.585	1.80	58	0.01	6	0.00	
Manufacturing	317.4-0	11.83	390.477	11.97	89.813	18.32	84.660	12.71	
Construction	162,200	6.05	202,970	6 - 22	91	0.02	96	0.01	
Fransportation and									
communication.	186.034	6.93	275.590	8-45	15.048	3.07	25,435	3.82	
l'rade	218.794	8 - 15	259.799	7.97	47,413	9.67	54.113	8.13	
inance, insurance	26.812	1.00	36.252	1-11	314	0.06	571	0.09	
Service	194, 101	7.23	287.625	8.82	226.783	46.27	347,471	52-18	
Professional ser-									
vice	78.073	2.91	120,775	3.70	92.754	18-92	117,790	17-69	
Personal service	73.320	2.73	128.167	3.93	133.028	27.14	228.8.2	34.37	
Herical	127,325	4.75	124, 139	3.81	90.612	18-49	116,927	17.56	
Labourers1	305.243	11-38	425,408	13-04	441	0.09	11.707	1.76	
Other and un-									
specified	5,509	0.21	1,357	0.04	1.643	0.34	297	0.04	
All Occupations	2,683,019	100-00	3,261,371	100 - 00	490,150	100.00	665,859	100 -00	

'Not including labourers in "agriculture, mining, or logging".

Out of a total number of 3.927,230 persons reporting a gainful occupation at the 1931 Census, 2.570,097 or 65.44 p.c. stated that they were employed on a wage or salaty basis, the remainder being composed of (a) employers, (b) persons carrying on a trade or profession on their own account, and (c) unpaid workers, mainly farmers' sons. The number of male "wage-earners" in 1931 was 2,022,260 or 78.68 p.c. of the total of both sexes, while female "wage-earners" numbered 547,837 or 21.32 p.c. of the total. Of these 2,022,260 males, 1,947,957 reported earnings aggregating \$1,804,942,500 for the census year ended June 1, 1931, while the 528,457 females whose earnings were stated earned \$295,610,200 over the same period.

The Labour Movement

In Canada, trade unionism has been an outgrowth of the last half century, resulting from the development of a diversified industrial life. The principal labour organizations are those in the International, Cana-

dian and National Catholic groups.

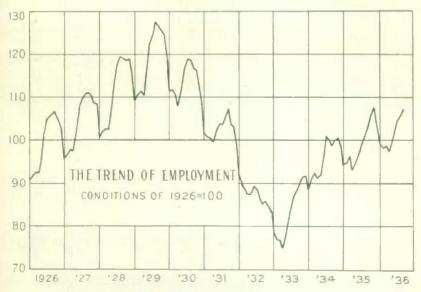
During 1935, there were in existence in Canada 1,794 international locals having 143,570 members, and 934 non-international unions with a membership of 137,134. The total number of organized workers reported to the Department of Labour was therefore 280,704, compared with 281,774 in 1934. The oldest federated labour organization in the Dominion is the Trades and Labour Congress, originally established in 1873, which is the recognized head of the internationally organized workers in Canada, and their representative in dealing with legislative matters. The All-Canadian Congress of Labour 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. The National Catholic Union movement in Canada dates from 1901, when it had its inception in Quebec city. Subsequently, other National Catholic Unions were formed in the province of Quebec and, with this steady growth, 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 Confederation of Catholic Workers of Canada. 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.

Industrial Disputes.—During the eleven months (January to November inclusive) of 1936 there were 121 strikes and lockouts which involved 33,935 workers and caused a loss of 251,887 man working days. During the twelve months of 1935 there were 120 disputes, involving 33,269 workers and a time loss of 288,703 working days, and, in 1934, 191 disputes involving 45,800 workers and 574,519 working days. The minimum loss in working days since the record was commenced in 1901 was in 1930, when 91,797 working days were lost in 67 disputes involving 13,768 workers. The maximum loss was in 1919, when 336 disputes involved 148,915 workers and caused a time loss of 3,400,942 working days.

Employment, 1935 and 1936

Since 1920, the Government has maintained a monthly record of the fluctuations in employment throughout Canada, as reported by all employers of fifteen persons and over, in all lines of industry except agriculture, fishing, hunting, professional service and specialized business such as banking, insurance, etc. The statistics tabulated, therefore, reflect the situation as affecting a large proportion of the working population.



The Dominion Bureau of Statistics received data during 1936 from an average of 9.717 firms, whose staffs aggregated 979.741, on the average, as compared with the monthly average of 933,085 indicated by the

9,248 employers co-operating in 1935. The index, based on the 1926 average as 100 p.c., rose from 99.4 in the period Jan. 1-Dec. 1, 1935, to 103.7 in the same months of 1936. During the preceding five years, the annual average indexes were as follows: 1934, 96.0; 1933, 83.4; 1932, 87.5;

1931, 102.5; and 1930, 113.4.

Employment generally continued to improve during 1936. The upward movement extended over many months, with the result that the index of employment at its 1936 peak of 111.0 at Nov. 1, was higher than in any other month since Nov. 1, 1930. The usual seasonal curtailment caused the index to decline to 110.1 at Dec. 1, 1936, but it was then higher than that of 104.6 reported at the same date in 1935. The expansion in industrial activity indicated during 1936 extended generally to the five economic areas and to most of the main industrial groups.

Employment by Economic Areas.—The accompanying table gives index numbers of employment in the five economic areas during 1936, with annual averages since 1921. On the whole, the situation during the year just completed was more favourable than in 1935, during which improvement over 1934 and 1933 had been indicated. Employment during 1936 reached its highest level in relation to the 1926 average in the Maritime Provinces, where the index, at 119.4 at Nov. 1, 1936, stood at the peak

since Sept. 1, 1930.

Index Numbers of Employment as Reported by Employers, by Economic Areas, as at the first of each month, November, 1935, to December, 1936, with Yearly Averages since 1921.

Norz.—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 at Dec. 1, 1936.

Year and Month	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
921 - Averages	102-4	82-2	90.6	94-0	81-1	88-8
922 Averages	97-3	81-4	92-8	92 - 6	82-8	89-6
923-Averages	105 - 7	90-7	99.5	94-8	87-4	95 - 8
924 - Averages	96.6	91-3	95 - 5	92 - 1	89-4	93 -4
925-Averages	97.0	91.7	95 · S	92 - 0	93 - 7	93 - (
926 Averages1	99 - 4	99-4	99.6	99.5	100-2	99-6
927 Averages	103 - 7	104 - 0	105 - 6	105.3	101 - 1	104-6
928 Averages	106-6	108-3	113.5	117.9	106-4	111-6
929 Averages	114-8	113 - 4	123 - 1	126 - 3	111-5	119-0
930 - Averages .	118-3	110.3	114 - 6	117-1	107-9	113
931-Averages	108-1	100 - 5	101.2	111.5	95 - 5	102 -
932-Averages	92-2	85-5	88-7	90.0	88-5	87-3
933 Averages	85 - 3	82.0	84.2	86-2	78.0	83-
934-Averages	101-0	91.7	101.3	90.0	90 - 4	96-
935—						
Nov. 1	111-1	105.0	110.0	108-1	101 - 8	107
Dec. 1	107-5	103 · 8	107.0	101.3	99.3	104 -
verages, 12 mos	103-7	95 - 4	103 - 3	35-2	97-7	99
936-		,				
Jan. 1.	108-1	95.5	102.7	95.1	92 - 4	99 -
Feb. 1	102 - 2	95 - 2	102 - 4	93 - 7	94-1	98-
Mar. 1	101-7	95-1	103 - 8	95-1	92-4	98-
April 1	101-8	91-4	103 · 4	90.5	95.9	97-
May 1	103-4	96-4	103 - 4	92.7	99.0	99 -
June 1	103.4	99 - 8	104 - 7	97-7	102.2	102-
July 1.	111-7	101-6	106 - 2	101.9	104-8	104 -
Aug. 1.	113-9	101-3	107 - 1	103-9	107-9	105.
Sept. 1	114-4	103.0	108 - 1	107-4	109.3	107-
Oct. 1	117-9	106-0	112.6	108-6	108-1	110-
Nov 1	119-4	110.3	112-8	106-0	105-4	111-
Dec. 1.	115-3	112-6	112.9	98-6	101-5	110-
verages, 12 mos	109-4	100 - 7	106-7	99-3	101-1	103
Relative Weight by						
Economic Areas as at Dec. 1, 1936	7-9	29.9	42-0	12-0	8-2	100-

