

The towers of Canada's Parliament Buildings rise above the waters of the Rideau Canal as they flow into the Ottawa River.





CANADA 1953

THE OFFICIAL HANDBOOK OF PRESENT CONDITIONS AND RECENT PROGRESS

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Foreword

THE illustrated Canada Handbook is prepared and edited in the Canada Year Book Section of the Dominion Bureau of Statistics from material obtained from the various Divisions of the Bureau and Departments of the Federal Government. In certain special fields, information has been kindly contributed by other sources.

As a companion volume of *The Canada Year Book*, the *Canada* Handbook offers to the public generally in Canada and abroad an attractive and well-balanced picture of the economic and social life of the nation. The textual and statistical coverage follows somewhat the same pattern as that in previous editions with emphasis this year directed to mineral development and external relations. The information presented is as up to date as possible at the time of going to press and gives an outline of Canada's impressive growth to the close of 1952.

Huanhall

Dominion Statistician.

OTTAWA, January 30, 1953.

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Symbols

- ... figures not available
- ... figures not appropriate or not applicable
- ~ amount too small to be expressed or where a "trace" is meant

^p figures are preliminary.

- nil or zero

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Medicine Lake in Jasper National Park, Alta. Jasper and Banff are magic names to the vacationist, envisaging mountain and lake playgrounds of unsurpassed splendour.

Cyclists pause to view a derelict ferry beached on the St. Lawrence River across from Trois-Pistoles, Que.





Wheat and Oil—Harvest time in Alberta in the oilfields area between Devon and Leduc.

Economic Conditions at the Close of 1952

The Canadian economy at the close of 1952 was characterized by very high levels of production and employment. The major demand factors supporting this activity were: defence expenditure, which rose more than 50 p.c. above 1951; consumer outlays, which were about 8 p.c. above the previous year, reflecting in part a sharp upturn in durable goods purchases; and exports of goods and services which were 11 p.c. above the 1951 level, due mainly to an increase in sales to overseas countries. In addition, considerable increases were reported in investment outlays for new construction, machinery and equipment, particularly in the fields of resource development and defence-supporting in lustries.

For the year as a whole, the increase in the total volume of production is estimated to have been around 6 p.c. The gross national production of goods and services totalled \$23,000,000,000 or approximately \$1,600 per person in a population of 14,430,000. In addition, imports amounted to 500,000,000, bringing the value of the total available supply to \$28,500,-000,000. Of this total, personal expenditure took $50\cdot2$ p.c., government expenditure 14.7 p.c., investment in new construction, machinery and equipment 14.5 p.c., investment in inventories 0.6 p.c. and exports 20.0 p.c. The shares absorbed by government, consumers and exports were higher than in the previous year, investment in new construction, machinery and equipment was about the same, while investment in inventories took a subtional share.

A number of dominant factors highlight the year's economic activity: the adatement of inflationary pressures and the lifting of consumer credit regulations; the improvement in the supply of essential materials and the relaxation of controls over them; the surplus on merchandise trading account, in contrast to the deficit of the previous year; and the emergence of an exchange previum on the value of the Canadian dollar in terms of the United States dollar.

Obsetting these very impressive economic gains, there were developments of an adverse nature whose major impact was felt by individual economic group. The outbreak of foot-and-mouth disease in Saskatchewan and the ubsequent United States embargo on shipments of Canadian live stock iously disrupted the live-stock industry throughout the year. Producers of wood products, cheese and textiles had difficulty in placing sales. Rising cuts in the mining industry and the appreciation in the exchange value of the Canadian dollar seriously handicapped the gold-mining industry. On bunce however, and noting these exceptions, the situation at the close of 1952 was one of extraordinary prosperity.

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Production and Employment.—The gain of approximately 6 p.c. in total real output of goods and services in 1952 was shared by the majority of industries, although the amount of the increase varied considerably. Agricultural production showed a considerable increase due largely to the record wheat crop estimated at 687,900,000 bu. Farmers also harvested record crops of barley and soybeans and near-record or above-average outturns of most other field crops.

In contrast to the gain in real farm output, operations in the woods were at a lower level. Mineral production, on the other hand, was at an all-time high, with the composite volume index for mining about 8 p.c. above 1951 during the first ten months. In the same comparison, producer shipments of crude petroleum increased by more than 25 p.c. compared with 1951; this was accompanied by a considerable increase in domestic production of refined petroleum products.

Manufacturing output, in the ten-month comparison, was about the same as that of 1951. The sharp decline in production of passenger cars and major appliances and in certain soft goods industries which began in mid-1951 was continued into the early months of 1952. Early in the year, however, consumer demand recovered strongly and the subsequent increase in output in the depressed industries combined with the steady expansion in defence-supporting industries resulted in sharp production gains. In September and October the levels of the index of manufacturing output were the highest on record.

Output of non-ducable manufactors was about 1 p.c. lower in the first ten months of 1952 than in the same period of 1951. The level of the nondurables index during the first six months of the year was well below that of the corresponding months of 1951, but moved ahead in the latter part of the year due in part to the recovery in the production of leather product textiles and clothing in the third quarter. The durables index in the ten-month comparison averaged slightly higher than in the previous year but followed a trend similar to that of non-durables. In the first ten month output in the transportation equipment industry was nearly 16 p.c. higher than in the same period of 1951. Despite very rapid increases in the second half of 1952, production of motor-vehicles was only about 2 p.c. higher in the ten-month comparison. Activity in the aircraft and shipbuilding industriwas substantially higher. The advances in these sectors were sufficiently strong to offset declines in the other durable industry groups.

A substantial gain in real output was recorded by the transportation, communication and storage group which rose by 8 p.c. over 1951. The volume of construction, as indicated by mid-year data on investors' intention, also exceeded that of the preceding year by about 6 p.c. Volume of output in the trade sector was nearly 5 p.c. greater in the ten-month comparison.

Turning to total employment, the civilian labour force during 1952 averaged somewhat more than 1 p.c. higher than in 1951. While the number of persons with jobs in agriculture declined by about 6 p.c., non-agricultural employment was more than 2.5 p.c. higher. Total number of persons with jobs was about 1 p.c. greater.

Although employment in other industries such as transportation, construction and mining showed large increases, the manufacturing employment index averaged only slightly above 1951 levels in the ten-month comparison. If account is taken of the decline in hours worked per week, total hours worked in manufacturing in 1952 showed a moderate drop compared with 1951.

Personal Income and Expenditure.—Personal income continued to rise during the year under review. Labour income, which in 1951 accounted for about 60 p.c. of personal income, showed a steady increase throughout 1952. Gains over 1951 were recorded in each of the first nine months, bringing the total for this period to \$8,012,000,000, nearly 12 p.c. above the same period of the previous year. These increases were the result both of increased employment and of higher average weekly carnings, with the latter supplying the larger percentage share. The gains in labour income in the nine-month comparison were spread over all major industrial sectors.

The opening, in September 1952, by the Rt. Hon. C. D. Howe, of the Government-financed gas turbine plant at Maltan, Ont., marked the end of Canadian total dependence on other countries for jet aircraft engines. Orenda engines produced at the new plant power the Avro-built CF-100 and the Canadair-built F-86 Sabre 5, both destined for major roles in the defence of freedom with the R.C.A.F.



Other types of personal income include interest, dividends and net rents, net income of farm operators, incomes of individual enterprisers such as storekeepers, construction contractors, doctors and other professionals, and transfer payments. Interest, dividends and net rental income of persons increased during 1952. On the other hand, the net incomes of farm operators were subject to increases as a result of the record wheat crop, and decreases on account of higher expenses and lower prices of live stock. Other net incomes also remained fairly stable relative to the previous year. Transfer payments increased substantially, chiefly as a result of pension payments under the new old age security program.

Disposable income, that is to say, the portion of personal income remaining after payment of personal taxes, also rose in 1952. The increase was somewhat less than that of personal income, since there was a substantial advance in personal income taxes; from January to September 1952, Federal Government income-tax collections were 30 p.c. above the corresponding period of the previous year. This increase in personal income taxes can be attributed chiefly to the progressive structure of the tax system which causes a rise in income to generate an even greater rise in taxes, and to the imposition of the old age security tax of 2 p.c. which went into effect at mid-year.

Personal expenditure on consumer goods and services also increased during 1952. Total retail trade for the first ten months of the year was 7 p.c. above that of the corresponding period of 1951, but the growth throughout the year was very uneven. Total retail sales in the first quarter of 1952 were only slightly above the 1951 level. Sales of durable goods such as furniture, motor-vehicles, and radios and appliances lagged seriously. In the second and third quarters, however, there was a large upswing in these durable sales, following the easing of credit restrictions and the reduction of indirect taxes on certain classes of durable goods. Motor-vehicle sales, for example, which were 10 p.c. below the 1951 level in the first-quarter comparison, were 16 p.c. higher in the second quarter and 12 p.c. higher in the third quarter of 1952, Furniture store sales, which had been of about equal value in the first-quarter comparison, were higher by more than 19 p.c. in the second quarter and 30 p.c. in the third quarter of 1952. Radio and appliance sales also gained rapidly, and sales of television sets late in the year gave further impetus to the durable goods sector. Accompanying these increases in durable goods purchases, instalment-account buying and passenger-car financing showed large gains compared with 1951.

In summarizing the above changes in personal disposable income and expenditure, it may be noted that the increase in disposable income between 1951 and 1952 was approximately equal to the increase in personal expenditure, with the result that the residual item of personal saving was not appreciably altered.

Government Economic Measures and Public Finance.—The abatement of inflationary pressures in 1952 and the relative improvement in the supply situation was accompanied by the relaxation of a number of restrictive measures which the Government had instituted in the two previous years. Consumer credit regulations, which were first imposed in the autumn of 1950, were relaxed in January 1952, and removed entirely in May. In the latter month, the Bank of Canada expressed the view to the chartered banks that, with one exception, the special policies of credit restraint which had been



Honeymoon Bay on Cowichon Lake, Vancouver Island, a shingle and sawmill development established close to the source of raw materials. The opening up of such areas in the course of primary resource extraction soon leads to the establishment of new industrial centres. Service industries grow up quickly, followed eventually by secondary manufacturing industries.

agreed upon in February 1951 were no longer necessary. The exception related to bank loans secured by corporation stocks, where the arrangement calling for at least a 50-p.c. margin remained unchanged.

Increases in steel-producing capacity and supplies of other critical materials made possible substantial reductions in excise taxes in the Budget of Apr. 8, 1952. The tax of 25 p.c. on motor-cars, radios and certain appliances was reduced to 15 p.c., and the 15-p.c. tax on mechanically operated refrigerators, washing machines and electric stoves was suspended. Throughout the year, the Department of Defence Production progressively removed controls on certain essential materials as they came into better supply, including cadmium, lead, zinc, certain copper and aluminum products, sulphur and newsprint. Toward the end of the year, it was announced that the ban on the use of steel for certain types of non-essential construction would be lifted, effective Jan. 1, 1953.

The outbreak of foot-and-mouth disease in Saskatchewan early in 1952 presented the Government with an emergency situation which was quickly brought under control. However, the loss of the United States market caused a sharp drop in the price of beef products and the Government subsequently was obliged to establish support prices for cattle under the Agricultural Prices Support Act, as it had done for hogs earlier in the year. In May, an agreement

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was reached between the Governments of the United Kingdom, New Zealand and Canada whereby Canadian meat could be shipped to the United Kingdom in exchange for New Zealand beef and pork, which would in turn be sold by Canada in the United States market. In November it was announced that the United States embargo on Canadian live stock would be lifted, effective March 1953.

There were a number of Government measures in the field of housing in 1952. Interest rates under the National Housing Act on new joint loans were raised from 5 to $5 \cdot 25$ p.c. in September. This action was necessary to maintain the supply of funds for housing which otherwise might seek more attractive avenues of investment. In October 1952, the Government approved increases in the maximum joint loans for rental housing which may be made by approved lending institutions and the Central Mortgage and Housing Corporation. Finally, in those communities of from 5,000 to 50,000 population, where lending institutions have not extended loans under the National Housing Act, such loans may now be made directly by the Central Mortgage and Housing Corporation.

The Canadian gold-mining industry operated under a handicap in 1952 due to rising costs and the appreciation in the exchange rate of the Canadian dollar. These factors resulted in a substantially smaller return from sales of gold, and a number of marginal mines were forced to shut down. Toward the end of the year it was announced that the Government would therefore increase payments to this industry under the Emergency Gold Mines Assistance Act, effective Jan. 1, 1953.

Federal Government revenues for the seven months ended Oct. 31, 1952, were \$2,365,000,000 compared with \$2,160,000,000 for the same period of 1951, an increase of \$205,000,000. This increase was more than accounted for by the gain in direct personal and corporation income taxes of \$218,000,000, but there was a decline in excise taxes of \$50,000,000. Customs import duties and excise duties increased moderately. It should be noted that the 1952 figures exclude the new old age security tax receipts; with these included, personal and corporation income taxes would show an additional increase of \$29,000,000, and excise taxes would show a net gain of \$25,000,000 rather than a decline.

Total Federal Government expenditure in the first seven months of 1952-53 was \$2,077,000,000, compared with \$1,656,000,000 in the same period of the previous year, a gain of \$421,000,000 or 25 p.c. The greater part of the increase was due to defence expenditure, which rose to \$883,000,000 from \$593,000,000 in the previous year. Despite the increase, the rate of defence spending in the first seven months of the fiscal year was well below the amount of \$2,100,000,000 appropriated by Parliament for 1952-53. The increase of \$131,000,000 in non-defence expenditures was due chiefly to higher payments to the provinces under the Tax Rental Agreements and higher disability pensions to veterans.

The budgetary surplus at the end of October 1952 was \$288,000,000 compared with \$504,000,000 at the end of October 1951.

Foreign Trade.—The level of merchandise trade was very high throughout 1952. In the first ten months of the year exports were more than 11 p.c. above their record 1951 value for this period and their volume gain was

almost 12 p.c. On the other hand, the value of imports was 5 p.c. below that of the same period of 1951. However, the decline in the value of imports was entirely due to lower import prices and the favourable rate of exchange; in volume terms, imports actually rose by about 5 p.c. As a result of these developments, Canada's balance of trade on merchandise account in the first ten months of 1952 showed a surplus of \$248,000,000 compared with a deficit of \$292,000,000 for the same period of 1951.

While both import prices and export prices declined in 1952, the fall of import prices from their peak in June 1951 was greater than that of export prices from their peak in November 1951. As a result, the terms of trade (the ratio of export prices to import prices), which had become less favourable in the early part of 1951, improved substantially in 1952. In the first ten months of the year the terms of trade averaged 13 p.c. above the level of the 1951 period. This factor, together with the relatively greater increase in the volume of exports than in imports, was responsible for the marked change in the trade balance.

The greater part of the increase in exports in 1952 was in sales to overseas countries. Heavy exports of grains to the United Kingdom and Europe, together with increased sales of metals and forest products accounted for most of these gains. Latin America made especially heavy purchases of Canadian automobiles during the period that the domestic market was restricted by credit controls, and a variety of other exports to Latin America



A giant generator being built in an Ontario plant for export to Brazil. also increased. Exports to the United States showed little change from the high value and volume of 1951. The brief outbreak of foot-and-mouth disease in Canada closed the United States market to Canadian beef and cattle, and exports of wood-pulp and some other forest products were lower. However, these declines were offset by increases in such items as aircraft, base metals, asbestos and newsprint.

Imports from the United States and from Latin America in the first ten months of 1952 were greater than in the 1951 period. Defence imports from the United States increased in importance, and those of consumer goods and industrial materials were well maintained. Purchases of cotton and sugar from Latin America increased very sharply. Imports from other overseas countries declined; those from Europe and the United Kingdom were affected by the lower Canadian demand for textiles, and the United Kingdom's sales of automobiles were reduced by credit restrictions in Canada. The value of imports from the Commonwealth was reduced by a very sharp drop in the prices of rubber, wool and tin; in addition, Canadian inventories of these materials were drawn down during the period.

As a result of these changes, the pattern of trade in 1952 was altered considerably. The United States took only 53 p.c. of exports in the first ten months as opposed to 60 p.c. in the 1951 period, and supplied 74 p.c. of imports in the first ten months as opposed to 68 p.c. in the 1951 period. The deficit on merchandise trading account with the United States was thus increased from \$457,000,000 to \$536,000,000 in the first ten months of 1952. The United Kingdom, other Commonwealth countries, Europe, and other foreign countries absorbed a greater share of exports, but the proportion of imports originating in these countries declined (except for those of Latin America). There was consequently an increase in the trading surplus with the United Kingdom, from \$144,000,000 in the first ten months of 1951 to \$345,000,000 in the first ten months of 1952, while the balance on merchandise trade with other Commonwealtb countries increased from a deficit of \$78,000,000 to a surplus of \$67,000,000. The trading surplus with other countries also showed a gain, rising from \$99,000,000 to \$373,000,000.

The current account surplus, however, was much smaller than the export surplus, because there continued to be a large deficit on non-merchandise transactions. The current surplus with overseas countries in the first ten months of 1952 was large enough to offset the substantial current deficit with the United States and to show a small surplus on transactions with all countries. By contrast, in 1951 the surplus with overseas countries offset less than one-half of the deficit with the United States.

Capital Movements.—The dominant factor in the capital account in 1952 was the inflow of long-term capital to finance Canadian development. This took two principal forms, inflows for direct investment in Canada, and inflows from the sale of new issues of Canadian securities in the United States.

Direct investment in Canadian branches and subsidiaries by foreign concerns has played an increasingly important role in the Canadian balance of payments since the end of the War, and the inflow has risen year by year to reach over \$300,000,000 in 1951. During the first nine months of 1952 the total exceeded that for the same period of 1951. About 85 p.c. of the total was associated with expansion of the mining and petroleum industry, nearly one-half falling in the latter category.

Kemano Camp from the air. The first stages of the big aluminum development 400 miles north of Vancouver are moving ahead on schedule. At the end of 1952, Kenney Dam was finished and water was rising in the 350 sq. mile loke being created. The ten-mile tunnel was driven half way through the mountain taward the half-campleted Kemana power-hause. The 50 miles of right-of-way for the transmission line was cleared and many of the 250 towers erected, and the smelter was rising in the cleared farest site at Kitimat. Proceeds of new issues of Canadian securities sold in the United States totalled \$275,000,000 in the first nine months of the year. Retirements of Canadian securities owned abroad were considerably lower than in 1951 and net new issues of about \$220,000,000 in the nine months were about equal to the total for the whole of 1951. Nearly one-half the new issues were corporate obligations, the remainder being provincial and municipal issues. New issues in the third quarter of 1952 fell to only \$22,000,000 and there are indications that, while the fourth-quarter total will be considerably higher, there will also be heavy retirements.

Non-residents were also substantial purchasers of outstanding stocks of Canadian corporations in 1952; the capital inflow for this purpose totalled \$64,000,000 in the nine months.

Demands for Canadian funds arising from these substantial capital inflows totalled \$500,000,000 in the first nine months of the year, and were reinforced by demands arising from the current account surplus. Increased official holdings of gold and United States dollars supplied only a minor part of this demand. Official holdings of gold and U.S. dollars in December 1952 were \$1,860,200,000 compared with \$1,778,600,000 in December 1951. Pressures created in the exchange market by these transactions were reflected in the rising value of the Canadian dollar in terms of U.S. funds, which in December 1952 was about 5.5 cents higher than in December 1951.

The strength of the Canadian dollar contributed to large capital outflows through liquidations of outstanding Canadian bonds and debentures held by non-residents, and through short-term movements. The latter took the form mainly of reductions in accounts payable and increased holdings of bank balances and short-term investments abroad.

Public and Private Investment in 1952.—Capital expenditures in 1952 were substantially higher than in 1951. It is estimated that the total amount of public and private investment during the year amounted to approximately \$5,122,000,000, 12 p.c. higher in value terms than in 1951. This increase consisted of a 15-p.c. gain in new construction and a 17-p.c. larger outlay for new machinery and equipment.

Non-residential construction was higher both in value and in volume during 1952. The gains are attributed to substantial increases in work put in place on defence projects including airfields, barracks, military encampments, ranges, air defence installations, and so on, and in defence-induced industrial construction. Developments in aluminum, oil and iron ore accounted for a considerable portion of the gain in capital expenditures. By contrast, certain types of "non-essential" construction, which had been deliberately limited by steel restrictions and the deferred depreciation regulations of the Federal Government, showed little change or some decline during the year. The removal of steel restrictions was announced late in the year, and it was expected that deferred depreciation regulations would be removed shortly.

There was a gradual revival of home building commencing with the second quarter of 1952; this followed a severe set-back in the early months of the year. By early autumn, the rate of residential construction exceeded that for the corresponding period of 1951. This increased activity was related

to a larger flow of institutional mortgage money, and increased lending under the National Housing Act. For the year as a whole the value of new residential construction was expected to be equal to that of the year 1951.

The costs of building did not show generally any large increase in the year 1952; higher wage rates were offset, at least in part, by lower prices of such building materials as lumber, other wood products and window glass.

Investment in machinery and equipment continued at a higher level throughout 1952. In most cases, deliveries were higher than the previous year both in value and quantity. The favourable rate of exchange on the Canadian dollar during 1952 was reflected in some reductions in unit costs of various types of imported machinery, but unit costs of domestically produced machinery were, on the whole, somewhat higher.

Net additions to inventories, a form of investment not included in the capital expenditures described above, were much lower in 1952 than in 1951. Whereas the change in book values of inventories in 1951 amounted to \$1,620,000,000, inventory accumulation in 1952 was only about \$200,000,000. There was a very substantial decline in book values of holdings of manufacturing inventories, while retail trade inventories were also slightly lower. On the other hand, holdings of farm inventories, grain in commercial channels, and wholesale trade inventories were substantially higher at the close of 1952 than at the same time a year ago. On balance, the relatively small net addition to inventory book values in 1952 reflected a combination of a larger volume of inventory holdings and lower prices in some groups than at the close of 1951.

Domestic Prices.—The general wholesale price index reached a peak in July 1951, but declined by small amounts in nearly all months since that time. As a result, it was down by nearly 6 p.c. in the first ten months of 1952 by comparison with the same period of 1951. The major groups contributing to this decline were animal products, vegetable products, fibres and textiles, and non-ferrous metal products. Iron and steel products prices continued to expand.

The consumer price index declined by small amounts after. Jan. 1, 1952, chiefly as a result of lower food prices. These declines were not sufficient to offset previous increases and, in the ten-month comparison, the index was more than 3 p.c. higher than a year previously.

Prices of commodities and services used by farmers increased, while the farm prices of their produce declined. Upward trends in some cost factors entering new construction, machinery and equipment and government expenditures continued during the year. The movements of export and import prices are referred to above.

All of the foregoing price influences are reflected in the domestic price level of final products and services. The average level of prices entering consumer expenditure, government expenditure, and business expenditure for capital facilities was higher in 1952 than in 1951. In so far as imported rawmaterial prices were lower and end-product prices higher, a wider domestic margin was implied. The price factor entering total national expenditure was therefore higher for the year 1952 than during 1951, although it indicated a relatively stable trend for the year as a whole.

ECONOMIC CONDITIONS 1952 64213-31



Canadian Mineral Development

the development of mining. In carlier and simpler days he was apt to be a rugged individual who, as the season opened, loaded his burro or canoe with a few months' supply of food, a gun, an axe and a prospector's pick, and disappeared into the wilderness to see what he could find. His field of search was usually haphazard, in a day when a large part of the country was virtually unexplored and unmapped either topographically or geologically. And it was gold he was looking for—gold and silver—industrial metals like iron, copper, zinc, lead and nickel running a rather poor second. Recognition of the ores of these metals did not call for a very high level of formal education and though many searchers had the advantage of some degree of technical training, others relied on their own keenness of observation and hard-bought experience.

HE prospector may fairly claim priority in

The mineral field to-day presents a totally different picture. The age of atomic energy, electronics and jet engines has greatly stimulated the demand for the long-established metals and raw materials, but at the same time it has created a host of new demands largely centred around metals and minerals the names of which were formerly seldom heard outside the laboratory. Several of these are rare and, when they do occur, are likely to do so as comparatively small percentages of highly complex associations of other minerals. Their recognition in the field frequently demands a considerable knowledge of both geology and chemistry. The geiger counter, it is true, affords a fairly easy means of recognizing the presence of radio-active minerals but, in the rest of the field, visual search of areas thought to be geologically favourable, followed by field and laboratory tests of promising finds, is the usual procedure. The use of aircraft has had a tremendous effect on prospecting. The air-borne magnetometer and other geophysical devices afford means of locating promising mineralized areas, while the aeroplane itself makes it possible to reach, in a matter of hours or even of minutes, areas that formerly could have been examined only after weeks of arduous travel by land and water.

Thus the prospecting pattern has been changed in many ways. Where once a host of prospectors operated individually with little or no assistance, the work is now done by teams of highly trained men employed by mining and exploration companies and syndicates that can afford to maintain the costly equipment of aircraft and instruments that characterize the prospecting field.

When a promising indication has been found, the next step is surface trenching to determine the width, direction and extent of the ore veins. The ore-body is then outlined, usually by diamond drilling, and the approximate grade of the ore determined. If the results of the drilling are satisfactory, the deposit is opened up by underground workings and the ore is blocked out. If the ore is of a type for which standard methods of treatment have been worked out, the problem is mainly one of planning what buildings and equipment will be required. If, however, the ore is of a complex type, considerable research and experiment, sometimes extending over a period of years, may be necessary before production can proceed.

CANADIAN MINERAL DEVELOPMENT

When the construction stage is reached, the location of the ore-body may bring up additional problems. The capriciousness of nature is seldom more noticeable than in the field of minerals. Cases do occur where a discovery is made in convenient proximity to civilization and where construction, transportation and processing present no more than their own inherent problems. But the find is very often in an undeveloped part of the country, devoid of roads, railroads, water access, or facilities for obtaining supplies of any kind. In these cases, development involves provision of means of access for taking in supplies and equipment and for transporting the material mined. Such provision ranges from the comparatively inexpensive construction of a few miles of road linking up with some established highway to such an enterprise as the development of the Quebec-Labrador iron deposits, which involves the construction of 360 miles of railroad through difficult and largely unexplored country as well as the building of a deep-water port.

Housing of the mine staff, again, presents varied problems. If the mine is within easy access of an established settlement, the problem is readily solved. But where development takes place scores or perhaps hundreds of miles from settlement, there arises the necessity of providing practically every amenity—shelter, sanitation, food supplies, shopping facilities, medical care, recreation—and arranging for its maintenance and administration.

It is not hard to visualize, therefore, just how complex and far-reaching in its effect on the national economy mining may be. Even a small mine will tend to become a focus for settlement and for developments in both mineral and other fields, while a vast enterprise like the Quebec-Labrador operation is almost equal to the opening up of a new country.

For a long time Canada's mineral industry has been a major element in the country's growth and development. Of late years, and particularly since the War, expansion in the mineral field has been truly phenomenal. The sixty-six-million-dollar production of 1901 had grown to \$560,241,290 by 1941 and in 1951 total production was valued at \$1,245,483,595, exclusive of uranium products, for which figures are not available. The 1951 total, of course, reflects to some extent the gradual decline in the value of the dollar, as well as fluctuations in the prices of the products themselves. Nevertheless, the volume of production has also increased steadily. The index of physical volume of output in the mining industry (1935-39=100) shows a rise from $132 \cdot 0$ in 1941 to $161 \cdot 8$ in 1951. The industry employed 128,871 people in 1951, as compared with 120,400 in 1950, and 113,200 in 1941. The tonnage of ore mined and rock quarried has shown a steady increase: 1922, 14,000,000; 1930, 35,000,000; 1941, 65,000,000; and 1951, 92,700,000.

Canada leads the world in the production of nickel, platinum and the platinum metals and asbestos, ranks second in gold and aluminum, third in zinc, and fourth in copper and lead. In the near future, Canada's production of high-grade iron ore will be increased tremendously and the recently begun output of tungsten concentrates will make Canada the largest producer of this most valuable strategic metal in the free world.

Canada's output of the five most important non-ferrous metals is very large. For the year 1951, nearly 9 p.c. of the world's lead, more than 9 p.c. of the copper, 14 p.c. of the zinc, 90 p.c. of the nickel and nearly 24 p.c. of the world output of aluminum (from imported ores) were produced in Canada.

The combined value of exports of all five metals amounted to over \$478,000,000 - a total approached by no other country.

The United Kingdom and the United States shared the bulk of Canada's exports of these metals. The United Kingdom took $32 \cdot 8$ p.c. (in value) of the copper, $27 \cdot 0$ p.c. of the lead, $23 \cdot 6$ p.c. of the nickel, $33 \cdot 0$ p.c. of the zine, and $45 \cdot 9$ p.c. of the aluminum. The percentages exported to the United States were: copper $35 \cdot 7$ p.c.; lead $52 \cdot 9$ p.c.; nickel $67 \cdot 6$ p.c.; zine $54 \cdot 0$ p.c.; and aluminum $32 \cdot 8$ p.c.

In the 1952 mineral picture iron ore continued to be most prominent. Some 417,000,000 tons of high-grade ore have been definitely located on the Quebec-Labrador development, and further important ore-bodies are likely to be found. The railway from Seven Islands was scheduled for completion to Mile 165 before the 1952 freeze-up and an excellent airfield at this point will facilitate the transportation of material to the mine site, pending completion of the railroad. Ore shipments at the rate of 2,500,000 tons annually are expected to begin in 1954, rising to 10,000,000 tons over a three-year period.

Exploration of the iron-ore deposits in the Steep Rock area of Ontario has indicated the presence of eight major ore-bodies. Geological evidence suggests that over-all reserves may reach 500,000,000 tons per thousand feet of depth, with the possibility that the ore may extend with undiminished grade and extent to 3,000 feet or more. Steep Rock Iron Mines Limited has leased the eastern third of the Steep Rock Range to two groups of iron

The aeroplane has opened a new frontier to the prospector, the geologist and the mining engineer. From east to west and northward to the Arctic, potential mining areas are being subjected to an intensified frontal attack.



and steel companies for development, and is itself concentrating on two main ore-bodies—the Errington and the Hogarth. Shipments from the former amounted to 1,325,889 tons in 1951. It is expected that 1953 shipments from these will be about 3,500,000 tons, on the basis of present plans. Demand for ore is, however, increasing so rapidly that an expansion program which would increase the output from this portion of the area to between 6,000,000 and 9,000,000 tons is under consideration. When the eastern areas come into production, the total Steep Rock output will probably be between 10,000,000 and 15,000,000 tons a year.

The great hematite deposits at Wabana, N'f'ld., have been turning out about 1,700,000 tons of ore annually, a production that will shortly be increased to 2,500,000 tons as the result of an extensive program of mechanization, which included installation of the world's longest underground conveyorbelt system. The United Kingdom and Germany have contracted for the annual delivery, over a five-year period, of 1,000,000 tons and 500,000 tons, respectively. The remainder of the output will supply the Dominion Steel and Coal Corporation mill, at Sydney, N.S., which calls for 900,000 tons a year.

The siderite ores of the Michipicoten area of Ontario are in steady demand, both because of their comparatively high (3 p.c.) manganese content and their self-fluxing property. The Helen Mine of Algoma Ore Properties Limited, with proved reserves estimated at 100,000,000 tons, is the only one presently producing. Ore is shipped to Jamestown, three miles distant, for sintering; one-third of the sinter is used by Algoma Steel Corporation, Sault Ste. Marie, Ont., and the remainder is sold, chiefly in the United States. Sinter output for 1951 was 1,188,842 tons. Algonia Ore Properties Limited announced that diamond drilling on the Alexander Mine property, east of the Helen and Victoria Mines, shows an ore-body equal in grade to that of the last-mentioned mines. The Siderite Hill deposits, three miles northeast of the Helen Mine, total 100,000,000 tons of ore with an iron content of 35 p.c.; a further 30,000,000 tons with a 41-p.c. iron content have been proved at the Britannia property, eight miles northeast of the Helen Mine. In the Goulais River area, some 50 miles northeast of Sault Ste. Marie, ore reserves with a 30-p.c. iron content are estimated at over 150,000,000 tons.

The magnetite deposits of Marmoraton Mining Company Limited near Marmora, Ont., lie beneath a capping of limestone from 100 to 150 feet thick. This capping is being removed as a preliminary to open-pit mining and the shipping of concentrates at a rate of 1,750 tons per day should start in 1954.

The magnetite deposits near Quinsam Lake, Vancouver Island, B.C., were brought into production in September 1951, and had produced over 101,000 tons of concentrates by the end of the year. Output ranged from 60,000 to 70,000 tons monthly in 1952. Extensive development work has been carried on at two other British Columbia deposits—on Texada Island, and on Elk River, Vancouver Island. The former came into production in May 1952. For the balance of the year, combined shipments of beneficiated ore from Quinsam and Texada averaged 100,000 tons per month.

Exploration and development in the petroleum and natural gas fields of Western Canada continued at a very high tempo in 1952, with expenditures amounting to an estimated \$250,000,000. During the first nine months of the year, 80 discoveries of oil were reported and 58 discoveries of natural



velopment in the northern Saskatchewan uranium fields. It is one of the most promising prospects of the Athabaska area.

A geologist engaged in underground geigering in a drift at the Nesbitt-LaBine mine.



gas; the total of 158 was the highest yet reported in any one year. Alberta was credited with 104 of the discoveries, and the others were mostly in British Columbia, southern Saskatchewan and southwestern Manitoba. At the end of September 1952, Alberta's reserves of crude petroleum were estimated to be 1,800,000,000 bbl., as against an estimate of 1,500,000,000 at the end

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The 400-mile pipe fine from Montreal to the Toronto-Hamilton area as it neared completion. It was brought into operation on Nov. 1, 1952.

This huge tank being rolled into place during construction operations is now used to measure off the quantities of nineteen different petroleum products carried for three oil companies.

of 1951. The number of wells producing or capable of producing during the week ended Nov. 10 was 3,503 as against 2,659 for the same period in 1951. The daily average production for the first nine months of 1952 amounted to 162,000 bbl., as against a potential yield of 275,000 bbl. The highest daily average for any one week in 1952 was 217,513 bbl. and that for 1951 was 167,004 bbl. Production for the first seven months of 1952 was 31,735,610 bbl., more than 1,500,000 bbl. over the same period of 1951.

Production of crude petroleum is directly related to availability of market outlets. The Interprovincial Pipe Line from Edmonton to Lake Superior transported 17,331,165 bbl. during the first six months of 1952 (a daily average of 95,000 bbl.) as against 30,139,907 bbl. for the whole of 1951. Delivery of oil through the Trans-Mountain Pipe Line, from Edmonton to Burnaby, B.C., is expected to begin in August 1953 at the rate of 75,000 bbl. a day. Refinery and storage facilities have been greatly expanded. The capacity of the refinery at Shellburn, near Vancouver, is being doubled in anticipation of the arrival of the pipe line; when completed, the refinery capacity will be 15,000 bbl. daily, and storage capacity will be increased by 300,000 bbl. A development of major importance in this connection is the projected construction by General Petroleum Corporation of Los Angeles, Cal., of a refinery near Bellingham, Wash., with a capacity of 35,000 bbl. a day, to process Alberta crude petroleum delivered by Trans-Mountain Pipe Line. This project is in part a result of the lowering of the United States tariff on crude oil imports from 21 cents to $10\frac{1}{2}$ cents a barrel. The new refinery of Canadian Oils Company Limited at Sarnia, Ont., opened in September 1952, is the largest built in Canada since the end of World War II. It has the first platforming unit in Canada, and one of the few yet constructed anywhere. The plant is processing 20,000 bbl. a day of Alberta crude, transported by the Interprovincial Pipe Line. Storage capacity is 2,000,000 bbl. The Moose Jaw, Sask., refinery has been enlarged and modernized, and is now the third largest in Western Canada. Capacity has been jumped from 5,000 bbl. to 15,000 bbl. daily. At the end of 1952, two oil product pipe lines were approaching completion-the Trans-Northern and the Sarnia-Toronto. The Trans-Northern is a 10-inch line, running for 400 miles from Montreal to the Toronto-Hamilton area, with an 8-inch branch line from Farran's Point to Ottawa. It was brought into operation on Nov. 1, 1952, and delivers gasoline, diesel oil, and domestic fuel oils from the Montreal refineries of McColl Frontenac, British-American and



A geologist in the Calgary laboratory of the Geological Survey of Canada examining drill cores from the oil fields. These cores are studied to determine the formatians favourable to the occurrence of oil. Shell Oil companies at a rate of 40,000 bbl. daily. Such lines require less steel than would be needed for alternative storage and shipping facilities and provide much greater flexibility in distribution, since delivery of any type of product in any required quantity can be made as and when needed, irrespective of weather conditions.