The 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 by Industries.—Continued recovery was indicated during 1936 in most of the main industrial groups included in the monthly employment surveys. As in the preceding year, construction was the exception; while building continued at practically the same level and railway construction was more active in 1936 than in 1935, the various highway construction programs generally provided less employment, reducing the index number for the construction group as a unit.

Manufacturing, as a whole, showed a substantial gain over 1935, there being uninterrupted improvement from the beginning of the year to Oct. 1, 1936, when the index at 109.0 was higher than in any other month since Aug. 1, 1930. Large increases in employment were reported in the food, lumber, textile, iron and steel, non-ferrous metal and other

important industries.

Most of the non-manufacturing industries also shared in the upward movement indicated in 1936, construction, as already mentioned, being the exception. Mining showed especially marked improvement, particularly in the metallic ore division. Employment in communications, transportation, services and trade was at a higher level, on the whole, than in 1935, when the situation generally was better than in the preceding year, or 1933. The index in logging in many months of 1936 was lower than in the same months of 1935. However, improvement in that comparison was indicated towards the end of the year, and the average index stood at 138-7, as compared with the 1935 mean of 126-9.

Index Numbers of Employment as Reported by Employers, by Industries, as at the first of each month, November, 1935, to December, 1936, 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
1004 Assessation	87-7	103.0	98-0	90-2	94-1	71-1	83-6	92 - 7	88-8
1921 - Averages	88-3	85.1	99.5	86-4	97.8	76.7	81.9	90.8	89.0
1922 — Averages 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 - 6	165-4	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	119-9
1939 Averages	108-9	105-0	117.8	119-8	104 - 6	129 - 8	131 - 6	127 - 7	113-4
1931 - Averages	95 - 3	60-1	107-7	104 - 7	95.8	131-4	124 - 7	123 - 6	102 - 5
1932-Averages	84 - 4	42.6	99.2	93-5	84-7	86.0	113 - 6	116 - 1	87-5
1933-Averages	80.9	66-5	97.5	83.9	79 - 0	74 - 6	106 - 7	112 - 1	83-4
1934-Averages	90-2	124 - 7	110-8	79 - 1	88-3	109 - 3	115 - 1	117-9	96-0
1935—	00.2				00 0				
Nov. 1	103 - 5	158-4	132-5	81-4	84 - 5	119-9	117-1	124 - 6	107-7
Dec. 1	101-4	183 - 5	131-1	81.0	84 - 0	95.9	116.3	131 - 1	104 - 6
Averages, 12 mos.	97-1	126-9	123 - 3	79-8	81.2	97-8	118-2	122 - 1	99-4
1936-									
Jan. 1	96-8	183 - 4	129 - 9	79.3	77.9	74-8	118-0	135 - 9	09-1
Feb. 1	98-5	173-1	129-4	77.2	78 - 2	74-4	116-4	121-6	98-4
Mar. 1	99.5	147-0	129-1	77-7	78-9	78-2	117-5	123 - 1	98-9
April 1	101 - 1	102-6	128-2	77-7	78-5	71-8	118-5	121-0	97 - 4
May 1	102.7	88-6	127-4	78-4	82-8	79-4	120-4	123 - 3	99.5
June 1	103 - 4	94-1	132-1	80-0	85-4	87-0	123 - 0	127-1	102-0
July 1	104-7	93 - 4	134 - 1	82-4	87 - 1	97-4	131-7	127-3	104-6
Aug. 1	104-9	85-0	137 - 9	84 - 1	88 - 7	102-9	135 - 8	126.3	105-6
Sept. 1	105-9	82.7	140-2	86-0	89 - 4	109.0	137.5	126-3	107-1
Oct. 1	109.0	141-7	147-9	84-6	88-3	103 - 9	127-4	129 - 6	110-1
Nov. 1	107-7	206-9	151.8	83-1	87 - 1	99-6	124-9	132-0	111-0
Dec. 1	107-0	265-7	150-3	81-7	86-5	80 - 1	122-4	136-0	110-1
Averages, 12 mos.	103-4	138-7	136-5	81-0	84-1	88-2	124 - 5	127 - 4	103-7
Relative Weight									
by Industries as									
at Dec. 1, 1936	51-9	7.2	6.6	2-1	9-9	9-1	2-6	10-6	100 -0

See footnote to table on p. 166, also headnote.

Employment in Leading Cities.—A tabulation of the employment returns is made each month for the eight leading industrial cities.—Montreal, Quebec, Toronto, Ottawa, Hamilton, Windsor, Winnipeg and Vancouver. As in 1935, employment in these centres during 1936 generally showed a greater measure of improvement over the preceding year than was the case in the Dominion as a whole.



Acrial View of the City of Magog, Que. Courtery, Southern Canada Found Co., Ltd., Montreal.

Unemployment in Trade Unions.—Monthly statistics are tabulated in the Department of Labour from trade unions showing the unemployment existing among their members. In the first ten months of 1936, 1.794 organizations reported an average membership of 176,299, of whom 23,217 were, on the average, unemployed; this was a percentage of 13·2 compared with 15·7 in 1935, 18·3 p.e. in 1934 and 22·6 in the ten months of 1933.

Applications, Vacancies and Placements of the Employment Service of Canada.—Under the provisions of the Employment Offices Co-ordination Act, 1918, the Dominion Department of Labour, in co-operation with the provinces, has since then maintained local employment offices in a number of centres throughout the Dominion; the volume of business transacted by these bureaus is regarded as indicative of current labour conditions. Up to Nov. 30, 1936, 624,002 applications for work and 322,092 vacancies were registered at the 65 existing offices, while the placements effected numbered 300,039. In the same period of 1935, the registers showed 604,438 applications for work, 346,861 vacancies and 325,658 placements.

Old Age Pensions

The Old Age Pensions Act, 1927.—The Act provides for a Dominion-Provincial system of non-contributory old age pensions in such provinces as have enacted and given effect to special legislation for this purpose. The provinces are charged with the payment of pensions, the Dominion

reimbursing each province, quarterly, to the extent of 75 p.e.* of the net cost of its payments on account of old age pensions. All the provinces are now operating under such agreements. Payment of pensions in New Brunswick commenced July 1, 1936. The province of Quebec has entered into an agreement with the Dominion for the payment of pensions commencing Aug. I. 1936. Old age pensions are also payable in Northwest Territories. Authority was given the Gold Commissioner of the Yukon in 1927 to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act, but no scheme has as yet been formulated.