The Sarnia-Toronto line, which handles gasoline, furnace fuels, and diesel and stove oils from the Sarnia relinery, is 188 miles long. The 12-inch line from Sarnia to Waterdown divides at that point into a 10-inch branch to Toronto and two 6-inch spur lines to Hamilton. Deliveries to Toronto started on Nov. 5, 1952. Initial capacity is 39,000 bbl. a day.

Proved reserves of natural gas greatly increased during 1952. The Fort St. John field in the Peace River area of British Columbia may yet prove to possess the greatest reserves of any field yet found in Canada. Proved and probable gas reserves in the Peace River area amount to upwards of 2,506,000,000,000 cu. ft., of which 1,585,000,000,000 cu. ft. are in the British Columbia section. It is from this field that Westcoast Transmission Company's pipe line proposes to draw its supplies. Construction has been authorized by the Federal Board of Transport Commissioners, but awaits authority from the Federal Power Commission, Washington, D.C., to import natural gas into the United States.

An important outcome of the great gas and oil discoveries in Western Canada is the recent establishment of petro-chemical industries. Recovery plants have begun turning out sulphur recovered from sour natural gas in the Jumping Pound and Turner Valley fields at the rate of 21,000 tons a year. It is interesting to note that a natural gas well recently brought in at Okotoks, Alta., shows a hydrogen sulphide content of 32 p.c. by volume, ten times that of the Jumping Pound gas; a recovery plant will be erected if sufficient reserves are proved. Fort Saskatchewan, Alta., is the site of a pressure-leaching plant to treat the nickel concentrates from Lynn Lake, Man. The process requires large quantities of ammonia which will be derived from natural gas.

In the field of the industrial minerals, asbestos production, long confined to the Eastern Townships of Quehec, has been extended to Ontario, Newfoundland and British Columbia. Canadian Johns-Manville Company Limited is developing the deposits near Matheson, Ont. and drilling is also being carried out elsewhere in northern Ontario with promise of further producing properties. The Cassiar Asbestos Corporation is erecting a mill to process a large deposit of long-fibre asbestos at McDame Mountain, B.C., and Newfoundland Asbestos is doing likewise in connection with a deposit of good-quality chrysotile asbestos at Lewis Brook on the west coast of the Island. Two new producers seem assured in Quebec: Dominion Asbestos Mines Limited is building a mill with a daily capacity of 2,200 tons at St. Adrien, and United Asbestos Corporation is negotiating with American Smelting and Refining Company regarding development of the Black Lake deposits. These projects will raise the number of Eastern Townships producers to nine.

Substantial quantities of sulphur are being derived, in the form of liquid sulphur dioxide, from the gases from the new oxygen flash-smelting process now being used by International Nickel at Copper Cliff, Ont. Canadian Industries Limited has erected a plant to process the smelter gases which, when Construction activities at Lynn Lake, over 500 air miles north of Winnipeg, Man. The entire tawn of Sherridon is in process of moving northward from its exhausted copper-zinc mine ta a new nickel-copper mine at Lynn Lake. The program calls for a 147-mile rollway line from Sherridan, a 7,000-h.p. power plant and the mine buildings.

operating at full capacity, will produce 90,000 tons of liquid sulphur dioxide yearly, equivalent to 45,000 tons of sulphur. The liquid gas will be used by sulphite pulp mills, and will materially ease the sulphur import situation.

There has been much activity in the Canadian salt industry. The Morton Salt Company of Chicago recently acquired a substantial interest in the Canadian Salt Company, a new concern operating plants at Lindbergh, Alta., Neepawa, Man., Windsor, Ont., and Malagash, N.S. The Company has been carrying on core-drilling in Ontario, Nova Scotia and Newfoundland to obtain data on salt deposits which might form a basis for the establishment of industries using salt as a raw material. In the course of drilling for salt at Windsor, a 70-foot bed of sandstone having a grain-size suitable for glassmaking was found at a depth of 500 feet. The material could be readily processed to produce a fine grade of silica sand, which is in steady demand for making glass, abrasives, and sodium silicate. This demand has stimulated interest in possible domestic sources of supply, as a result of which three properties, near Montreal, Ottawa, and Gananoque, are being considered for development. Until quite recently the major portion of Canada's requirements of silica sand have had to be imported.

Fluorspar, a somewhat scarce mineral, is the principal source of commercial fluorine and is also in steady and increasing demand in the metallurgical, glass, ceramic and plastic industries. Newfoundland is the only important producer in Canada, the deposits of high-grade material at St. Lawrence being among the richest known. Two companies, St. Lawrence Corporation Limited and Newfoundland Fluorspar Limited, are at present producing. The former of these has recently received a loan from the United States Government to enable it to supply the United States with 50,000 tons a year for three years. The latter company, a subsidiary of Aluminum Company of Canada, is advancing production to fill the requirements of the expanding

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aluminum developments in Eastern and Western Canada. The Reynolds Metals Corporation, a United States aluminum producer, has applied for rights to develop a new fluorspar deposit located on Iona Island, in Placentia Bay, N'f'ld. Fluorspar is an essential material in the production of aluminum, being used in the making of both aluminum fluoride and artificial cryolite.

Cement consumption is generally taken as a valuable index of industrial activity. Canada's cement industry has greatly expanded in recent years, and by early 1953 annual production capacity should be approximately 22,500,000 bbl., practically all of which will be used in Canada. Linue products, also reflect activity in the industrial, agricultural and construction fields, and here, too, new records of production are being constantly attained.

Thus, the Canadian mining industry which has been establishing annual production records regularly since 1946 seems likely to repeat the achievement in 1952 despite declines in the prices of several of the principal mine products. Canada has come a long way in the development of its mineral resources since those early years a century or more ago when the industry consisted of a few scattered and, for the most part, small operations. Little was it realized then that mining was destined to play a leading role not only in the opening up of the country to settlement and industrial development, but in the enhancement of the Canadian economy as a whole. This role began to take shape during the second half of the nineteenth century which, in the mining field, was marked by such important events as the discovery of placer gold on the lower reaches of Fraser River in British Columbia, of the great Sullivan lead-zinc-silver ore-bodies at Kimberley in that Province, of asbestos deposits in the Eastern Townships of Quebec, of nickel-copper ore in the Sudbury area of Ontario, and, near the close of the century, the discovery of gold in Yukon Territory which resulted in the far-famed Klondike rush.

By 1900 Canadian mineral production had climbed to an annual value of \$64,400,000 and although considerably more than a third of this production came from British Columbia and Yukon Territory a lively interest in the search for mineral deposits had been awakened and prospectors were blazing trails into new areas mainly in a search for gold. Construction of the two transcontinental railways had been completed and this, in turn, fostered increasing interest in mineral exploration.

Although the industry was still in an early stage of growth it was already showing considerable evidence of the great role it would later play as a major contributor to the economic well-being of the country. This became increasingly apparent fargely as a result of a succession of important discoveries and other developments during the period between 1900 and 1921. The discovery of cobalt-silver ores in the Cobalt camp and the discoveries of gold that gave birth to the Porcupine camp were followed by the gold discoveries that brought the Kirkland Lake area into prominence. Later, in Manitoba, the Flin Flon copper-zinc deposits were disclosed, and then in 1921 the discovery of the Noranda ore-bodies caused interest to turn to that section of western Quebec now so highly productive of metal wealth.

By 1925 mining had become a major industry in every province except Prince Edward Island, which produces no minerals. From that year on, the record of the mineral industry has been particularly impressive. Even during the depression years when activities in most industries were at low ebb, the then major branch of mining—the gold industry—witnessed the greatest expansion in its history. Again during the war years when the industry was called upon to keep production up to the highest possible level in order that Canada could supply its full share of the munitions of war needed by the Allied countries, Canada produced nickel, copper, lead and zinc to a total value of approximately \$1,000,000,000. For a time it supplied close to 40 p.c. of the Allied requirements of aluminum.

Since the War the industry has been spearheading much of the industrial progress in Canada. Many of the large projects being undertaken, on which huge expenditures are being made, are directly related to mineral resources development. Expenditures on oil exploration and development alone in 1952 approximated \$250,000,000. Add to this the amounts, totalling many hundreds of millions of dollars, that are being spent on the development of iron-ore deposits, on the expansion and modernization of productive facilities in the base-metal industry, on railway construction to serve new mining areas, on hydro-electric power development, much of it to serve mining projects and mining areas, and on the establishment of new industries resulting from mineral development, and the beneficial influences of mining on the Canadian economy becomes clearly evident.

The indications are that the tempo of activities in the mineral industry will continue to rise. Recently, for instance, announcement was made of the disclosure of large deposits of iron ore in the Labrador Trough, the formation in which the Quebec-Labrador deposits are located. And from other parts of the country also come reports of new and important developments in mining. The industry is continually on the move and, considering the nature and extent of the many operations and projects, it seems safe to forecast that still greater achievements are in store.

The Consolidated Mining and Smelting Company plant at Trail, B.C. is at present undergoing a \$65,000,000 expansion and modernization pragram. The Company's vast mine at Kimberley in the southern interior of the Province is considered the biggest nonferrous metal mine in the Commonwealth.





The seventh session of the United Nations General Assembly, opened on Oct. 14, 1952, was the first to be held in the new headquarters building at New York. Canada's Secretary of State far External Affairs, the Hon. Lester B. Pearson (centre) is the Assembly President. On his right is U.N. Secretary-General Trygve Lie and on his left is Andrew Cardier, Executive Assistant to the Secretary-General.

Canada's External Relations

S INCE the Second World War, Canada has been playing an increasingly important role in international affairs. In part this has been due to the remarkable internal economic expansion which has resulted in increased external trade and which has made economically possible the assumption by Canada of larger external responsibilities. In part, however, it has been due to the pressure of external developments: the menace of Communist imperialism has compelled closer association with other free nations and has also induced nations of the free world, Canada among them, to assume more specific obligations for the preservation of peace.

The Government looks to the Department of External Affairs as its main agency for providing information and advice on external relations, and for carrying out the Government's policies abroad. The Department deals with foreign governments through Canadian missions abroad or through the missions of other countries at Ottawa. It gathers information about developments in international affairs and reports on these to the Minister who reports in turn to the Cabinet and to Parliament. High Commissioners, Ambassadors, Ministers and Consular Officers represent Canada abroad; their tasks include transactions with other governments, the protection of Canadian interests, and the broad obligation of making Canada known and understood. The Department arranges participation in international organizations and provides delegations, in co-operation with other departments and agencies, for international conferences. In a recent year the Canadian Government was represented at 146 such international gatherings.

Canada's increasing international responsibilities have induced the growth of the country's foreign service. At the end of 1952, Canadian diplomatic and consular missions were located as follows:---

Embassies (21) – Argentina Bekgium Brazil Chile Colombia Cuba France Germany Greece Ireland Italy Japan Maxico	Legations (9)— Austria Czechoslovakia Denmark Finland Norway Poland Portugal Sweden Switzerland	Consulates General or Consulates (9)— Brazil São Paulo* Philippines Manila*,† United States Boston† Chicago† Detroit* New Orleans* New York† Portland, Me.‡ San Francisco†
The Netherlands Peru Turkey U.S.S.R. United States Uruguay Venezuela Yugoalavia	Commissioners (6) Australia India New Zealand Pakistan South Africa United Kingdom	Permanent Delegations and Missions (4)— Berlin (Mil. Mission) Geneva (UN) New York (UN) Paris (NATO and OEEC)

Administered by the Department of Trade and Commerce.
Honorary Vice-Consulate.

† Consulate General.

Canada does not maintain posts in Iceland and Luxembourg, but the Minister of Norway is accredited to Iceland and the Ambassador to Belgium is accredited to Luxembourg.

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The Canadian Embassy at Paris. July 12, 1952, marked the 70th anniversary of Canadian representation in france.

The Department of External Affairs assists other departments of government in their dealings abroad and co-ordinates their activities in other countries. The most active of these is the Department of Trade and Commerce which stimulates the growth of Canada's external trade through the work of its Trade Commissioner Service. This Service is long-established and is widely known as a highly effective organization. Trade and diplomatic representatives work side by side abroad and in many places share the same office establishment. At some points where there is no diplomatic representative the trade officer has consular status. The Departments of National Defence, Defence Production, Agriculture, Citizenship and Immigration, Health and Welfare, and Labour have officials in certain countries for their own special purposes; they normally serve on the strength of a diplomatic mission.

A primary duty of Canadian representatives abroad is to provide for the people of the country to which they are accredited information about Canada and its people, its achievements and its way of living. Department of External Affairs posts are supplied with publications, films and other materials likely to be of interest to press, radio and organized groups. The policies of all departments and agencies of the Government concerned with the projection of information about Canada to other countries are correlated through an inter-departmental committee. In such operations government agencies maintain close liaison with business firms and associations and with voluntary organizations that have connections in other countries. Government and business alike have welcomed many foreign journalists and radio broadcasters to Canada and have helped them to obtain a broad and representative picture of Canada for the benefit of their countrymen. The Government is making use of money standing to its credit in France and The Netherlands to send several dozen Canadian students and fellows abroad for study.

Great efforts have been made by the Government since the end of the War to enlarge the volume of Canadian trade. The Trade Commissioner Service abroad has been strengthened. Canada has supported international action to reduce trade barriers. When the country was suffering from a serious shortage of U.S. dollars, every effort was made to encourage exports to dollar areas and to encourage imports from soft-currency countries. The establishment of the International Trade Fair in 1948 was evidence of interest in an expanding volume of trade. These efforts have borne fruit and export trade has continued to flourish despite widespread discriminatory restrictions against dollar goods. The volume of exports is now about 80 p.c. greater than it was before the War.

External relations are by no means confined to formal government relationships. The people of Canada have developed increasing contacts with other peoples in business, industry, education, science, cultural activities and in other fields of human endeavour. Approximately 150 Canadians have joined the international secretariat of the United Nations and possibly that many again are employed at various tasks by the Specialized Agencies in health, economic, cultural and other fields. Several dozen Canadians are now abroad for periods varying from two months to two years to help underdeveloped countries improve their techniques in industry and public administration. Canada's major interest in trade takes many thousands of business men abroad for short or lengthy periods and in many foreign capitals Canadian communities have grown up whose residents share inevitably in the strengthening of bonds between Canada and their adopted homes. In some countries Canadian-owned firms have played an important part in the development of industries and utilities.

Canada's External Policy

External policies are based broadly on the fundamental objectives of Canadian national life—such as the desire for national unity, the need for peace and security, belief in political and personal liberty, and interest in trade—and these affect every aspect of Canada's dealings with other countries. Such policies, however, will always be influenced by Canada's special relationships as a member of the Commonwealth and by its friendship and economic links with the United States, as well as by its historical, racial and cultural ties with Europe. External policy has also been strongly influenced by recent developments in international affairs, expecially by the changes in

NATO students from the Danish Air Force, the French Air Force and the French Fleet Air Arm on a familiarization tour of a Canadian air statian prior to commencement of training. They are examining navigation instruments used for class. room study.



the world situation that have unfolded since the War. It may be useful to summarize a few of the more significant developments that have recently occurred in Canadian external policy.

North Atlantic Treaty Organization.—As early as 1947 the present Prime Minister, then Secretary of State for External Affairs, pointed to the failure of the United Nations to establish adequate arrangements for the maintenance of international peace and security and forecast the formation of an association, within the terms of the United Nations Charter, of those nations willing to assume more specific international obligations for collective defence. Successive developments led to agreement in April 1949 on the North Atlantic Treaty, signed by twelve nations and later adhered to by two more. Under the Treaty members undertake to regard an armed attack upon any member as an attack upon all. Members also undertake "by means of continuous and effective self help and mutual aid", to "maintain and develop their individual and collective capacity to resist armed attack". The Treaty was given wide support in Canada and was approved by Parliament without division. It is a major element in Canadian foreign policy.

Membership in NATO has entailed a major expansion of Canada's armed services and the specific allocation of some of them to NATO Commands. By the end of 1952, 24 ships of the Royal Canadian Navy formed part of the forces available to the NATO Command for the North Atlantic for the defence of North Atlantic ocean routes and it was expected this would be increased to 52 ships by 1954. The 27th Infantry Brigade, which was specially organized for NATO purposes, has been stationed in Western Germany since the late autumn of 1951 under the NATO Command for Europe, and during 1952 Canada stationed four fighter squadrons of the RCAF in Western Europe and has undertaken to increase these forces to 12 squadrons by 1954. Canada's military contributions to NATO must be governed of course by other commitments. The direct defence of Canada is a prime responsibility and forces at home are defending territory expressly included in the area of the Treaty. A further serious commitment is that to the United Nations for repelling aggression in Korea.

Canada has also made substantial contributions to NATO in the form of mutual aid. Over a three-year period ending Mar. 31, 1953, Parliament appropriated about \$685,000,000 for mutual aid. Arms and equipment for approximately one infantry division each have been given to Belgium, Holland and Italy and considerable quantities of other material have been made available to other countries. Other equipment and supplies have been provided to NATO countries from new Canadian production. It has also been possible under this appropriation to train in Canada air crew for NATO countries, and when this plan is in full operation it is expected that about 1,400 air-crew trainees from abroad will take advantage of Canadian facilities each year.

Canada shares the view that if NATO is to survive it must become much more than a defensive alliance. Under Article 2 of the Treaty the parties recognize their common political, cultural and economic interests and agree to co-operate in strengthening their free institutions and eliminating conflict in their national economic policies. Events have compelled members to give priority to defence and security but increased co-operation in these other fields is an important long-range objective. Two squadrons of the No. 2 Fighter Wing, R.C.A.F., at Grostenquin, France, awaiting the arrival of the third and fourth squadrons.

A unit of the 27th Canadian Infan-Iry Brigade going through rigorous field training just north of Hanover, Germany.

> **United Nations.**—Canada regards the United Nations as neither a military alliance against Communism nor an embryonic form of world government. Essentially, the United Nations Charter is a multilateral treaty which has been ratified by the great majority of sovereign states. It is a treaty with enormous scope and one that has led to the establishment of an agency for the conciliation of political disputes and for the organization of collective action against aggression if conciliation fails. It provides, together with the Specialized Agencies, numerous opportunities for international co-operation in wide fields of economic, social, cultural and humanitarian endeavour. It

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The International Civil Aviation Organization of the United Nations has its permanent headquarters at Montreal. Canada's Minister of Transport, the Han. Lionel Chevrier, is shawn addressing the 1952 annual assembly of the 57-nation organization. Canada has participated fully in all phases of the Organization work and made valuable contributions to the understanding and solving of international aviation problems.

is a potentially useful agency for supervising the evolution to self-government of many peoples now living in dependent status. The United Nations also provides points of diplomatic contact not elsewhere available and it would not be wise to under-estimate the possible fruits of such contacts. Effective functioning of the United Nations, particularly in the field of security, assumes unanimity of the Great Powers. Not only does this unanimity not exist, but there is acute division between them. The United Nations did not create this division; the division would exist, and almost certainly in a more dangerous form, if there were no world organization. Because the United Nations is a mirror of the world, it cannot be said to have failed because it reflects an unhappy picture. This division has seriously retarded progress in the United Nations, particularly in the political field, but it has not prevented that organization from achieving a real measure of success in economic, social and humanitarian fields.

In the economic and social fields the activities of the United Nations and of the Specialized Agencies touch many aspects of the daily life of Canadians. It has been the concern of Canadian representatives to stress the need for co-ordination of activities of these Agencies and also the necessity for considering not only the desirability but the feasibility of each project proposed. Canada has shown repeatedly, however, that it is prepared to support by deeds as well as by words those projects regarded as both desirable and feasible. Examples of this have been the Canadian contributions to the Expanded Programme for Technical Assistance, to the relief of Palestine refugees, to relief and reconstruction in Korea, and to the International Children's Emergency Fund. These have been based on the principle that, in the long run, the maintenance of peace is inseparably bound up with the achievement of economic and social progress.

Canada's second term of membership on the Economic and Social Council began January 1950 and ended at the close of 1952. Canadian delegations attending its sessions have tried to give practical evidence of the importance which Canada attaches to the work of international economic and social co-operation. In addition, Canada contributed to and participated in all of the Specialized Agencies. Twelve of these have been formed; they are concerned with agriculture, finance, aviation, labour, health, shipping, refugees, trade, telecommunications, postal services, meteorology and educational, scientific and cultural matters.

Korea.—Following invasion of the Republic of Korea by the Communist armies from the north, the United Nations called for armed support from member nations to help repel aggression. Canada responded with destroyers and air transport services, which commenced activities in July 1950, and an army brigade whose formation was announced the following month. During



H.M.C.S. Nootka in Korean waters. Three Canadian destroyers are in continuous service in the Korean theatre of war. 1952 little change took place in the military situation in Korea although there were from time to time sharp military actions in which Canadian Forces played a courageous part. Throughout the year constant efforts were made to bring about a cease-fire but these had not been successful by the end of 1952, the main point of disagreement being repatriation of prisoners of war. The United Nations had stood throughout by its fundamental principles of resisting unprovoked aggression and of taking collective steps to restore peace and international security.

To unify the peninsula for the Koreans, however, would now require such large forces that defences against Communist aggression elsewhere would be weakened. More important, the Chinese intervention brought with it the risk of the Korean action developing into full-scale war. If that happened the purpose of intervention in Korea—to punish aggression and thus prevent a global war—would be defeated. For these reasons Canada has favoured a negotiated peace along the present battle lines, provided that it is an honourable peace. Though the unity of Korea may not be secured, United Nations intervention has accomplished its main aim of turning back the aggressors.

To help Korea recover from its war injuries the United Nations created the the UN Korean Reconstruction Agency charged with the physical rehabilitation of Korea. Canada endorsed this action and has contributed \$7,250,000 to the Agency.

Commonwealth.—Canada's relations with Commonwealth countries have continued on a friendly, intimate and helpful basis. Great value has been placed on the new association with India, Pakistan and Ceylon and on the bridge they form between other Commonwealth countries and the peoples of south and southeast Asia. A number of major meetings have been held in recent years including those of Commonwealth Foreign Ministers at Colombo in January 1950, a meeting of Prime Ministers at London in January 1951, and a meeting of Prime Ministers again in December 1952. The Colombo Plan for improving the agricultural and industrial conditions of countries of southeast Asia grew out of the first of these meetings. A principal subject of Commonwealth consultation has been the dangerous international situation



First consignment of the \$10,000,000 all otment of wheat provided by Canada for the relief of famine in India under the provisions of the Colombo Plan. The wheat was shipped from Canada's West Coast ports early in 1952.



Donald M. Haywood, Canadian fishery technician, and Paul Sykes, Canadian Government Trade Commissioner, with their families at Colombo, Ceylon. Mr. Haywood is investigating the possibility of making a larger proportion of the fish caught off Ceylon available to the growing population.

arising from the Communist aggression in Korea and from the attitude and actions of the Communist régime in China and of the Soviet Union and its satellites. The peace settlement with Japan occupied attention in Commonwealth discussions, as did developments in China.

Numerous discussions and a heavy flow of correspondence have been devoted not only to political matters but as well to problems of an economic, scientific or technical character within the Commonwealth and Canada has shared in the work of standing bodies devoted to subjects of common concern.

At the London Economic Conference in December 1952, the Prime Ministers of the Commonwealth sought to move forward to a solution of the sterling area's economic difficulties and concerned themselves with possible methods of expanding world production and trade. At this Conference the Prime Ministers of seven Commonwealth countries and the Finance Ministers of two others participated. Countries represented were the United Kingdom, Canada, Australia, New Zealand, India, Pakistan, Ceylon, South Africa and Southern Rhodesia.

A fresh sign of the adaptability of Commonwealth associations was the decision of Commonwealth Prime Ministers in December 1952 to seek constitutional approval in their respective countries for changes in the Royal Style and Title which would take into account the various national interests of the member nations of the Commonwealth.

CANADA'S EXTERNAL RELATIONS 64213-4



Members of the Highways and Bridge Erection Mission from India and Pakistan discussing the tunnelling operations at the Spray Lakes Power Development, Alta.

South and Southeast Asia .- Canada is fortunate in being technically well advanced and well endowed with natural resources, and therefore is in a position to lend a helping hand to nations that have lagged behind Europe and North America in economic development. Thus technical co-operation has in recent years been an important element of Canada's external relations. Canada has been giving aid to southeast Asia at the rate of \$25,000,000 a year under the Colombo Plan and through this means is making a start at helping India to expand its food production. Two urgent undertakings, made possible by Canadian funds, have been an irrigation and hydro-electric project in West Bengal and an improvement and expansion of the transport system for the State of Bombay. Canada is helping Pakistan through co-operation on major irrigation projects and the construction of a cement ntill. Canada has arranged to make an aerial survey in Pakistan leading to assessment of its resources, is assisting in the development of an experimental farm there and is providing large quantities of railway ties to improve transport. A number of students and government officials from both countries came to Canada during the year for technical training under the Colombo Plan.

For the short-term projects of technical co-operation Canada earmarks \$400,000 yearly under the Colombo Plan and over the past two years has One of the two aircraft being used for the two-million-dollar resources inventory now under way in Pakistan. The survey, a Canadian contribution under the Colomba Plan, is being carried out by the Photographic Survey Corporation of Toronto.



given \$1,600,000 to aid the United Nations in its work in this field. One view of technical co-operation was given in a booklet distributed by Canada in Asia, as follows: "Although we may have something to give and to teach we have also much to receive and to learn. In this vast country of ours we have found out how we may live and prosper; but from the East with its ancient cultures we have much to learn of the abiding things that bring comfort and delight to the mind and heart."

United States.—Canada's relations with the United States remained close during 1952. Relations between the two countries took on increased importance by reason of the numerous common issues with which they were concerned, such as the problems of the joint defence of North America, and because of the ever-growing role of the United States as the most powerful country of the free world. These relations were conducted on both sides with frankness and friendliness which testified to the good feelings between the two peoples. Frequent consultation took place on matters relating to



Technician from Pakistan examining a virus-infected spinach plant in a Dominion Experimental Farm labaratary. the Korean situation. Defence preparations in both Canada and the United States were accelerated and plans advanced for greater industrial co-operation in the defence field. Close co-operation continued between the armed forces of the two countries.

Progress was made during 1952 in preparations for the development of the St. Lawrence River. During the year the Canadian Government announced that it was prepared to build the Seaway as an all-Canadian project with the basic power development in the international section of the St. Lawrence River to be undertaken by the Hydro-Electric Power Commission of Ontario and an entity to be named by the United States. The International Joint Commission approved the construction of the power works and the United States Government was advised that Canada considered the new plan to have superseded the draft agreement of 1941 between the two countries on St. Lawrence development. The only step remaining at the end of the year to make the project possible was the authorization of an entity in the United States to act along with the Ontario Hydro in the power development. The development of a deep waterway would be a second step; the Canadian Government was prepared to undertake all construction in the international section of the river on its own side of the boundary, or alternatively, if the United States were to come forward with a satisfactory practical proposal for joint construction, it was prepared to co-operate in developing a joint waterway.

Europe.—The apparent trend towards the integration of Western Europe has been of considerable interest to Canada, and particularly the project for a European Defence Community. This latter project has been proposed as a means of associating the Federal Republic of Germany in the defence of Western Europe, and indirectly with the North Atlantic Treaty Organization. Canada has followed these developments closely and sympathetically. In mid-1951 Canada terminated the state of war with Germany and direct diplomatic relations between the two countries were resumed. In 1951 Canada, as well as the United States, became associated with the Organization for European Economic Co-operation on an observer status and has been active in its work, taking part for the first time in 1952 in compiling its report on the current economic situation. This report reviews present conditions and makes suggestions for future co-operation in solving the basic problem of the dollar gap between Europe and North America.

Latin America.—Canada's relations with Latin America have continued to develop in recent years. During 1952 agreements were reached with the Governments of Uruguay, Venezuela and Colombia to exchange ambassadors, and the number of diplomatic missions and trade offices which Canada maintains in Latin American countries rose to twelve. The further development of trade with Latin America remained a principal Canadian objective. Latin America is the third geographic trading area for Canada, ranking immediately after the United States and the United Kingdom, and trade is carried on at something like seventeen times the level of the pre-war years. Through twoway trade and through cultural and educational exchanges Canada seeks to strengthen its ties with Latin America and to encourage the growth of mutual goodwill. While not a member of the Organization of American States, Canada has maintained membership in several Inter-American agencies and has continued the practice of sending representatives to conferences of specialists dealing with matters of common interest. Canadian industrial, financial and public utility concerns are established in Latin America and their activities have led to the growth of Canadian communities there. Early in 1953, the Minister of Trade and Commerce led a goodwill and trade mission, composed of Canadian businessmen and government advisers, to nine Latin American countries.

Japan.— Canada is a Pacific as well as an Atlantic power and security as well as humanitarian considerations compel it to give attention to relations with countries of Asia. There, as elsewhere, Canada's policy is based on the twin principles of preservation of peace and stimulation of international trade. Parliament has ratified the Japanese Peace Treaty, signed at San Francisco, which although not fully satisfactory is important to Canada. It restores Japan to sovereignty and permits it to make its contribution to the peace and security of the Pacific. It also restores to Japan control of its commercial destiny and opens new opportunities for trade with this country. To clear away a source of possible difficulty in relations with Japan, Canada joined with the United States in negotiating with Japan a convention on fishing in the North Pacific.

Middle East.—There have been increasing manifestations of an intensive nationalism throughout the countries of the Middle East and North Africa. This has led to a grave turn of events in some countries. For the first time in its history Canada, though not immediately affected, has had to turn its attention seriously to this region.

Loading crates into an RCAF North Star at Tacoma, Washington, for shipment to Japan and Korea.





Sixteen hundred and eight may be regarded as the hird year of Canada for in that year, under the leadership of Samuel de Champlain, the first permanent settlement was made in the shadow of the great rock of Quebec. The roots of the stender colony struck deep and from them grew a great and vigorous nation. Here is part of the old walled city of Quebec as it is to-day.

Advance to Nationhood

Asia perhaps thousands of years ago, and the roving Norsemen from northern Europe discovered the island stepping stones to North America about A.D. 1000, the permanent settlement of Europeans on Canadian soil dates back only 345 years to the founding of Quebec (1608).

For a century and a half Canada remained a colonial possession of France, under an ambitious policy that sacrificed the interests of settlement and agriculture, of home-building in a new land, to a magnificent advance of exploration and empire that led soldiers of the Cross and the Crown, martyrs, fur-traders and explorers up sparkling rivers far into the interior—thereby disclosing an inland continent for future development. In 1763, following an extended period of imperial rivalry that brought the far-flung French tradingposts into conflict with the expanding English Atlantic colonies and the charter rights of the Hudson's Bay Company in the Northwest, France ceded all her vast possessions in North America (with the exception of Louisiana) to Great Britain.

The cession of 1763 ensured for Canadian life a basic pattern of cultural dualism. Apart from a few hundred British and colonial merchants and soldiers settled in Quebec and Montreal after the conquest, the lower St. Lawrence remained wholly French, secure in their language, religion and customs, while adventurous New Englanders founded pioneer communities in Nova Scotia, first opened to English settlement at Halifax (1749). Following the American War of Independence (1783), the Loyalists with their significant Anglo-American influences poured into the Maritime Provinces, the upper St. Lawrence, the Eastern Townships of Quebec, the north shore of Lake Ontario and the Niagara Peninsula.

Close upon the Napoleonic Wars (1815), economic dislocations of the new industrialism in Britain sent to Canada scores of thousands of colonists seeking a new life abroad. The new colonists—English, Scots, Ulster and Southern Irish—carved out pioneer communities in the fertile peninsula between Lakes Ontario, Erie and Huron, while on the edge of the prairies by the forks of the Red and Assiniboine Rivers the offspring of French-Canadian Nor'Westers, Scots and English Hudson's Bay Company factors built the lirst agricultural settlement between the Great Lakes and the Rockies.

In 1846, the forty-ninth parallel was extended as the international boundary across the prairies to the Pacific; and none too soon, for the discovery of gold in the sands of the Thompson and Fraser Rivers a decade later quickened the westward march of settlement as thousands of prospectors and miners from California and other lands swarmed into the area. By 1866, Vancouver Island had joined with the mainland settlements to form the Province of British Columbia.

Canadian concern for the future of Rupert's Land and the North-West Territories—fur-trading domain of the Hudson's Bay Company—envisaged as a new frontier for settlement; manufacturing, commercial and railway interests convinced of the benefits of transcontinental expansion; provincial



Lower Fort Garry, near Winnipeg, Man., one of the forts built in the early nineteenth century at the junction of the Red and Assiniboine Rivers. The history of this area is a romance of exploration, fur-trading, colonization and armed conflict, and later of advancement and development.

leaders seeking defensive strength and economic prosperity in political union and envisaging a British-American nation extending from sea to sea—such were the concepts of the 'Fathers of Confederation' that prompted in 1867 a Canadian federation of the four original colonies of Upper and Lower Canada (renamed Ontario and Quebec), Nova Scotia and New Brunswick. Upon the acquisition by Canada of Rupert's Land and the North-West Territories in 1870, the Red River Settlement was given provincial institutions and liberties under the name of 'Manitoba', while the pledge of a transcontinental railway linking the Pacific with the Canadian East and offering a future of rich cargoes and ocean ports, brought British Columbia into the Union in 1871. The garden province of Prince Edward Island entered on liberal terms in 1873.

Although a free-homestead policy and the construction of the Canadian Pacific Railway brought a new wave of settlement to the prairies during the last quarter of the nineteenth century, the migration reached flood proportions only during 1896 to 1913 when an energetic immigration policy found a favourable international environment in a period of unimpeding peace, trade and travel. As immigration mounted from 17,000 in 1896 and 141,000 in 1905, to over 400,000 in 1913, the industrial East became electric with

visions of a twentieth century that would be Canada's. When the Territorial population reached an estimated 418,000 in the spring of 1905, the Canadian Government created the two new prairie provinces of Alberta and Saskatchewan.

The growth of Canada's population from 5,371,315 in 1901 to 11,506,655 in 1941 and 14,009,429 in 1951 wrought remarkable changes in the pattern of Canadian life. Even as the settlement of the West lifted Canada to a high place among the wheat-producing countries of the world, so in the inter-war and post-war periods it underwent such a stimulus in the mining, manufacturing, construction and transport industries, in finance, trade and defence, as to raise the nation into the ranks of the first half-dozen industrial powers.

By the middle of the twentieth century, when Britain's oldest colony of Newfoundland became Canada's tenth province, thereby fulfilling the vision of the Confederation Fathers, the new nation faced the future with confidence a nation heavily endowed with natural resources of tremendous potentialities for the betterment of human welfare; a nation of two major cultures, yet embracing the gifts of hundreds of thousands of newcomers from many lands; a nation treasuring priceless cultural and institutional heritages from the Old World and the New that have been so adapted as to give Canada a consciousness of qualities that set it apart from Britain, France and the United States and justify its aspirations for a distinct national entity that recognizes and yet harmonizes cultural diversities within the framework of a wider co-operation won from pragmatic experience with the pressures of nineteenth and twentieth century forces and events.

The linking of Canada's vast regions into a single entity and the opening up of the country to rapid development began with the building of the railways. The first transcontinental line was completed in 1885.





Canada—The Country

Geography

Canada comprises the whole northern part of the North American Continent, excepting Alaska, including the Arctic Archipelago lying between the 60th meridian on the east and the 141st meridian on the west and extending to the North Pole. Canada is bounded on the west by the Pacific Ocean and the 1,539.8 linear miles of Alaskan territory, on the east by the Atlantic Ocean, Davis Strait and the dividing waters between Ellesmere Island and the Danish territory of Greenland, and on the south by the United States, a distance of 3,986.8 miles.

Approximate	Land	and	Fresh-Water	Areas,	by	Provinces	and
			Territories				

Province or Territory	Land	Fresh Water	Total
Newfoundland— Island of Newfoundland Coast of Labrador. Prince Edward Island Nova Scotia New Brunswick Quebec. Ontario. Manitoba. Saskatchewan Alberta. British Columbia. Yukon Territory Northwest Territorios	sq. miles 40, 559 107, 435 2, 184 20, 743 27, 473 523, 860 363, 282 219, 723 237, 975 248, 800 359, 279 205, 346 1, 253, 438	sq. miles 2.475 5.195 325 512 71.000 49.300 26.789 13.725 6.485 0.976 1.730 51.465	sq. miles 42,734 112,630 2,184 21,068 27,985 594,860 412,582 246,512 251,700 255,285 366,255 207,076 1,304,903
Canada	3,610,097	235,677	3,845,774

Canada's fresh-water area is extensive, constituting over 6 p.c. of the total area of the country. Its inland waterways, particularly with respect to transportation and the development of electric power, are among the most vital influences in the national economy. In Eastern Canada, the Great Lakes and St. Lawrence drainage basin dominates all others and forms an unequalled system of navigable waterways through a region rich in natural and industrial resources. From the head of Lake Superior to the entrance of the Gulf of St. Lawrence the sailing distance is 2,338 miles. The Saskatchewan and Red Rivers in the middle west and the Fraser, Thompson and Skeena in British Columbia are important avenues of transportation. The Mackenzie River which, with its headwaters, is the longest river system in Canada, constitutes the natural transportation route through the Northwest Territories down to the Arctic Ocean. The Great Lakes, through which the International Boundary passes, have a combined area of 95,170 sq. miles and Lakes



The Restigauche River Valley in New Stunewick.

Winnipeg, Great Slave and Great Bear range in size from 9,000 to 12,000 sq. miles. Eight other lakes are over 1,000 sq. miles in area and the smaller lakes are innumerable.

Physically, Canada divides naturally into four major Regions. The Appalachian Region includes most of that part of the country lying east of the St. Lawrence Valley and is generally mountainous or hilly, the highest peak (4,200 ft.) being Mount Jacques Cartier in central Gaspe. Newfoundland is a plateau of low rolling relief with its highest elevations along the western margin where summits rise to more than 2,500 feet above sea level. In central New Brunswick there is a rugged area with summits rising to over 2,000 feet; to the east of this is a lowland area extending over the remainder of the Province and all of Prince Edward Island and rising nowhere more than 600 feet above the sea. Nova Scotia is largely an upland region which, in the northern part of Cape Breton Island, reaches elevations of 1,500 feet.

The Canadian Shield is a vast V-shaped area of approximately 1,800,000 sq. miles surrounding Hudson Bay and including Labrador, almost all of Quebec north of the St. Lawrence Valley and northern Ontario and stretching in a diagonal line from southern Manitoba west and north almost to the Mackenzie River. This area is for the most part of low relief, rarely rising more than 1,500 to 2,000 feet above sea level. Its low hummocky hills and ridges are separated by depressions commonly occupied by lakes or muskegs. Lakes of all sizes and shapes, containing many islands dot practically the entire region, in places giving the appearance of a drowned area with only the ridge tops appearing. This Region is Canada's great storehouse of mineral wealth, particularly of metals.

The Interior Plains Region is part of the great plains of the interior of the continent that stretch from the Gulf of Mexico to the Arctic Ocean. In Canada it extends from the Canadian Shield on the east to the Cordilleran Region on the west and is about 800 miles wide at the United States border, tapeting to 100 miles at the mouth of the Mackenzie River. The Plains slope gently eastward from an elevation of 4,000 feet in western Alberta to about 500 feet in southern Manitoba; they show a flat surface interrupted by deep-incised valleys and by many flat-topped hills. The rich soil along with favourable climatic conditions accounts for this being the great wheatproducing area of Canada. It is this area also that contains the vast oil, gas and coal resources of Western Canada. The St. Lawrence Lowland and the Hudson Bay Lowland are regarded as outliers of this Region. The St. Lawrence Lowland, occupying the triangular area lying between Georgian Bay and Lake Ontario and taking in the St. Lawrence Valley east as far as Quebec city, contains some of the finest agricultural land in the world. The Hudson Bay Lowland borders the west side of Hudson Bay.

The Cordilleran Region comprises the mountainous country bordering the Pacific Ocean. It has an average width of 400 miles and an area of 600,000 sq. niles, and is made up of three zones. On the east is the Rocky Mountain Range having a maximum width of 100 miles and many peaks with elevations of from 10,000 to 12,000 feet. On the west the Coast Range, varying in width from 50 to 100 miles, rises abruptly from the coast to peaks of from 7,000 to 10,000 feet. Between the two is a belt of upland and mountainous country. The highest peak in the Cordillera is Mount Logan in the St. Elias Mountains of Yukon which rises 19,850 feet above sea level.

A fifth region, about which little is known, comprises the islands of the Arctic Archipelago lying north of the Canadian Shield. It has an area of over 500,000 sq. miles.

A new highway makes a spectacular loop at Anarchist Mountain, Okanagan Valley, B.C.





Newly broken land, Prairie River, Sask. Agriculture on the prairies is extending still farther northward, but homesteading is now provincially controlled and assisted, ensuring successful farm living in communities that can be readily provided with basic public services.

Lands Resources

Of the total land area of 3,610,097 sq. miles, 552,725 sq. miles are estimated as suitable for cultivation and of this area a little less than half is at present occupied. Most of the unoccupied land considered suitable for agriculture is now under forest. Altogether, 1,320,321 sq. miles (exclusive of Labrador) are under forest and the remainder, which is classified as waste and other land, includes open muskeg, rock, road allowances, urban land, etc.

About 10 p.c. of the total land area of Canada has been alienated from the Crown and is now in private hands, 42 p.c. is under federal administration and the remainder is under provincial administration. The high percentage of federal land is accounted for by the fact that the Yukon and Northwest Territories, which comprise 40 p.c. of the land surface of the country, are under the jurisdiction of the Federal Government. Other federal lands include national parks and historic sites, forest experiment stations, experimental farms, Indian reserves, ordnance lands, etc. All unalienated lands within the provincial boundaries are administered by the provincial governments.

National Parks.— The National Parks are maintained by the Federal Government. Differing widely in character and purpose, they include scenic

and recreational parks, wild animal parks set aside primarily for the protection and propagation of species once in danger of extinction, and national historic parks. In addition about 400 sites of national historic importance have been marked.

The Parks are developed and maintained in such a manner that they will not be despoiled or exhausted by use but will continue to provide inspiration, education and healthful recreation for present and future generations. By progressive stages they have been made more easily accessible and their facilities for recreation and accommodation have been vastly extended.

In 1952 nearly 2,612,000 persons visited the Parks approximately 20 p.c. of whom came from the United States and countries abroad. There are 28 separate units with a total area of about 29,000 sq. miles.

Park	Location	Area
Scenic		sq. miles
Jasper. Banff Prince Albert Riding Mountain.	Western Alberta, on east slope of Rockies Western Alberta, on east slope of Rockies Central Saskatchewan, north of Prince Albert Sonthwestern Manitoba, west of Lake	4,200.0 2,564.0 1,496.0
Kootenay	Winnipeg Southeastern British Columbia, on west slope of Rockies	1,148.0 543.0
Glacier	Southeastern British Columbia, on summit of Selkirk Range. Eastern British Columbia, on west slope of	521-0
Cape Breton Highlands	Rockies. Northern part of Cape Breton Island, Nova	507.0
Waterton Lakes	Scotia. Southern Alberta, adjoining Glacier Park in	390.0
Mount Revelstoke	Southeastern British Columbia, on west slope of Selkirks.	100-0
Fundy	On Bay of Fundy between Moncton and Saint John in New Brunswick	80.0
Prince Edward Island Point Pelee Georgian Bay Islands	North shore of Prince Edward Island, On Lake Erie, southern Ontario In Georgian Bay, north of Midland, Ontario	$ \begin{array}{c} 7 \cdot 0 \\ (1 \cdot 1) \\ 5 \cdot 4 \end{array} $
St. Lawrence Islands	In the St. Lawrence River between Morris- burg and Kingston, Ontario	189 · 4 (acres)
Wild Animal		
Wood Buffalo	Partly in Alberta and partly in the North- west Territories, between the Athabaska and Slave Rivers	17,300-0 75-0
Historic		Berreg
Fortress of Louisbourg	Cape Breton Island, Nova Scotla, 25 miles from Sydney.	340.0
Fort Lennox	Ile-aux-Noix, Quebec, near St. Johns New Brunswick, near Sackville	210·0 81-0
Fort Prince of Wales	Northern Manitoba, near Churchill Four miles south of North Battleford, Saskatchewan.	50·0 36·7
Fort Anne. Port Royal	Nova Scotia at Annapolis Royal. Lower Granville, Nova Scotia, eight miles from Annapolis Royal	31·0 17·0
Lower Fort Garry	Twenty miles north of Winnipeg, Manitoba. Prescott, Ontario.	13.0 8.5 5.0
Fort Chambly	Chandbly, Quebec,	2.5

Locations and Areas of National Parks

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Provincial Parks. Six of the provinces have established Provincial Parks. While in many cases they are undeveloped areas set aside in their natural state, some of the larger parks, especially in British Columbia, Quebec and Ontario, are highly developed and well served with hotels and other tourist accommodation and have organized recreational facilities. The total areas of provincial park land in the different provinces are as follows: British Columbia, 14,081 sq. miles; Quebec, 12,000 sq. miles; Ontario, 5,212 sq. miles; Saskatchewan, 1,685 sq. miles; Newfoundland, 42 sq. miles; and Alberta, 14 sq. miles. The most important in point of size (all over 1,000 sq. miles in area) are:—

Tweedsmuir, B.C. Wells Gray, B.C. Hamber, B.C. Lac La Ronge, Sask. Algonquin, Ont. Onetime, Ont. Laurentides, Que. La Vérendrye, Que. Chibougaman Fish and Game Reserve, Que. Trembling Mountain, Que. Lac Kipawa Fish and Game Reserve, Que.

National Capital Plan.—A Master Plan to guide the long-range development of Ottawa and the surrounding district and thereby to create a Capital in keeping with Canada's achievements and status as a nation, was completed in 1948 and tabled in the House of Commons in 1951. The Federal District Commission, the agency responsible for the carrying out of the Plan, has reported considerable progress. The location and architecture of a number of government buildings and developments either now under construction or projected have been approved as being in accordance with the Plan. The Mackenzie King Bridge in Confederation Park is all but completed and a good deal of work has been done on the installation of new railway facilities precedent to the removal of cross-town tracks.

Gatineau Park, a 32,000-acre area in the Gatineau Hills just north of Ottawa, set aside as a recreational park and game sanctuary, is administered by the Federal District Commission and is part of the Capital Plan. It is an area of wooded hills and vales, of lakes and streams, in which trails, picnic spots and camping sites are available for summer enjoyment. In winter it is the ski centre of the Ottawa district.

The Climate

The climate of Canada is dominated by the general movement of the atmosphere from west and northwest. During the winter the cold airmasses moving eastward and southward from the polar regions are modified by the time they reach the central and eastern provinces. In winter, air moving up from the Gulf of Mexico affects the climate of southeastern Canada, while in summer air from the same source furnishes rainfall to the prairies. Airmasses from the north Pacific Ocean lose much of their water content while passing over the mountains and, moving eastward, produce mild to hot weather according to season.

Vancouver Island and the coast of the mainland of British Columbia enjoy the mildest winters to be found anywhere in Canada, with summers long and moderately warm. Autumn and winter are the wet seasons in this area, while temperatures in the interior of the Province are more extreme than those along the coast.



Lac Philippe, one of the beauty spots of Gatineau Park, just north of Ottawa.

The severity of the winters varies greatly in the Prairie Provinces from year to year. The 'chinook', that spectacular phenomenon of sudden change from bitter cold to comparative warmth, is one of the striking features of winter weather in the western prairies but is most pronounced in southern Alberta. In summer, daytime temperatures are high but the nights are cool. While rainfall is light, most of it occurs during the growing season. Only a limited portion of the southern prairies has an average frost-free period of 100 or more days.

Throughout northwestern Ontario the winters are cold and, though the summers are moderately warm, the danger of frost at night is always present. The southern Ontario region is traversed alternately by warm and cold airmasses, changing on the average about every three days with precipitation

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occurring at the margins of the airmasses. Precipitation is distributed fairly evenly throughout the year. Southwestern Quebec enjoys a similar climate except that the moderating influence of the Great Lakes is absent. Winters are colder, summers slightly warmer and the frost-free period shorter. Northward into Quebec the temperatures are lower in both summer and winter. Precipitation is ample throughout the whole region.

In New Brunswick, Nova Scotia and Prince Edward Island the summers are warm with maximum temperatures rising to 90° or 95° F, at times. Snowfall is heaviest in northern New Brunswick, while in Nova Scotia the heaviest precipitation occurs along the Atlantic Coast and is usually partly rain even in winter. The maximum incidence of fog is from June to August. The winters are cold in the interior of Newfoundland but are more moderate along the coast. Spring is late, summers are short and fog frequent. Winter temperatures are bitterly cold throughout all of northern Canada. Summers in Yukon and in the District of Mackenzie are much warmer than those experienced in the castern Arctic. Precipitation is light throughout the Far North.

Temperature	and	Precipitation	Data	for	35	Representative	Localities
		ir	Can	ada			

Locality Sea		Height Above of Sea Record		Temperatures (Fahrenheit)		Killing Frost Average Dates		
	ft.	yrs.	Jan.	July	Last in Spring	First in Autumn	Annual Total	
Gauder, N'f'ld St. John's, N'f'ld Charlottetown, P.E.I	482 296	14 67 30	19.0 23.6 18.8	62 · 1 59 · 3	June 1 June 2 May 16	Oct. 3 Oct. 10	$39.51 \\ 54.00 \\ 39.22$	
Annapolis Royal, N.S. Halifax, N.S. Sydney, N.S. Chatham, N.B. Fredericton, N.B. Saint John, N.B.	10 83 48 98 164 119	30 30 30 30 30 30 30 30	24·4 24·4 22·7 12·6 14·2 19·7	65 · 3 65 · 0 65 · 0 66 · 4 66 · 0 61 · 8	May 20 May 13 May 29 May 21 May 20 May 4	Oct. 6 Oct. 12 Oct. 13 Sept. 28 Sept. 26 Oct. 16	41 · 39 54 · 25 50 · 72 36 · 58 42 · 30 47 · 39	
Arvida, Que Fort McKenzie, Que. Lennoxville, Que. Montreal, Que. Kapuskasing, Ont. Ottawa, Ont. Port Arthur, Ont St. Catharines, Ont. Toronto, Ont.	335 250 408 187 715 260 644 347 379	20 12 30 30 30 30 30 30 30 30 30	$\begin{array}{r} 4 \cdot 2 \\ -12 \cdot 8 \\ 13 \cdot 2 \\ 15 \cdot 5 \\ -1 \cdot 2 \\ 12 \cdot 0 \\ 8 \cdot 5 \\ 26 \cdot 0 \\ 24 \cdot 7 \end{array}$	65 · 2 54 · 0 66 · 6 70 · 4 62 · 8 68 · 6 63 · 4 71 · 5 70 · 7	May 20 July 9 May 31 Apr. 28 June 14 May 11 May 26 May 5 May 3	Sept. 19 July 26 Sept. 10 Oct. 17 Sept. 5 Sept. 29 Sept. 20 Oct. 21 Oct. 15	$\begin{array}{r} 38 \cdot 77 \\ 20 \cdot 67 \\ 40 \cdot 06 \\ 41 \cdot 80 \\ 28 \cdot 00 \\ 34 \cdot 83 \\ 27 \cdot 62 \\ 27 \cdot 41 \\ 30 \cdot 93 \end{array}$	
Churchill, Man The Pas, Man Winnipeg, Man Prince Albert, Sask Regina, Sask Beaverlodge, Atta Calgary, Atta Edmonton, Atta Medicine Hat, Atta.	44 890 770 1.414 1.880 2.500 3.428 2.158 2.144	24-42 29 68 30 30 30 30 61 30	$ \begin{array}{r} -17 \cdot 8 \\ -6 \cdot 2 \\ -3 \cdot 0 \\ -1 \cdot 3 \\ 1 \cdot 0 \\ 9 \cdot 9 \\ 15 \cdot 8 \\ 6 \cdot 4 \\ 13 \cdot 7 \end{array} $	$53 \cdot 864 \cdot 967 \cdot 065 \cdot 365 \cdot 860 \cdot 262 \cdot 461 \cdot 770 \cdot 2$	June 28 May 30 May 27 May 30 June 5 May 30 June 3 May 29 May 15	Aug. 30 Sept. 9 Sept. 15 Sept. 10 Sept. 10 Sept. 1 Sept. 3 Sept. 6 Sept. 18	$\begin{array}{r} 14.98\\ 20.27\\ 20.51\\ 15.65\\ 14.68\\ 17.29\\ 17.48\\ 17.72\\ 13.55\\ \end{array}$	
Crathbrook, B.C. Nelson, B.C. Penticton, B.C. Victoria, B.C. Dawson, Y.T. Coppermine, N.W.T. Fort Good Hope, N.W.T.	3,014 2,035 1,200 1,870 228 1,062 9 214	30 30 30 30 30 30 30 30 19 30	$ \begin{array}{r} 15 \cdot 0 \\ 24 \cdot 4 \\ 26 \cdot 7 \\ 14 \cdot 6 \\ 39 \cdot 2 \\ -16 \cdot 0 \\ -19 \cdot 0 \\ -21 \cdot 0 \end{array} $	64-4 67-2 68-8 59-6 60-0 59-8 49-0 59-8	June 10 May 10 May 7 June 17 Feb. 28 June 4 June 28 June 14	Aug. 27 Oct. 2 Oct. 3 Aug. 24 Dec. 7 Aug. 21 Aug. 18 Aug. 6	14-23 28-52 11-51 22-17 26-18 13-99 10-88 12-18	

CANADA 1953

Arctic Weather Stations

The important men of the Arctic are the meteorologists and their associates who man the outposts within a few hundred miles of the North Pole. Almost all other activities in this part of the world are designed to support the meteorological program or are dependent upon the weather men. The Royal Canadian Air Force brings in the men, their food, their equipment, even their houses and working buildings. Radio operators are on duty to transmit their information south, where it is used to predict the weather in every part of North America and, indeed, in Europe and the Eastern Hemisphere. Scientists who go to the Arctic to learn about Arctic life, the characteristics of the frozen ground, the shape of the earth or the nature of the aurora borealis are all dependent on the weather stations for their operations.

Six years ago there was little activity of any kind in the Canadian Archipelago north of Lancaster Sound. Little was known about the life there and even less about those scientific problems to which the Arctic yields so many answers. Then, in 1947, Canada and the United States worked out a joint program of Arctic weather stations—a five-year program during which period five stations were established for the joint use of both countries.

It was on Apr. 8, 1947, hampered by a stiff breeze with the air temperature at 40° below zero, that the first station personnel arrived by aircraft on Slidre Fiord in Eureka Sound on Northern Ellesmere Island and unloaded their temporary shelter, radio and weather equipment and emergency supplies of food and fuel. The erection of the temporary shelter had to be interrupted several times to drive off large white wolves that wandered boldly into the camp area.

In July of the same year, Arctic-bound ships sailed from Boston loaded with supplies for the establishment of a central weather station at Winter Harbour on Melville Island and for two smaller stations to be located on the islands which fringe the Arctic Ocean. The expedition also planned to resupply the weather station at Eureka. The waters of Davis Strait, Baffin

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The vast areas of the northern Arctic Archipelago are beginning to yield their secrets through the efforts of the scientist and the meteorologist. All activities in the region are highly dependent on the isolated weather stations.

Bay and Lancaster Sound were almost completely ice-free as the ships headed north, but heavy close pack-ice blocked their course from Barrow Strait to Melville Island. Twice the ice-breaker drove westward into Melville Sound through the heavy ice, searching for a lead or a path of lighter ice. No lead was found and on the second reconnaissance a heavy piece of ice twenty feet below the surface struck one propeller and smashed it. As the ice-breaker was crippled, the plan to reach Winter Harbour was abandoned and an alternate site was found on Resolute Bay, Cornwallis Island, which appeared most suitable from the point of view of good exposure for weather observations, availability of fresh water supply, and airstrip possibilities.

The unloading of the ships began on the last day of August. Cloudy weather, low temperatures, snowflurries and a light breeze made working conditions difficult and uncomfortable, but in two weeks, working day and night, the weather men, assisted by work parties from the ships, completed the unloading, erected the buildings and installed the essential facilities. Two years later, the RCAF took over an airstrip near the station and now Resolute is the focal point for all activities in the Canadian Arctic.

In April 1948, two stations were established at Mould Bay on Prince Patrick Island and Deer Bay on Isachsen Peninsula on Ellef Ringnes Island, and, during the summer, reconnaissance for a site on the north coast of Ellesmere Island was carried out by ice-breaker. The station was named Alert after one of the ships of the Nares expedition of 1875 which surveyed much of the coastline in this area. The final phase of the establishment of this station

CANADA 1953

was undertaken in the spring of 1950. The first flight arrived on the site on Easter Sunday to set up a weather station near the northernmost point of land in Canada, less than 500 miles from the North Pole.

The scientific work at the joint Arctic weather stations includes a full program of surface and upper-air meteorological observations. Every three hours, complete surface observations are made of atmospheric pressure, air temperature, humidity, visibility, wind speed and direction, cloud types and amount, and the general state of the weather. Records are also kept of precipitation and extremes of temperature that have occurred since the last observing schedule. Radiosondes are released twice daily to determine the temperature, pressure and relative humidity at various heights in the upper atmosphere. Four times daily, at the joint Arctic stations, wind speed and direction at various upper levels are also observed by means of pilot balloons or rawinsondes (radio direction-finding equipment). Immediately after the observations are taken, the weather information is radioed to Edmonton. Alta., and distributed by teletype to the main forecast offices where it is used in the preparation of aviation and public weather forecasts. A log is kept of all weather observations and these reports are in turn used for statistical studies of the climate of the Arctic.

In addition, many special projects are carried on, including measurements of the rate of accretion of sea ice, determination of temperature gradients in sea ice, observations of the temperatures in soil and permafrost, tidal observations, and observations of snow characteristics.

The following statement gives the values in degrees Fahrenheit of monthly and annual averages of daily mean temperature for the joint Arctic stations.

Month	Aleri	Eureka	Isachsen	Mould Bay	Resolute
	10	20	2.7	22	20
January	30	-39	-31 -33	-32	-30
March	-26	-30	-26	-21	-23
April	-12	-21	-20		-13
May	16	1.3	10	12	13
June	.32	38	3(1	30	33
July	37	42	38	.38	40
August	32	38	33	34	.38
September	17	19	16	10	2.3
October	- 6	- 6	- 5	- 2	6
November	-16	-21	22	-16	- 8
December	-28	-36	-31	-26	-19
Annual Average	- 1	- 4	- 4	- 1	2

These stations were established as a joint effort of Canada and the United States and so they remain in operation. Canada provides half the staff; the officer in charge of each station is a Canadian; and the buildings are provided by Canada. The United States provides the remainder of the staff and most of the scientific equipment. The airlift is the main link between civilization and these remote stations. Each spring and each autumn, the RCAF flies its North Stars from Montreal through Churchill and Resolute to Mould Bay and Isachsen; at about the same time aircraft of the USAF fly from Thule in northern Greenland to Alert and Eureka. Each summer, ships of the United States Navy and Coast Guard make their way to Resolute and farther north if ice conditions are favourable. However the airlifts are the real life-line of the stations.

The whole program is an important exercise in mutual co-operation.

THE COUNTRY



The People • Population

The population of Canada at the beginning of 1953 had reached over 14,500,000. According to the Census of June 1, 1951, when a total of 14,009,429 was recorded, there were 2,500,000 more people within the borders of Canada than there were a decade before. This increase included over 361,000 people added through Newfoundland's entry into Confederation in 1949. In the ten-year period there was an increase of 3 p.c. in the population of Prince Edward Island, 11 p.c. in Nova Scotia and 13 p.c. in New Brunswick. Quebec and Ontario each increased by 21 p.c. and registered the largest numerical gains among the provinces of 724,000 and 810,000, respectively. Striking differences occurred in the rates of growth of the three Prairie Provinces with Manitoba gaining 6 p.c., Saskatchewan losing 7 p.c., and Alberta increasing 18 p.c. British Columbia showed the greatest rate of growth with a gain of 42 p.c. and the third highest numerical gain amounting to 347,349.

Population of Canada, by Provinces, Census Years 1891-1951

NOTE.—The figures for certain censuses are not altogether comparable but the qualifications are for the most part technical and are given in detail in the Census reports.

Province or Territory	1891	1901	1911	1921	1931	1941	1951
	No.	No.	No.	No.	No.	No.	No.
N T Id. P. E. I. N. S. Out. Out. Man. Sask. Alta. B. C. Yukon. N.W. T.	109.078 450.396 321.263 1.488.535 2.114.321 152.506 98.173 98.967	$\begin{array}{c} 103,259\\ 459,574\\ 331,120\\ 1,648,898\\ 2,182,947\\ 255,211\\ 91,279\\ 73,022\\ 178,657\\ 27,219\\ 20,129\\ 20,129\end{array}$	03,728, 492,338, 351,889 2,005,776 2,527,292 461,394 492,432 374,295 392,480 8,512 6,507	88,615 523,837 387,876 2,360,510 2,933,662 610,118 757,510 588,454 588,454 588,454 588,454 588,454 588,454	88,038 512,846 408,219 2,874,662 3,431,683 700,139 921,785 731,605 694,263 4,230 9,316	95.047 577.962 457.401 3.331.882 3.787.655 729.744 895.992 847.861 4.914 12.028	361, 416 98, 429 642, 584 515, 697 4, 055, 68t 4, 597, 542 776, 541 831, 728 831, 728 9, 096 16, 004
Canada	4,833,239	5,371,315	7.206,643	8,787,949	10,376,786	11,506,655	14,009,429

Uncludes 485 members of the Royal Canadian Navy, who were recorded separately.

The mixed trends in the Prairie Provinces are further illustrated by comparing the 1941 and 1951 population totals with those of the 1946 Census of these three provinces. Manitoba's population showed a slight loss between 1941 and 1946 and then gained 50,000 between 1946 and 1951. In Saskatchewan the net loss in population during the war years was most striking, amounting to 73,000, but the decrease levelled off between 1946 and 1951. The recent trend toward increased mechanization of agriculture, together with fewer and larger farms, resulted in the exodus of thousands of persons from the rural parts of the prairies, some to neighbouring provinces and others to more populated sections of the same province. In many cases farms are

THE PEOPLE

now worked by operators who commute from the towns and villages to which they have moved. Alberta's large gain in population between 1941 and 1951 was due mainly to the important oil discoveries in the central part of the Province and to the increasing industrialization of its cities and towns causing, for example, the population of the city of Edmonton to increase by 70 p.c. during those years.

While most of Canada's larger cities showed sizeable increases in population during the 1941-51 period, the phenomenal rate of growth in the suburban fringe areas was more impressive. Toronto was the most notable example—the city proper increased by only a few thousand persons, but the metropolitan area rose in population by over 208,000. A like development took place in the cities of Montreal, Vancouver, Winnipeg, Hamilton, Ottawa, Edmonton and Quebec. Remarkable, too, was the growth of some of the smaller industrialized cities and towns, such as Arvida and Noranda in Quebec and Sarnia and Peterborough in Ontario.

Area	1941	1951	Area	1941	1951
	No.	No,		No.	No.
Montreal, Que Toronto, Ont Vancouver, B.C Winnipeg, Man Ottawa, Ont Quebec, Que Hamilton, Ont Edmonton, Alta	1,145,282 909,928 377,447 299,937 226,290 224,756 197,732 97,842	$\begin{array}{c} 1,395,400\\ 1,117,470\\ 530,728\\ 354,069\\ 281,908\\ 274,827\\ 259,685\\ 173,075\end{array}$	Windsor, Ont Calgary, Alta. Halifax, N.S. London, Ont. Victoria, B.C. Saiot John, N.B. St. John's, N'Fld.	$\begin{array}{c} 123,973\\ 93,021\\ 98,636\\ 91,024\\ 75,560\\ 70,927\\ 59,474^{-1} \end{array}$	$\begin{array}{c} 157,672\\ 139,105\\ 133,931\\ 121,516\\ 104,303\\ 78,337\\ 67,749\\ \end{array}$

Population of Census Metropolitan Areas, 1941 and 1951

¹ Census of Newfoundland, 1945; figure for 1941 not available.

Populations of Incorporated Urban Centres with 10,000 or More Inhabitants, 1941 and 1951

Name of Street, or other street, or othe					
Urban Centre	1941	1951	Urban Centre	1941	1951
	No.	No.		No.	No.
Arvida, Que	4,581	11.078	Granby, Que	14.197	21,980
Barrie, Ont.	9,725	12,514	Grand Mere, Que	8,608	11,089
Bellevine, Ontronomic	17 19 1	19.519	United N.S.	23,273	27.380
Brantford Ont	31 0.18	36 727	Liamiton Ont	166 337	208 321
Brockville Ont	11 340	12 301	Hull One	32 047	43 483
Calvary Alta.	88 004	120 060	Lacques Cartier Oue	32,947	22 150
Can-de-la-Madeleine.		107,000	Joliette, Oue.	12.749	16 064
Oue	11,961	18.667	Ionquière, Que	13.769	21.618
Charlottetown, P.E.L	14,821	15,887	Kingston, Ont	30,126	33,450
Chatham, Ont	17,369	21.218	Kitchener, Ont.	35,657	44,867
Chicoutimi, Que	16.040	23,216	Lachine, Que	20,051	27.773
Cornwall, Ont	14,117	16,899	Lasalie, Que	4,651	11.633
Dartmouth, N.S	10,847	15.037	Leaside, Ont	6,183	16.233
Drummondville, Que	10,555	14,341	Lethbridge, Alta	14,612	22.947
Eastview, Ont	7,966	13.799	Lévis, Que	11,991	13,162
Edmonton, Alta	93.817	159.631	London, Ont	78,134	95,343
Edmundston, N.B.	7.096	10,753	Longueuil, Que	7,087	11,103
Forest Hill, Ont.	11,757	15.305	Magog, Que	9,034	12,423
For(William, Ont	30,585	34,947	Medicine Hat, Alta	10,571	16,364
redericton, N.B.	10,062	10,018	Minneo, Ont.	8,070	11,342
Galt, Ont.	15,340	19,207	Moncton, N.B.	22,763	27,334
Glace Day, N.S	25,147	1 25,580	Montreal, Que	903,007	11,021,520

1 Not incorporated in 1941.

Populations of Incorporated Urban Centres with 10,000 or More Inhabitants, 1941 and 1951—concluded

Urban Centre	1941	1951	Urban Centre	1941	1951
	No.	No.		No.	No.
Montreal N., Que, Moose Jaw, Sask, Mount Royal, Que, New Yoroto, Ont. New Waterford, N.S. New Westminster, B.C. North Vancouver, B.C. North Vancouver, B.C. Orillia, Ont. Oshawa, Ont. Ottawa, Ont. Outawa, Ont. Outawa, Ont. Outawa, Ont. Outawa, Ont. Penbiroke, Ont. Penticton, B.C. Peterborough, Ont. Peterborough, Ont. Port Arthur, Ont. Prince Albert, Sask. Quebec, Que, Regina, Sask. Rimourski, Que,	No. 6,152 20,753 4,888 9,504 9,302 21,967 20,589 15,599 8,914 9,798 26,813 154,951 30,755 14,002 11,459 24,426 24,426 12,508 150,757 58,245 7,009	No. 14,081 24,355 11,352 11,104 10,423 28,630 22,874 17,944 15,687 12,110 41,545 202,045 30,057 16,423 12,704 31,264 38,272 31,161 17,149 164,016 71,319 11,565	St. Thomas. Ont Saint John, N.B Sarnia, Ont. Saskatoon, Sask. Sault Ste. Marie, Ont Shawingan Falls, Que. Sherbrooke, Que. Silery, Que. Sorel, Que. Stratford, Ont. Sudbury, Ont. Sudbury, Ont. Sudbury, Ont. Three Rivers, Que. Tinumins, Ont. Trail, B.C Trenton, Ont. Trail, B.C Thenton, N.S. Valleyneid (Salaberry de), Que.	No. 17.132 51.741 18.734 43.027 25.794 43.027 25.794 12.251 17.038 32.203 22.305 12.251 17.038 32.203 28.305 12.716 42.007 28.790 667.457 9.392 8.323 10.272 17.052 275.353	No. 18, 173 50, 779 34, 697 53, 268 32, 452 26, 903 50, 543 10, 376 18, 785 42, 410 31, 317 15, 095 46, 074 14, 961 18, 785 42, 410 31, 317 10, 756 10, 756 10, 756 22, 414 344, 833
Rauyn, Que. St. Bouiface, Man St. Bouiface, Man St. Jean, Que. St. Jean, Que. St. Jenne, Que. St. John's, N'fld. St. Laurent, Que. St. Michel, Que.	8,808 18,157 30,275 17,798 13,646 11,329 6,242 2,956	$\begin{array}{c} 14,633\\ 26,342\\ 37,084\\ 20,236\\ 19,305\\ 17,685\\ 52,873\\ 20,426\\ 10,539 \end{array}$	Verdian, Que Victoriaville, Que Waterloo, Ont Wedland, Ont Westmount, Que. Windsor, Ont Winnipeg, Man Woodstock, Ont	67.349 44.068 8.516 9.025 12.500 26.047 105.314 221.960 12.461	77,391 51,331 13,124 11,991 15,382 25,222 120,049 235,710 15,544

¹ Not incorporated in 1941.

Rural and Urban.—Census figures show that on June 1, 1951, 38 p.c. of Canada's population was located in rural localities and about 52 p.c. of those rural dwellers lived on farms. Thus the farm population constituted about 20 p.c. of the nation's total. The recent trend towards urbanization in Canada is no exception to that noted in many other countries. In the 1941-51 decade, the urban population, exclusive of Newfoundland, increased 30 p.c. and the rural population 3 p.c.

The town of Deep River, Ont., built in a pine forest for atomic power plant workers and their families, has been designed for comfortoble, wellordered living.