The following table gives the contributions by the Dominion Government under the Act, the numbers of pensioners and average pension as at June 30, 1936, and the effective date of legislation in each province:-

Summary Statement of Old Age Pensions in Canada, as at June 30. 1936

Province	Effective Date	Number of Pensioners	Average Monthly Pension	Dominion Government Contribu- tions. April 1 to June 30, 1936	Dominion Government Contribu- tions from Inception of Act
			\$	\$	\$
Alberta British Columbia Manitoba Nova Scotia Ontario Prince Edward Island Säskatchewan Northwest Territories	Sept. 1, 1927 Sept. 1, 1928 Mar. 1, 1934 Nov. 1, 1929 July 1, 1933 May 1, 1928	8,383 10,181 11,085 13,237 54,310 1,684 10,809 7	17 · 82 19 · 21 18 · 61 14 · 36 18 · 02 10 · 61 16 · 48 18 · 98	330.743 439.815 467.771 433.794 1.863.800 39.847 413.170 408	5,416,253 8,573,622 9,249,855 3,644,065 42,038,856 390,855 8,390,795 10,013
Totals	-	109,696	-	3,989,348	77,714,291

Dominion Unemployment Relief Measures, 1936

At the first session of the 18th Parliament, the Unemployment Relief and Assistance Act, 1936, which received Royal Assent on May 7, 1936, was enacted.

Section 2 of the Act provides that it shall be administered by the

Minister of Labour.

Under this statute, the Dominion is continuing to pay to the provinces monthly grants-in-aid to assist the provinces in discharging their responsibilities in connection with the relief of necessitous persons within their respective boundaries. The amounts of the monthly grants to the provinces which had been increased by seventy-five p.c. for the period December, 1935, to March, 1936, were reduced fifteen p.c. for the first three months of the fiscal year 1936-37, the monthly grants paid to the provinces for April. May and June, 1936, being as follows: Prince Edward Island, \$3,160.94; Nova Scotia, \$59,500.00; New Brunswick, \$37,187,50; Quebec, \$743,750.00; Ontario, \$892,500.00; Manitoba, \$200,812,50; Saskatchewan, \$297,500.00; Alberta, \$148,750.00; British Columbia, \$223,125,00.

The amounts of the monthly grants-in-aid paid to the provinces for the months of July, August, September, and authorized for October, November and December, were reduced by 10 p.c., making the monthly grants-in-aid for that period as follows: Prince Edward Island, \$2,844.85; Nova Scotia, \$53,550.00; New Brunswick, \$33,468.75; Quebec, \$669,375.00; Ontario, \$803,250.00; Manitoba, \$180,731.25; Saskatchewan, \$267,750.00; Alberta, \$133,875.00; British Columbia, \$200,812.50.

[&]quot;The proportion to be paid by the Dominion as set forth in the Act of 1927 was one-half, but this was increased at the second session of the Seventeenth Parliament to 75 p.c., which increase was made effective from Nov. 1, 1931.



Road Construction.—Laying a permanent suctace upon a first class highway in Canada.

Courtesy, Canadian Government Motion Picture Bureau.

In addition to payment of the monthly grants-in-aid above referred to, agreements have been entered into under the provisions of the Unemployment Relief and Assistance Act, 1936, with all the provinces providing for Dominion contribution of 50 p.c. of the provinces' cost of construction on the Trans-Canada and other provincial highways. Provision is also made in the agreements for Dominion contributions to the cost of construction of mining roads in the provinces of Manitoba, Saskatchewan, Alberta and British Calumbia. British Columbia. The agreements further provide for Dominion assistance toward the cost of the following relief measures:—

Prince Edward Island.—Municipal works.

Quebec .- Municipal works.

Ontario.-Municipal works.

Manitoba.-Municipal and provincial works.

Saskatchewan.-Moving and placing on suitable farming land in northern parts of the province agricultural settlers and assisting settlers so placed, also provincial undertakings consisting of drainage projects and construction of a rock dam.

Alberta.-Moving and placing on suitable farming land in northern parts of the province agricultural settlers, assisting settlers so placed, and

moving of feed and fodder into dried-out areas.

At the date of this summary, namely, Oct. 31, 1936, agreements have been entered into with the four western provinces, while negotiations for the consummation of similar agreements are being carried out with the other provinces for the purpose of placing unemployed persons, without means of support, and who would otherwise be in receipt of direct relief, on farms. The agreements make provision for payment of \$5 per month to the farmer and payment of a rate equal, at the end of the period, to \$7.50 per month to the individual placed on the farm. Provision is also made for the purchase of suitable work clothing for each individual placed not in excess of \$3 while the necessary cost of transportation of workers from the point of employment to the home of the employing farmer is also to be

contributed to by the Dominion under the terms of the agreement. The Dominion's contribution under the Farm Improvement and Employment Agreements is to be 50 p.c. of each province's cost of the aforementioned

measures, exclusive of the cost of administration.

Recognizing as a national emergency the very serious drought conditions which developed during the crop season of 1936, in large agricultural areas of the three Prairie Provinces, the Dominion entered into agreements with those provinces whereby it has undertaken to pay all costs (other than those of administration) incurred by the provinces for food, fuel, clothing and necessary shelter supplied, from Sept. 1, 1936, to Mar. 31, 1937, to all permanent residents of the defined areas in need of direct relief excepting those located in cities or towns within the areas, which latter are being cared for by the provinces and municipalities, with the assistance of the Dominion grants-in-aid above mentioned. The agreements provide that the measure of relief granted pursuant to the arrangement shall not exceed that given to similar needy in other rural sections of the provinces.

Under the provisions of the Relief Act, 1932, agreements were completed with all the provinces, except Prince Edward Island, providing for a non-recoverable expenditure of one-third of an amount not to exceed \$600 per family for the purpose of providing a measure of self-sustaining relief to families, who would otherwise be in receipt of direct relief, by placing such families on the land. It was provided that the remaining two-thirds of the expenditure should be contributed by the province and the municipality concerned. The agreements covered a period of two years and

expired on Mar. 31, 1934.

Under the provisions of the Relief Acts of 1934 and 1935, agreements, effective from April 1, 1934, to Mar. 31, 1936, providing continuity of settlement with the agreements which expired Mar. 31, 1934, were entered into with all the provinces excepting Prince Edward Island. Provision is made in the agreements for an additional non-recoverable contribution by the Dominion, on the recommendation of the province and with the approval of the Governor in Council, of one-third of an amount not exceeding \$100 in the case of a settler who may not be self-supporting at the end of the two-year period, and for whom subsistence expenditure during the third year of settlement is deemed necessary. This additional amount for subsistence during the third year, where necessary, applied both to those settled under the 1932 agreement and those settled under the renewal agreement.

Under the provisions of the Unemployment Relief and Assistance Act. 1936, further agreements, effective from April 1, 1936, to Mar. 31, 1940, providing continuity of settlement with the agreements which expired Mar. 31, 1936, have been entered into with the provinces of Manitoba and Alberta. Provision is made in said agreements for placement of further families on the land and a non-recoverable expenditure of one-third of an amount not to exceed \$1,000 per family for a period of four years. Provision is also made on behalf of families settled under previous agreements, for an additional non-recoverable contribution by the Dominion of one-third of an amount not exceeding \$80 per family for fourth year of settlement.