Rural Populations Classified by Farm and Non-Farm and Urban Populations Classified by Size Groups, 1951

Drawlow		Rural		Urban			
Territory	Farm	Non- Farm	Total	1,000 to 9,999	10,000 to 99,999	100,000 or Over	Totalª
	No.	No.	No.	No.	No.	No.	No.
N'TId P.E.I. N.S Que Ont Man Sask. Alta B.C Yukon N.W.T.	$\begin{array}{c} 15,456\\ 46,757\\ 112,135\\ 145,771\\ 766,910\\ 678,043\\ 214,435\\ 398,279\\ 339,955\\ 109,919\\ 44\\ 28\end{array}$	$\begin{array}{c} 191,165\\ 26,987\\ 185,618\\ 154,915\\ 591,453\\ 668,400\\ 122,526\\ 180,979\\ 149,871\\ 264,820\\ 6,458\\ 13,252\\ \end{array}$	$\begin{array}{r} 206,621\\73,744\\297,753\\300,686\\1,358,363\\1,346,443\\336,961\\579,258\\489,826\\371,739\\6,502\\13,280\end{array}$	$\begin{array}{c} 100, 375\\ 8, 798\\ 166, 121\\ 86, 906\\ 750, 436\\ 750, 436\\ 93, 965\\ 86, 379\\ 120, 700\\ 457, 333\\ 2, 594\\ 2, 724 \end{array}$	52,873 15,887 178,708 127,209 752,071 1,227,852 109,036 166,091 39,311 289,947	1,185,536 1,307,751 235,710 288,601 344,833	$\begin{array}{c} 154.795\\24.685\\344.831\\215.011\\2.697.318\\3.251.099\\4.39.580\\252.470\\449.675\\793.471\\2.594\\2.724\end{array}$
Canada	2,827,732	2,553,444	5.381,176	2,290,674	2,958,985	3,362,521	8,628,253

⁴ Exclusive of \$4,264 persons living on farms in localities classed as "urban". ² Includes a few metropolitan area parts with less than 1,000 population. Age and Sex. The high birth rates of the 1941-51 decade were reflected in the 1951 population distributions by age and sex. In 1951 there were 223 persons per 1,000 of total population under 10 years of age, as compared with 182 in 1941 and 213 in 1931. The tendency towards "ageing" of Canada's population was shown by the fact that 114 persons per 1,000 of total population were recorded in the 60 years of age or over group, compared with 102 in 1941 and 84 in 1931. However, should the 1941-51 birth rates continue in the present decade and immigration be maintained at current levels, an eventual arresting of this tendency may well result.

Age Group	Male	Female	Total	Age Group	Made	Female	Total
0- 4 years 5- 9 % 10-14 " 15-19 " 25-29 " 30-34 " 35-39 " 40-44 " 45-49 "	No. 879,063 713,873 575,122 532,180 537,535 552,812 512,557 503,571 445,800 387,708	No. 843,046 683,952 555,661 525,792 551,106 578,403 530,477 495,562 422,767 356,971	No. 1,722,109 1,397,825 1,130,783 1,057,972 1,088,641 1,131,215 1,042,734 909,133 808,567 744,679	50 54 years. 55 59 ** 60 64 * 65 69 ** 70 74 ** 75 79 ** 80 84 ** 90 67 0vot All Ages	No. 340,461 292,564 264,324 268,076 160,398 94,130 45,963 17,539 5,197 7,088,873	No. 322, 195 278, 136 241, 828 205, 421 154, 674 94, 261 50, 828 22, 060 7, 726 6, 920, 556	No. 662,656 570,690 506,152 433,497 315,072 188,391 96,791 30,590 12,923 14,009,429

Males and Females, by Age Groups, 1951

Birthplace.—More than 85 p.c. of the nation's total population as of June 1, 1951, was born in Canada, a proportion exceeded only once since the turn of the century—in 1901 the figure was 87 p.c. In 1941, 82 p.c. of the population was Canadian-born. This relative increase in native-born population can be attributed largely to reduced immigration during the war years coupled with the high birth rate in the 1941-51 period. The entry of Newfoundland into Confederation with Canada also had an influence in this direction since nearly 99 p.c. of that Province's total population is native-born. In 1951, not quite 7 p.c. of Canada's population indicated that they were born in the United Kingdom or other British Commonwealth countries while 2 p.c. reported their birthplace as the United States and 6 p.c. as other countries.



Electronic machines operoting at super-human speeds enable Canda's Bureau of Statistics to produce an unending stream of up-to-date, dependable figures on practically every aspect of Canadian life.

Birthplace	Population	Birthplace	Population
Canada Newfoundland. Prince Edward Island. Nova Scotia New Brunswick. Quebec Ontario. Manitoba. Saskatchewan Alberta British Columbia. Yukon and Northwest Territories. United Kingdom. England and Wales. Northern Ireland Scotland. Lesser Isles.	$\begin{array}{r} \text{No.} \\ 11,949,518\\307,023\\117,310\\660,150\\549,984\\3,881,487\\3,645,074\\699,587\\817,404\\649,594\\514,651\\16,654\\912,482\\627,551\\56,685\\226,343\\1,903\\\end{array}$	Other British Commonwealth United States. Europe. Germany. Italy. Poland. Russia. Scandinavian countries ⁹ . Other. Asia. Other countries. Total	No. 20,567 282,010 801,618 42,693 57,789 164,474 188,292 64,522 283,848 37,145 6,089 14,009,429

Birthplaces of the Population, 1951

1 Includes Denmark, Iceland, Norway and Sweden.

Origin. In 1951, British Isles and French origins, traditionally the largest cultural groups in Canada, accounted for more than 78 p.c. of the nation's total population. Compared with 1901, the British Isles group dropped from $57 \cdot 0$ p.c. of the total to $47 \cdot 9$ p.c. while the percentage of persons of French origin was very slightly higher at $30 \cdot 8$ as against $30 \cdot 7$. In the same comparison, the percentage of those with ancestry in continental Europe more than doubled from $8 \cdot 5$ to $18 \cdot 2$ and Asiatics showed a slight increase from $0 \cdot 4$ p.c. of the total to $0 \cdot 5$ p.c.

Province or Territory	British Isles ¹	French	German	Ukrain- ian	Scandin- avian ²	Nether- lands	Polish
	No.	No.	No.	No.	No.	No.	No.
N'f'ld P.E.1. N.S. N.B. Que. Ont.	337,780 80,669 482,571 294,694 491,818 3,081,919	9,841 15,477 73,760 197,631 3,327,128 477,677	368 317 28,751 2,623 12,249 222,028	20 47 1,235 129 12,921 93,595	569 253 3,193 3,367 5,390 37,430	176 677 20,819 5,920 3,129 98,373	79 54 2,364 340 16,998 89,825
Man. Sask. Alta. B.C. Yukon. N.W.T.	362,550 351,862 451,709 766,189 4,829 3,095	$\begin{array}{r} 66,020\\ 51,930\\ 56,185\\ 41,919\\ 645\\ 954 \end{array}$	54,251 135,584 107,985 55,307 363 169	98,753 78,399 86,957 22,613 170 204	32,921 62,439 70,929 65,612 564 357	42,341 29,818 29,385 33,388 155 86	$ \begin{array}{r} 37,933 \\ 26,034 \\ 29,661 \\ 16,301 \\ 136 \\ 120 \\ \end{array} $
Canada	6,709,685	4,319,167	619,995	395,043	283,024	264,267	219,845

Leading Origins, by Provinces, 1951

¹ Includes English, frish, Scottish and Welsh. ² Includes Danish, Icelandic, Norwegian and Swedish.

Official Language.—Of the two official languages in Canada, the 1951 Census showed that 67 p.c. of the population spoke only English and close to 20 p.c. spoke only French. More than 12 p.c. spoke both English and French, and only 1 p.c. were unable to speak either of these languages. Provincially, more than 98 p.c. of the people of Newfoundland spoke only English while in Quebec 62.5 persons spoke only French and 25.6 were bilingual, the highest percentage among the provinces in each case. Manitoba recorded the highest percentage $(3 \cdot 1)$ of persons who were unable to speak either of the official languages.

Province or Territory	English Only	French Only	English and French	Neither English nor French	Total	
N'f'ld. P.E.I	No. 356,377 88,743 595,257 318,560 462,813 4,115,584 685,014 767,248 868,696 1,112,937	No. 153 914 7,462 2,534,242 78,974 7,869 4,656 5,922 727	No. 3,990 8,745 39,524 96,095 1,038,130 359,965 58,441 40,789 40,785 39,433	No. 896 27 341 330 20,496 43,019 24,317 19,035 24,098 12,113	No. 361,416 98,429 642,584 515,697 4,055,681 4,597,542 776,541 831,728 939,501 1,165,210	
Yukon. N.W.T. Canada.	8,337 6,929 9,387,395	10 171 2,741,812	1,031 1,727,447	7,873 152,775	9,006 16,004 14,009,429	

Population Speaking One, Both or Neither of the Official Languages, by Provinces, 1951

Religious Denominations.—Religious denominations in Canada are many and diverse. However, in 1951 more than 95 p.c. of the population belonged or adhered to one of the nine numerically largest religious denominations. Roman Catholics, who comprised more than 43 p.c., were in greatest numbers in Quebec and the Atlantic Provinces. In Ontario and the western provinces, the United Church had the largest following, accounting for 28 to 30 p.c. Approximately 45 p.c. of the Anglicans, 56 p.c. of the Presbyterians, 41 p.c. of the Baptists and 30 p.c. of the Lutherans were in Ontario. Four-fifths of those of Jewish religion resided in Ontario and Quebec while over 93 p.c. of all Ukrainian (Greek) Catholics and 85 p.c. of the persons of Greek Orthodox faith lived in Ontario and the Prairie Provinces.

Province or Territory	Roman Catholic	United Church of Canada	Church of England in Canada	Presby- terian	Baptist	Lutheran	Jewish
	No.	No.	No.	No.	No.	No.	No.
N'f1d P.E.1. N.S. N.B. Que. Ont	$121,544\\44,802\\217,978\\260,742\\3,563,951\\1,142,140$	85.571 25,969 141,152 71,879 129,219 1,320,366	109,090 6,119 117.602 59.847 166.761 936,002	1.91413.38342.42213.32350.410439.072	249 5.319 94.103 90.681 12.950 212.467	$\begin{array}{r} 202\\ 43\\ 9,743\\ 1,016\\ 9,390\\ 135,581 \end{array}$	264 26 2,201 1,269 82.701 85,467
Man Sask. Alta. B.C. Yukon N.W.T.	$ \begin{array}{r} 156,283\\ 199,424\\ 186,312\\ 168,016\\ 1,845\\ 6,459 \end{array} $	$\begin{array}{c} 224,554 \\ 247,345 \\ 276,551 \\ 341,914 \\ 1.660 \\ 1.091 \end{array}$	$\begin{array}{r} 120,690\\ 95,476\\ 122,980\\ 315,469\\ 3,420\\ 7,264\end{array}$	34,080 33,290 55,004 97,151 713 379	$ \begin{array}{r} 13.483 \\ 15.606 \\ 34.720 \\ 39.445 \\ 440 \\ 122 \end{array} $	$ \begin{array}{r} 48,744 \\ 91,454 \\ 87,364 \\ 60,641 \\ 456 \\ 280 \\ \end{array} $	19,282 3,017 4,626 5,969 3 11
Canada	6,069,496	2,867,271	2,060,720	781,747	519,585	444,923	204,836

Leading Religious Denominations, by Provinces, 1951

Dwellings, Households and Families. In 1951 there were roughly 3,400,000 occupied dwellings in Canada and 3,287,000 resident families, compared with approximately 2,600,000 dwellings and 2,500,000 families in
1941. The increases were shared by all provinces. Since dwellings and families increased at a faster rate than population, the average number of persons per household in 1951 was 4.0 compared with 4.3 in 1941 and the average per family 3.7 compared with 3.9.

Dwellings, Households and Families, and Persons per Household and Family, by Provinces, 1951

Province	Population	Dwellings Total! Occupied?		Dwellings Total ¹ Occupied ²		Dwellings Total ¹ Occupied		Families	Persons per House- bold ²	Persons per Family
	No.	No.	No.	No.	No.	No.				
N TId P.E.I. N.S. Out. Out. Man. Sask. Alta. B.C. Canada	$\begin{array}{r} 361,416\\ 98,429\\ 642,584\\ 515,697\\ 4,055,681\\ 4,597,542\\ 776,541\\ 831,728\\ 939,501\\ 1,165,210\\ \hline 14,009,429^{\rm s} \end{array}$	78,024 24,114 150,795 120,639 898,914 1,232,081 210,565 237,406 266,939 356,651 3,585,128	70,980 22,454 149,555 114,007 858,784 1,181,126 202,398 221,456 250,747 337,777 3,409,284	74.858 21.381 145.127 111.639 856.041 1.162.772 191.268 106.188 223.326 299.845 3,287,384 *	5+0 4+3 4+2 4+4 3+8 3+7 3+7 3+7 3+3 3+3 4+0	4 · 4 4 · 0 3 · 9 4 · 1 4 · 2 3 · 4 3 · 6 3 · 7 3 · 7 3 · 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -				

¹ Includes institutions, hotels and camps as well as vacant dwellings and dwellings under construction. ² Excludes institutions, hotels and camps. ³ Includes the Yukon and Northwest Territories.³

Population Estimates for 1952.—The 1952 estimates result from a population accounting which starts with the 1951 Census, adds births and immigration and deducts deaths and emigration for the 12 months. Provincial estimates take into account interprovincial migration estimated from an annual sample survey. Figures by provinces are as follows: Newfoundland, 374,000; Prince Edward Island, 103,000; Nova Scotia, 653,000; New Brunswick, 526,000; Quebec, 4,174,000; Ontario, 4.766,000; Manitoba, 798,000; Saskatchewan, 843,000; Alberta, 970,000; British Columbia, 1,198,000; Yukon Territory, 9,000; and the Northwest Territories, 16,000; a total of 14,430,000.

Indians.—The Indians of Canada are not one race but are divided into a number of widely scattered tribes, speaking different languages and differing in national and cultural background and in economy. According to the 1951 Census, there were 155,874 persons of Indian origin in Canada, distributed by provinces and sex as follows:—

Province	Male	Female	Total	Province	Male	Female	Total
NTId.	184	174	358	Sask.	11,265	10,985	22,250
P.E.I.	136	121	257	Alta.	10,743	1b,420	21,163
N.S.	1,379	1,338	2,717	B.C	14,602	13,876	28,478
N.B.	1,164	1,091	2,255	Yukon.	734	799	1,533
Que,	7,556	7,075	14,631	N.W.T.	1,913	1,925	3,838
Ont.	19,025	18,345	37,370	Canada	79,343	76,531	155,874

These figures include all persons with a paternal ancestor of Indian race, many of whom have long been assimilated and have lost their identity as Indians. The number of persons considered as Indians under Indian legislation is estimated at about 137,000. These persons are regarded as a separate and special responsibility of the Government and their administration is under the jurisdiction of the Indian Affairs Branch of the Department of Citizenship and Immigration, with the exception of medical and health services which are provided by the Department of National Health and Welfare. On Sept. 4, 1951, a new Indian Act was brought into force which completely revised the legislation under which Indian affairs are administered. Under the new Act the Indians have more responsibility than formerly in the conducting of their own affairs in the hope that such responsibility will hasten their advancement towards self-reliance. They have a greater measure of self-government and, through their Band Councils, more control over their funds and lands.

Reserves, or lands set aside for the use of Indian Bands, number more than 2,000, varying in size from a few acres to 500 sq. miles. Most of this reserve land is community property but an Indian may be allotted possession of land within a reserve by the Council of the Band.

At Mar. 31, 1952, the Indian Trust Fund amounted to \$21,359,035. The Fund is made up of more than 500 separate accounts belonging to different Bands, derived mainly from the proceeds of land sales and leases, disposition of timber, mineral and oil rights. A Revolving Fund assists in the purchase of farm implements, machinery, live stock, fishing equipment, seed grain, materials used in native handicrafts, and so on.

The Indian of to-day no longer depends primarily on trapping and hunting for a livelihood. While in the northern portions of the provinces and in the Territories beaver and fox trapping may still serve as the yardstick for the Indian economy, increasing numbers of Indians are employed in logging and lumber camps and mills or in road-building and government construction work in which they have become efficient operators of bulldozers, graders and tractors. In the more southerly regions the Indians' main source of livelihood is agriculture—grain-growing, cattle raising, haying and vegetable gardening although they often supplement their income with part-time industrial work.



Saskatchewan Indians examining a geiger counter. Schools sponsored by the Province feach these natives, who depend on trapping and fishing for their livelihood, to stalk bigger game with scientific aid. Coastal Indians engage in salmon, halibut and herring fishing and clam digging and are also employed in fish and vegetable canneries, in logging and in lumber mills while, in the Maritimes particularly, they operate handicraft and woodworking shops, producing baskets, lobster crates, sash and door frames, etc. They frequently serve as guides for hunters and fishermen. In Alberta the Indian Band funds are sharing substantially in the newly found oil wealth, largely through revenues from the sale of oil leases and permits. Many new and improved homes have been erected particularly in the agricultural reserves adjoining industrial centres, where community halls, calf clubs, agricultural study groups and homemakers' clubs are becoming important factors in the advancement of the Indian through general welfare projects.

The Indian Affairs Branch operates day and residential schools for Indians throughout Canada. There are, in all, 450 schools of which 68 are residential and 34 seasonal. The remainder are regular day schools, several of which serve both white and Indian children. The enrolment in these schools for the academic year 1951-52 was 25,590. In addition, 2,365 Indian children were enrolled in provincial and private schools, universities, normal schools, nurse-training schools and commercial, trade and other schools.

The Indian school normally follows the course of study of the province in which it is located, supplemented, in some cases, by vocational training adapted to the needs of Indian pupils. The larger day and residential schools provide courses in leather work, wood work, metal work, boat-building, trapping, poultry-raising, cooking and service, and knitting and weaving. Regional inspectors are in the field to co-ordinate the work of Head Office and the schools and to assist in solving any problems that arise.

During the calendar year 1952, \$3,721,164 was paid either in cash or in kind on behalf of Indian children registered to receive the family allowance; at the end of the year 60,747 Indian children were registered.

Eskimos.—The Eskimos in Canada are found principally north of the treeline on the northern fringe of the mainland, around the coast of Hudson Bay and on some of the islands of the Arctic Archipelago. The 1951 Census recorded an Eskimo population of 9,733, of whom 6,822 were in the Northwest Territories, 1,989 in Quebec and 769 in Newfoundland (Labrador).

The economy of these nomadic people depends almost entirely on trapping, hunting and fishing. They have little or no organization beyond the family and hunt in small groups, following the movements of game and the changing seasons. In recent years the Canadian Government has viewed with anxiety the effects on the Eskimo of the advance of civilization into the Arctic and has spent considerable sums in providing services to assist in their adjustment to an Arctic world that is beginning to change after centuries of isolation. The program includes education, health services, family allowances, handicrafts, and protective administration. At an Eskimo Conference held at Ottawa in May 1952, a committee was appointed to make a continuing and thorough study of Eskimo problems and a subcommittee was appointed to deal with education.

Throughout the Arctic, Eskimo children attend government and mission schools located in the settlements, but their nomadic life creates many problems and teaching periods have to be so arranged as to interfere as little as A Chesterfield Inlet Eskimo family in their igloo. The baby is being fed poblum, one item on the list of selected foods distributed under the family allowance.



possible with their normal hunting and trapping life. Most of the eastern Arctic Eskimos have mastered a system of syllabic writing while the western Arctic Eskimos use roman characters in their writing.

Medical and health services are provided by the Federal Government, assisted by resident missionaries, traders and the Royal Canadian Mounted Police. Nursing stations have been set up and, with the assistance of government grants, mission hospitals with resident government doctors are maintained at Aklavik, Chesterfield Inlet and Pangnirtung. Government doctors accompanying the Eastern Arctic Patrol treat the natives at each point of call.

Family allowances are paid to Eskimo families in kind from a list of selected items designed to supplement their normal dietary habits. The Canadian Handicrafts Guild, with Government assistance, encourages Eskimo handicraft by instruction and secures markets for the produce.

The Royal Canadian Mounted Police detachments throughout the Far North act as local representatives of the Government in all matters relating to Eskimo welfare. Contact is also maintained by radio, by inspection flights, and through the Eastern Arctic Patrol which carries representatives of all Government Departments concerned on annual tours of the Arctic.

Immigration

In the calendar year 1952, Canada received 164,498 immigrants, a decrease of 15 p.c. from the 194,391 persons entering during the previous year. Of note was the 36-p.c. increase in British immigrants from overseas who numbered 42,675 as against 31,370 during 1951. There was also an increase of 20 p.c. in immigration from the United States, the comparative totals being 9,306 and 7,732. Northern European races contributed 62,401 immigrants to the 1952 total, a decrease of almost 9,500 from the 1951 figure, and there was a 40-p.c. decrease in numbers of immigrants of all other races, the 1952

total of 50,116 representing a decline of over 33,000, attributable in large measure to the cessation of the movement of displaced persons.

From the first of January 1946 to the end of December 1952, 789,278 immigrants were received by this country. British immigrants numbered 245,885, approximately 31 p.c. of the total. Immigrants of north European origin numbered 196,844, the leading individual racial groups being Dutch (71,036), German (76,265) and French (15,977). From the United States in the post-war period came 60,871 immigrants, all others numbering 285,678.

In 1952, a new Immigration Act (1 Eliz. II, c. 42), designed to permit a more effective and efficient administration of Government policy in this important field, was passed by Parliament and all previous legislation repealed.

The new Act strengthens the security regulations, giving wider powers to immigration authorities to refuse admission to persons whose known views and past activities indicate an unlikelihood of their becoming good citizens and to take steps against persons attempting to secure the admission of immigrants on false pretences. Authority is given for making loans to immigrants for specified purposes. This is a continuation of the Assisted Passage Plan in effect during 1951 for which money had been provided in the estimates. Under the Plan, immigrants with skills needed in Canada may have all or part of the cost of their passage advanced to them by the Government on a repayment basis. The maximum of such loans permitted to be outstanding at any one time is raised from \$9,000,000 to \$12,000,000. Administrative changes dealing with the machinery of boards of inquiry are made as well as changes concerning the responsibility for deportation costs in the case of immigrants who, upon arrival in Canada, are in possession of valid and subsisting immigrant visas issued by immigration officers.

The responsibility for all immigration matters under the provisions of the Immigration Act rests with the Minister of Citizenship and Immigration. The present general policy of the Government is to ensure the careful selection and permanent settlement of as many immigrants as can be absorbed advantageously in the national economy.



Half a dozen European countries are represented in this group having dinner in an Ontario farmhouse. These men, most of whom are employed on nearby farms, are gathered here to help with the haryest.



Senior high-school students touring Ottawa during tulip time under a sponsored citizenship project.

Citizenship

All persons born in Canada are Canadian citizens and cannot be deprived of their citizenship unless they themselves take definite steps to acquire another nationality. Immigrants who are naturalized in Canada become citizens and retain their citizenship so long as they remain domiciled in Canada or have authority for absence from Canada extended them and do not commit acts which result in revocation. A Canadian citizen holds also the status of a British subject.

An applicant for citizenship is required to have resided in Canada for five years. Besides showing those qualities of character that would lead him to be a hard-working law-abiding citizen, he must have an adequate knowledge of English or French and also a knowledge of Canadian history, geography, form of government, and of the duties and responsibilities of a good citizen.

The Department of Citizenship and Immigration administers the Canadian Citizenship Act, 1947, and provides leadership in the building of true citizenship among all Canadians. The Department co-operates with provincial departments of education and national, provincial and voluntary organizations in the development of citizenship programs designed to assist

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in the adjustment of newcomers to the Canadian way of life and to develop among established citizens an appreciation of the customs, culture and contributions of the new residents. During the year ended Mar. 31, 1952, certineates of Canadian citizenship were issued to 19.833 persons.

Vital Statistics

The collection of vital statistics began in the older provinces with the registration of baptisms, marriages and burials by the ecclesiastical authorities. This practice was succeeded at varying dates by legislation requiring compulsory registration of births, marriages and deaths with the civil authorities in each province so that virtually every birth, marriage and death occurring in Canada is known to be registered.

Parents are responsible for registering the births of their children, within a specified period, with the local registrar of the area in which the birth occurs. In Quebee and Newfoundland a birth is generally registered, both for civil and ecclesiastical purposes, by the ecclesiastical authorities at the time of baptism; in cases where the child is not baptised shortly after birth or will not be baptised, there is provision for registration with the civil authorities. Similarly, a marriage must be registered by the officiating elergyman or marriage commissioner, as the case may be. Registration of death must be completed by the undertaker or person in charge of disposing of the body on behalf of the next-of-kin, and by the attending physician, medical examiner or coroner before a burial permit can be issued by the local registrar. Every registration is filed permanently in the office of the Registrar General of the province in which the event occurred.

Certificates issued to individuals from these records are almost essential for modern social and legal purposes. Birth certificates are generally required and accepted to prove or establish birthplace, birth date, citizenship, parentage and relationship to other members of the family, and are used for such purposes as the settlement of estates, identification, establishing legal dependency, elegibility for employment and pension and social welfare benefits. Similarly, death certificates are required for settling insurance claims, establishing right to remarry, tracing ancestry and other such purposes.

By a co-operative arrangement with the provincial vital statistics authorities, under whose jurisdiction the registration of vital events has always remained, national statistics have been compiled since 1921 and these statistics play an almost indispensable part in the national economy. Statistics on births, marriages and deaths are used as the basic measure, between decennial censuses, of the growth and composition of the population. As such, they provide the fundamental data needed in the continuous formulation of plans for goods and services on behalf of the people. For example, they indicate the trend of growth and composition of the native-born population, the proportions in the pre-school, school, adolescent, adult and ageing groups of the population, the trend of family formation and increase, fertility, the major causes of death, etc. They are essential for demographic, social, medical, public health and economic research, for such purposes as planning extension of hospital and medical services. There is hardly a facet of the country's economy, whether at the national, provincial, municipal or smallcommunity level, that does not depend on accurate vital statistics. The Canadian registration system is regarded as one of the most complete and accurate in the world.

Births.—There have been several clear-cut cycles in the number of births recorded in Canada. From 1926 to 1930 there was a gradual upward trend from 232,750 to 243,495. This movement was reversed during the depression period until 1937 when the number reached its lowest point at 220,235. Since then the trend has been upward with a record total of 380,101 in 1951. Canada has always had a relatively high birth rate as compared with other major countries of the world. From 1926 to 1930, it was about 24 births per 1,000 population, dropping to 20 in 1937. The influence of the War was reflected in a sharp increase from 21.5 in 1940 to a record 28.7 in 1947. Since that date the rate has averaged slightly over 27.

Wherever birth statistics have been collected, they have shown an excess of male over female births. No conclusive explanation of this excess has yet been given. Nevertheless it is so much of an accepted statistical fact that an accurate ratio of male to female births has become one of the criteria of complete registration. The numbers of males to every 1,000 females born in Canada in 1941-46 varied between 1,057 and 1,067 and is now stabilized at about 1,060.

Hospitalization and medical attendance at birth have increased greatly in recent years. In 1926-30 only 22 p.c. of live births occurred in hospital or other institutions, while in 1950 the proportion was 76 p.c. In some provinces, particularly where either free or prepaid medical care service is provided, the proportions of hospitalized births were much higher, running to 97 p.c. in one province and to between 90 and 96 p.c. in four others.

Deaths.—The annual death rate in Canada has been less than 10 per 1,000 population over the past 20 years, which is fairly low in comparison with other countries, and set a record low of 9.0 in 1950 and 1951, a reduction

Doctors from many nations, attending the 18th Conference of the International Red Cross at Toronta, visited the Hospital for Sick Children, one of Canada's newest hosoitals. from $11 \cdot 5$ in 1921, despite an increase in the proportion of aged persons in the population. The age composition of the population at any point in time has a very great effect on the death rate. This accounts in the main for variations in crude rates among provinces from $8 \cdot 5$ to $12 \cdot 5$ for males and $6 \cdot 5$ to over 10 for females. Similarly, rates for rural and urban areas or among districts, even within a province, may vary widely. On the whole, death rates are about 20 p.c. higher for males than for females.

During the past 20 years, the average age at death has risen from about 45 to 55 for males and to 57 for females. If deaths of children under one year are excluded, the average age at death is now about 62 for males and 63 for females. Life expectancy at birth has accordingly risen from 60 for males and 62 for females to 65 and 69, respectively.

Of some 125,000 deaths in 1951, arteriosclerotic and degenerative heart disease, which is associated with ageing, accounted for over 31,000. Other forms of heart disease accounted for an additional 8,000 deaths. Almost 18,000 persons died from cancer, 3,400 from tuberculosis, about 13,000 from cerebral hæmorrhages and other vascular lesions, and 4,600 from pneumonia, while almost 10,000 died from conditions associated with birth or early infancy. Over 2,600 died as a result of motor-vehicle accidents and over 5,000 as a result of other accidents. More than 1,000 persons committed suicide.

Deaths of mothers due to childbirth have shown marked reduction in the past two decades and particularly since 1940. During the period 1926-30 an average of 57 mothers died for every 10,000 children born alive; in 1940 the ratio was 40 but by 1951 it had dropped to 11.

During recent years, the death rate for children under one year of age has shown substantial reduction, falling from 102 per 1,000 live births in 1926 to 60 in 1941 and 38 in 1951, the lowest in Canadian history.

Of the 14,600 infants who died in 1951 before reaching their first birthday, about 59 p.c. or almost 8,600 died within the first four weeks of life. Although the mortality rate for infants up to one year of age has been reduced $2\frac{1}{2}$ times since 1921, that for infants under four weeks has been reduced only by one-half.

Natural Increase.—The rate of natural increase in population represents the difference between the birth and death rates and is similarly expressed in terms of 1,000 population. In 1926 the natural-increase rate amounted to $13 \cdot 3$ but, with the rapidly declining birth rates of the depression period coupled with slower declining death rates, the natural-increase rate declined to $9 \cdot 7$ in 1937. During the war and post-war years, the natural-increase rate rose proportionally with births to $12 \cdot 2$ in 1941, $13 \cdot 9$ in 1943 and $19 \cdot 3$ in 1947. The rate declined to $18 \cdot 1$ in 1950, rising to $18 \cdot 2$ in 1951.

Marriages.—In 1929 marriages in Canada numbered 77,288 having shown a steady increase from 66,658 in 1926. The depression exercised a marked influence on marriages, causing a steep downward movement until 1932, when the number of marriages was 62,531. From 1933 to 1942 a fairly steady increase took place and the rate rose from 6 to almost 11 per 1,000 population. The following table shows that the peak was reached in 1946 with over 134,000 marriages. A second peak occurred in 1951 with 128,230, but the rate was $9 \cdot 2$ as compared with 10.9 in 1946.

Births, Marriages and Deaths, 1926-51

	Birt	lis	Matriages		Deaths		Maternal Deaths	
Year	No.	Ratel	No.	Rate	No.	Rate	No.	Rate ²
Av. 1926-30. Av. 1931-35. Av. 1936-40. Av. 1941-45. Av. 1946-50. 1946. 1947. 1948. 1949. 1950 ³ . 1950 ³ .	$\begin{array}{c} 236,521\\ 228,352\\ 228,767\\ 276,832\\ 354,869\\ 330,732\\ 359,094\\ 347,307\\ 366,139\\ 371,071\\ 380,101 \end{array}$	$\begin{array}{c} 24\cdot 1\\ 21\cdot 5\\ 20\cdot 5\\ 23\cdot 5\\ 27\cdot 4\\ 27\cdot 0\\ 28\cdot 7\\ 27\cdot 1\\ 27\cdot 3\\ 27\cdot 1\\ 27\cdot 2\end{array}$	$\begin{array}{c} 71,886\\ 68,594\\ 96,824\\ 113,936\\ 126,687\\ 134,088\\ 127,311\\ 123,314\\ 123,877\\ 124,845\\ 128,230\\ \end{array}$	$\begin{array}{c} 7 \cdot 3 \\ 6 \cdot 5 \\ 8 \cdot 7 \\ 9 \cdot 7 \\ 9 \cdot 8 \\ 10 \cdot 9 \\ 10 \cdot 2 \\ 9 \cdot 6 \\ 9 \cdot 2 \\ 9 \cdot 1 \\ 9 \cdot 2 \end{array}$	$\begin{array}{c} 108,925\\ 103,602\\ 109,514\\ 115,144\\ 119,975\\ 114,931\\ 117,725\\ 119,384\\ 124,047\\ 123,789\\ 125,454\\ \end{array}$	11.1 9.8 9.8 9.3 9.4 9.4 9.4 9.3 9.2 9.0 9.0	$\begin{array}{c} 1,339\\ 1,153\\ 1,043\\ 791\\ 523\\ 595\\ 554\\ 510\\ 536\\ 420\\ 405\\ \end{array}$	5-7 5-0 4-6 2-9 1-5 1-5 1-5 1-1

(Exclusive of the Yukon and Northwest Territories)

Per 1,000 population.

Per 1,000 live births.

Includes Newfoundland.

Births, Marriages and Deaths, by Provinces, 1951

	Births		Marriages		Deaths		Maternal Deaths	
Province	No.	Ra te ¹	No.	Rate1	No.	Ratei	No.	Rate ²
N'f'id. P. B. I. N. S. Ont. Ont. Man. Sask. Alta B.C. Canada.	11,738 2,655 17,126 16,075 120,924 114,824 19,942 21,739 27,004 28,074 380,101	32 · 5 27 · 1 26 · 6 31 · 2 29 · 8 25 · 0 25 · 7 26 · 1 28 · 7 24 · 1 27 · 2	2,517 583 5,094 4,386 35,704 45,198 7,366 6,805 9,305 11,272 128,230	7.0 5.0 7.9 8.5 8.8 9.5 8.2 9.5 8.2 9.7 9.7	3,004 904 5,812 4,873 34,900 43,981 6,735 6,440 7,167 11,638 125,454	8.3 9.2 9.0 9.4 8.6 9.6 8.7 7.7 7.6 10.0 9.0	25 1 12 11 180 97 22 22 22 15 20 405	$ \begin{array}{r} 2 \cdot 1 \\ 0 \cdot 4 \\ 0 \cdot 7 \\ 0 \cdot 7 \\ 1 \cdot 5 \\ 0 \cdot 8 \\ 1 \cdot 1 \\ 1 \cdot 0 \\ 0 \cdot 6 \\ 0 \cdot 7 \\ \hline 1 \cdot 1 \end{array} $

(Exclusive of the Yukon and Northwest Territories)

¹ Per 1,000 population.

² Per 1,000 live births.

Packaging insulin produced at the Cannaught Laboratary, University of Toronto. Since the Laboratary holds the patents on insulin, it issues manufacturing licences and keeps careful control of the quality of all insulin produced throughout the world.





His Excellency the Right Honourable Vincent Massey, C.H., Governar General of Canada, takes the salute from the Gaurd of Hanour as he leaves the Parliament Buildings following the ceremony installing him in office, Feb. 28, 1952

The Government

THE British North America Act of 1867 together with its amendments forms the written basis of the constitution by which Canada is governed, but it does not comprise the whole constitution. Those matters concerning the liberties of the individual, the democratic principles that hold his respect and the parliamentary procedures to which he adheres depend not upon a written constitution but upon statutory and common law and upon usages or conventions that have gradually become part of the Canadian citizen's experiences and his concept of democratic life.

Canada is a federal state. Its system of government includes a central governing body at Ottawa, ten component provincial governments and many municipal corporations. The British North America Act divides the field of legislative and executive power between national and provincial authorities. It provides also the legal framework for national and provincial political institutions, but leaves the provinces full discretion to amend their own constitutions. Generally speaking, all matters of national concern are under the jurisdiction of the Federal Government, which is authorized to make laws for the peace, order and good government of the country. The Federal Government has also unlimited powers of taxation. Matters of local concern are dealt with by the provincial legislatures, including such items as education, the administration of justice, municipal institutions, provincial prisons and reformatories, hospitals and welfare institutions and administration of public lands. The powers of municipal corporations, exercised through elected councils, are delegated to them by the provinces and thus are varied in extent.

Federal Government.—The Federal Parliament consists of the Governor General and the Queen's Privy Council for Canada (of which the Cabinet is the active component) at the head of the Executive Branch, the Senate and the House of Commons comprising the Legislative Branch and the Courts representing the Judicial Branch.

The Governor General, appointed by the Queen on the advice of the Prime Minister of Canada, traditionally serves for a term of five years and acts only on the advice of the Queen's Privy Council for Canada. The present Governor General is His Excellency the Right Honourable Vincent Massey, C.H., who was appointed Jan. 24, 1952.

The Queen's Privy Council for Canada is composed of about 70 members who are sworn of the Council by the Governor General on the advice of the Prime Minister and who retain membership for life. The Council consists mostly of present and former Ministers of the Crown. It does not meet as a functioning body and its constitutional responsibilities are performed exclusively by the Ministers who constitute the Cabinet of the day and serve as the Committee of the Queen's Privy Council for Canada.