Number of Settler Families and Individuals Approved and Settled under the Relief Acts' Agreements to Oct. 31, 1936

Province	Settler Families	Total Individuals	Province	Settler Families	Total Individuals
	No.	No.		No.	No.
Nova Scotia. Quebec. Ontario.	341 976 606 915	1.799 5.029 2.384 3.470	Saskatchewan Alberta British Columbia	939 650 52	3,665 2,411 233
Manitoba	915	3.410	Totals	4,479	18,991

The following statement sets forth the Dominion's disbursements to Oct. 31, 1936, under relief legislation since 1930, namely: the Unemployment Relief Act, 1930; the Unemployment and Farm Relief Act, 1931; the Relief Act, 1932; the Relief Act, 1933; the Relief Act, 1934; the Relief Act, 1935; and the Unemployment Relief and Assistance Act, 1936.

The summary of loans to the western provinces and the C.P.R. outstanding as at the same date is: Manitoba, \$18,063,000; Saskatchewan, \$49,864,000; Alberta, \$25,279,000; British Columbia, \$29,095,000; C.P.R..

\$2,447,000; total, \$124,748,000.

Total Dominion Expenditures Under Relief Legislation, 1930-36

Miscellaneous		1	3	170	5	21	6	3
Administration expenses	43	85	68	84	89	140	92	60
C.P.R C.N.R.	882	209				_		1.07
missioners.	500 864	500 209			_		_	1.00
Board of Railway Com-	roo	600						
Sask. Relief Comm	-	5,373	4,455	1.301	759	**	-	11,8
Disbursements through Dom. Govt. Depts	57	4.596	1,033	7,617	8,393	8.252	17	29,9
Yukon and Northwest Territories	20	10	3	5	-	10	-	
British Columbia	1,376	3.940	3.228	2.577	3,173	2.275	1.515	18.0
Alberta	1.281	3.038	1.301	1.264	1.771	1,592	1.345	11.5
Saskatchewan	1.918	3.008	1.164	807	2,358	9.264	2,112	20.6
Manitoba	1.608	3.348	1.746	2,181	2,295	3.209	1.768	16.1
Quebec	3,292 4,692	5,439	4,252 7,988	3.627 9.870	10.997 14.086	7.503 15.312	4.928 6.804	69.8
New Brunswick	504	764	220	511	507	1.058	245	3,8
Nova Scotia.	836	1.070	572	1.184	647	1.278	419	6.0
Disbursements to Prov- inces— Prince Edward Island	95	129	25	87	159	287	21	8
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Item	1930 Act	1931 Aet	1932 Act	1933 Act	1934 Act	1935 Act	1936 Act	Tota

[!] Includes \$11,439, incurred under the provisions of 1933 Act, and authorized by Sec. 10 of the Relief Act, 1934.
2 Includes \$1,200, incurred under authority of previous legislation.

CHAPTER XVII

EDUCATION AND RECREATION

Schooling in Canada comes each year to be a more important undertaking. The youth of to-day attend school for ten years of their lives on the average, or nearly half as long again as their fathers and mothers. Though the mistake should not be made of regarding schooling as synonymous with education, that broader and continuous process of forming the lives of individual citizens in which the home and occupation take such an important part, the weight of the schools in relation to other educational influences must be high; from the time that the child starts to school, to the end of a normal lifetime, he may spend an hour and a half weekly in another pursuit, and still spend less time at it than he now spends at school. Some of these other influences may be the church, the theatre, the athletic field, the public library, the home, the daily press, the radio, etc., and they should properly be considered as fellow members of the educational organization although they cannot all or reviewed here.



Class in Aeroplane Mechanics at the Provincial Lastitute of Technology, Calgary, Alberta.

Courtesy, Dr. W. G. Carpenter.

Schools and Universities

Nearly one-fourth of the Canadian population attend school in the capacity of either student or teacher. Below the college level the cost is largely met out of public funds, and over 40 p.c. of the expenditure on higher education is made by provincial governments. Considering all

schools and universities together, the cost is proportioned as follows: Dominion Government, 1.8 p.c.; provincial governments, 20.8 p.c.; counties, 2.1 p.c.; school administrative units, ranging in size from large cities to communities of a few farms, 61.8 p.c.; students' fees, mainly in private schools and at the university level, 8.0 p.c.; endowments, also mainly university, 1.7 p.c.; other sources, including churches, 3.8 p.c. Perhaps the most striking feature of this financial provision is the high proportion of costs for which each school district is individually responsible. There are about 24,000 administrative districts or sections, each self-dependent for more than three-fifths of the cost of its schools. Fewer than 1,000 of these have populations in excess of 500, and the remaining 23,000 do not average 250. Among so many small communities there are naturally very wide differences in ability to support schools, with accompanying variation in the quality of schooling, and educators across Canada are giving attention to equalizing the cost over larger sections, such as counties or entire provinces. Alberta and British Columbia are now experimenting with larger units.

Expenditures for schools, like all public expenditures, have received close attention in recent years, and for this reason it is of interest to note their place in the national and family economy. It appears that about 15 p.c. of the aggregate income of Canadians is normally taken in taxation, and that a sum equal to rather more than one-fifth of this (3.5 p.c. of the total) is spent on schools and universities. About \$750 is spent on each child's schooling, on the average, and the other costs involved in raising

him to maturity are in the neighbourhood of \$5,000.

Current problems in connection with the schools are by no means all financial. In all of the provinces the enrolment in elementary schools has either begun to decline, or is likely to decline very shortly, owing in part to less retardation of pupils and in part to a reduced number of births; in the secondary schools the attendance still continues to increase at a rapid pace. Overcrowded secondary schools and empty seats in the elementary schools are helping to bring about a reconsideration of the traditional eight-four division between the two types of school. There is a tendency to remove the abrupt break at the end of the eighth year and attach one or two years of the high school more closely to the two upper elementary years, thereby making an intermediate period of gradual transition between primary schooling and secondary schooling or occupation. In smaller schools the changes must be confined mainly to curriculum rather than organization, and a majority of the provinces have recently given their entire curriculum a thorough revision or are in the act of doing so, partly to make this intermediate period one of more gradual transition, and partly to make it suit better the changed conditions of the post-war world-Health, citizenship and social studies generally are given greater place.

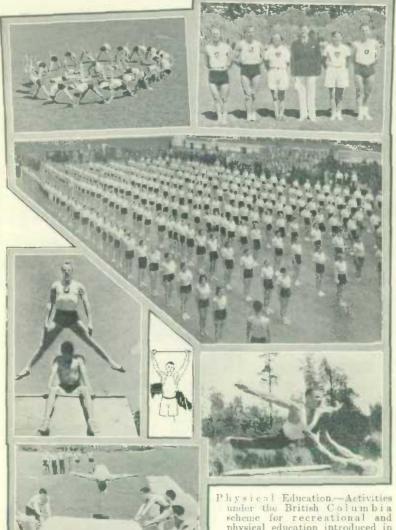
Universities are carrying on with greatly reduced revenues from provincial treasuries and endowment investments, compensating for these in some measure by increases in students' fees. While the rapid increase in attendance, characteristic of the preceding decade, seems to have ended, the total enrolment can scarcely be said to have declined.

Special educational provision for unemployed persons and their adult dependants has not been made in Canada, except in scattered instances and then largely by voluntary effort. The children, of course, attend school, but the older members of the family use their discretion and their own responsibility in the matter of using their unoccupied time construc-The only provision made for them on a basis as wide as provincial is in British Columbia, where a scheme of physical and recreational education has been undertaken.

Public Libraries

Public libraries are a type of educational institution to which the adult population as well as school children have access, but they are not as much used in Canada as in other countries. The operation of Canadian public

PHYSICAL TRAINING IN BRITISH COLUMBIA



Physical Education—Activities under the British Columbia scheme for recreational and physical education introduced in November, 1934, by the Hon. Dr. G. M. Weir, Minister of Educa-tion in British Columbia. The scheme is to protect young people from the degenerating effects of from the degenerating effects of

up morale and character on a good physical basis. Over forty centres are now in operation with a registration of about 6,600 persons and the number is steadily increasing. Upper left, women's fundamental gymnastics in circle formation, upper right teachers. formation; upper right, teachers at Canada's first summer school in physical education and recreation; centre left, straddling the horse; centre right, participants in final display of season 1935-36; lower left, teaching the forward somersault off the spring-board with the aid of a safety net; lower right, swan dive over the horse.

Courtesy, Ian Eisenhardt, Provincial Director of Recreational and Physical Education.



Courtesy, Canadian National Radways, Publicity Department, Montreal.

libraries cost less than two million dollars in 1935; in return they loaned over 21 million volumes for home use and did probably between one-third and one-half as much more for reading-room and raference-room borrowers. The year's cost of public libraries per person in Canada was 18 cents—less than 2 p.c. of the cost of public schools, or about 10 p.c. of the cost of universities and colleges. In the United States 38 cents per person is paid, and the libraries there are able to loan nearly four books for every man, woman and child in the population, while the Canadian libraries, with less than half as much support, loan two. Yet library work per capita in the United States is not exceptional, for the circulation in Great Britain is higher on this basis, being four and a half volumes.

Ontario is the only province in which the use of public libraries is as great, per person, as it is on the average throughout the United States. The resident of California reads nine public library books in a year as compared with the Ontario resident's four. In some parts of Canada, however, the public library is becoming a more important institution by

the development of modern, regional systems of library service, especially in Prince Edward Island, British Columbia and Ontario-in the first two with the assistance of the Carnegie Corporation,

Arts and Crafts

Recent years have witnessed a tremendous growth of interest in certain leisure-time pursuits of a cultural character that cannot be more than briefly mentioned here. The "Little Theatre" or amateur drama movement experienced a remarkable development from coast to coast under the patronage of Lord and Lady Bessborough. For four years the season has been climaxed by a national competition in Ottawa among winning regional groups. The University of Alberta has inaugurated a Summer School of Drama at Banff, and reports students from all over Canada.

Music festivals, comparable to those of the drama, earlier reached the stage of popularity necessary for provincial competitions and have continued throughout the depression years to hold the interest of the people. In the Prairie Provinces the University of Saskatchewan has responded to this interest by the establishment of a chair in music. There is a tendency in several of the provinces to give music a more prominent place in

the school curriculum, secondary as well as elementary.

In the revival of handicrafts the French-Canadian population of Quebec has led the way, but the movement is now in evidence in all sections of the Dominion. The headquarters of the Canadian Handicrafts Guild is in Montreal. A natural accompaniment of the revival has been renewed interest in the folkways, music and language of the many racial

elements in the population.

Interest in the fine arts, too, has shown an unusual appreciation in the recent difficult years. A recent annual report of the National Gallery states that the year under review has been by far the busiest in its history, and that art interest in Canada has probably never been at such height. The accompanying comment is doubtless as applicable to drama, music and handicrafts as to the fine arts: "One of the few valuable fruits of the recent restriction of material things, disorganization of customary interests and pleasures, has been to turn the public mind toward the more enduring interests of life". A step forward in the teaching of art is the establishment recently of a chair in art in the University of Toronto.

Adult Study

Similarly, a remarkable increase in after-school study, especially study of social and economic problems, is distinctly in evidence. New organizations of many varieties have arisen, each with the study circle as a major activity. These are the people whose interest has been directed into studying the difficulties with which the community has been beset, while the above-mentioned have turned their thoughts away from such difficulties to find refuge in the arts and crafts. Some of the universities have given direction to the interest in economic matters, notably St. Francis Xavier University in Nova Scotia, where study groups have been organized throughout the entire eastern section of the province. The Ontario universities have co-operated with the Workers' Educational Association in organizing classes that have had a steady increase in enrolment since 1930. There is extension work of related kinds from several of the other universities. Certain industrial concerns have established courses in various versities. Set the control of their work, notable among which is the Canadian Pulp and Paper Association which has at present about 1,600 members enrolled. In several provinces prospectors' classes are conducted by the respective mines departments during the winter months. In 1934 the extension directors and others interested in adult education met in a Dominion-wide convention and after a year spent in studying the situation, decided to set up a Canadian Association for Adult Education. A director was engaged for the Association in 1936.

CHAPTER XVIII

MISCELLANEOUS STATISTICS

The National Research Council

The National Research Council, established in 1916, has been provided by the Government with extensive laboratory facilities at Ottawa, in which the Council now has a scientific and technical staff of about 70 persons. The internal work of the Council is organized in five technical divisions-biology and agriculture, chemistry, mechanical engineering, physics and electrical engineering and research information. Biological and agricultural work have been organized in close co-operation with the Dominion Department of Agriculture. Six joint committees are now active in special fields of agricultural research, with co-operation of the agricultural colleges and universities. The Division of Chemistry is engaged in research on asbestos, carbon black and other natural gas products, plant alkaloids, starch, laundering, dry cleaning, leather, magnesian products, maple products, paints, rubber, textiles, etc. The Division of Mechanical Engineering is devoted particularly to aeronautical investigations in a large wind tunnel and water channel, to engine testing and to fire hazard studies. The Division of Physics and Electrical Engineering undertakes investigations in the general field indicated by that title, and also considerable work in metrology. The Division of Research Information is responsible for a general information service, the National Research Library, publications, standardization and other activities.

The Council has an extensive system of research and advisory committees, to many of which grants are made for research in university laboratories and elsewhere. The scope of the work undertaken by these committees is indicated by the titles—aeronautics, asbestos, chemical standards, coal classification, engineering standards, field-crop diseases, fire hazard testing, forestry, gas, grain, laundry research, leather, magnesian products, market poultry, oceanography, parasitology, potato research, radio, radiology, storage and transportation of food, survey research,

smelter smoke, tuberculosis, weeds and wool.

The Council has since its inception maintained a system of scholarships for postgraduate work in Canadian and foreign universities. A total of 685 such awards have been made to outstanding graduates of Canadian universities.

As an example of the extent to which the results of the Council's work are being applied commercially, mention may be made of the fact that during 1936 both the Canadian National and Canadian Pacific Railways have brought out semi-streamlined locomotives, the design of which was based on models and tests of the National Research Council. (See illustrations on p. 129 and p. 179.)

Public Health, Hospitals and Charitable Institutions

In Canada, generally speaking, the administration of public health activities and the establishment and maintenance of such institutions is in the hands of the various provincial governments, under the powers given

them in Sec. 92 of the British North America Act of 1867.