The Cabinet is the policy-forming body of the Government and sponsors most of the important legislation introduced into Parliament. Its members are chosen by the Prime Minister from among his party following in the House of Commons or the Senate; each generally assumes charge of one of the various

Departments of Government, although a Minister may hold more than one portfolio at the same time, or may be without portfolio. Members of the Cabinet as at Dec. 31, 1952, and the portfolios held by them were as follows, listed according to precedence:-

Prime Minister and President of the Queen's Privy Colncil for Canada. Minister of Trade and Commerce and Minister of Defence Production Minister of Agriculture. Minister of Public Works. Minister of Public Works. Minister of National Defence. Minister of Transport. Minister of National Health and Welfare. Minister of National Revenue. Leader of the Government in the Senate. Minister of Labour. Secretary of State for External Affairs. Minister of Justice and Attorney General. Minister of Veterans Affairs. Minister of Mines and Technical Surveys. Postmaster General. Minister of Fisheries.	Rt. Hon, Louis Stephen St, Laurent Rt. Hon, Clarence Decatur Howe Rt. Hon, James Garfield Gardiner Hon, Alphonse Fournier Hon, Brooke Claxton Hon, Dionel Chevrier Hon. Paul Joseph James Martin Hon. Douglas Charles Abbott Hon. James Joseph McCann Hon, Milton Fowler Gregg Hon. Lester Bowles Pearson Hon, Milton Fowler Gregg Hon. Lester Bowles Pearson Hon. Robert Henry Winters Hon. Frederick Gordon Bradley Hon. Hugues Lapointe Hon, Walter Edward Harris Hon. Acide Côté Hon. James Sinelair Hon. James Sinelair Hon. Ralph Osborne Campney
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The Legislative Branch of government, consisting of the Senate and the House of Commons, is responsible for the enactment of all legislation. Bills may originate in either House, except that those connected with the raising or spending of money must be introduced in the House of Commons. Bills must pass both Houses and receive Royal Assent before becoming law. Members of the Senate are appointed for life by the Governor General on the advice of the Prime Minister. Representation is arranged so as to give some measure of equality to the different sections of the country. Its membership of 102 is allotted as follows: Quebec and Ontario 24 members each; Nova Scotia and New Brunswick 10 each: the four western provinces 6 each; Newfoundland 6 and Prince Edward Island 4. The House of Commons has

CANADA 1953

The Right Honourable Louis S. St. Laurent, Prime Minister of Canada, signing the application of the Government of Canada to the International Joint Commission for the development of power in the international rapids section of the St. Lawrence River. Witnessing the signing is

Mr.

Dana Wilgress, **Under-Secretary** of State for External Affairs.

262 members elected directly by the people for a maximum term of five years. Provincial distribution at present is as follows:

Ontario	83	Alberta.	17	Newfoundland	7
Quebec	73	Manitoba	16	Prince Edward	
Saskatchewan	20	Nova Scotia	13	Island	4
British Columbia.	18	New Brunswick	10	Yukon-Mackenzie	
				Discon	

The number of members assigned to each province is computed according to population and is adjusted following each decennial census. The adjustment following the 1951 Census has increased the total membership to 265, effective as at the first general election after the Census year.

The right to vote in federal elections is conferred on all British subjects, men and women, who have attained the age of 21 and have resided in Canada for 12 months prior to polling day. The few exceptions include judges, Eskimos, inmates of penal institutions and the insane.

The judicial branch of the Federal Government comprises the Supreme Court of Canada, the Exchequer Court of Canada and courts established under the Railway Act, the Bankruptcy Act and the Farmers' Creditors Arrangement Act. The Supreme Court is the final court of appeal in Canada. The Chief



Parade ta the Senate. Members of the House of Cammons on their way from the Green Chamber in the Parliament Buildings to the Senate Chamber for the apening of the Seventh Sessian of Canada's 21st Parliament, Nov. 20, 1952. Justice of Canada and the puisne judges of the Supreme and Exchequer Courts are appointed by the Governor General in Council.

The Governor General receives a salary of £10,000 (of the value of \$48,667) a year, charged against the consolidated revenue of Canada, also an annual allowance of \$100,000 and a motor-car maintenance grant of \$2,300. Members of the Senate and of the House of Commons each receive a sessional indemnity of \$4,000 and, in addition, an annual expense allowance of \$2,000. The remuneration of the Prime Minister is \$15,000 a year, a Cabinet Minister \$10,000 a year, and the Leader of the Opposition \$10,000 a year, in addition to the sessional indemnity and the expense allowance. A Cabinet Minister is also entitled to a motor-car allowance of \$2,000 a year. The salary of the Chief Justice of Canada is \$25,000 a year and the Judges of the Supreme Court of Canada each receive \$20,000 a year.

The day-to-day work of the Canadian Government is carried on by the Federal Civil Service, which includes all servants of the Crown, other than those holding political or judicial office, who are employed in a civil capacity. Members of the Civil Service form the staffs of the various departments, commissions, boards, bureaus and other agencies of the Government and nearly every type of occupation is represented. A few civil servants are appointed by either or both Houses of Parliament directly, by a number of departments and other agencies in accordance with the provisions of certain statutes, but by far the majority are selected and appointed by the Civil Service Commission, the central personnel agency of the Federal Government.

At Mar. 31, 1952, there were 131,646 civil servants—53,514 permanent employees who received \$15,505,170 in the month of March, and 78,132 temporaries who received \$15,516,527. In addition \$13,245,694 was paid to certain non-enumerated classes, the number of whom was not known.

Provincial Government.—In the provinces, government is conducted along the same general lines as the Federal Government. The Lieutenant-Governor in each province is the representative of the Crown and is appointed by the Governor General in Council for a term of five years. The provinces, with the exception of Quebec, have one legislative body known as the Legislative Assembly, whose members are elected by popular vote. Quebec still retains a second legislative body, corresponding to the Senate, known as the Legislative Council, the members of which are appointed for life. In the provinces, the Executive Councils perform functions parallel to those of the Federal Cabinet.



Federal Government employees operating vari-type machines in the Dominion Bureau of Statistics. Statistical reports are vari-typed for reproduction by offset printing process.



Legislative Building, Regina, Sask.

The Legislature of each province makes laws in relation to the administration of justice in the province including the constitution, maintenance and organization of provincial, civil and criminal courts. The judges of the Superior, District and County Courts in each province, except those of the Courts of Probate in Nova Scotia and New Brunswick, are appointed by the Federal Government from the bars of their respective provinces. Judges' salaries and pensions are also fixed by the Federal Parliament.

Government of the Territories.—The Yukon and Northwest Territories, those vast northern areas with their small and scattered populations, are under the administration and protection of the Federal Government. Yukon has a local government composed of a Commissioner appointed by the Governor General in Council and a Territorial Council of three members elected for a three-year term. The Government of the Northwest Territories is vested in a Commissioner, appointed by the Governor General in Council, assisted by a Council composed of eight members three of whom are elected to represent separate districts. The other five are appointed by the Governor in Council. A new Northwest Territories Act passed in 1952 (1 Eliz. II, c. 46) confers upon the Commissioner additional legislative jurisdiction in a number of matters and makes other administrative changes that give to the Territories a greater measure of self-government than they have hitherto had.

Municipal Government.—Under the British North America Act, the municipalities are the creation of the Provincial Governments and for this reason their bases of organization and their powers differ. However, most of these municipal governments, like other forms of government, have found their spheres of activity continually broadening and have developed considerable powers of local self-government. There are 4,137 incorporated municipalities in Canada, of which 1,789 are urban.

THE GOVERNMENT



Many volunteer welfare agencies contribute greatly to the physical well-being and thus to the mental outlook of Canada's youth. Here Y.W.C.A. girls enjoy summer camp.

Health and Welfare Veterans Affairs

G OVERNMENT expenditure in the fields are now larger than expenditures for any other peacetime purpose and rank second only to expenditure for national defence. While definitions may vary as to what should or should not be included in any tabulation of health, welfare or social security expenditure, it may safely be estimated that the total of federal, provincial and municipal expenditure in these fields stands currently at not less than \$1,300,000,000 annually and may be as high as \$1,500,000,000. Thus, such expenditure in 1952 will amount to not less than 20 p.c. of the total expenditure made by all levels of government.

• Public Health

Responsibility for the planning and supervision of public health services in Canada has rested largely with provincial and local authorities, with assistance from voluntary agencies. In recent years, however, the Federal Government, in keeping with the trend towards shifting at least part of the financial burden to the authority with greater tax powers, has offered to assist with the costs of capital construction in connection with hospitals and other health facilities and with the extension of specific services through the National Health Grants. It has also extended other services.

The Dominion Council of Health, composed of the Deputy Minister of National Health, the chief health officer of each province and five other members, meets twice a year to co-ordinate federal and provincial activities and to plan the extension of public health programs throughout Canada.

Federal Health Services

Federal participation in health matters is centred in the Department of National Health and Welfare, although important programs are administered by other departments. The Department of Veterans Affairs provides medical and hospital care for veterans, the Department of National Defence is responsible for the health of the Armed Forces, the National Research Council co-ordinates medical research and the Department of Agriculture has certain responsibilities in connection with food production.

The Federal Government, through the Department of National Health and Welfare, administers many protective measures including the exclusion of infectious diseases at seaports, the medical examination of immigrants, the care of sick mariners, the safeguarding of boundary and other waters against pollution, and the distribution of narcotics. It is also responsible for control of the quality of food, drugs and patent medicines offered for sale. Health services for Indians and Eskimos come under the jurisdiction of the Department of National Health and Welfare as well as the promotion of the health of

HEALTH AND WELFARE



Specimens of malignant growths are collected, recorded and filed at the Canadian Tumor Registry. The services of the Registry are available to pothalogists in all parts of Canada to aid in the study, diagnosis and treatment of buman tumors.

Federal Government employees. Financial assistance is provided by the Federal Government for remedial services for blind pensioners.

Under the National Health Grant Program, funds are made available to the provinces for the extension of existing health services and facilities. The program includes grants for general public health, tuberculosis control, mental health, venereal disease control, cancer control, services for crippled children, professional training, public health research, hospital construction, and for the carrying out of health surveys. The amount made available for all grants for the year ending Mar. 31, 1953, was \$53,968,409. Grants are also paid to many non-government agencies engaged in health work.

Federal assistance to medical research is provided through research grants, direction and control over which is exercised by the Privy Council Committee on Scientific and Industrial Research.

Provincial and Municipal Health Services

Although basic local health services such as sanitation, communicable disease control and registration of births, deaths and marriages are generally the obligation of cities, municipalities, counties or other local units, provincial governments have gradually assumed increased financial responsibility, with correspondingly increased supervision and control. The provincial departments of health generally plan and direct such health services as vital statistics, infant, child and maternal hygiene, public health laboratories, health education and public health nursing, as well as communicable disease control and public health engineering.

Diagnostic and treatment clinics are provided in various provinces for such diseases as tuberculosis, venereal diseases, cancer, poliomyelitis and mental illness. In some cases vaccines, sera and other special drugs are supplied by provincial laboratories to practicing physicians as well as to public health officials. Other activities of the local and provincial health departments include dental services, school medical services, epidemiology and industrial hygiene. Public hospitals for acute diseases receive provincial grants, supplemented in many cases by aid from municipalities and private benefactors. Most provinces operate tuberculosis sanatoria or contribute to their maintenance, but mental hospitals are usually wholly provincial institutions.

Free treatment for all illnesses is given to indigents and, in some cases, to all residents for certain diseases such as tuberculosis. In Alberta a maternity hospitalization service is provided by the Province. In Saskatchewan and British Columbia there are Provincial Government prepaid hospitalization programs supported by an annual tax on each resident with a maximum payment for a family. The Newfoundland Government operates cottage hospitals in outport areas and, in conjunction with these, medical and hospital

Health services for residents in remote areas are conducted by the provinces or by voluntory agencies usually with measure due firmmatic assistance.

Free devict early given a school children in outlying districts of northern Ontario in a dental car operated by the Ontario Department of Health.

Chief surgeon at the Grenfell Mission Hospital, St. Anthony, N'Fld., gives instructions by radio-telephone to a Mission nursing station.



care is provided upon payment of an annual fee. Private prepaid medical care and hospital insurance plans have been developed extensively throughout Canada.

Statistics on Health Institutions

Hospital statistics have been collected by the Dominion Bureau of Statistics since 1931 and annual data are available concerning the types, sizes, ownership, costs, revenues, movement of patients, etc.

In 1950, 1,170 hospitals reported data on their operations. General hospitals, which numbered 949 and represented 81 p.c. of all reporting hospitals, accounted for 94 p.c. of the admissions but for only 51 p.c. of the total reported bed capacity and 45 p.c. of the average daily population. On the other hand, although hospitals for tuberculosis and mental diseases represented only 12 p.c. of the hospitals and accounted for only 1-5 p.c. of the admissions, they had 42 p.c. of the bed capacity and 49 p.c. of the average daily population.

Item	Hospitals Dise	for Acute ases ¹	Hospitals for Tuber	Hospitals for	Total
	General	Special	culosis	Diseases	
Public Hospitals— Federal— ³	No.	No.	No.	No.	No.
Bed catacity Av. daily population Admissions	10,300 8,978 53,832	_	1,788 1,492 1,252	-	12,088 10,470 55,084
Provincial— Hospitals reporting Bed capacity Av. daily population Admissions	7 1,243 924 23,621	3 353 306 109	21 3,745 3,466 4,157	45 41,504 50,907 13,556	76 46,845 55,603 41,443
Other Public— Hospitals reporting Bed capacity Av. daily population Admissions	677 56,301 48,248 1,729,907	80 10,118 8,574 97,857	42 10.072 8.575 9,452	16 1,746 1,759 173	815 78,237 67,156 1,837,389
Private Hospitals— Hospitals reporting Bed capacity Av. daily population Admissions	225 3.955 2.822 68,164		1 12 5 3	3 333 343 2,338	229 4,300 3,170 70,305
All Hospitals— Hospitals reporting Bed capacity Av. daily population Admissions	949 71,799 60,972 1,875,524	83 10,471 8,880 97,966	74 15,617 13,538 14,864	64 43,583 53,009 16,067	1,170 141,470 136,399 2,004,421

Summary Hospital Statistics, 1950

¹ Excludes Newfoundland, ² Excludes Department of National Defence hospitals (movement of population not available for publication), and two Department of National Health and Welfare hospitals (no report). ³ Includes two hospitals (with a combined capacity of 2,600 beds) which had a total of 1,398 beds for mental patients.

The participation of the federal and provincial governments in actual hospital operation is indicated by the fact that their 126 hospitals, only 11 p.c. of the total, had more than 40 p.c. of the total bed capacity and slightly less than half of the average daily population. However, because 76 of these hospitals were for tuberculosis and mental diseases, the federal and provincial hospitals accounted for only 5 p.c. of hospital admissions in 1950.

The cost of rendering service to patients varies inversely with the average length of patients stay. As a rule, hospitals with a long average stay have lower cost per patient day than those with a shorter average stay. This is shown by the differences in average cost per patient day in the various types of hospital. Public general hospitals, with an average stay of 10 days, had an average cost per patient day of $\$ \cdot 12$ in 1950. Public special hospitals which had a longer average stay (21 days) had a lower average cost ($\$ \cdot 52$). Hospitals for tuberculosis had an average stay of six months and an average cost of $\$ \cdot \$ 5$ per patient day. Mental hospitals with an average stay of $9 \cdot 5$ months showed the lowest average cost per patient day ($\$ 2 \cdot 23$).

Non-Governmental Health Agencies

In addition to many local and provincial health organizations, major national agencies are: the Canadian Red Cross, which has converted its wartime blood-donor service into a civilian blood bank and transfusion service; the Victorian Order of Nurses, with well-established home-nursing and maternity services; the Order of St. John, with its training and service in



first aid, home-nursing and blood grouping; and the Canadian Tuberculosis Association, whose provincial branches conduct mass X-ray surveys and educational programs. The Health League of Canada sponsors educational and publicity work in health generally and the Canadian Mental Health Association operates similarly in its field. The Department of National Health and Welfare was instrumental in forming the National Cancer Institute and the Canadian Arthritis and Rheumatism Society. These and other national health agencies have been established for purposes of education, publicity, research and other services.

• Welfare and Social Security

Voluntary groups and local authorities provided the first welfare services in Canada, provincial participation beginning with the first modern child protection Act passed by Ontario in 1893, the Ontario Workmen's Compensation Act of 1914 and the Manitoba mothers' allowances legislation of 1916. Since then, provincial welfare services have been developed, extended and improved through the establishment of provincial departments of welfare, or of health and welfare.

The joint federal-provincial legislation for old age pensions in 1927 brought the Federal Government into the social security field and, accelerated by the experience of the depression of the 1930's, a process of gradual extension of federal activity has taken place. Successively, pensions for the blind, unemployment insurance, agricultural relief and family allowances were developed, either jointly with the provinces or by the Federal Government itself. In 1951 a major extension took place with the new federal universal pension for all persons of 70 years of age or over and the new legislation reimbursing the provinces for part of the cost of allowances for blind persons and for assistance for needy persons aged 65 to 69.

Federal Welfare Services

Most Federal Government welfare services are under the jurisdiction of the Department of National Health and Welfare, whose main functions in



In co-operation with the Deportment of Agriculture, the Department of National Health and Welfare is carrying out studies of the health hazards of new organic insecticides. Here a worker operates a broom-type spray in an apple orchard. the field of welfare include the promotion of social security and the social welfare of the people of Canada, investigation and research, preparation and distribution of information on social and industrial conditions affecting the lives and health of the people, and co-operation with provincial authorities with a view to co-ordination of efforts in the welfare field. The Welfare Branch administers family allowances, the universal old age pensions program, federal grants to the provinces for old age assistance, allowances for blind persons and grants for the physical fitness program. Certain welfare services are administered by other government departments: allowances paid to veterans' dependants and to non-pensionable veterans are administered by the Department of Veterans Affairs (see p. 102); the Department of Citizenship and Immigration is responsible for the welfare of Indians (see p. 70); and the Department of Resources and Development co-operates in the care of indigent white and half-breed persons in the northern territories and in the payment of family allowances to Eskimos (see p. 72).

Family Allowances.—The Family Allowances Act, 1944, introduced to provide more equal opportunity for the children of Canada, provides for monthly payments to mothers (except in unusual circumstances) which must be spent exclusively for the maintenance, care, training, education and advancement of children.

In general, all children under 16 years of age, resident in Canada, including Indians and Eskimos, are eligible for allowances. Children entering Canada, with the exception of children of certain Canadian citizens temporarily resident abroad, must complete one year's residence immediately prior to registration for the allowances. Allowances are not payable on behalf of a child who fails to attend school as required by the laws of the province in which he resides.

The allowances, which involve no means test and are not considered as income for tax purposes, are paid by cheque at the following monthly rates: children under 6 years of age, \$5; children from 6-9 years of age, \$6; children from 10-12 years of age, \$7; and children from 13-15 years of age, \$8. Current disbursements under the Family Allowances Act amount to about \$330,000,000 per annum.

Province or Territory	Families Receiving Allow- ances	Total Children	Average Allowance per Family	Average Allowance per Child	Total Allowances Paid, June 1952
	No.	No.	\$	\$	\$
Newfoundland	52.794	152.598	17.24	5.96	910,106
Prince Edward Island	13,281	34.837	15.76	6.01	209,322
Nova Scotia	93,175	223,268	14.47	6.04	1,348,033
New Brunswick	73,701	197,177	16.02	5.99	1,180,953
Quebec	548,702	1.467.334	16-11	6.02	8.840.587
Ontario	657,584	1,344.916	12-24	5.98	8,050,180
Manitoba	111,215	237,712	12.81	5.99	1,424,733
Saskatchewan	119,609	269,254	13.67	6.07	1,634,658
Alberta	142,158	307,850	13.00	6.00	1,848,400
British Columbia	168,210	333,423	11.87	5.99	1,996.203
Yukon and Northwest Territories	4,109	9,209	13-87	6-19	56,990
Canada	1,984.538	4,577,578	13.86	6.01	27,500,165

Family Allowance Statistics, by Provinces, June 1952

Old Age Income Maintenance Programs. — Protection for persons in the older age groups was greatly extended commencing January 1952. The Old Age Assistance Act, passed in June 1951, provides for federal grants-in-aid to the provinces for old age assistance payments on a means-test basis to persons aged 65 to 69. The Old Age Security Act, passed in December 1951, provides for universal federal pensions to all persons 70 years of age or over. These two measures replace the former federal-provincial old age pension program under which pensions, subject to a means test, were payable at the age of 70.

Under the Old Age Security Act, commencing January 1952, the Federal Government pays a pension of \$40 a month to all persons aged 70 or over, subject to a residence qualification of 20 years (or more in certain cases). This universal pension, a financial and administrative responsibility of the Federal Government, is financed by a 2-p.c. sales tax, a 2-p.c. tax on net corporation income, and a 2-p.c. tax not to exceed \$60 a year on the net taxable income of individuals required to pay income tax.

The regional offices of the Welfare Branch of the Department of National Health and Welfare are used for the administration of universal old age pensions. Application forms are available in all post offices in Canada and may be submitted to the Regional Director of Old Age Security in the capital city of each province. Residents of the Yukon Territory and the Northwest Territories are required to send their applications to the Regional Director of Old Age Security, Department of National Health and Welfare, Ottawa.

Province or Territory	Pensions	Total Payment	Province or Territory	Pensions	Total Payment
	No.	\$		No.	\$
Newfoundland Prince Edward Island Nova Scotia New Brunswick Quebec Ontario	$14,291 \\ 6,492 \\ 35,394 \\ 25,126 \\ 143,153 \\ 244,935$	574,040 261,120 1,429,440 1,012,000 5,745,176 9,806,680	Manitoba Saskatchewan Alberta. British Columbia Yukon and N.W.T. Canada	38,875 38,615 37,894 74,392 442 659,609	1,557,480 1,556,600 1,524,880 2,989,760 17,600 26,474,776

Old Age Security Statistics, by Provinces, June 1952

The Old Age Assistance Act 1951 provides for federal contributions to the provinces for assistance, not exceeding \$40 a month, to persons between the ages of 65 and 69, subject to a residence qualification of at least 20 years. For a single person, total income, including the assistance, cannot exceed \$720 a year and for a married couple, \$1,200 a year. Where one of the spouses is blind, within the meaning of the Blind Persons Act, the total income of the couple, including the assistance, cannot exceed \$1,320 a year. Within the limits of the Act, each province is free to fix the amount of the maximum assistance payable, the maximum income allowed and other conditions of eligibility, but the Federal Government's contribution cannot exceed 50 p.c. of \$40 a month or of the assistance paid whichever is less. Implementation of the program in a province is contingent on the province passing enabling legislation and signing an agreement with the Federal Government. All provinces and the Northwest Territories have signed agreements and the maximum assistance payable in each case is \$40 monthly, except in Newfoundland where it is \$30. Old Age assistance is administered and paid by the provinces with federal reimbursement.

Province or Territory	Recipients	Average Monthly Assistance ¹	Pensioners to Population Age 65-69	Federal Govern- ment's Contribution
	No.	\$	p.c.	\$
Newfoundland Prince Edward Island. Nova Scotia New Brunswick Quebec Ontario Manitoba	$\begin{array}{r} 4.083\\ 441\\ 3.569\\ 4.384\\ 26.842\\ 17.191\\ 2.867\\ 3.679\end{array}$	29.05 21.66 33.63 36.71 37.95 37.00 38.24 37.95	45.4 13.4 18.3 31.1 28.2 10.9 10.4 12.7	63,845 4,790 67,530 90,121 816,243 432,271 86,604 79,363
Alberta British Columbia Northwest Territories	3,734 6,082	37.29 37.79		73,107 135,975
Canada ²	72,872	36-81	16.7	1,849,850

Old Age Assistance Statistics, by Provinces, June 1952

⁴ Excludes supplements paid by certain provinces. Yukon Territory. * No agreement made with

Allowances for the Blind.—The Blind Persons Act 1951, which became effective January 1952, continues in amended form the legislation relating to the payment of means-test pensions to blind persons under the Old Age

The Canadian National Institute for the Blind is supported by Government grants and voluntary contributions. It provides extensive teaching and rehabilitation services for blind persons throughout the country. Here is shown the Vancouver headquarters building.



Pensions Act 1927. The eligible age is 21 years or over, the maximum allowance \$40 a month and the residence requirement 10 years. The maximum yearly income limits, including the allowance, are: \$840 for a single person; \$1,040 for a single person with one or more dependent children; \$1,320 for a married couple one of whom is blind; \$1,440 for a married couple both of whom are blind. The implementation of the program is contingent on the signing of an agreement between the provincial and federal governments and each province is free to fix the amount of maximum allowance payable and the maximum income allowed, the Federal Government agreeing to contribute 75 p.c. of \$40 per month or of the allowance whichever is less. All provinces and the Northwest Territories have signed agreements, under each of which the maximum allowance is \$40 a month. The program is administered by the provinces.

Province or Territory	Pensioners	Average Monthly Allowance ¹	Pensioners to Population Age 20-69	Federal Govern- ment's Contribution
	No.	\$	p.c.	\$
Newfoundland	320	39.10	0.18	9.595
Prince Edward Island.	78	38-14	0.15	2,231
Nova Scotia	731	.38.67	0.21	21,141
New Brunswick	772	.39.29	0.29	23,001
Quebec	3,070	39.44	0.13	98,210
Ontarlo	1,691	39-23	0.06	57,803
Manitoba	394	39-43	0.08	12,118
Saskatchewan	339	.39.57	0.07	10,509
Alberta	.380	38.61	0.07	11,599
British Columbia	439	39-13	0.06	13,155
Northwest Territorles.	í	40.00	0.01	30
Canada ² .	8,215	39 - 24	0.10	259,392

Statistics of Allowances Paid under the Blind Persons Act, by Provinces, June 1952

¹ Excludes supplements paid by certain provinces. Yukon Territory. * No agreement made with

Physical Fitness.—Under the National Physical Fitness Act 1943, the Federal Government makes available to the provinces on a per capita basis an amount not exceeding \$232,000 annually for the promotion of physical fitness and recreational programs. Financial assistance is given only to those provinces that have signed agreements with the Federal Government and to the extent to which they match them dollar for dollar up to the maximum available.

Province	Annual Grant Available	Expiry Date of Agreement	Province or Territory	Annual Grant Available	Expiry Date of Agreement
	\$			\$	
N'f'ld	5,985	No agreement	Man	12,860	Mar. 31, 1953
P.E.I.	1.630	Mar. 31, 1952	Sask	13,774	Dec. 31, 1953
N.S	10.641	Mar. 31, 1953	Alta	15.558	Mar, 31, 1953
N.B	8.540	Mar. 31, 1953	B.C	19,296	Mar. 31, 1953
Que	67.163	No agreement	N.W.T	265	Mar. 31, 1953
Ōnt	76,136	Mar. 31, 1953	Yukon	151	No agreement
1 Renewa	l in process.				

The Physical Fitness Division of the Department of National Health and Welfare acts as a clearing-house among the provinces for the latest information on fitness, recreation, community centres, physical education, athletics, sports and games, theatre arts and related activities, and also as a liaison office with national associations and with organizations in other countries. The National Council, established under the Act as an executive body, has sponsored and initiated a number of projects.

Unemployment Insurance.—A national system of unemployment insurance, administered by the Unemployment Insurance Commission, has been in operation since 1941. This service is dealt with on p. 238.

Provincial Welfare Services

The care and protection of neglected, dependent and delinquent children, care of the aged, social assistance or relief, and other special programs are governed by provincial legislation, although in many areas responsibility for services rests with municipal or voluntary organizations. Provincial Departments of Welfare are taking increasing responsibility for the co-ordination and supervision of welfare services. While the programs and the methods of financing vary considerably, most provinces share the costs of some or all of the municipal services in organized areas and assume the total cost in unorganized territories.

Mothers' Allowances.—All provinces enacted legislation between 1916 and 1949 providing allowances to certain categories of needy mothers with dependent children under the age of 16 years. When the child is physically or mentally incapacitated, or attending school, the age limit may be extended in some provinces. "Needy mothers" include widows, foster mothers and wives whose husbands are mentally incapacitated. In some provinces, they include also deserted, divorced, legally separated and unmarried mothers and, in most provinces, those whose husbands are physically incapacitated.

Eligibility requirements vary by province and include a means test, one to five years residence, Canadian or British citizenship (in six instances) and,



A professional photographer gives instructions to members of the camera club at Variety Village, o Toronto residential vocational training school for crippled boys.



The Victorian Order of Nurses for Canada conducts child welfare conferences in 65 branches across Canada. Here mothers bring their infant and pre-school children for health supervision and information.



The Order of St. John in Canada has hundreds of local centres throughout the country. Its main work is to teach first-aid, home nursing and kindred subjects and to provide trained and organized assistance in time of disaster or national emergency.

in some cases, the mother must be of good moral character. Total costs of the program are paid from provincial treasury funds, except in Alberta where a small portion of the allowance is charged to the municipality of residence.

The maximum allowance for a mother and one child varies from \$25 a month in Newfoundland and Prince Edward Island to \$60 a month in British Columbia, although the actual amount paid depends on the circumstances of the individual applicant. An additional amount is paid for each subsequent child and, in most provinces, for a disabled father living at home. In provinces which have set a maximum allowance for a family, this varies from \$50 in Newfoundland and Prince Edward Island to \$150 in Manitoba. Where special need is apparent, supplementary allowances are usually available.

Workmen's Compensation.—For accidents occurring in the course of employment, compensation is payable to workers or, in fatal cases, to their dependants in accordance with the law of each province. The cost of compensation and medical aid is borne by employers through a collective liability scheme administered by the province.

Monthly pensions at a fixed rate are paid to widows and children. Injured workmen receive two-thirds of their earnings (three-quarters in Ontario and Saskatchewan) during total disablement. For partial disablement, the benefits are related to earning capacity before and after the accident. In determining compensation benefits, the maximum amount of annual earnings taken into account is \$2,500 in Prince Edward Island, Nova Scotia, Quebec, Alberta and British Columbia; \$3,000 in Newfoundland, New Brunswick, Manitoba and Saskatchewan; and \$4,000 in Ontario.

Other Welfare Services

Many voluntary organizations are in existence whose efforts are directed to social welfare. The Canadian Welfare Council, a national association of public and private agencies, provides a means of co-operative planning and action by serving as a link between voluntary agencies and between public and voluntary agencies. Specialized organizations, such as the Canadian National Institute for the Blind, which functions in every field of welfare for the blind, and the Canadian Council of the Blind, occupy somewhat similar roles in their particular fields. In areas where they have been set up, welfare councils co-ordinate and encourage local activities and community chests centralize financial campaigns. The work of the Young Men's Christian Association, the Young Women's Christian Association, the Catholic Youth Organization and the Young Men's Hebrew Association, the Boy Scouts, Girl Guides and similar youth organizations in what may be described as preventive rather than curative services cannot be overlooked. Most of the activities of these organizations are not susceptible to statistical measurement. The Canadian Red Cross Society, the Victorian Order of Nurses, and the Order of St. John also perform many welfare services, though they are more properly designated as public health organizations.

Veterans Affairs

The extensive legislation now administered by the Department of Veterans Affairs has been gradually developed since 1916, when a pressing need for adequate compensation for war veterans or their dependants inspired Parliament to deal systematically by committee with a task for which there was no precedent. Pensions, treatment, training and post-war care were considered for those of the half-million veterans in need of them. Precedents accumulated and became law. In 1918 a government department was set up to administer the legislation. The administrative experience gained in this department and the deliberations of Parliament, whose special veterans committees had investigated and recommended important measures since 1916, culminated in recent years in the Veterans Charter.

The Veterans Charter.—In 1944 the Department of Veterans Affairs was constituted by Act of Parliament to administer the Charter which is in reality an immense social and economic experiment while at the same time fulfilling the obligations nationally assumed to the bereaved, the casualties and their dependants. Fifty-four thousand veterans received university training after discharge, with allowances and free medical treatment; over 85,000 received assistance in vocational training with similar allowances and treatment; 56,000 benefited under the Veterans' Land Act; out-of-work allowances were paid to 172,000 veterans and awaiting returns allowances to 62,000 veterans in business—this in addition to gratuities, re-establishment credits and clothing allowances provided and free medical treatment for one year after discharge.

The Charter enabled 1,000,000 ex-service men and women from World War II to be re-established in civilian life without disturbing the national economy. For this, the Department of Veterans Affairs had the co-operation of 700 citizens' committees scattered throughout Canada whose members gave voluntary assistance in rehabilitating veterans locally. The organization of the Department is based on regional administration which co-ordinates the work of 18 Districts throughout Canada.

The legislation included in the Veterans Charter has been made applicable, with necessary modifications, to veterans of the fighting in Korea. Generally speaking, the period of absence from the continent of North America to participate in operations undertaken by the United Nations to restore peace in the Republic of Korea is the period equivalent to service in World War II for the purpose of qualifying for benefits under the Charter.

Treatment Services.—Medical and dental treatment was provided for 1,000,000 veterans after discharge. The policy of giving veterans the most modern treatment possible has involved close association with the universities and the placing of D.V.A. hospitals in the category of teaching hospitals. Clinical investigation has been developed to a high degree and an intensive program of medical research is conducted.

Nineteen institutions across Canada are administered by the Department, ranging from active treatment institutions to health and occupational centres and veterans' homes. Recently certain of the health and occupational centres and veterans' homes have been integrated with parent hospitals for efficiency in administration. Ten thousand patients can be accommodated in these institutions and, while the majority are entitled to treatment, it is possible for veterans without eligibility to be admitted for care on a prepayment basis. Domiciliary care is given to veterans requiring shelter, food and surveillance, those physically handicapped, senile or mentally confused, and the bedfast. Welfare Services.—Until 1948, veterans welfare services chiefly concerned rehabilitation proper and the administration of benefits such as training, out-of-work and awaiting-returns allowances and re-establishment credit. Rehabilitation measures had assisted the process of the ex-serviceman's transition from a position of dependence to one of independence, but problem cases and welfare of the older veteran remained. It was found that continuous consulting, guidance and assistance were needed for veterans who could not make a successful adjustment without additional help. Welfare officers were therefore appointed to deal personally with such problems and those of pensioners, orphans, recipients of war veterans allowances and other wards of the Department receiving financial aid. Special attention is given to the training and placement of disabled veterans.

Business and Professional Loans.—Veterans are assisted, under the Business and Professional Loans Act, 1945, to set up small businesses. The method of operation calls for a government guarantee to any chartered bank granting a loan to a veteran. The veteran is expected to establish to the satisfaction of the bank the soundness of his proposed venture and the adequacy of his experience to make it a success.



Many veterans have become established in the commercial fishing business with financial assistance from the Federal Government. This fisherman-veteran is salting down codfish which he has caught, cleaned and filleted.



A P.F.R.A. engineer inspecting a flume carrying water for the irrigation of a Veterans' Land Act project in British Columbia.

War Veterans Allowance.—Veterans prematurely aged from stress of war are provided for under the War Veterans Allowance Act 1930. This legislation provides set allowances for married and single veterans which have proved invaluable in assisting unemployables suffering from disabilities of an intangible character. In all, more than 125,000 cases have been dealt with under the Act and more than 70,000 cases approved. At the end of March 1952, almost 39,000 veterans and widows were in receipt of this allowance and the cost to the country since its inception in 1930 amounted to \$167,000,000.

Land Settlement.—The Veterans' Land Act represents a public investment of \$270,000,000 in about 53,000 properties on which veterans of World War II are settled. Half of these are full-time farms. The Soldier Settlement Act, which applies to veterans of World War I, is also administered by the Veterans' Land Act Administration.

An intensive program of farm practice is conducted by trained agriculturists and horticulturists who advise the settlers in the field on improved rechniques. Veterans are encouraged to build their own homes. Over 80 p.c. of the 2,100 houses constructed in 1952 under the home-building program were built by the veterans themselves. Re-establishment credits have proved an incentive to home-owning. Credits amounting to \$34,000,000 were used for the purchase of homes and \$167,000,000 for the purchase of furniture and household goods.

War Disability or Death Pensions.—The Canadian Pension Commission is the body responsible for the adjudication and award of all compensation for disability or death incurred on, attributable to or aggravated by war service. In addition, it is responsible for dealing with claims for disability or death arising out of service in peacetime. A pensioner receives additional pension on behalf of his wife and children and a pensioned widow also receives pension for her children. By the 1951 amendments to the Pension Act, the award for a widow's children is paid at "orphan rates", which are double ordinary rates.

To use an illustration, the pension paid for a total disability to a former member of the Forces with a wife and two or more children amounts to: a personal pension of \$125 monthly, an additional \$45 for his wife, \$20 for the first child, \$15 for the second, and \$12 for each additional child. A 10-p.c. pensioner would receive 10 p.c. of these amounts. If he is helpless and in need of attendance, he is granted a Helplessness Allowance, which might vary from a minimum of \$480 to a maximum of \$1,400 per annum depending on the amount of attendance required. In the case of the blind, where the attendance required is not constant, the helplessness award is \$960 per annum.

A pensioned widow receives \$100 per month, with \$40 for the first child, \$30 for the second and \$24 for each additional child. If she remarries, she is granted a final payment of one year's pension, and pension ordinarily continues for her children. Pension for a boy expires when he reaches the age of 16, and for a girl 17. However, it may be continued to the age of 21 if the child is making satisfactory progress in a course of education approved by the Commission. The Pension Commission now issues about 200,000 cheques each month and the annual pension bill is about \$125,000,000.

The Civilian War Pensions and Allowances Act makes provision for merchant seamen, auxiliary services personnel, the Corps of Canadian Firefighters, special constables with the Royal Canadian Mounted Police, overseas welfare workers and members of other groups that contributed to Canada's effort in the Second World War.

A Veteran's Land Act subdivision from the livingroom window of one of the houses. This subdivision is made up of half-acre properties, most of them well landscaped and productive.





Education provided by secondary schools is varied and complex, endeavauring to equip one group of students with the necessary skills to earn a living after high-school graduation and to prepare another group for higher education and at the same time develop in all of them a sense of responsibility and good citizenship.

Education Scientific Research

Education

PUBLIC education in Canada, except for that of the native Indians, is under the jurisdiction of the provinces. While each provincial system varies from the others in particulars, the general plan is the same for all except Quebec where there are two systems, the Roman Catholic which has developed in the French tradition, and the Protestant which is of the English tradition of the other provinces. The public school systems of Ontario, Saskatchewan and Alberta include separate schools, mostly Roman Catholic. In Newfoundland the schools are mostly denominational—Church of England, Roman Catholic, United Church, Salvation Army and Seventh Day Adventist.

In each province, except Quebec, education is administered by a separate department of government headed by a Minister of Education who, as a member of the Ministry, is responsible to the Legislative Assembly and to the people. In Quebec education comes under the jurisdiction of the Provincial Secretary. The Minister, through his department, is responsible for the administration and enforcement of all statutes and regulations concerned with the schools, including training and licensing of teachers, provision of courses of study, authorization of textbooks, enforcement of attendance laws and the apportionment of provincial grants to schools. Local administration is in the hands of school boards elected by the ratepayers or, in some cases, appointed by the local municipal council. The local boards hire the teachers and operate the elementary and secondary schools.

All teacher-training schools for elementary teachers, except those in Quebec, are operated by the provincial governments. Most provinces, too, operate schools for the blind and the deaf as well as certain special schools at secondary or junior college level, such as technical institutes, schools of fisheries, agriculture, forestry, mining, etc.

The Government of Canada is responsible for the education of Indians and Eskimos. Within the provinces, it operates a considerable number of day schools for Indian children and assists in the operation of residential schools conducted by religious denominations. Day schools are also provided for white, Indian and Eskimo children in the Yukon and Northwest Territories and assistance is given to mission schools in these areas. Grants are paid to a few public schools in the larger settlements of the Territories.

Elementary and Secondary Education.—In the systems of the English tradition the elementary school includes the first eight grades. Children commonly begin at age six or seven and complete the elementary grades at age 13 to 15. Subjects of study include reading, arithmetic, writing, social studies and health, together with arts and crafts, home economics, music, etc.

The secondary school course extends over four years, from grades IX to XII (five years to grade XIII in British Columbia and Ontario).

EDUCATION 64213-8


In the first year of school the main objective is to teach children to get along happily together and to work and play under guidance.

High-school graduation or junior matriculation is at the end of grade XI or XII. Grade XII (or XIII) is equivalent to first year university, but standing in at least some subjects of this grade is required for entrance to some universities. In some provinces grades VII to IX are designated intermediate or junior high and given a broadened curriculum.

A pupil entering secondary school may follow an academic course usually composed of literature, history, mathematics, science and a foreign language—leading to the university, the teacher-training or the nurse-training school, or he may take an industrial, commercial or agricultural course leading to a relative occupation.

Under the Roman Catholic system of Quebec seven grades comprise the primary division. Thereafter a boy may enter a classical college for an eight-year course leading to university, or pass through any one of five sections of the complementary and superior divisions—general, scientific, industrial, commercial, agricultural. The first three are five-year courses, the others shorter. The scientific and commercial courses lead to the professional schools and the general courses to teacher-training schools; the other courses are terminal.

At the end of the primary division a girl has the choice of four sections: (1) a general five-year course leading to teacher-training school; (2) a three-year household science course; (3) a four-year commercial course; or (4) a two-year domestic arts course; or she may enter a classical college leading to university.

Elementary school enrolment is now showing the effects of the higher birth rates of the war and early post-war years. Grades above Grade VIII will begin to feel these effects between 1953 and 1955 and by 1965 secondaryschool enrolment may be close to double the present total. Other factors are also operating to increase enrolment, including the introduction of family allowances in 1945 which has been instrumental in improving attendance and in keeping pupils in school to the legal age limit; increased emphasis on the holding power of schools; increased transportation facilities at public expense; the building of dormitories in some provinces; the larger unit of administration; the establishment of junior high schools and composite schools; and the wave of post-war immigration. The average daily attendance in publicly controlled elementary and secondary schools of the ten provinces was 2,096,666 in the academic year 1949-50, compared with 2,016,305 in 1948-49 and 1,804,294 in 1944-45. The teaching staff comprised 22,761 men and 62,531 women, a total of 85,292.

Higher Education.—The enrolment of undergraduate and post-graduate students in full-time session in Canadian universities and colleges in the academic year 1950-51 was 66,680. The decrease from the enrolment of 74,133 in the previous year was almost all accounted for by a drop in the number of war-veteran students from 14,139 to 6,969. Graduate students represented about 7 p.c. of the student body in each year.

According to the compilations of the Committee of Graduate Studies of the National Conference of Canadian universities, in 1950-51 the universities conferred 14,502 bachelor and first professional degrees, 1,602 masterships and licences and 209 earned doctorates. The doctorates awarded for advanced study and research were distributed, by fields of study, as follows: pure and applied science 124; humanities 37; social sciences 19; professional specializations 18; and unclassified 11. Of the 1,315 master degrees, 411 were awarded in the sciences; advanced professional courses accounted for 275 awards, nearly one-half of them in engineering; the social sciences attracted 245 students and the humanities 197; 187 awards were not classified.

The academic staffs in 1950-51, exclusive of affiliated preparatory schools, comprised 6,235 full-time and 3,931 part-time teachers and instructors.



high-school history class in session.

Summary Statistics of Education, Academic Year 1949-50

Type of School or Course	Institu- tions	Pupils	Teachers	Expendi- tures
	No.	No.	No.	\$'000
Publicly Controlled Schools— Ordinary and technical day schools Evrening classes Correspondence courses. Special schools (blind and deaf) Teacher-training Schools— Full-time course.	31,133 10 ² 12 112	2,321,289 115,623 24,282 1,962 9,968	85,292 224 774	306,649 1,107 ³ 890 1,843 3,860
Accelerated course		1,458		
Privately Controlled Schools— Ordinary academic schools… Business Training Schools— Day classes… Evening classes…	828 243	100,253 19,882 15,920	6,455 911	16,373 2,893
Indian schools and education in the Territories	425	25,142	708	7,584
Universities and Coileges— Preparatory courses. Courses of university standard. Other courses. Expenditures Not Included Above—	232	25.143 99,007 31,482	1,846 9,373ª	45,600
Provincial Governments Federal Government.				47,1164 14,1414
Totals	32,985	2,791,411	105,583	448.056

(Includes Newfoundland)

¹ British Columbia and Ontario only; included with day schools in other provinces. ² Not included in the total; correspondence courses are provided by the provincial departments of education, ³ Includes 4.127 part time instructors. ⁴ Total gross expendinner by the provincial governments was \$182,560,000, including grants to school boards amounting to \$121,487,000, of which \$2,642,000 was provided by the Federal Government. ⁴ Includes \$5,984,000 living allowances paid to student veterans. Total expenditure on education by the Federal Government was \$24,108,000, of which \$9,209,000 was spent on the education of veterans.

Financing Education.—The general principles of financing educational institutions are the same in all provinces though there are minor variations. The publicly controlled elementary and secondary schools are built and operated by the school boards which receive their income through direct taxation, provincial grants, and other sources.

An understanding of municipal organization is essential to an understanding of taxation for school purposes. Nova Scotia and New Brunswick alone are completely organized municipally, the other provinces having large unorganized areas, mostly sparsely settled. In the organized areas of most provinces, only the annually elected councils of the local municipalities have power to assess property and levy taxes: in Prince Edward Island, Nova Scotia and Quebec a school board also may levy taxes. In the unorganized areas of Quebec, Ontario and Saskatchewan, school boards may levy taxes while in Manitoba, Alberta and British Columbia a provincial assessor evaluates the property and levies taxes. In those areas where the municipal council has the sole right to levy taxes, that council is, in most cases, obliged to accept the budget submitted by the school board, although it may give some advice regarding the limitation of expenditures.

Assessment for school purposes is on the valuation of (1) land, (2) buildings or, in some provinces, improvements, (3) personal property in Nova Scotia and Manitoba, (4) business income in Ontario, Manitoba and Saskatchewan, In addition to basic academic training, the student whose aptitude lies in vocational fields has the benefit of courses in preparation for industry, commerce, agriculture or home economics.

The home economics courses at secondary school level include dressmaking and design, meal preparation and other household arts.



Mast secondary schools provide courses in commercial subjects.



and (5) mines income in Ontario. Crown lands, educational institutions, churches, cemeteries and the property of agricultural and horticultural societies are usually exempt from taxation. Various methods, such as provincial assessments, county assessments and special grants, are used to overcome the variations caused by the multiplicity of local assessments.

The tendency has been for the provinces to assume, through the payment of grants, an increasing share of the cost of elementary and secondary education. Most grants are paid to the school boards but in some cases they are also paid to teachers. "Basic" grants are based on teachers' salaries, certificates and experience, approved costs, average daily attendance, number of classrooms or a stated minimum cost. "Special" grants are for such items as transportation, auxiliary classes, music, arts and crafts, building costs, equipment, libraries, assistance to poor districts, home economics, shop work, night schools, etc. Special grants loom largest in Quebec where there is marked emphasis on training for home industries, arts and crafts, etc.

Except in Quebec, fees are limited to students in secondary grades. They are only nominal and constitute a very minor portion of the income of school boards. In Quebec fees may be charged for both elementary and secondary education and may account for 10 p.c. of the income of the boards. Other sources of income, including rent of buildings, income from the operation of dormitories and cafeterias, concerts, donations from local organizations, etc., account for from 3 to 5 p.c. of the total revenue.

In most provinces school boards may borrow on notes for current purposes, though amounts, terms and the purpose of the loan may be limited by law. Security for such loans may be provincial grants or taxes. Where such loans are not permitted, boards may seek an advance from the municipal council. Borrowing for building purposes is usually done by the issue of debentures by the municipality on behalf of the school board, in most cases approved and in some cases guaranteed by the provincial government. Sinking funds are permitted in some provinces but not in others.

Private schools are supported by fees, donations and endowments and some in Quebec receive provincial grants. In Ontario and the Maritimes, teacher-training schools for elementary teachers are free but in Quebec and the western provinces fees are charged. Certain teacher-training schools in Quebec operated by religious orders receive provincial grants.

Fees account for 38 p.c. of the income of universities and colleges, and provincial and federal grants for 42 p.c. The remainder comes from investments and other sources. In the case of the provincial universities of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia, the provinces pay, subject to limitations, the difference between expenditure and income. Some provinces provide the university buildings. The Federal Government makes large annual grants to the provinces to encourage vocational education, including youth-training, apprenticeship and technical education, provides grants for research, scholarships and university education and pays for the education of veterans.

In 1952 a new system of federal grants to the universities was inaugurated. For many years federal financial assistance has been given to the universities or to university scholars and research workers for specific purposes considered national in scope. The new grants represent an annual contribution to university education based on the population of each province. Ph.D. candidate in aerophysics at the Institute of Aerophysics, University of Toronto, lectures to a seminar of students, all of whom are taking post-graduate degrees.



The grants for 1951-52 were authorized by Order in Council (P.C. 123, Jan. 9, 1952) to provide a preliminary experimental period before the regulations were placed on the Statute Books. The amount distributed was about \$7,000,000, approximately 50 cents per capita for each province. The provincial quotas were divided among the universities and eligible colleges in the province on the basis of the number of students in full-time attendance pursuing courses of study leading to recognized degrees or equivalent postgraduate diplomas. In the years 1941 to 1950, the current expenditures of the larger universities and colleges, representing more than 80 p.c. of the total enrolment, increased from \$16,000,000 to \$40,700,000. In 1950, the Federal Government paid to the universities more than \$2,000,000 for the education of war veterans. Including this amount, the proportion of university expenditure met by all government grants was 42 p.c. In 1941, prior to the inauguration of the veterans' training plan, provincial government grants alone represented 41 p.c. of current expenditure. Since the veterans' training allowance will be completed in the near future, the new federal grants are calculated to compensate for this withdrawal and provide some measure of expansion and improvement in the facilities and courses of higher education.

Adult Education.—Adult education, both formal and informal, is becoming increasingly necessary to the Canadian way of life. Casual learning gleaned from newspapers and magazines, the cinema, radio and television programs, has been growing decade by decade. Formal education authorities have been interested in promoting community centres, fostering the arts, encouraging good citizenship and developing leadership.

In rural areas educational undertakings include: short courses given by itinerant instructors in home economics or agriculture; community groups formed for the discussion of documentary films or radio programs; lighted school programs; and folk schools which provide opportunity for young folks to share experiences in community living. As rural communities are more homogeneous in interests and organization, providing adequate educational opportunities for all is easier than in urban areas. Urban organization, on the other hand, lends itself to greater variety in academic and vocational classes at the high school and college levels with a wide variety of hobby and recreational courses.

EDUCATION

Services and aids provided directly or indirectly by the Federal Government include: documentary films produced by the National Film Board; educational broadcasts prepared by the CBC studios, or by provincial authorities, or co-operatively; art displays and prints from the National Gallery; and pamphlets and booklets on a wide variety of subjects. Services provided by the provincial governments vary from grants for evening classes to sponsored or assisted programs in formal education, recreation, fitness, health or youth programs, and more sporadic contributions of the departments of agriculture, forestry, fisheries, etc. Teaching aids are made available free or at nominal cost.

A survey of adult education conducted by the D.B.S. for 1950-51 showed that eight of the ten provincial Departments of Education had Divisions of Adult Education employing in all 192 full-time and 622 part-time workers. Four of these Divisions prepared booklets, three prepared films, three exhibits, four radio broadcasts, and one lectures; a number of them conducted a wide variety of activities enrolling 37,139 persons in classes, some of them extending over months.

Thirteen institutions of higher learning prepared books and pamphlets, lesson outlines and study courses, and radio broadcasts and transcriptions. Nine prepared films, filmstrips or slides, and seven prepared travelling or other exhibits. Counting short courses, evening courses, summer courses, refresher courses, workshops, institutes, conferences, etc., one university conducted 2,910 meetings enrolling 7,172 people while three others had 2,530, 1,655 and 1,305 meetings and enrolled 1,633, 3,921 and 670, respectively. This was in addition to courses leading to degrees.

The Canadian Association for Adult Education, an independent voluntary organization, co-ordinates the work of the major adult educational agencies in Canada, provides ideas and motivation, and conducts research. La Société canadienne d'enseignement postscolaire performs similar functions for French-speaking Canadians.

Scientific Research

The National Research Council is the central organization for research on the national level. At the same time research activities are conducted by a number of Federal Government Departments, notably Agriculture, Mines and Technical Surveys and Fisheries. These Departments have trained permanent scientific staffs for investigation and research in their own fields such as soil problems, crops, breeding and testing of animals, processing and marketing, extractive and physical metallurgy, silvicultural and forest products, hydrography, ocean and mollusk fisheries, etc. The Board of Grain Commissioners also maintains laboratories for research in milling, baking and malting, and the Dominion Observatories carry out research in the fields of solar physics, astrophysics, seismology, terrestrial magnetism, gravity, and so on.

Research in specialized fields is also carried on by other levels of government and in recent years it has become common practice and indeed almost a necessity for large industrial concerns to establish their own research facilities. The universities are also active in scientific research and assistance is given in certain fields by a number of research foundations including the Ontario Research Foundation at Toronto which provides aid to the public and to industry in matters of a technological character; the Banting Research Foundation which aids medical research throughout Canada; and the Rockefeller Foundation which assists in the furtherance of scientific research in medical science, natural science, social science and public health.

Liaison among scientific interests is maintained through meetings of scientific and engineering societies and various specialist gatherings and continuity of effort is often secured through the appointment of committees by such organizations as the National Research Council, the Defence Research Board and the Fisheries Research Board.





Provincial Government employee laking an organism count in lakewater at Lake Opeongo, Algonavin Park, Ont.

An Advisory Panel of Scientific Policy, consisting of senior research officials, keeps in close touch with all research activities carried on under the auspices of the Government of Canada. Each of these agencies in turn maintains working relations with provincial and other research institutions and the machinery of scientific and industrial research throughout Canada is thus integrated into a smoothly working mechanism of high efficiency.

National Research Council.—The National Research Council is a peculiar and rather complex organization which has no exact counterpart. It was founded during World War I to advise the Government on certain critical materials. At the end of the War it was retained in an advisory capacity. It recommended to the Government that the best method of building up research was to start at the foundation—the universities. The Research Council, therefore, became a body of the "foundation" type, awarding grants and scholarships for research. The operation of laboratories started in the early 1930's, when the Council ventured into research aimed at helping secondary industry, primary industry being already attended to by existing government departments.

The Council is not a government department, its employees are not civil servants, and its governing body is composed almost entirely of people outside the government service. It is thus a combination of a fund-granting foundation type of organization and an operating organization running large laboratories—a combination peculiarly fitted to a country in which research is being built up and in which the performance of research is no more important than its encouragement.

Industrial research, both in extent and in direction, must be closely connected with developments in the economic situation. In a pioneer country it will lean strongly to the primary industries—agriculture, forestry and mining—and, as the country develops, interest in secondary industries will increase. This is the pattern that has been followed in Canada. Since World War II there has been a strong swing towards Canadian self-sufficiency in research. Establishment of new industries and the expansion of existing plants have given rise to a sizable increase in the amount of applied research being carried on by Canadian firms. This development has made it possible for the National Research Council to broaden its field of work to include fundamental studies, especially those having a bearing on problems related to industrial research projects.

Practical research of special interest to industry is in progress in the laboratories on a wide variety of problems. Some of the more important fields of work relate to studies on buildings and foundations; aeronautical investigations of use to the aviation industry as well as to the Royal Canadian Air Force; radar studies of special interest to the Department of National Defence;



Experiment on the phoformetric properties of snow being carried out by the photometry and colorimetry group of the Division of Physics, National Research Council.

Measuring the thermal efficiency of clothing, also in the Physics Division.

research relating to moulds and bacteria which cause rot and decay by attacking the cellulose in textiles, wood and similar materials; chemical investigations on the mode of formation and structure of alkaloids in plants; and fundamental studies on the principles involved in the flow rates of fluids, which may lead to a better understanding of many industrial process problems.

Industrial projects in applied chemistry also cover a wide range. Research in rubber is carried on in close co-operation with the industry and with Polymer Corporation Limited, a Crown company producing synthetic rubbers. Paint studies, corrosion of metals and the investigation of textiles with special reference to laundering and dry-cleaning problems are all being pursued intensively. Pilot-plant operations are proceeding on the industrial application of a process developed in the laboratories which may prove more efficient and less expensive than existing commercial methods of making various chemical products from certain constituents of natural gas.

In pure chemistry, one interesting study among many relates to conditions at the "critical point". The critical point is the temperature and pressure at which the liquid and gaseous forms of a substance become indistinguishable. Study of substances at temperatures and pressures near their critical points provides useful information on the way gases and liquids change into one another. Until about 15 years ago a theory put forward by yan der Waals in 1873 concerning the critical point was generally accepted as being qualitatively correct. Around 1935 several investigators began to work towards the establishment of a more accurate and quantitative theory and their work gave rise to a new interpretation which aroused wide interest among scientists. Maass of McGill University, who had long been interested in this subject, made some experimental measurements which tended to confirm the newer theory and about a year ago the Division of Pure Chemistry undertook to clear up some points on which there was not yet full agreement. Since then, National Research Council scientists have studied pressure. temperature and volume characteristics of certain substances in the critical region as precisely as possible. Employing a relatively new technique and using equipment designed and developed in collaboration with the Division of Physics, they have measured the velocity and absorption of sound waves in gases near the critical point. Results of these studies have been reported in scientific literature and have been presented at a recent conference at Paris.

The National Research Council had a staff of 2,205 as at October 1952. About half of the regular staff positions in the Division of Pure Chemistry and certain positions in other Divisions of the laboratories are occupied by appointees under the post-doctoral fellowship plan inaugurated in 1948. Some 150 research scientists from 56 universities and 21 countries have worked in Ottawa under this arrangement. Appointments are for one year and may be renewed only once. This provides a flow of new men through the laboratories and produces a sort of university atmosphere which keeps the Council young. Moreover, because of their varied sources of training, these post-doctorate fellows have a most stimulating effect on the conduct and output of research in the National Research Laboratories.

Activities of the Council also include the making of grants-in-aid for research projects to be carried on in the universities, and the award of scholarships for graduate training. Two regional laboratories are in operation: one at Saskatoon for studies on methods of utilizing farm surplus and waste A post-doctorate fellow in Pure Chemistry checking a vacuum gauge in the course of research on the mercury photosensitized reactions of benzene at the National Research Council.



produces: the other at Halifax for the investigation of problems relating to seaweed and other matters concerned with the industrial development of natural resources in the Maritime Provinces. The Technical Information Service provides scientific and technological information to industrial plants throughout Canada, answering some 400 inquiries each month.

Much additional work going on in the Council's laboratories cannot be described since it is being done either for the Armed Services or under the defence production program or, in certain cases, for private firms in accordance with industrial agreements.

Atomic Energy Research Activities, 1951-52. Canada's main atomic energy establishment, which is situated at Chalk River, Ont., had a highly successful year. The two heavy water reactors there were in continuous operation, the larger one (NRX) at a somewhat increased power. A start was also made on the construction of a third heavy water reactor. This will be larger and many times more powerful than NRX and will provide additional facilities for important fundamental investigations, for production of plutonium and radioisotopes, and for atomic power research.

Because of the increasing industrial aspects of the Chalk River establishment, responsibility for its operation was transferred on Apr. 1, 1952, from the National Research Council to a newly formed Crown company. Atomic Energy of Canada Limited, in which a Commercial Products Division was later established to market isotopes produced at Chalk River. Nearly 1,000 shipments of 70 different radioisotopes were made to research establishments, industries and hospitals, both in Canada and abroad, in the year ended Mar. 31, 1952. The most important shipments were two highly active Cobalt⁶⁰ sources which were delivered to two Canadian hospitals for the treatment of cancer. The demand for radioactive cobalt for such therapy units has exceeded the production capacity of the NRX reactor.

Many other Canadian scientific establishments also carried out atomic energy investigations during the year and have made important contributions to this new field of science.

RESEARCH



Social and Cultural Relationships

CANADA'S general economic prosperity of recent years has been reflected in a growing sense of well-being in all helds of cultural and artistic activity, and a lively public interest in all forms of art is now found throughout the country. During the past two years added stimulation has come from the *Report of the Royal Commission on National Development in the Arts, Letters and Sciences,* a historic document which presented the first national inventory of Canada's cultural resources and indicated many forms of potential growth and improvement. Also, the extraordinary amount of information concerning cultural developments in other countries which has reached Canada recently through periodical literature and radio has served to stir Canadian interest and imagination.

Although vigorous artistic activity, mainly on a local or regional basis, may be noted in every part of the country, the development of national consciousness in the arts is still weak. The paucity of national art literature is an unfavourable feature frequently causing comment. However, Canadians are fully aware of the needed improvement, and people who are concerned with literature, music, painting, ballet and the theatre are giving considerable thought to the problem. The energy and enthusiasm of regional artistic development, which is noted in virtually every city, town and village, is gradually forcing the establishment of national cultural agencies such as the Dominion Drama Festival, the National Ballet Festival and the Canadian Musical Festivals organizations.

The growth of interest in the arts and the great increase of public support for cultural activities has been so widespread during the past two years that it is difficult to describe the situation briefly. All that can be attempted here is reference to representative examples of what is happening throughout the country.

Creative Writing

Canadian writers have recently emerged from the stage in which their themes were restricted to the local situation, and are now establishing themselves firmly as original thinkers and competent literary craftsmen in both English and French. Many Canadian works, both fiction and non-fiction, have received praise from foreign critics in the post-war years, and translations into foreign languages are now frequent. Novelists have gained particular approval with their strong treatment of universal themes concerned with mankind everywhere. Scholarly writing, biographical works and specialized reporting by Canadians have been receiving unusual attention and approval recently. The number of books being written by Canadians and published in Canada has increased manifold since World War II, and the craft of writing is now a profitable livelihood for an increasing number of men and women. The Canadian Authors Association is one of the few substantial and successful cultural organizations operating on a national scale. It is in its thirtieth year and, together with its sister organization, La Société des Écrivains Canadiens, is rendering a successful professional service to its members. Of notable importance is the fact that Canadians are becoming more interested in the work of native writers, and Canadian books are now not infrequently found on the lists of "books most in demand" at public libraries.

Ballet

The emergence of ballet as one of Canada's most successful box-office attractions is entirely a post-war development, traceable to three main causes. Canadian soldiers, sailors and airmen were introduced to ballet during their stay in the United Kingdom and brought back to Canada an appreciation of the art and a taste for more of it. The visit of the famous English company, the Sadlers Wells Ballet, to the United States and to Canada, with much attendant publicity, whetted the interest of Canadians. And, finally, the use of ballet as a theme and decoration of popular motionpictures removed the art from the "long-hair" category for millions of moviegoers.

The growth of ballet in Canada in the past several years has been notable; the National Ballet Festival is now an annual event, two professional companies of national stature tour the country, at least 20,000 students are enrolled in ballet schools and ballet shows play to filled theatres in every city. The Winnipeg Ballet Company, a fully professional group, is the senior company in Canada and has been eminently successful both in its home city and on tour. A newer company, formed in Toronto and directed by a former member



Ballet class at Coste House, Calgary's Allied Arts Centre.



Scene from "The Enchanted", presented by Ottawa's Solurday Players and winner at two major awards at the 1952 Dominion Drama Festival.

of the Sadler Wells company, is now operating on a professional basis. Styling itself the National Ballet Company of Canada, it has attracted dancers from all parts of the country and won high praise in many Canadian centres where it performed during 1952. Both the Winnipeg Ballet and the National Ballet have extensive tours scheduled for 1953. The fifth annual Canadian Ballet Festival is being held in the national capital in 1953, in which at least fifteen ballet companies from many parts of Canada will participate.

Drama

Because of its great geographical expanse and few large cities, Canada has never been well served by professional touring theatre companies. The country has, however, developed an exceptionally healthy and successful anateur theatre movement, ramifications of which are found in hundreds of communities throughout the land. This movement reaches an annual peak of excitement with the Dominion Drama Festival, held in a different city each year, when a full week of competitive stage productions are offered by the best "Little Theatre" groups from coast to coast. In 1952 the festival was held in the Maritime Provinces for the first time, at Saint John, N.B.

Of greatest interest, perhaps, in Canada's drama world has been the growth of local professional theatre activity. Summer theatres have increased considerably in the past several years, and it is believed that at least twenty-five such organizations will be playing on a self-sustaining (if not profitable) basis in the summer of 1953. Several travelling theatre groups have proved the feasibility of touring towns and villages in rural areas, particularly in Saskatchewan and Nova Scotia. The Toronto Shakespeare

SOCIAL AND CULTURAL RELATIONSHIPS

Dramatizing a classroom subject in the auditorium of a modern high school.

Festival, which was inaugurated in 1949, has proved to be a profitable venture and plans are under way to produce Shakespeare, under authentic conditions and with distinguished British actors in the leading parts, at the Ontario city of Stratford, which is on the Avon River.

At Ottawa, Toronto and Vancouver local companies of professional players have been eminently successful in the past three years. The Ottawa group, Canadian Repertory Theatre, has succeeded in firmly establishing itself, playing a regular weekly schedule to well-filled houses. Although its selection of plays has varied widely from heavy drama to mystery thrillers, the three most successful box-office attractions in the past year were "Hamlet", "The Coektail Party" and "The Lady's Not for Burning", an indication that Canadians are apt to take their drama thoughtfully.

Painting

A notable increase in public interest in painting has been observed throughout Canada in the past year, and it is seems certain that the country is in the early stage of a somewhat remarkable "art awakening". In every urban centre thousands of Canadians have taken to painting as a hobby, and one of the results has been a stimulation of art appreciation and appetite. New art galleries have opened in a number of cities and many new exhibitions and exhibitors have been noted. The great increase in the number of people attending art shows has been a source of gratification to artists, educators and impresarios. A number of factors can be mentioned as having a stimulating effect upon the public's interest and curiosity: impressive art education articles in United States magazines which are widely read in Canada; the new and eye-catching use of paintings in advertising copy; art as a facet of motion-picture production; new art education methods in public schools; and the availability of art lessons for adults at community centres.

CANADIAN PAINTING



Totem Poles, Gilsegiuklas Edwin Headley Holgate, R.C.A.



Stormy Weather, Georgian Bay.

Varley, A.R.C.A.



A Northern Hill-Top

J. E. H. MacDonald, R.C.A.



The Beothic at Bache Point, Ellesmere Island

A. Y. Jackson

The Parliamentary Sculptor at work with stonecutters on Confederation Hall, Centre Block of the Parliament Buildings, Ottawa



The National Gallery of Canada, recently given more financial encouragement by the Canadian Government, has taken active leadership in providing fine art fare, in several forms, for all parts of Canada. There has been a remarkable increase in the number of art exhibitions on tour in both Eastern and Western Canada, some being the works of groups of Canadian painters and others being selections aimed at showing the art treasures and modern developments of other countries. Art societies are thriving and groups of painters with special interests are working eagerly and vigorously in several cities, notably Montreal, Toronto, Winnipeg and Vancouver, and much of their work is attracting attention by its modernity. The number of Canadian painters travelling abroad for training and experience is very much on the increase, and the Canadian School is showing clear indications of the influence of schools in Europe, the United States and Mexico. Mature Canadian painters, who have established their reputations through the years, are finding a more ready and more profitable market than ever before for their works. The sale of art literature and the showing of art films, both greatly increased in the past two or three years, are further indications of a new peak of public interest in art.

Music

In every city, town and village of Canada there are vigorous organizations devoted to the promotion of music, and this dates back to the earliest times in Canadian history. In the schools of all ten provinces emphasis is placed upon the importance of muscial education, appreciation and understanding. Conservatories in all the main cities, and some in smaller university towns, are well attended and competently staffed. In about twenty cities annual music festivals have become events of great interest, and the recently formed Canadian Music Festivals Association is a national body of considerable importance and prestige. Several of the city festivals require a solid week



Rohanning the musical background for a dramatic show. This type of work requires the services of very skilled musicians able to work with little rehearsal irom rough manuteriots that are sub-

of competitions to meet the demands of the community. In Winnipeg, a city which inherits the musical backgrounds of a score of racial groups, more than 20,000 people compete in the festival and ten days of morning, afternoon and evening performances are required.

Public interest in opera in Canada has increased manifold in the past two or three years, possibly due in large measure to the taste developed by radio broadcasts by famous British and United States companies. The School of Opera conducted by the Royal Conservatory of Music of Toronto has attained an assured success in a few short years, and the Canadian Broadcasting Corporation's operatic company has become firmly established as one of the most popular radio groups in Canada. At Ottawa, Montreal, Winnipeg, Vancouver and a number of other cities, local operatic organizations are singing to well-filled houses, while the Nova Scotia experiment of bringing live opera to smaller centres of population throughout the Province has become a definite success.

In at least a dozen Canadian cities symphony orchestras are receiving enthusiastic public support and are rendering valuable service to their communities. The Toronto Symphony Orchestra is scheduled to make a tour of United States cities in 1953, a sure indication that it has achieved musical stature of some importance. Montreal, a city of cultural brilliance, provides symphonic music of top rank, and Winnipeg and Vancouver provide regular symphonic performances over the CBC national radio network. Ottawa is developing a smaller philharmonic orchestra of excellent quality, and is probably providing the nucleus of an eventual national symphony.

In the field of creative music Canadians are gradually making themselves known both at home and abroad. The Canadian League of Composers entered its third year with a distinguished concert of music by its own members in December 1952. The biographies of 356 men and women were listed in a Catalogue of Canadian Composers issued by the CBC in 1952. In that year, too, there was a notable increase in the publication of musical works by Canadians. New and important outlets of Canadian composition were again provided by the CBC, while encouragement was provided continuously by the Composers, Authors and Publishers Association of Canada Limited and BMI (Canada) Limited. During the year 1952 an increased number of eminent Canadian musicians received invitations to perform on concert stages or to lecture at conservatories abroad, and the attention of foreign music critics is being directed more than ever before to the creative and performing abilities of Canadians.

Organizations, Schools, etc.—A large number of cultural bodies serve as centres of interest for Canadian writers, musicians, painters, dramatists, dancers, sculptors and others concerned with the arts. Most of these function on a local basis, although a number of national organizations have been gaining in strength and effectiveness during the past several years. The Canadian Arts Council is a federation of seventeen professional societies. The Canada Foundation, a non-governmental agency, provides a national information centre for cultural purposes and stimulates patronage in the form of scholar-ships and grants. The Royal Canadian Academy is the officially recognized prestige body in the field of the fine arts, although other groups—such as the



A young patter throwing a bowl on the wheel. Canadian Group of Painters, Water Colour Society, Federation of Canadian Painters, the Sculptors Society and the Graphic Art Society—are well established and influential. National organizations to stimulate and direct annual festivals in the fields of music, theatre, opera and ballet are functioning successfully. Fine art schools in all parts of Canada are attracting capacity attendance at winter and summer sessions and, in most instances, there is a lack of accommodation to handle the full demand for instruction. University fine arts schools are operating with notable success at Queen's, Mount Allison, Laval, New Brunswick, Alberta, British Columbia and Montreal. The Ontario College of Art and Quebec's several écoles des beaux arts are recognized abroad as well as in all parts of Canada.

Humanities and Social Sciences

The humanities and social sciences represent those fields of intellectual effort that distinguish the university faculties of "arts"—language, literature, history, philosophy, economics, political science, sociology, etc.—from those of "science". Concern has been expressed in recent years over what appears to some in the universities to have been inadequate preparation of students in these studies at the level of secondary and elementary education. That there has been a decline in study of the classics there can be no doubt, but at the same time serious study of Canadian and world affairs and of contemporary culture has been increasing and the number of significant Canadian contributions to scholarship is advancing year by year.