Exercising particular jurisdiction over some phases of the general health of the people of the Dominion is the Department of Pensions and National Health of the Dominion Government, while the Dominion Council of Health acts as a clearing house on many important questions. This Council consists of the Deputy Minister of the Dominion Depart-



The illustration shows: (1) Fractioning equipment in the National Research Council's laboratories, originally designed for the examination of Turner Valley (Alberta) gasolene, showing 50-gallon still with refrigerated condenser and constant temperature recording room. (2) An aircraft model under test in the Wind Tunnel of the National Research Council's aeronautical laboratories. (3) A modification of a Canadian model railway locomotive, developed in the aeronautical laboratories of the National Research Council. (4) Photometry laboratory of the Division of Physics and Engineering, National Research Council's laboratories. (5) Laboratory used for approval testing of oil burners, National Research Council's laboratories. (6) Asbestos Research, showing testing machines in the laboratory, National Research Council.

**Countery. National Research Council and Canadian Government.

Courtesy, National Research Council and Canadian Government Motion Picture Bureau. ment of Pensions and National Health as Chairman, together with such other persons as may be appointed by the Governor in Council, and who hold office for three years. The public health activities of the Dominion Government include the following divisions: Quarantine, Immigration, Leprosy, Marine Hospitals, Sanitary Engineering, Proprietary or Patent

Medicine, Laboratory of Hygiene, Food and Drugs.

In classifying the various types of social service in Canada certain broad and well-established groups manifest themselves. These divisions are: (1) Hospitals, Dispensaries and Out-patient Departments; (2) Mental Hospitals and Institutions for the Feeble-minded and Epileptic; (3) Institutions for the Blind, Deaf and Dumb; (4) Homes for Adults and Homes for Adults and Children; (5) Orphanages, Child-earing Institutions, Day Nurseries, Child-placing Agencies and voluntary organizations.

The most familiar of all public institutions established to administer and foster the general health of the community is the general public hospital common to all cities and towns and prosperous rural communities. Where public hospitals cannot be maintained in remote districts, private hospitals and maternity homes and Red Cross out-post hospitals or rural clinics in charge of district nurses are established. These services are further supplemented by the work of the Victorian Order of Nurses, a national visiting nursing association with 90 branches in Canada. In 1935 the Victorian Order of Nurses looked after 85,520 cases, paid 751,529 visits and attended 13,268 live births.

Numbers and Bed Capacities of Hospitals and Charitable Institutions in Canada, by Provinces, at Jan. 1, 1935

Type of Institution	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
Pepulation (000's omit- ted)	89	527	429	3,062	3,673	711	931	764	735	10,935
HOSPITALS Public Hospitals— General	1 53	1,462 2,77 1,80 1,50 2,414	16 1,278 1 20 - - - 3 408 - 1 32	56 9,363 5 796 3 467 4 763 4 311 7 1,307	110 11,384 4 243 2 398 5 636 1 1 35 13 3,233 25 291 1,006	31 2.542 1 135 2 311 1 50 4 723 1 400	3.157 289 1 28 1 6 - 4 722 6 56 56 170	3,512 3,185 1 1 50 3 102 - 1 210 - 6 286	68 4.513 1 70 2 2 95 - - 1 334 2 2 2 6 1 172	459 37.671 1.480 11 1.253 16 6 6 6 398 36 7.404 33 373 24 3.103
Other No. Beds	-	-	-	710	22	-	-	_	-	732
Totals, Public No. Beds	288	29 2,083	21 1,738	89 14,754	168 17,248	40 4,161	84 4,228	91 4,345	75 5,210	608 54.280
Private HospitalsNo. Beds Dominion No. HospitalsBeds Mental HospitalsNo. Beds	- 1	250 4 398 16 2,120	7 87 3 152 1 900	30 582 5 438 9 10,383	73 897 7 831 15 12,777	11 85 3 306 4 2,492	63 358 2 2 2,550	53 254 5 226 4 2,035	25 291 4 267 4 2,485	267 2,818 31 2,618 56 36,017
Totals, All No. Hospitals Beds	577	53 4,851	32 2,877	133 26,157	263 31,753	58 7. 014	149 7,136	153 6,860	198 8,253	962 95,733
CHARITABLE AND BENEVOLENT No. INSTITUTIONS Beds	5 309	43 1,755	30 1,743	128 19, 292	180 11.890	28 2,210	10 536	9 747	23 1,532	456 40,014

^{&#}x27;Includes Yukon and Northwest Territories, except that 3 hospitals in the Northwest Territories did not report and are not included.

2 One hospital under construction, no report.

3 Figures of the latest available quinquennial consus in 1931.

There were in operation in Canada on Jan. 1, 1935, 906 hospitals for the care of the sick, of which 608 were public, 267 private and 31 Dominion. The total bed capacity of all these hospitals was 59,716. The staffs included 795 salaried physicians, 752 internes, 7,129 graduate nurses and 8,563 nurses in training. Total personnel was 37,039. The average days' stay of patients was 19.0 days and the percentage of bed occupancy 68.2. Inpatients treated during 1935 numbered 815,568 and the collective days' stay of all patients 15,552,992 days. Of 103 organized out-patient departments, 55 reported 372,307 patients and 1,382,977 treatments; 23 reported 181,667 patients but not treatments; and 21 reported 512,844 visits only.

Second only in importance to the general hospitals are the institutions for mental diseases. The public hospitals for the insane, feeble-minded and epileptic are assisted in their care of indigent patients by provincial and municipal grants. In addition there are county and municipal institutions, psychopathic hospitals and a few Dominion and private institutions. The 56 mental hospitals have a normal capacity of 36,017 beds. On Dec. 31, 1935, these institutions reported 38,261 inmates. The total receipts for 1934, including government grants and fees from patients, were \$13,720,558

and the total expenditures \$13,691.288.

Homes or hospitals for incurables provide maintenance, nursing, medical and surgical aid to persons suffering from chronic and incurable diseases and the nature of the services given is such as to call for special reference. Many hospitals for incurables care not only for those suffering from incurable diseases but also for the aged, indigent, feeble-minded and epileptic. There are 24 of these institutions in operation. The average number of patients per day during 1935 was 2.683, the bed capacity 3,103 and the total number under treatment 3.874.

War Pensions and Welfare of Veterans

The Pensions Section of the Department of Pensions and National Health is responsible for certain matters affecting war veterans' welfare. Its chief functions consist in the granting of medical and dental treatment to former members of the Forces who are suffering from disabilities, the result of injury or disease contracted or aggravated during military service. At the same time, many other activities are carried on such as the manufacture of artificial limbs and other prosthetic appliances, the issue of unemployment assistance to unemployed pensioners and the operation of

Veteraft Shops.

Ten District Offices are maintained in the following centres: Halifax, Saint John, Montreal, Ottawa, Toronto, London, Winnipeg, Regina, Calgary and Vancouver. Sub-district Offices are situated at Quebec, Kingston, Hamilton, Windsor, Port Arthur, Saskatoon, Edmonton and Victoria. There is also an overseas office in London, England. Eight hospitals are operated, at Halifax, Saint John, Ste. Anne de Bellevue, Toronto, London, Winnipeg, Calgary and Vancouver, respectively. In addition to these institutions, the Department has agreements with many civilian hospitals across Canada and in some cases special wards are set aside for the treatment of its patients. The medical service is conducted by physicians and surgeons on the staff of the Department and outside specialists in various branches of medicine and surgery. No expense is spared to give to the returned soldier the most modern treatment known to medical science. On Mar. 31, 1936, there were 1,689 patients in departmental hospitals, 662 in other institutions in Canada, 59 in Great Britain and 28 in the United States, making a total of 2,438 of whom 52 had served in other than the Canadian Forces during the Great War.

Among those in departmental institutions are some who have small pensions, but are unable to maintain themselves, owing in many cases to the presence of non-service disabilities, and who do not require active remedial treatment for their pensionable disabilities. These receive what is known as veterans' care. On Mar. 31, 1936, there were 286 of these men on the strength of the Department.



Deer Lodge Hospital, Winnipeg, Manitoba.—This is a Dominion hospital operated by the Department of Pensions and National Health for convalescent war veterans.

Courtesy, Department of Pensions and National Health.

The issue of unemployment assistance to disability pensioners who are out of employment has been continued. While the Department has established basic rates for single men and for men with families in accordance with the number of dependent children in respect to whom additional pension is paid, in the larger centres the relief issued to non-pensioners by the municipalities in which they reside is on a higher scale than the applicable basic rate of the Department. In any such case, the Department's policy is to augment the pension by issues of unemployment assistance covering food, fuel and shelter to an amount not less than issuable to the non-pensioned veterans and other civilians for these items. The number of men who benefited during the fiscal year 1935-36 was 12,083 and the expenditure amounted to \$2,365,579.

A somewhat unique feature of the departmental activities is in relation to the employment in industry of pensioners in receipt of pensions of 25 p.c. and upwards. Should such a pensioner meet with an accident or contract an industrial disease, the Department will reimburse the employer, or the Workmen's Compensation Board dealing with the case, to the extent of the cost incurred. The number of cases for which compensation was paid during 1935-36 was 279, and the expenditure was \$27,138.

The Department undertakes the burial of deceased veterans who die while undergoing treatment. The number of deaths during the fiscal year 1935-36 was 435 and the funeral expenses \$48,608. If the estate of a pensioner, who is not receiving treatment from the Department at the time of his death, is insufficient to meet the cost of his last sickness and burial, the Canadian Pension Commission may make a grant for this purpose. These grants during the fiscal year numbered 439 and amounted to \$44,809. In addition to the foregoing, the Department makes a grant of \$60,000 to the Last Post Fund for the burial of indigent ex-members of the Forces. The number of burials during 1935-36 was 643.

Canadian Pension Commission and Pension Appeal Court.—The Commission maintains a staff of medical advisers at its head office and medical examiners in the field. It is responsible for the award and adjudication of Great War pensions. Quorums of the Commission sit from time to time in various parts of Canada for the purpose of hearing claims by applicants. On an award being authorized, payment is made by the Comptroller of the Treasury through his representative attached to the Department. Appeals from decisions of the Commission can be carried to the Pension Appeal Court which consists of three members and sits continuously in Ottawa.

The number of pensions in force on Mar. 31, 1936, was 97,299—79,124 of this number being disability and 18,175 dependent pensions. The

annual liability in respect of these pensions is \$40,854,474.

In connection with the preparation of claims for submission to the Commission and the Pension Appeal Court, the Department maintains a branch known as the Veterans Bureau which has representatives in all the principal centres in Canada who assist applicants in the preparation and presentation of their claims.

Returned Soldiers' Insurance.—Applications under the Returned Soldiers' Insurance Act were limited to Aug. 31, 1933. After that date no new applications could be received. The number of policies in force on Mar. 31, 1936, was 25,846 representing insurance of \$55,326,246. All claims are dealt with by the members of the Canadian Pension Commission who are Commissioners under the Returned Soldiers' Insurance Act.

The War Veterans' Allowance Board.—The War Veterans' Allowance Act, which was passed in 1930 and somewhat enlarged in 1936, has proved of great benefit. It is in charge of a Board which operates independently of the Department, although the Department carries out the decisions of the Board, makes all investigations required by it, furnishes the necessary staff and maintains the records. Under the legislation, an ex-member of the Forces who is 60 years of age may, if he is a pensioner or saw service in a theatre of actual war, be granted an allowance in an amount depending on his financial circumstances, but not exceeding \$20 per month if single or \$40 per month if married. Provision is also made for the same benefits to be afforded to a man with similar qualifications who is under 60 years of age, if permanently unemployable, by reason of physical or mental disability, or, having served in a theatre of actual war, has attained the age of 55 and is, in the opinion of the Board, incapable of maintaining himself because of disability, pre-ageing and general unfitness. Canadian domicile for six months immediately preceding the grant is required. The total number of allowances in force on Mar. 31, 1936, was 8,320, involving an annual liability of \$2,780,271. There were 6,194 recipi-

ents of 60 years and over and 2,626 under 60. There were 30 recipients of 80 years and over. Payments are made by the Comptroller of the

Treasury through his representative.

There is every indication that the work of the Department will continue for many years to come. The increasing age of the beneficiaries of the Department continues to create new problems both in the medical and in the administrative fields so that the service branches are constantly called upon to give advice and assistance along various lines.

Judicial Statistics

The criminal code undergoes little change over periods of time and statistics of criminal or indictable offences are regarded as more comparable over a long period of time than the figures of summary or non-indictable convictions. The latter are influenced by the changes in the customs of the people, and are apt to increase disproportionately with the increasing urbanization of the population.

Convictions for Criminal Offences, by Groups, and Total Convictions for Minor Offences, years ended Sept. 30, 1921-35, with Proportions to Population.

			Crir	ninal Offe	ences					
	Offences against-				00					
Year	The perty with Violence		Property swith-out m	Other Felonies and Misde- mean- ours	Total of Criminal Offences			Minor Offences		
	No.	No.	No	No.	No.	P.C. of all Of- fences	Per 100,000 Pop.	No.	P.C. of all Of- fences	Per 100,000 Pop.
1921	7,291 7,550 7,595 7,826 7,799 8,343 9,140 10,392 11,052 11,773 10,327 9,603 9,284	2,609 2,783 2,076 2,536 2,749 2,296 2,671 2,991 3,529 4,647 5,288 5,194 5,319 5,310 5,178	12,059 11,607 11,482 12,790 13,802 14,262 15,154 16,072 17,271 18,498 21,528 20,766 21,575 21,071 21,703	2.081 2.610 3.075 2.635 2.644 2.679 2.809 3.956 4.001 6.584 5.475 5.510 6.096 6.330 7.206	24,945 24,291 24,183 25,556 27,111 27,036 28,977 32,059 35,193 40,781 44,064 41,797 42,593 41,995 43,759	14 · 2 15 · 3 15 · 1 15 · 3 13 · 8 13 · 1 11 · 6 10 · 9 11 · 8 12 · 0 12 · 4 12 · 8 11 · 4	284 272 268 280 292 288 301 326 351 400 425 398 388 400	152.227 134.040 135.060 141.663 150.672 169.171 191.285 243.123 286.773 304.860 323.024 294.858 290.475 326.239 360.093	85 · 9 84 · 7 84 · 8 84 · 7 86 · 9 86 · 9 88 · 4 88 · 2 88 · 0 87 · 6 87 · 6 88 · 6 8	1.732 1.503 1.499 1.549 1.621 1.790 1.985 2.472 2.858 2.886 3.113 2.807 2.720 3.014 3.293

The most significant column of the above table of total convictions 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 between 1924 and 1931, convictions for criminal offences rose from 280 per 100,000 population in 1924 to 425 in 1931 and convictions for minor offences from 1,549 per 100,000 in 1924 to 3,113 in 1931. For 1932 and 1933 some improvement was shown in each of these classes, but in 1934 minor offences increased and in 1935 reached a maximum of 3,293 per 100,000 population.