The Canadian Social Science Research Council, founded in 1940, and the Humanities Research Council of Canada, founded in 1943, have followed similar courses in stimulating and improving the quality of studies in their respective fields. Both have assisted the publication of scholarly works, have assisted mature scholars in financing research and, by pre-doctoral fellowships, have stimulated advanced education. These activities have been financed largely by grants from the Rockefeller Foundation and the Carnegie Corporation of New York. However, administrative expenses of both Councils are now being met by grants from two dozen or more of the universities and colleges. Such funds enable the Councils to convene annual and special meetings at which projects are frequently launched for joint effort on a national basis. In 1950, the Humanities Association of Canada was set up on a basis of broad membership in the hope of serving a purpose in its field similar to those of the Canadian Historical Association, the Canadian Political Science Association, and the Canadian Institute of International Affairs.

As pointed out by the Royal Commission on National Development in the Arts, Letters and Sciences in its report of 1951, there is a great discrepancy between the encouragement that is given to students in these fields and to students in the natural sciences, through the medium of scholarships and fellowships. In the autumn of 1952, the Canadian Government for the first time made funds available for a group of scholarships in the humanities and social sciences. The funds were blocked balances standing to the credit of the Canadian Government in France and The Netherlands. The competition was administered by the Royal Society of Canada.

Libraries

Authorization by the Federal Government for the establishment of a National Library of Canada, followed by the appointment of a National Librarian, has accelerated the critical appraisal of existing library services that has been under way in all provinces during the past five years.

At the national level, a sound foundation for national library service is being laid. The Bibliographic Centre of Canada, which was established in May 1950, is engaged in microfilming the catalogues of the main libraries of Canada for the purpose of establishing a Union Catalogue that in time will be incorporated in the catalogue of the National Library of Canada. By the end of 1952, the Centre had listed the holdings of 33 libraries comprising 2,500,000 volumes. The catalogue already has become a source of information for the promotion of inter-library loans. A second project undertaken by the Bibliographic Centre is the publication of *Canadiana*, a bilingual monthly list of books, pamphlets and periodicals published in Canada, or Canadian in subject content, or written by Canadians. The distribution of *Canadiana* to libraries in Canada and abroad has increased almost 50 p.c. since this service was established.

The Canadian Library Association has instituted a project that is complementary to those of the Bibliographic Centre. Some 60 newspapers of historic value have been microfilmed and catalogues and historic notes have been made available.

At the provincial level, marked progress has been made in the establishment of new regional libraries and in the appraisal of existing services. The

British Columbia Library Commission in 1951 made an extensive survey of the union libraries of the Province. Alberta and Saskatchewan have each established one new regional library and Nova Scotia has four. Manitoba has passed legislation to permit the establishment of regional libraries, has

One person in ten of Canada's population is registered as a borrower in a public library.



appointed a Director of Regional Libraries, and has authorized a provincewide survey preparatory to the formation of such regional areas. New Brunswick has authorized an immediate survey of the Province for the same purposes.

The most recent of the surveys of libraries in Canada, which are conducted biennially by the Dominion Bureau of Statistics, estimated that about 12 p.c. of the rural population received some type of library service in 1949. In 1938 a similar estimate reported less than 5 p.c. The increase is due largely to the extension of provincial travelling libraries, the establishment of regional libraries and the formation of county library co-operatives. The type of service has also improved through the employment of professional librarians. The total book stock held by the public libraries of Canada in 1949 approached 7,000,000 volumes, about one book for every two residents of the country. There were 22,000,000 loans made in the same year.

In keeping with the tradition of public libraries as local centres of culture, their services are being extended to include the loan of pictures and paintings, music scores and phonograph records, and films and projectors. Nearly a dozen libraries report art collections for loan. Several of these libraries are located in centres without other facilities for the study of great pictures. Film services and music libraries were reported by more than 30 libraries.

A significant feature of the general trend toward improvement of library service is the wide-scale building program that has been under way in the post-war years. In almost all provinces new modern library buildings are being constructed or are in the planning stage, and older library buildings are being enlarged and improved. This trend applies to university as well as public libraries.

Museums

There are museums in Canada operated by the Federal Government, by provincial and municipal governments, by universities, colleges and local societies and there are as well a few privately owned collections.

The National Museum, although essentially a museum of natural history, has collected an extensive exhibit of Indian and Eskimo lore and many phonographic recordings of French-Canadian, English-Canadian and Indian songs. Other federally operated museums include the Canadian War Museum, the nucleus of a historical museum housed in the Public Archives, a collection of aviation exhibits in the National Research Council, a farm implement exhibit at the Experimental Farm at Ottawa, and several historical museums situated in National Parks. All are modest in scope.

The Royal Ontario Museum is the largest and best-known of the provincial museums. It specializes in the field of archæology and carries on extensive work in research and publication. The New Brunswick Museum, though smaller, is noted for its exhibits designed for school use. Laval University, McGill University, the University of Western Ontario and the University of British Columbia all have sizeable collections and certain private exhibits, such as that of the Hudson's Bay Company at Winnipeg and that of the Bell Telephone Company at Montreal, attract many visitors.

The National Gallery at Ottawa has assembled a permanent collection of paintings and sculpture, prints and drawings representative of past and



A museum artist fouches up a painting of dinosaurs in the vertebrate palaeontology hall at the National Museum of Conada.

> present styles from various countries. The Canadian section is most inclusive and is made known to the whole country through catalogues, photographs, colour reproductions, films, radio broadcasts and, to a limited extent, by loans. The extension work of the Gallery includes organization of exhibitions from collections abroad and the fostering of Canadian industrial art. There are also important collections available to the public in a number of the larger cities.

> The Public Archives of Canada at Ottawa is particularly rich in pre-Confederation materials and several provincial governments support archival centres, some in collaboration with universities located in the capital cities, as in Halifax and Toronto.

> The Canadian Museums Association was organized in 1947 to act as a clearing house for information of special interest to Canadian museums, to promote the training of museum workers, to facilitate the exchange of exhibits and to promote collaboration with museums of other countries.

Media of Mass Communication

The Press.—Periodic publications to the value of about \$150,000,000 are produced in Canada each year, of which amount more than two-thirds is realized from advertising and less than one-third from subscription or sale. Printed and bound books are produced to the value of about \$20,000,000. While there is no record of the amount spent by Canadians on subscriptions to periodicals published abroad, it is probably more than the amount of subscriptions from abroad for Canadian publications. Recorded imports of books and other printed matter greatly exceeds recorded exports, the former amounting to about \$40,000,000 each year and the latter to about \$2,000,000. It appears that the per capita expenditure of Canadians on books, pamphlets and periodicals is in the neighbourhood of \$15 a year, about half of which is paid directly and half indirectly through payment for advertising.

SOCIAL AND CULTURAL RELATIONSHIPS



The Canadian Press newsroom, where a steady stream of news from the four corners of the world is edited and prepared for transmission by teletype to Conadian doily newspapers across the country.

The largest item, that for newspapers, covers more than half the total. About 95 daily newspapers, counting morning and evening editions separately, are published in Canada, with an aggregate reported circulation of more than 3,500,000—about 80 p.c. in English and the remainder in French, except for a few in Yiddish or Chinese. Ten of the papers enjoying circulations near or in excess of 100,000 account for more than half of the circulation. Well over 90 p.c. of all newspaper circulation is in the cities.

Weekly or monthly publications with a total circulation in excess of 1,000,000, include a considerable variety of foreign-language publications including Ukrainian, German, Yiddish, Polish, etc. Weekly newspapers serve a much greater percentage of the people in rural communities than do the dailies.

The combined circulation of Canadian magazines is about 11,000,000. In order of popularity, magazines classified as home, social and welfare come first, agriculture second, and religion third.

Purchases of books and other printed matter from the United States are significant, recorded imports averaging about \$35,000,000 for each of the past five years. Imports from the United Kingdom have shown an increase in post-war years but amounted only to about \$2,317,000 in 1951. In the same year, imports from France, the third largest supplier, were valued at \$900,000.

Radio and Television.—Radio broadcasting and television in Canada are dealt with at pp. 257-262. The number of radio receiving sets made available in Canada through production and imports has averaged about 700,000 per year since the end of World War II, and the average price to the buyer in that period was about \$70 per set. The Census of 1951 found that 93 p.c. of the 3,408,000 households in Canada had radios. In some cities there were few households without one, and in the country as a whole one family in ten had two or more.

With the establishment of television service by the Canadian Broadcasting Corporation in 1952 the demand for receiving sets increased greatly. Production of fewer than 30,000 sets had met the demand in 1950 when it was confined to border points relying on United States broadcasts, but approximately the same number were manufactured in the first half of 1952.

Motion Pictures.—In 1951, there were 1,808 motion-picture theatres in Canada with a seating capacity approaching one million, 82 drive-in theatres, 632 community halls offering screenings, and 175 itinerant motion-picture exhibitors. On the average, each Canadian attended 18 motion-picture programs and paid \$7 in admissions. Most of the films shown were produced in the United States although a small but increasing number of films came from the United Kingdom and a few from France and other European countries.

While few feature-length films for commercial theatres are produced in Canada (some notable exceptions being French-language films in Quebec), there is a considerable production of documentary shorts by the National Film Board and by commercial producers, several of which have won international awards. In 1949 the Canadian Association for Adult Education instituted a series of annual awards for distinguished Canadian film productions, including theatrical and non-theatrical types, amateur and professional work. The project was developed by the Association's Joint Planning Commission composed of representatives of fifty national organizations interested in education and the arts.

Schools, adult education agencies, and other community groups are making increased use of films. More than 4,000 schools have motion-picture projectors and more than 3,000 have film-strip projectors. There are some 200 film libraries and community film councils in existence, usually developed by public libraries, provincial departments of education, or university extension departments, with the co-operation of school boards, service clubs, etc. The National Film Board has established some 160 rural circuits for periodic film-showing and local libraries receive assistance in obtaining films from the Film Board and the Canadian Film Institute. The distribution of Canadian films abroad has become an important part of the Board's work.



National Film Board movie crew filming a sequence during the production of "Talent Showcase".



National Income Survey of Production

THIS analysis summarizes the year-to-year changes in the value of Canada's annual production of goods and services, and describes the way in which this total product of the country's economic activity is utilized to satisfy consumer wants, to provide government services, or to increase the nation's capital at home and abroad. The first section, "National Income", deals with net national income at factor cost, gross national product and expenditure, and personal income and its disposition. The second section, "Survey of Production", describes the net value of commodity production.

National Income

Net national income at factor cost, or *National Income*, measures the value of current production after provision has been made for depreciation of capital assets, and exclusive of indirect taxes less subsidies. It is equal to the annual earnings of Canadian residents from the production of goods and services, that is, the sum of wages, salaries and supplementary labour income, military pay and allowances, corporation profits and other returns on invested capital, and net income of farmers and other enterprisers who are in business on their own account.

Gross National Product is defined as the value at market prices of all the goods and services produced in a year by the labour, capital and enterprise of Canadian residents, measured through a consolidated national accounting of the costs involved in their production. It is obtained by adding to national income indirect taxes and depreciation allowances and similar business costs that enter into the cost of goods and services (and hence market prices) but do not form a part of the incomes of Canadians. A minor item, government subsidies, is deducted since its effect is to reduce the money cost of goods and services produced.

Gross National Expenditure is defined as the market value of all goods and services produced in a year by the labour, capital and enterprise of Canadian residents, measured through a consolidated national accounting of the sales of these goods and services, including changes in inventories. Thus, while it measures the same total as gross national product, it indicates how the goods and services produced are disposed of to households, governments, to business (on capital account), and to non-residents.

National Income and Gross National Product.—The national income expressed in current dollars increased by 18 p.c. from 1950 to 1951, from \$14,555,000,000 to \$17,229,000,000. This increase was mainly due to increases in salaries, wages and supplementary labour income of \$1,369,000,000, investment income of \$567,000,000, and accrued net income of farm operators of \$591,000,000. Net income of non-farm unincorporated business and military pay and allowances also rose moderately.

NATIONAL INCOME

The gross national product reached \$21,241,000,000 in 1951, a gain of 17 p.c. over 1950. Since it is measured in terms of current dollars, the gross national product reflects price changes as well as changes in the physical volume of production. If adjustments are made to eliminate the influence of price changes, it appears that the real output of goods and services increased by more than 5 p.c.

During the post-war years 1946-51, the value of total output increased 77 p.c. With the effect of price increases removed, the total volume showed a relative gain of approximately 19 p.c.

Net National Income at Factor Cost and Gross National Product at Market Prices, Significant Years, 1929-51

						_			
Item	1929	1933	1939	1944	1946	1948	1949	1950	1951
Salaries, wages and supple-									
mentary labour income.	2.929	1,778	2,575	4,940	5,323	7,170	7.761	8,271	9,640
Military pay and allow-									
ances	8	8	32	1,068	340	82	115	137	201
Investment income	836	299	917	1,829	1,975	2,464	2,445	3,088	3,655
net income of Agriculture			-	1.0-1					
rated Business-		_							
Farm operators from									
farm production	408	74	385	1,185	1,112	1,518	1,504	1,547	2,138
Other unincorporated									
business	608	293	464	804	1,071	1,326	1,369	1,512	1,595
Nat National Income au									
Factor Cost	4.789	2.452	4 373	9 826	9.821	12.560	13 194	14 555	17 220
Indirect taxes less subsi-							-		
dies	681	537	733	1,111	1,269	1,772	1,830	2,005	2,386
Depreciation allowances									
and similar business	700	847	410	0.5 7	002	1 076	4.4.2.7		1 7 6 3
Pasidual error of entimate	109	34/	010	-160	903	1,270	1,437	1,007	1,103
residuarenoi of estimate.					-1-33			-43	-1.77
Gross National Product	-								
at Market Prices	6,166	3,552	5,707	11,954	12,026	15,613	16,462	18,122	21,241

(Millions of Dollars)

Gross National Expenditure.—Most components of the gross national expenditure showed an increase in 1951 compared with 1950. Personal expenditure on consumer goods and services increased from \$11,862,000,000 to \$13,062,000,000 but, after correcting for price changes, no increase in the real volume of consumer goods and services was indicated.

Government expenditure on goods and services increased by \$797,000,000 in 1951 over 1950, mainly as a result of higher defence expenditure which rose from \$493,000,000 to \$1,160,000,000. Provincial-municipal expenditures were also somewhat higher.

The aggregate of gross domestic investment increased by \$1,236,000,000 with investment in inventories and new machinery and equipment accounting for the greater part of the increase. Gains were also recorded in investment in new non-residential construction, but the value of residential construction declined by 3 p.c. In volume terms, the decline in residential construction was about 16 p.c. while non-residential construction rose by about 6 p.c.



Farm families constitute one-fifth of the home market for all the various goods and services produced by Canadian workers in every type of occupation. Anything that affects the buying power of these farm people, favourably or unfavourably, is quickly reflected in other industry, so that good craps, good markets and prices that yield a fair return are essential to the continuing prosperity of every Canadian from coast to coast.

Gross National Expenditure at Market Prices, Significant Years, 1929-51

Item	1929	1933	1939	1944	1946	1948	1949	1950	1951
Descend an address on									
consumer goods and ser-									
vices	4,393	2,887	3,904	6,187	7,977	10,112	10,963	11,862	13,062
Government expenditure	693	826	725	5 011	8 0 7 1	1 708	2 1 20	3 222	2 1 20
Gross Domestic Invest.	002	320	133	3,022	1,032	1.190	2,120	2,323	3.120
ment-									
Plant equipment and	1 7 70	210	605	0.50	1 200	1 495	3 040	2 016	2 907
Investories	1,330	- 82	331	-46	1,398	2.085	2.908	1 005	1 650
Exports of goods and serv-		0.4							-,
ices ²	1,632	826	1,451	3,561	3,210	4.054	4,011	4,185	5,099
imports of goods and serv-	-1 945	- 828	- 1328	-1 569	-2 878	-3 636	-3 837	-4 514	-5 633
Residual error of estimate.	+13	-16	+9	- 60	32	-5	-2	+45	+1.36
Gross National Expendi-		2 553	5 707	11 054	12.036	18 412	14 463	10 133	28. 241
ture at Market Prices.	0,100	3,332	5,707	11,934	12,020	13,013	10,402	10,144	21,24

(Millions of Dollars)

¹ Includes UNRRA, Mutual Aid, etc., of \$960,000,000, \$97,000,000 and \$19,000,000 in the years 1944, 1946 and 1948, respectively. ² Excludes UNRRA, Mutual Aid, etc., se footnot I.



The amount of money spent on food in 1951 was \$3,436,000,000, which was more than one-quarter of the total personal expenditure on consumer goods and services of all kinds.

Imports rose more rapidly than exports from 1950 to 1951, the increase in imports of \$1,119,000,000 comparing with an increase of \$914,000,000 in exports. Thus there was a deficit of \$534,000,000 in 1951 compared with a deficit of \$329,000,000 in 1950.

It is interesting to compare the spending pattern of the nation in the war year 1944 with 1951, the latest year for which data are available. Under pressure of war requirements, consumer spending was curtailed, with the result that in 1944 only 52 p.c. of gross national expenditure was absorbed by personal expenditure on consumer goods and services. In the same year government spending, mainly for war requirements, absorbed 42 p.c. of total output and gross domestic investment was relatively small. In 1951, on the other hand, personal expenditure on consumer goods and services accounted for 61 p.c. of gross national expenditure while government expenditure was only 15 p.c. At the same time, gross domestic investment in housing, plant, equipment and inventories accounted for 25 p.c. of gross national expenditure.

Personal Income and Expenditure.—*Personal income* is derived from national income by subtracting elements of national income not paid out to persons, such as undistributed corporation profits, and adding transfer payments such as family allowances, relief payments, etc.

Personal direct taxes took approximately 6 p.c. of personal income in 1951 and 5 p.c. in 1950, as compared with 9 p.c. in 1944. On the other hand, personal expenditure on consumer goods and services absorbed 83 p.c. in 1951 and only 69 p.c. in 1944. A definite shift in the pattern of consumer spending occurred during this period. The proportion of expenditure for durable goods, such as automobiles and refrigerators, which were in short supply during the War, rose from 5 p.c. in 1944 to 10 p.c. in 1951, despite credit restrictions and high excise taxes in the latter year. At the same time, the proportion spent for food and clothing also declined. Personal saving (excluding changes in farm inventories) was 8.7 p.c. of personal income in 1951 and 5.4 p.c. in 1950. This compares with 23.1 p.c. in 1944 when shortages existed in many lines of consumer goods and the government system of war finance encouraged intensive savings programs.

Personal Income, by Sources, Significant Years, 1929-51

Source	1929	1933	1939	1944	1946	1948	1949	1950	1951
Salaries, wages and sup- plementary labour in- come. Less: Employer and em- ployee contributions to social insurance and	2,929	1,778	2,575	4,940	5,323	7,170	7,761	8,271	9,640
government pension funds Military pay and allow-	-27	-21	-35	-133	-149	-224	-239	-259	-316
ances. Net income of agriculture and other unincorporat.	8	8	32	1,068	340	82	115	137	201
ed business. Interest, dividends and net	1,015	396	899	2,010	2,161	2,953	2,969	2,958	3,786
sons ¹	639	501	620	858	980	1,099	1,201	1,338	1,506
governments to persons.	93	181	229	259	1,106	863	950	1,012	1,001
Totals, Personal Income	4,657	2,843	4,320	9,002	9,761	11,943	12,757	13,457	15,818

(Millions of Dollars)

¹ Includes charitable donations from corporations.

Trading Floor of the Toronto Stock Exchange where buyer and seller meet and where maney is put to work for the future growth of Canada. Greatly expanded reserves of disposable income in the hands of Canadians and the stepped-up inflow of foreign capital have elevated this exchange to one of the top positions among the stock exchanges of the world.



Disposition of Personal Income, Significant Years, 1929-51

Item	1929	1933	1939	1914	1946	1948	1949	1050	1951
Personal Direct Taxes— Income taxes Succession duties. Miscellaneous	34 16 18	38 13 18	62 28 22	772 39 27	711 54 31	717 58 47	677 55 57	612 63 60	890 63 63
Totals, Direct Taxes	68	69	112	838	796	822	789	735	1,016
Personal expenditure on consumer goods and services Personal Saving— Net changes in farm in-	4,393	2,887	3,904	6,187	7,977	10,112	10,963	11,862	13,062
ventories Other	-129 325	-33 - 80	60 244	-10.3 2,080	-57	-65 1,074	$-72 \\ 1,077$	1.31 729	370 1,370
Totals, Personal Saving	196	-113	304	1,977	988	1,009	1,005	860	1,740
Totals, Personal Income	4,657	2,843	4,320	9,002	9,761	11,943	12,757	13,457	15,818

(Millions of Dollars

Survey of Production

The scope of this section is limited to the actual production of commodities. The activities of such industries as transportation, communication, trade, finance, etc., are excluded except as they are indirectly reflected in the value of output of the "commodity-producing" industries. This is in contrast to the scope of the widely used "gross national product" series which encompasses all industries. Net production, or "value added", is generally considered the more significant measure of production, and is consequently stressed in the following analysis. It is obtained by deducting from the total value of output, the cost of material, fuel, purchased electricity and process supplies consumed in the production process.

The value series shown in the accompanying tables incorporate basic changes in classification and method of compilation for several of the commodity-producing industries. Adjustments for duplication between primary and secondary industries, necessary under the former system of compilation, were eliminated.*

Current Trends. In 1950, the net value of commodity production in Canada rose to the record level of \$10,562,000,000, an advance of more than 9 p.c. over 1949. Most of the increase occurred in the field of secondary production (manufacturing and construction). Higher prices and an appreciable gain in the volume of output for the majority of industries accounted for the substantial advance.

Preliminary estimates indicate further increases in the values of both primary and secondary production in 1951. The index of industrial production, which measures the volume of output in the manufacturing, mining and electric power sectors, rose by 7 p.c. over 1950, while the general index of wholesale prices advanced by 14 p.c. The value of farm output was also considerably higher in 1951, due to larger crops and higher prices.

^{*} A description of methods of compilation and of the relationship of "value added" to "gross national product" is given in D.B.S. publication Survey of Production, 1938-1950.



Lags in the Galineau River, Que., on their way to the mills. The Province of Quebec produces more than one-third of all Canada's pulp and paper products.

Little change was indicated in the level of the volume of industrial output during the first nine months of 1952 compared with the same period of the preceding year. Wholesale prices declined by over 5 p.c. in the same comparison and, although prices of farm products also declined, favourable growing and harvesting conditions resulted in record crops of wheat, barley and soybeans and near-record or above-average outturns of most other field crops.

Industrial Distribution.— Between 1947 and 1950, the total net value of commodity production rose by more than 42 p.c. Higher price levels, sustained demand for consumer goods at home and abroad, rapid industrial development and the expansion of defence industries all contributed to this rapid advance. Most of the industrial groups showed increases in the fouryear comparison, the largest gains being recorded in construction, mining and fisheries. The continuing high level of building activity and the rapid advance of construction costs resulted in an increase of 113 p.c. in value of output for the construction industry. Higher prices and greater volume also accounted for the 63-p.c. gain in the value of mining and the 43-p.c. advance in the value of fisheries. In manufactures, total net value in 1950 rose by

SURVEY OF PRODUCTION 64213-1012
more than 38 p.c. over the 1947 level. Although the greater part of this increase was due to higher prices, there was an advance of 10 p.c. in volume of output. The electric power industry also expanded steadily since the end of the War, while forestry operations, after showing a moderate decline in 1949, resumed their upward trend in 1950. The value of agricultural output, after having receded 1.3 p.c. between 1948 and 1949, showed a further decline of about 7 p.c. in 1950, but was still 25 p.c. greater than in 1947. Trapping was the only industry showing a lower level in value of output in 1950 compared with 1947.

Industry	1947	1948	1949	1950
	\$	\$	\$	\$
Primary Production-				
Agriculture	1,507,519,000	2,045,693,000	2,019,279.000	1,886,766,000
Forestry	318,260,922	360,908,642	346,455,391	381,326,000
Fisheries	57,516,421	75.374.457	67,457,941	82,191,043
Trapping	16,842,966	20,178,077	15,296,615	15,204,419
Mlning	402,538,490	538,762,152	570,215,430	657,328,924
Electric power	232,245,222	248,963,255	270,126,982	313,347,197
Totals, Primary Pro-				
duction	2,534,923,021	3,289,879,583	3,288,831,359	3,336,163,583
Secondary Production-				
Manufactures	4,292,055,802	4,938,786,981	5,330,566,4341	5,942,058,2291
Construction	601,539,452	829,644,000	1,066,649,000	1,284,065,000
Totals, Secondary Pro-				
duction	4,893,595,254	5,768,430,981	6,397,215,434	7,226,123,229
Grand Totals	7.428.518.275	9.058.310.564	9.686.046.793	10.562.286.812

Net Value of Production, by Industries, 1947-50

¹ Exclusive of fish processing in Newfoundland.

Provincial Distribution. Substantial increases in net value of output were shown by all provinces and territories (Newfoundland not included in this comparison) between 1947 and 1950.

Province	1947	1948	1049	1950
	\$	\$	\$	\$
Newfoundland Prince Edward Island Nova Scotia New Brunswick. Quebec. Ontario Manitoba Saskatchewan. Alberta British Columbia ¹ Yukon and Northwest Tarritories ¹ .	18,514,401 188,394,052 175,128,238 1,975,219,843 3,053,858,761 349,811,482 445,853,270 470,804,407 735,411,095 6,522,717	26,147,059 238,787,233 203,970,853 2,344,594,144 3,650,422,166 466,823,080 597,878,284 597,878,284 655,882,886 9,592,313	$\begin{array}{c} 74.878.122\\ 27.506.835\\ 257.847.743\\ 206.223.563\\ 2.520.821.801\\ 4.006.778.159\\ 461.371.653\\ 611.596.461\\ 666.202.750\\ 840.180.749\\ 12.638.957\end{array}$	$\begin{array}{c} 83, 136, 971\\ 29, 063, 330\\ 261, 640, 223\\ 225, 128, 289\\ 2, 752, 444, 949\\ 4, 507, 301, 611\\ 474, 576, 230\\ 528, 005, 571\\ 712, 006, 997\\ 971, 878, 669\\ 17, 040, 972\\ \end{array}$
Totals	7,428,518,275	9,058,310,564	9,686,046,793	10,562,286,812

Net Value of Production, by Provinces, 1947-50

¹ Production in forestry and construction in the Yukon and Northwest Territories is included with British Columbia.

The largest percentage gain, amounting to 57 p.c., was recorded by Prince Edward Island. Ontario and Alberta followed with advances of about 48 p.c., Quebec and Nova Scotia 39 p.c., Manitoba 36 p.c., British Columbia 32 p.c. and New Brunswick 29 p.c. Saskatchewan, with a predominantly agricultural economy, showed a gain of 18 p.c. over the period, but was the only province showing a decrease in 1950 compared with 1949.

Analysis of Provincial Production.—In Prince Edward Island, the value of agriculture declined slightly in 1950 as compared with the previous year and accounted for 56 p.c. of the Province's output. Manufactures, fisheries and construction, the latter showing the largest increase, accounted for the bulk of non-agricultural production. In Nova Scotia, manufacturing, which accounted for more than 37 p.c. of value of production, declined moderately compared with 1949, but most other industries increased. All industries in New Brunswick recorded advances except forestry. The value of mining nearly doubled and that of manufactures rose by more than 16 p.c.

In Quebec the manufacturing industry, which contributes about 65 p.c. of the Province's total net output, showed a gain of nearly 9 p.c. in 1950 as compared with 1949. The value of mining rose by 40 p.c. and construction and electric power each by about 10 p.c. in the same comparison. Increases in agriculture and forestry were more moderate.

In 1950 the value of manufacturing output in *Ontario*, which accounts for more than two-thirds of the provincial total, increased by more than 13 p.c. over 1949. Construction and electric power rose by 22 p.c. and 24 p.c., respectively. Gains in the other industries were more moderate. The relative importance of agriculture, forestry and mining declined whereas that of electric power, manufactures and construction increased.

Production in *Manitoba* is dominated by agriculture and manufacturing, although the contribution of the former to total output has dropped in recent years. In 1950, all industries except agriculture increased appreciably in value over 1949. In *Saskatchewan*, agriculture accounted for almost 74 p.c. of the value of production although it fell off sharply from the previous year. By contrast, construction rose more than 34 p.c., and manufactures and electric power also gained in value, but mining declined. The relative importance of agriculture in *Alberta* has been dropping considerably in the past few years in favour of contruction and mining which have shown large advances in value of output.

The value of manufacturing in *British Columbia*, which contributed nearly 50 p.c. of the Province's value of commodity output, rose by 17 p.c. in 1950 over the preceding year. Construction, forestry, fisheries and electric power also showed considerable increases, but the value of agriculture declined.

Per Capita Output.—The per capita net value of production in nine provinces (Newfoundland excluded) rose to \$784 in 1950 as compared with \$734 in 1949 and \$592 in 1947. Ontario continued by a wide margin to hold first place with a per capita figure of \$1,008, while British Columbia with \$852 was in second position; Alberta held third place with a per capita production of \$780. Quebec, Saskatchewan and Manitoba followed in that order with per capita figures of \$693, \$634 and \$618. The last three positions were held by New Brunswick, Nova Scotia and Prince Edward Island with per capita output levels of \$440, \$410 and \$303, respectively. Compared with 1949, all provinces showed gains except Saskatchewan, which receded sharply due to lower agricultural returns, and Nova Scotia, which remained unchanged.

SURVEY OF PRODUCTION



Agriculture

GRICULTURE is Canada's most important primary industry, although the country is not so predominantly agricultural as it was two decades ago, or even one decade ago. The great industrial development that has taken place during that period has changed the national economy so that now only 15.6 p.c. of the total labour force, or 20.0 p.c. of the male labour force, is directly employed in agriculture. However, indirectly, the farm provides employment for many more Canadian workers. The raw products of the farm must in many infances be further processed in meat-packing plants, in canning factories, in milk, cheese and butter establishments, or in flour-mills. The final products that be graded, packaged, transported and marketed. Also, further employment is provided in producing farm equipment and supplies—machinery and haplements, fertilizers and pesticides.

The number of occupied farms in Canada, as reported by the Census of June 1, 1951, was 623,091, including Newfoundland's 3,626 farms. Leaving Newfoundland out of the comparison, the decrease in the number of farms since the Census of 1941 amounted to an estimated 58,000. On the other hand, the area of occupied farms increased from 173,566,063 acres in 1941 to 173,961,614 acres in 1951. Decreases in the five eastern provinces totalling 3,994,480 acres were offset by an increase of 3,723,676 acres in the Prairie Provinces and of 668,704 acres in British Columbia.

Canada is primarily a land of family farms, operated as individual units or as combinations of family farms under individual ownership and control. For the country as a whole, $77 \cdot 3$ p.c. of the farms are operated by the owner, $21 \cdot 5$ p.c. by a tenant or partly by owner and partly by a tenant, and only $1 \cdot 2$ p.c. are operated by employed management. Quebec ranks highest in owner-operated farms with 94 p.c., followed closely by the other eastern provinces and British Columbia. The Prairie Provinces have the highest proportion of tenant-operated farms and manager-operated farms. In the West, farms are rented mainly on a share basis because of the hazards involved in large-scale one-crop farming, while eastern farms are usually rented on a cash basis.

For the most part the area cultivated is limited to what the family unit can manage with perhaps a small amount of hired help. The size of operation depends on the type of farming practised. On specialized farms raising such crops as fruit, vegetables or tobacco, acreages are small. On the highly mechanized grain-growing farms of the western prairies the operator may handle up to 1,000 acres or more with little outside assistance. For Canada as a whole, 17 p.c. of the farms are under 70 acres in size and 19 p.c. are over 400 acres. In the eastern provinces, where many farms specialize in fruit, vegetables or dairying or carry on mixed farming, the acreages range mainly from 10 to 130 acres. In Ontario and Quebec about half the farms are in the 70 to 180 acre group, while 87 p.c. of the farms of over 760 acres are located in Saskatchewan and Alberta. In British Columbia, again a specialized farming district, 66 p.c. of the farms are in the 3 to 70 acre group.

AGRICULTURE



For a century, the local fall fair has played an important role in Canadian agriculture.

For the production of crops Canadian farmers used \$1,933,312,262 worth of machinery in 1951 and over half of the farms were served with electric power. There was one tractor for every 242 acres of improved agricultural land. In the grain-growing area large tractors of 25 to 50 h.p. are common, while smaller sizes are more generally used in other sections of the country. Tillage and harvesting equipment in use on farms varies according to the crops produced, size of farm and other factors. The pitch fork and hay loader are still used in haying on many farms but machines such as sweep rakes, pick-up balers and forage-crop harvesters are becoming increasingly popular. Combines are used extensively to harvest the crop on large grain farms but the binder is still used on many of the smaller farms.

Farm Crops.—The kinds of crops grown and the cultivating practices followed vary greatly in different parts of Canada. In general, the country may be considered in terms of four broad divisions, separated from one another by natural barriers and in which differences in soil, climate and topography make for wide variation of crop production.

Agricultural operations in British Columbia are carried on principally in the mountain valleys and on the coastal plains and include dairying, poultryraising, the growing of apples and small fruits, seed-growing and marketgardening. Cattle ranching on a large scale is carried on in the areas between the mountain ranges of the interior.

The Prairie Provinces of Alberta, Saskatchewan and Manitoba form a block which includes about 71 p.c. of the occupied farm land of the country. The area is used chiefly for grain production and it is on these prairie farms that Canada's spring wheat is harvested. In the eastern part of the Prairies is an important dairying area where cheese production predominates. There the climate is more extreme than in other agricultural areas—the frost-free period is fairly short and rainfall is limited and variable. The choice of farm enterprise is severely restricted by nature and distance from markets.

The Provinces of Quebec and Ontario comprise a central region. Most of the agricultural portions of these Provinces are favoured with a temperate climate. Here are located the densest centres of population, and local conditions and proximity to markets are conducive to varied types of farming. Thus, near many of the large urban centres there are areas where farmers cater to city demand for dairy produce, market-garden truck, potatoes and other vegetables, and poultry. In the general inter-lake region of Ontario, one of the earliest settled portions of the Province, there are several large areas where beef-raising is important and where long-established dairying districts are located. The mild climate of the Niagara Peninsula favours fruitgrowing and vegetable production, while the counties along the shores of Lake Erie produce market-garden crops, cigarette tobacco, sugar-beets, corn, orchard crops, and produce for canning.

Agricultural production in the Province of Quebec is concentrated on both sides of the St. Lawrence River where the climatic conditions are favourable for dairying, poultry-raising and hog-raising. There is, in addition, a fringe of farming somewhat north of this. In a fairly well defined area tobacco is grown, largely of the pipe and eigar type. In the vicinity of Montreal, there is a highly specialized area where small fruits, apples, vegetables and poultry are main enterprises. Some of the districts bordering the United States specialize in dairy farming, and maple syrup and sugar are important additions to the farm income in many sections.

In the eastern Provinces of Prince Edward Island, Nova Scotia and New Brunswick the climate is generally temperate, favouring dairying, mixed farming, potato-growing, and the growing of apples and other fruits. The agriculture of Newfoundland is chiefly local in character.

Potato-growing is the main enterprise on many of the farms in the St. John River Valley of New Brunswick. This is a field of Katahdins grown for the certified seed market. Thus, most of Canada's food needs are produced within the country. Imports include mainly tropical and semi-tropical commodities—tea, coffee, cocoa, rice and citrus fruits. Some fresh fruits and vegetables are imported during the off-season.

Export Trade.—The agricultural production of Canada is greater than domestic needs and farming adapted to export trade has consequently been a natural development. Not only is Canada a large exporter but, according to a study by the United Nations, it is one of the few countries to maintain output at a level above that of 1934–38.