Of the total convictions for criminal and minor offences for 1934, viz., 403,852, the sentences imposed were: gaol or fine, 311,008; penitentiary,

2,656; reformatory, 1,210; death, 15; and other sentences, 88,963.

Death sentences have fluctuated over the past ten years between a minimum of 12 in 1927 and a maximum of 26 in 1929. For 1932 they were 23; for 1933, 24; for 1934, 19; and for 1935, 15.

Police

In 1935 there were 161 cities and towns with populations of 4,000 and over from which police statistics were collected.

Police Statistics, by Provinces, calendar year 1935

Province		1	Average Number of Stated	Average Number			
Province	Cities and Towns	Popu- lation	Police	Arrests	Sum- monses	Population to each Policeman	Arrests per Policeman
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Baskatchewan Alberta British Columbia	13 6 43 69 7 8	12.361 176,444 94.005 1,435.110 1.756,865 273,012 149.015 180,747 349,191	9 142 89 2.065 1,857 304 132 195 438	480 4,119 3,561 36,732 31,617 4,411 2,130 3,334 8,896	263 1,678 588 33.746 119,191 14,481 2,571 4,718 11,257	1,373 1,243 1,056 695 946 898 1,129 958 797	53 29 40 18 17 15 16 17 20
Canada	161	4,432,750	5,231	95,280	188,493	847	18

Offences reported to the police numbered 365,540; there were 276,873 prosecutions resulting in 238,551 convictions. The number of automobiles reported stolen was 8,556; 8,513 were recovered. The value of other goods stolen was \$2,114,720, and of goods recovered \$981,608.



Members of the Royal Canadian Mounted Police following the official car at the opening of the first of a series of planned entertainments to commemorate Vancouver's Golden Jubilee, July-September, 1936. Courtesy, Canadian Pacific Railway.

Royal Canadian Mounted Police.—The Royal Canadian Mounted Police is a constabulary maintained by the Dominion Government. It was organized in 1873, as the North West Mounted Police and in 1904 became known as the Royal North West Mounted Police.

In 1920, the name of the Force was changed to the Royal Canadian Mounted Police and to it was assigned the duty of the enforcement of Dominion legislation in the whole of Canada. The former Dominion Police, with headquarters at Ottawa, was absorbed at this time.

At the present time, the R.C.M. Police is responsible throughout

Canada for the enforcement of the laws against smuggling by land, sea and air. It enforces the provisions of the Excise Act, is responsible for the suppression of the traffic in narcotic drugs, enforcement of the Migratory Birds Convention Act, and assists the Indian, Immigration, Fisheries and numerous other Dominion Departments in executing the provisions of their respective Acts, and in some cases in administrative duties. The Force is responsible for the protection of government buildings and dockyards. It is the sole police force operating in Yukon and the Northwest Territories.

The Marine Section of the Force which, in conjunction with the land

force, is engaged in the prevention of smuggling, on Mar. 31, 1936, had a strength of 217 officers and men, distributed among nineteen cruisers and

patrol boats on the Atlantic and Pacific coasts and inland waters.

The Force is controlled and administered by a Minister of the Crown (at present the Minister of Justice), and it may be employed anywhere in Canada. From a Force of 300 in 1873, it had a strength on Mar. 31, 1936, of 2,717. Means of transport at the latter date consisted of 241 horses, 489

motor vehicles and 388 sleigh dogs.

Under the R.C.M. Police Act any province may enter into an agreement with the Dominion Government for the services of the Royal Canadian Mounted Police to enforce provincial laws and the Criminal Code upon payment for its services, and at the present time such agreements are in force with the provinces of Prince Edward Island, Nova

Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta.

The Force is divided into 14 Divisions of varying strength distributed over the entire country. The term of engagement is five years for recruits, with re-enlistment for one year or three years. The officers are commissioned by the Crown. Recruits are trained at Regina, Saskatchewan. The course of training covers six months, and consists of drill, both mounted and on foot, physical training, including instruction in wrestling, boxing and jiu-jitsu. Special attention is paid to police duties, both Dominion and provincial, and detailed lectures are given in these, including court procedure. Instructional courses for promotion are held, and, where practical, an annual refresher course of training is given.

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 14 regiments and corps of all arms of the service, with an authorized establishment limited to 10.000, but at present the strength is about 4,000. The Non-Permanent Active Militia is made up of cavalry, artillery, engineer, machine-gun, signalling, infantry and other corps. The total establishment of the Canadian Non-Permanent Active Militia totals 9,010 officers and 124,925 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 appropriation for the Militia for the year ending Mar. 31, 1937, is \$12.018.926, as compared with an expenditure of \$10,141.230 for 1935-36. Air Force.—The Air Force in Canada consists of the Royal Canadian Air Force, classified as Active and Reserve. The Active Air Force is classified as permanent and non-permanent.



Mobile Radio Telephony Installation in a Light Car as Developed by the Royal Canadian Corps of Signals.

Courtesy, Department of National Defence.

The Royal Canadian Air Force controls and administers all Air Force training and operations, and carries out operations on behalf of other government departments. In addition, the Aeronautical Engineering Division of the Air Force acts in an advisory capacity on technical matters to the Controller of Civil Aviation organizations.

The strength of the Royal Canadian Air Force on Sept. 1, 1936, was: officers (permanent) 142, (non-permanent) 60, (reserve) 184; airmen (permanent) 965, (non-permanent) 401; aircraft,

The appropriation for the Royal Canadian Air Force (ineluding money for civil government operations) for 1936-37 vear was \$5,200,015. The total flying time for the

year 1935-36 was 16,059 hours, 10 minutes.

The appropriation for out-of-pocket expenses incurred by the Royal Canadian Air Force in connection with Civil Government Air Operations totalled \$514,987 for the fiscal year 1936-37. This expenditure was mainly for photography, and in the year 1935-36, 94,000 square miles were covered with oblique, and 14,000 square miles with vertical photography.

Civil Aviation.—The Controller of Civil Aviation administers the Air Regulations and controls commercial and private flying. (See p. 136.) The appropriation for civil aviation for the fiscal year 1936-37 was \$1,609,200

Navy.—The Royal Canadian Navy was established in 1910. The authorized complements are: 117 officers and 862 men of the Permanent Force (Royal Canadian Navy); 70 officers and 430 men of the Royal Canadian Naval Reserve; and 80 officers and 930 men of the Royal Canadian Naval Volunteer Reserve. Ten appointments of officers of the Royal Canadian Naval Volunteer Reserve are reserved for graduates of the Royal Military College who have had naval training during their Royal Military College course. The vessels at present maintained in commission are: the destroyers Champlain* and Saguenay, based on Halifax, N.S.; the destroyers Vancouver* and Skeena and the minesweeper Armentières, based on Esquimalt, B.C. H.M.C. Dockyards are at Halifax and Esquimalt. Naval depots are maintained at both bases, and are used as training headquarters for the personnel of the R.C.N.R., and the R.C.N.R.

^{*}Towards the end of 1936 it was officially announced that the Government had arranged for the purchase of two British destroyers to replace the Champlain and Vancouver, which were due to be dismantled under treaty provisions by the end of the year.

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