Canada's exports include wheat and flour, animals, meat and other animal products, dairy and poultry products, apples and other fruits, potatoes (both seed and table stock), canned and processed foods of many kinds, dried beans, field and garden seed and tobacco. For fifty years or more, the Government has been steadily establishing and improving standards of quality for export commodities. These standards are widely recognized abroad and, because they are strictly maintained, many Canadian foods and agricultural products command premium prices in world markets. Canada also exports numbers of live stock for breeding purposes, under a health-inspection arrangement that makes them acceptable to all countries.

Services Available to the Farmer.—The Federal Government, as well as the provincial governments, have long recognized the complexity of production and marketing problems facing the farmer and each government has established a department or branch of agriculture to administer a multitude of national and local services which assist the farmer in almost every field of his endeavour. Each year representatives of the provincial governments meet with federal agricultural officials and representatives of organized farmers to consider broad plans for guiding agricultural production during the following season. These annual conferences afford opportunities for co-operative attacks on the problems that confront Canadian farnfers.

The Federal Department of Agriculture has a chain of experimental farms and research laboratories stretching across the country. They are located to serve the needs of a wide variety of farming enterprises and of specialized areas of soil and climate. These institutions conduct scientific research on methods of pest and disease control, the micro-biology of soils and foodstuffs, the nutritional requirements of plants and animals and the development of superior types of plants and animals. Long-time investigations are conducted on crop production and the effects of various cultural methods on soil fertility and crosion. The application of mechanical power to farm operations is studied in detail both in relation to farm efficiency and the effect on soil and water conservation. Laboratory research is directed towards control of insect and fungus pests of crop plants and forest trees, control of disease in live stock, improvement in techniques for the processing and storage of farm products, application of genetics in the development of superior lines of plant and animal material, and to many other problems of agriculture.

Economic research on a broad scale is also carried on. Studies in farm management, land utilization, marketing and farm family living are undertaken in all parts of the country by trained workers.

The work of these research institutions is conducted in co-operation with other government agencies, both federal and provincial, and with universities. Inspecting barley grown at a Dominion Experimental Stationnear Prince George, a mixed farming district in the central interior of British Columbia.



Services of highly skilled workers are available without charge to farmers who require assistance and advice. Both federal and provincial agricultural authorities keep the farmers informed of new developments through the use of bulletins, posters, newspaper articles, films, exhibits at rural fairs, and specialized radio programs. Departments and universities supply speakers for extension courses on agricultural problems and community welfare and current information on markets for farm products is given to the public in the form of daily and weekly radio and printed reports. Most of the information is free of charge.

Federal developmental assistance includes grants to cold storages, warehousing and processing plants and financial support of organized activities that have to do with improving the quality of live stock and crops. Seed crop inspection service promotes the production of registered and certified seed to assure the constant supply to farmers of pure-bred seed of the best

Different types of combines being demonstrated on test plots on Wheatland Day, an annual event of which the latest information on wheat-growing and harvesting is made available to Ontario farmers.



varieties. Other inspection services control the introduction or isolation of pests and plant and animal diseases. Compulsory grades or quality standards for many products are established by law.

The most important of the Acts passed by the Federal Parliament in recent years to assist the farmer are:—

Agricultural Prices Support Act, 1944.—This Act permits the Federal Government to stabilize the price of any agricultural product, except wheat, by outright purchase or by underwriting the market through guarantees or deficiency payments.

Agricultural Products Board Act, 1951.—This Act authorizes the establishment of a Board to buy, sell, export and import agricultural products when directed by the Governor in Council.

The Agricultural Products Co-operative Marketing Act, 1939.—The Act aids farmers in pooling the returns from the sale of their products by guaranteeing initial payments.

Agricultural Products Marketing Act, 1949.—Under this Act, provincial marketing legislation may be applied to cover the marketing of agricultural products outside the province and in export trade.

Prairie Farm Rehabilitation Act, 1935.—This Act provides for the rehabilitation of drought and soil-drifting areas of the Prairie Provinces. Over 400,000 sq. miles located in southwestern Manitoba, southern Saskatchewan and southeastern Alberta are under development, the program including irrigation, land utilization and promotion of better farming practices.

Land Reclamation.—While operations under the above Act are confined to the Prairie Provinces, land reclamation and development work is being carried out elsewhere. Several projects relating to the settlement of veterans have been undertaken in British Columbia and assistance has been granted to the Maritime Provinces for emergency repairs of the protective dykes in the coastal marshland areas. The Maritime Marshland Rehabilitation Act, 1948, provides for dykeland reconstruction with provincial co-operation.

Prairie Farm Assistance Act, 1939.—Under this Act the Federal Government makes cash payments each year to farmers in areas within the Prairie Provinces which have had low crop yields because of drought or other causes. The maximum amount payable on any one farm is \$500, and contributory payments are made by the farmers in the form of a levy of 1 p.c. on the value of all grains marketed. As at Sept. 23, 1952, \$141,822,502 had been paid out in benefits and \$64,356,488 collected from the levy (July 31, 1952).

Prairie Grain Producers' Interim Financing Act, 1951.—This Act provides short-term credit to grain producers in the Prairie Provinces who, because of congested delivery points or inability to complete harvesting, are in need of credit until their grain can be delivered. Individual advances may be made to a maximum of \$1,000.

Potato Warehouses.—A policy was inaugurated in 1947 whereby the Federal Department of Agriculture provides cash assistance in respect of potato warehouses constructed by co-operative associations. The associations provide an agreed amount and the Federal Government and the provincial government concerned share the remainder.

Cheese and Cheese Factories.—The Cheese and Cheese Factory Improvement Act was passed in 1939 to encourage the improvement of cheese and cheese factories by the payment of a quality premium and financial assistance in factory improvement.

Farm Credit.—The Canadian Farm Loan Board at present carries on lending operations throughout Canada. Loans may be granted for farm improvements, including the erection of buildings, the purchase of live stock and equipment, farm operating expenses, the purchase of farm lands and the refinancing of existing farm indebtedness. Second-mortgage loans cannot be made for the purpose of purchasing farm lands. For intermediateterm credit, the Federal Parliament amended the Bank Act (Aug. 9, 1944) and passed a "companion" Act, the Farm Improvement Loans Act, 1944.

The main forms of financial assistance provided at the present time by the Federal Government to farmers for housing purposes include: the Canadian Farm Loan Board outlined above, the National Housing Act, the Farm Improvement Loans Act, and the Veterans' Land Act.

Statistics of Agriculture

Income of Farm Operators

During 1951, Canadian farm operators (excluding Newfoundland) realized from their farming operations a net income of \$2,221,231,000. This figure, the highest yet recorded, was 53 p.c. above the estimate of \$1,451,705,000 for 1950 and 32 p.c. above the previous high of \$1,681,563,000



Cheddar cheese, creamery butter and dry skimmed milk, for both the export and the domestic markets, are graded by Federal Government graders. realized in 1948. The significant advance in 1951 over 1950 was the net result of a substantial increase of 32 p.c. in gross farm income and a lesser increase of 8 p.c. in farm operating expenses, including depreciation charges. Gross farm income in 1951 reached an all-time high of \$3,608,581,000 as a result of new high records being established for returns from the sale of farm products and income in kind, and a near record for the value of year-end changes in farm-held stocks of grains and live stock. Income in kind includes the value of that produce grown by farm operators and consumed in the farm home plus an imputed rental value of the farm dwellings.

Item	1949	1950	1951
	\$'000	\$'000	\$'000
 Cash income. Income in kind Value of changes in inventory 	2,486,598 387,551 -71,655	2,219,642 383,478 130,729	2,825,511 429,406 353,664
4. Gross Income (Items 1 + 2 + 3)	2,802,494	2,733,849	3,608,581
5. Operating expenses and depreciation charges 6. Net income, excluding supplementary pay-	1,179,618	1,295,950	1,397,706
ments (Items 4-5)	1,622,876	1,437,899	2,210,875
7. Supplementary payments	17,628	13.806	10,356
8. Net Income of Farm Operators from Farm- ing Operations	1,640,504	1,451,705	2,221,231

Net Income of Farm Operators from Farming Operations, 1949-51

Annual estimates of cash income from the sale of farm products, the most important income component of net income, represents receipts from all products sold off farms valued at prices received by farmers. The estimates include those federal and provincial government payments that farmers receive as subsidies to prices, but they do not include the supplementary payments made under the provisions of the Prairie Farm Assistance Act. For 1951 this cash income, including grain equalization and participation payments for previous years' crops, was estimated at \$2,825,511,000, 27 p.c. above the 1950 level and 14 p.c. higher than the former record of \$2,486,598,000 set in 1949. Contributing to the high level of cash receipts in 1951 were very large grain participation and adjustment payments made on previous years' western grain crops. During the year the record total of \$312,880,000 was paid to prairie farmers in connection with the final payment on the 1945-50 Canada-United Kingdom wheat pool and the interim and final payments on the 1950 crops of wheat, oats and barley. Spring deliveries of grains in the Prairie Provinces were also unusually high in 1951 as a result of the larger crops in 1950 and the unfavourable weather conditions that hindered harvesting and normal deliveries during the fall months.

The value of year-end inventory changes of farm-held grains and live stock amounted to \$353,664,000 as compared with the estimated value of \$130,729,000 for 1950 and the record high of \$353,949,000 for 1942. The high year-end inventories for 1951 resulted from a general build-up of the live-stock population and a huge carry-over of grains in the Prairie Provinces. Bumper grain crops in Western Canada coupled with adverse harvesting The English Yorkshire hog has recently gained much popularity in Canada. It is an excellent bacon type and breeders are finding a ready market for registered progeny at good prices.



conditions and delayed marketings provided a substantial accumulation of both threshed and unthreshed grains on western farms at the end of the year. Estimates of grain inventories at the end of 1951 include both threshed and unthreshed grains.

All items included in farm operating expenses were higher in 1951 than in 1950 and total expenses including depreciation charges were estimated at \$1,397,706,000 as compared with \$1,295,950,000 for 1950. Larger crops and higher values per acre of farm land contributed to increased rental payments, both cash and in kind. Although 1951 wage rates were about 13 p.c. higher than in 1950, the labour force employed in agriculture was smaller. Larger interest payments on indebtedness resulted in part from an increase in mortgages and the larger amounts of money made available to farmers under the Farm Improvement Loans Act. Continued mechanization of farms, especially with power equipment, has meant further rises in farmers' total outlay for operation and maintenance of machinery. Increased expenditures for fertilizers reflect larger quantities used at higher prices.

Cash Income from the Sale of Farm Products, by Provinces, 1949-51

PTONING	1949	1950	1951
	\$'000	\$'000	\$1000
Prince Edward Island	20,680	21,799	26,820
Nova Scotia.	35,262	39,452	45.249
New Brunswick	42.846	46,858	49,410
Ouebec	344,488	361.005	433,360
Ontario	678,252	678,483	793,726
Manitoba	245.246	195,408	260.654
Saskatchewan	566,062	408,288	626,627
Alberta	452.453	368,007	470.366
British Columbia	101.309	100.342	119.299
Totals	2,486,598	2,219,642	2,825,511

Cash Income from the Sale of Farm Products, by Sources, 1951

Source	Cash Income	Source	Cash Income
	\$'000		\$'000
Grains, seeds and hay. Vegetables and other field crops Live stock. Dairy products. Fruits.	916,223 163,205 1,029,369 373,611 42,686	Miscellaneous farm products Forest products sold off farms Fur farming	52,769 85,354 8,735
products	153,559	Products	2,825,511

Farm Prices

The annual index of farm prices of agricultural products for 1951 was estimated at an all-time high of $296 \cdot 8$, thirty points above the previous high of $260 \cdot 8$ set in 1950. The increase of approximately 12 p.c. was attributable to higher prices for potatoes, dairy products, poultry and eggs, and a very substantial rise in the prices of live stock. With the exception of the month of January, the index of farm prices was considerably lower during the first eleven months of 1952 than for the corresponding period of 1951. Cattle prices, which started to decline at the beginning of 1952, dropped still lower after the Saskatchewan outbreak of foot-and-mouth disease in February and the imposition by the United States of an embargo on the imports of Canadian cattle. Hog, lamb and egg prices, too, have been significantly lower this year.

Index Numbers of Farm Prices of Agricultural Products, 1947-52

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1947 Av 1948 Av 1949 Av 1950 Av 1951 Av	180-1 236-6 204-1 189-6 235-8	184-6 214-1 210-5 206-5 243-6	199.6 250.4 220.5 216.4 250.4	213 · 7 265 · 6 261 · 3 260 · 9 304 · 8	202 · 1 258 · 6 257 · 8 265 · 1 315 · 2	225.9 259.6 262.8 274.4 301.6	226 · 1 247 · 1 248 · 8 251 · 5 268 · 7	231 · 9 262 · 9 265 · 6 276 · 1 308 · 0	207 · 1 240 · 2 245 · 1 244 · 3 288 · 4	215 - 8 255 - 8 255 - 4 260 - 8 296 - 8
1951— Jan Feb Mar June June July Aug. Sept Oct Nov. Dec.	184-8 199-9 203-3 207-4 207-9 217-0 225-5 244-1 243-0 256-9 312-8 327-3	217 · 2 225 · 1 228 · 5 231 · 9 235 · 5 244 · 9 246 · 5 250 · 7 255 · 8 275 · 4 276 · 3	221-3 224-7 230-6 226-9 229-6 227-3 238-9 243-0 253-6 267-5 320-5 320-9	280 · 6 293 · 0 303 · 1 301 · 8 303 · 5 310 · 3 319 · 4 311 · 0 308 · 6 306 · 5 308 · 0 312 · 2	285 · 4 301 · 8 313 · 7 310 · 3 311 · 6 321 · 0 334 · 4 325 · 0 323 · 2 317 · 9 317 · 4 320 · 1	283 · 3 292 · 2 302 · 3 299 · 5 298 · 6 308 · 4 311 · 0 317 · 6 310 · 0 302 · 1 297 · 5 296 · 9	251-9 258-8 265-5 265-1 272-6 273-6 281-6 280-6 280-6 280-6 280-6 280-6 280-0 264-1	296 · 3 301 · 9 309 · 8 306 · 4 307 · 8 316 · 4 319 · 7 319 · 1 317 · 0 307 · 7 298 · 9 295 · 1	255.8 268.7 272.9 273.1 271.6 272.7 292.3 289.4 310.7 316.0 316.0 318.3	274-6 285-2 294-2 292-1 293-0 300-7 308-2 306-8 305-9 301-4 300-1 299-8
1952— Jan. Feb. Mar. Apr. June. July. July. Aug. Sept. Oct. Nov.	343 -9 319 -4 349 -4 394 -9 414 -7 493 -8 348 -4 378 -9 309 -8 294 -6 293 -8	283.6 274.2 279.2 287.0 288.2 307.6 272.6 271.5 259.8 248.9 248.9 248.0	329 · 3 318 · 2 355 · 3 377 · 0 386 · 2 433 · 3 370 · 8 376 · 9 308 · 6 297 · 4 293 · 8	312 -1 305 -6 299 -7 293 -4 284 -0 291 -6 291 -5 283 -5 278 -3 272 -4 275 -8	313 •6 297 •8 290 •6 285 •4 278 •7 289 •8 293 •2 293 •4 279 •9 272 •7 273 •1	293 · 1 281 · 5 277 · 3 271 · 4 259 · 0 260 · 0 264 · 8 231 · 8 226 · 5 222 · 6 223 · 8	261 • 7 252 • 3 247 • 7 244 • 1 235 • 6 237 • 4 241 • 5 209 • 9 206 • 9 200 • 0 201 • 0	290 · 7 279 · 5 268 · 8 265 · 6 255 · 5 258 · 0 259 · 7 231 · 0 227 · 4 218 · 7 220 · 0	315 · 3 308 · 9 303 · 9 301 · 8 301 · 5 302 · 8 308 · 3 295 · 8 290 · 0 281 · 7 281 · 2	296 - 5 284 - 9 279 - 7 276 - 5 269 - 0 276 - 4 275 - 6 259 - 6 259 - 6 250 - 6 243 - 3 244 - 3

(1935 - 39 = 100)

CANADA 1953

Field Crops

In 1952 Canadian farmers harvested record crops of wheat, barley and soybeans and near-record crops of rye, sugar beets and shelled corn. Excellent weather conditions prevailed in Western Canada throughout the season and, although unfavourable weather conditions interfered with seeding, plant growth and harvesting in many parts of Eastern Canada, yields of practically all principal grain crops in Ontario, Quebec and the Maritimes were somewhat larger than average but were below those of 1951.

The bumper crop harvested in Western Canada in the fall of 1952, following the unprecedented quantity of wintered-over grain harvested in the spring, will continue to place an exceptionally heavy load on grain storage and handling facilities during 1952-53. However, the precedent set by the outstandingly successful movement of the large 1951 western grain crop, which included some 275,000,000 bu. of out-of-condition grain requiring specialized treatment, can well be emulated during the 1952-53 crop year.

Records were set for both farm marketings and exports in 1951-52. Preliminary data indicate that combined marketings of wheat, oats, barley, rye and flaxseed in the Prairie Provinces during the twelve months ended July 31, 1952 totalled 718,000,000 bu. while exports of the same grains (including wheat flour, oatmeal and rolled oats) reached 506,100,000 bu. Notwithstanding this record disappearance, carryover stocks of the five grains at July 31, 1952, amounted to almost 405,000,000 bu., 63,000,000 bu. more than on the same date of 1951.

Exports of Canadian wheat, oats and barley continued high during the first half of 1952-53. In addition, forward sales were very heavy and it was evident that transportation and handling facilities, rather than lack of

Agriculture is the basic industry of Saskatchewan. Almast 62,000,000 acres—about 40 p.c. of its total area—are occupied as farms and approximately 23,000,000 acres are sown to cereal crops each year.



markets, would be the main factors limiting the export movement. However, handling of the 1952 crop will be facilitated by the low proportion of grain grading tough or damp—a situation in sharp contrast to that existing during the two previous crop years.

Wheat.—Canada's 1952 wheat crop, estimated in November at 687,900,000 bu., exceeded by 121,200,000 bu, the previous record of 566,700,000 set in 1928. The crop of the Prairie Provinces was placed at 664,000,000 bu., compared with 529,000,000 bu. in 1951 and the previous record of 545,000,000 bu. in 1928. The total 1952 Canadian wheat crop was harvested from a seeded area of 26,000,000 acres averaging an estimated 26.5 bu. per acre—the Prairie Provinces accounted for 25,200,000 acres averaging 26.3 bu. per acre. About 53 p.c. of the crop is expected to grade No. 1 or No. 2 Northern, and another 37 p.c. No. 3 or No. 4 Northern.

Potential supplies of Canadian wheat for the 1952-53 crop year amount to 900,900,000 bill, comprised of carryover stocks of 213,000,000 bill, almost all of which was of low quality, and the new crop estimated at 687,900,000 bill. This estimate is 159,000,000 bill, greater than for 1951-52 and second only to the record total of 980,400,000 bill, for 1942-43.

Exports of wheat as grain during 1951-52 totalled 304,700,000 bu., an amount 65 p.c. above the 1950-51 exports of 185,000,000 bu. and exceeded only by the record 354,400,000 bu. exported in 1928-29; an additional 51,000,000 bu. was exported in the form of wheat flour. While the bulk of export sales continued to be made under the International Wheat Agreement (I.W.A.), substantial quantities of Class II wheat, which is sold outside the provisions of the Agreement, were also exported. It is of interest to note that some 31,400,000 bu. of Class II wheat, almost all of which was of feed quality, were exported to the United States during the crop year. Canadian sales reported under the I.W.A. for 1951-52 amounted to 241,600,000 bu. with 124,600,000 bu. or about 52 p.c. of the total going to the United Kingdom. Altogether, Canada sold wheat and/or flour to all but five of the 42 importing countries participating in the multilateral pact.

Sales of wheat for domestic use during the crop year were made at the same prices as those under I.W.A. Prices* throughout the crop year remained at the I.W.A. maximum of \$1.80 (U.S. funds) plus a carrying charge of six cents per bu. With the progressive strengthening of the Canadian dollar relative to the United States dollar, the I.W.A. price of wheat in Canadian currency gradually declined from the level of \$1.90 at the beginning of the crop year, Aug. 1, 1951. On Mar. 11, 1952, the price dropped below \$1.80 for the first time and on July 4 the crop-year low of \$1.73⁴ per bu, was reached.

Marketing of Western Canadian wheat during 1951–52 was again conducted by the Canadian Wheat Board on a one-year pool basis with the initial payment set at \$1.40 per bu. Effective Feb. 1, 1952, the initial payment was increased to \$1.60 per bu, and an adjustment payment of 20 cents per bu, was made on all wheat delivered to the Canadian Wheat Board during the Aug. 1–Jan. 31 period. Final payments, as announced on Nov. 15, 1952, brought the total price realized by producers, after deducting certain charges but exclusive of the 1–p.c. Prairie Farm Assistance Aet levy, to \$1.8357 per bu, for No. 1 Northern.

 All wheat prices quoted are for No. 4 Northern, basis in store Fort William-Port Arthur or Vancouver. Similar marketing arrangements are in effect for the 1952-53 crop year, with the initial payment again set at \$1.40 per bu. Sales of wheat for domestic use are again on the same price basis as those under I.W.A., with all sales being made at the maximum level of \$1.80 (U.S. funds) plus 6 cents per bu. carrying charge. Canada's I.W.A. sales quota for 1952-53 amounts to 235,000,000 bu. or about 40 p.c. of the total guaranteed quantities of 580,900,000 bu. involved in the Agreement.

Production, Imports and Exports of Wheat, Years Ended July 31, 1944-53

Note.—Wheat flour has been converted into bushels of wheat at the uniform average rate of 43 bu, to the barrel of 196 lb, or flour.

Vear ended July 31	Production	Imports of Wheat and Flour	Exports of Wheat and Flour
	'000 bu,	bu.	bu.
1944	$\begin{array}{c} 284,460\\ 416,035\\ 318,512\\ 413,725\\ 341,758\\ 386,345\\ 371,406\\ 461,664\\ 552,657\end{array}$	$\begin{array}{r} 432,931\\ 404,547\\ 74,765\\ 15,584\\ 824,677\\ 288,881\\ 4,059\\ 11,884\\ 17,560\end{array}$	$\begin{array}{c} 343,755,310\\ 342,945,515\\ 343,185,751\\ 239,420,837\\ 194,982,342\\ 232,329,335\\ 225,136,785\\ 240,960,846\\ 355,825,252 \end{array}$

1 Previous year's harvested crop.

Oats.—The area seeded to oats in 1952 was estimated at 11,100,000 acres, the 7-p.c. decrease from the 1951 acreage being shared by all provinces. The November estimate placed the 1952 crop at 466,100,000 bu., 22,100,000 bu. less than in 1951. Potential supplies of oats for 1952-53, consisting of the July 31 carryover of 104,900,000 bu, and the new crop, amount to 571,000,000 bu, as against 583,400,000 bu, for 1951-52.



Oats ready for threshing.

Disposition of the commercial supplies* of oats for the 1951-52 crop year, which amounted to 162,400,000 bu., made up of the commercial carryover of 35,700,000 bu. and farmers' marketings of 126,700,000 bu., was as follows: exports, including rolled oats and oatmeal in terms of oats, 70,600,000 bu.; domestic utilization, 44,700,000 bu.; and carryover at July 31, 1952, 47,100,000 bu. The United States took 58,600,000 bu. of the 69,600,000 bu. exported in the form of grain. Total domestic disappearance of oats in 1951-52 was tentatively placed at 408,000,000 bu. as against 335,000,000 bu. in 1950-51.

Marketing of Western Canadian oats during 1951-52 was again conducted through a crop-year pool administered by the Canadian Wheat Board. As in the previous crop year, initial payments were made on the basis of 65 cents per bu. for No. 2 C.W. in store Fort William-Port Arthur. Final payments, as announced on Oct. 11, 1952, brought the totals for No. 2 C.W. and No. 1 Feed oats to 83.802 and 77.762 cents per bu., respectively. Similar marketing arrangements are in effect for the 1952-53 current crop year.

Cash prices of oats advanced steadily during the first four months of 1951-52, reaching crop-year peaks in November. While declines occurred in December and again in April following the opening of lake navigation, prices remained fairly steady in the January-March and May-July periods. Monthly average prices of No. 1 Feed oats, as quoted by the Canadian Wheat Board, advanced from 78[§] cents per bu. in August 1951 to \$1.03[§] in November. By July 1952 the price had dropped to 75[§] cents, practically the same level as in July 1951. Prices remained firm during the first four months of 1952-53, advancing from an average of 79[§] cents in August to 85[§] cents in November, but eased in December when the average was 78[§] cents per bu.

Barley.—The area seeded to barley in Canada in 1952 was estimated at a record 8,500,000 acres, compared with 7,800,000 acres in 1951. Production was estimated at a record 291,300,000 bu., 46,100,000 bu. greater than 1951 and 32,100,000 bu. more than the previous high of 259,200,000 bu. harvested in 1942. Potential supplies for 1952-53 also reached a peak at 368,300,000 bu., consisting of carryover stocks of 76,900,000 bu. and the new crop.

Commercial supplies of barley for the 1951-52 crop year amounted to 160,800,000 bu., comprised of commercial carryover stocks of 35,600,000 bu. and farmers' marketings of 125,200,000 bu. Disposition of these supplies† was as follows: exports, 69,900,000 bu.; domestic utilization, 35,400,000 bu.; and carryover at July 31, 1952, 55,500,000 bu. Barley exports set an all-time high of 69,900,000 bu., triple those of 1950-51. Leading purchasers, with quantities in millions of bushels, were Belgium (17.6), Japan (15.1), the United States (10.2), the United Kingdom (7.7), and Germany (5.9). Total domestic disappearance of barley during 1951-52 was estimated at 152,000,000 bu. as against 115,000,000 bu. in 1950-51.

The marketing of barley was also carried on through a crop-year pool administered by the Canadian Wheat Board. Initial payments, originally

^{*} Relatively small quantities of eastern oats may be included in these totals.

[†] Relatively small quantities of eastern barley may be included in these totals.

made on the basis of 96 cents per bu. for No. 3 C.W. 6-row barley, in store Fort William-Port Arthur, were increased to \$1.16 per bu., effective Mar. 1, 1952, and adjustment payments of 20 cents per bu. were made on all barley delivered during the Aug. 1-Feb. 29 period. Final payments, as announced on Oct. 24, brought the total realized price, after deducting certain charges but exclusive of the 1-p.c. P.F.A.A. levy, to \$1.2933 per bu. for No. 3 C.W. 6-row barley, in store Fort William-Port Arthur.

Cash barley prices during 1951-52 followed a similar pattern to those of oats. Monthly average prices for No. 1 Feed barley advanced from \$1.17 per bu. in August to $1.43\frac{3}{4}$ in November 1951. By July 1952, however, the price had dropped to $1.15\frac{1}{4}$, the same as in July 1951. During the 1952-53 crop year, prices advanced from an average of $1.26\frac{1}{4}$ in August to $1.39\frac{3}{6}$ in November, largely on the strength of very active domestic and export demand. In December, however, the average dropped to $1.22\frac{1}{4}$ per bushel.

Rye.—The combined output of fall and spring rye in 1952 was placed at 24,559,000 bu., the fourth largest crop on record. While the area of 1,257,000 acres seeded was about 12 p.c. greater than in 1951, higher average yields of both spring and fall rye also contributed to the increase over the 1951 crop of 17,600,000 bu. Carryover stocks of 7,700,000 bu., together with the 1952 crop, will give Canada total rye supplies of 32,200,000 bu. in 1952-53 as against 21,000,000 bu. in 1951-52.

Commercial supplies of rye in 1951-52 amounted to 13,500,000 bu., comprised of the commercial carryover of 2,400,000 bu. and farmers' marketings of 11,100,000 bu. Exports of rye, at 6,800,000 bu., were down 27 p.c. from the 1950-51 total of 9,400,000 bu. The United States took 2,300,000 bu., slightly more than one-third of the total, while Germany and Norway purchased 1,100,000 bu. and 1,000,000 bu., respectively.

Prices of No. 2 C.W. rye on the Winnipeg Grain Exchange during 1951-52 advanced from the crop-year low of $1.68\frac{3}{2}$ per bu. on Aug. 18 to a peak of $2.23\frac{3}{2}$ on Dec. 12. After that date prices moved generally downwards although fairly sharp recoveries took place in March and June. Current crop-year prices dropped rather sharply in August, then remained relatively stable at just over 1.70 per bu. until mid-October, when an upward trend carried the price to $1.87\frac{5}{2}$ on Nov. 13. After that date, prices again moved downward, falling to $1.68\frac{1}{2}$ per bu. on Dec. 31.

Flaxseed. – Canada's 1952 production of flaxseed is estimated at almost 13,000,000 bu., compared with 9,900,000 bu. in 1951. Although acreage increased by 4 p.c., most of the increase in production was due to a higher average yield per acre, estimated at 10.7 bu, as against 8.5 in 1951. All but 1,000,000 bu. of the 1952 flaxseed crop was grown in the Prairie Provinces, with Manitoba's estimated 5,700,000 bu. accounting for 44 p.c. of the Canadian total. Total supplies for 1952-53, consisting of the new crop together with the carryover of 2,400,000 bu., amount to 15,400,000 bu. as against 11,100,000 bu. in 1951-52.

Prices for flaxseed, which is traded on the open market, rose steadily in the autumn of 1951, reaching a monthly average of $4.91\frac{7}{8}$ in December

AGRICULTURE

for No. 1 C.W. flaxseed, basis in store Fort William-Port Arthur. Prices fell rather sharply during the next few months to the crop-year low of $3.63\frac{3}{8}$ in April, although there was some recovery in the May-July period. During the first five months of the 1952-53 crop year, prices eased considerably, falling from 3.99 on Aug. 15 to $33.27\frac{3}{8}$ on Dec. 31.

	Revised H	Estimate 19	051 Crops	Third Estimate 1952 Crops			
Сгор	Area	Produc- tion	Gross Farm Valuet	Агеа	Produc- tion	Gross Farm Value ²	
	'000 acres	'000 bu.	\$'000	'000 acres	'000 bu.	\$'000	
Wheat	25,254	552,657	855,137	25,995	687,923	813.588	
Oats,	11,897	488,191	369,296	11,062	466,123	278.4671	
Barley	7,840	245,218	269.951	8,477	291.337	233.4924	
Rye	1,127	17,647	27.575	1,257	24,559	36.838	
Mixed grains	1,524	68,509	69,485	1,570	62,813	59,820	
Corn, shelled	314	15,915	28,527	339	19,722	30,896	
Buckwheat	124	2,916	3.930	124	2.688	3,474	
Peas, dry	37	745	2,084	4.3	884	2,364	
Beans, dry	_ 59	1,233	5,173	60	1,298	5,221	
Potatoes	285	48,355	98,077	294	58,865	114,618	
Flaxseed	1.158	9,897	38,616	1,206	12.961	42.353	
Soybeans	155	3,843	10,568	172	4,128	11,063	
		'000 lb.			'000 lb.		
Sunflower seed	22	6.450	258	4	2 345	117	
Rapeseed	8	7,125	249	18	15.900	547	
		'000 cwt.		1	'000 cwt.		
Field roots	46	13,807	15,315	45	13,933	13,304	
	1	'000 tons			'000 ions		
Tame hav.	10.538	19,484	297.238	10.682	19.000	266.941	
Fodder corn	388	3.607	17.942	370	3 842	17 382	
Sugar beets.	9.3	965	14.443	13	1 020	9 6913	
			1		1,000		

Acreages, Production and Values of Field Crops, 1951 and 1952

¹Revised; includes effect of final payments on Western Canadian wheat, eats and barley, and on sugar beets. ^aPreliminary; based on prices received by farmers during the August-November period only. ^aBased on initial payments only for Western Canadian wheat, oats and barley, and for sugar beets; subject to upward revision when interim and final payments become known.

Live Stock

The number of cattle, estimated at 9,172,700 at June 1, 1952, increased 10 p.c. over the number on the same date of 1951. Milk cows increased 2 p.c., rising slightly in all provinces except Manitoba and Saskatchewan; other cattle, including calves, increased about 14 p.c. Sheep numbers in Canada as a whole increased 8 p.c., particularly in Alberta, Saskatchewan and British Columbia where the advances were 17 p.c., 14 p.c. and 13 p.c., respectively. This increase was in sharp contrast to the steady decline that had taken place for several successive years. The 5,741,000 hogs on farms on June 4, 1952, was 17 p.c. higher than on the same date of the previous year. Increases took place in all provinces, with the June inventory 23 p.c. higher in Western Canada and 13 p.c. higher in Eastern Canada. The number of horses continued to decrease, being 1,180,000 in 1952 compared with 1,303,800 in 1951.

Live Stock on Farms, by Provinces, as at June 1, 1951 and 1952

Year and Province	Milk Cows	Other Cattle	Hogs	Sheep and Lambs	Horses
1951— P.E.I N.S Ouc Ont Man Sask. Alta B.C Totals, 1951	38,900 79,000 82,400 922,100 218,500 306,900 277,600 82,900 2,903,800	59,000 87,200 79,500 1,543,800 452,700 968,000 1,285,400 238,400 5,459,300	72,500 48,200 78,400 1,108,300 1,755,500 338,000 533,360 930,700 49,400 4,914,300	34,400 95,400 55,200 316,400 65,500 130,100 330,500 67,500 1,461,200	21,300 26,000 31,000 232,900 260,600 130,900 303,900 261,100 36,100 1,303,800
1952— P.E.I N.S Que Ont Man. Sask. Alta B.C. Totals. 1952	41,000 83,000 937,000 959,000 209,000 289,000 280,000 84,000 2,968,000	63,900 102,700 91,900 871,000 1,778,000 1,778,000 1,474,000 1,474,000 254,200 6,204,700	77,000 51,000 83,000 1,312,000 1,937,000 399,000 646,000 1,170,000 66,000 5,741,000	36.200 83,700 48,800 337,100 389,700 68,000 155,000 387,000 76,500 1,582,000	19,700 24,400 29,800 21,000 218,700 113,500 279,500 239,700 34,100 1,180,400

Alberta ranch hands herding beef cattle into a corral in preparation for shipment.



Dairying

Milk.—Milk production in 1952 amounted to 16,784,982,000 lb., 2 p.c. above the estimated 16,400,000,000-lb. production in 1951. The increase, which began early in the year, was accounted for largely by the fact that greater numbers of cows were being held on farms for milk production. On June 1, 1952, the holdings of dairy heifers were 2 p.c. above the June 1, 1951, total. Excellent feed supplies from the 1951 harvest and satisfactory pasture conditions during the summer months of 1952 maintained milk production per cow at approximately the same level as in the previous year

Changes occurred in milk utilization in 1952 when a diversion from cheese to creamery butter and ice cream was shown. Cheddar cheese production declined 25 p.c., while creamery butter and ice cream increased 9 p.c. and 7 p.c., respectively, as compared with 1951. Sales of fluid milk and cream were up about 3 p.c. and the quantity of milk used in the manufacture of concentrated milk products also increased slightly over the previous year.

Butter and Cheese.—Creamery butter production declined about 33,000,000 lb. between 1947 and 1951; 1952 production amounted to approximately 281,000,000 lb., an increase of about 9 p.c. over 1951 but 31,000,000 lb. lower than the peak production of 1943. On the other hand, dairy butter production, which has declined steadily since 1948, suffered a 10-p.c. reduction in 1952. Output of creamery, dairy and whey butter combined totalled 324,999,000 lb. in 1952. Because of a shortage of butter the increased quantity available in 1952 will be largely required to meet current needs. The per capita domestic disappearance of butter in 1951, including 17,488,000 lb. imported, was $22 \cdot 64$ lb. compared with $28 \cdot 73$ lb. per capita in 1948. The introduction of margarine in 1949 resulted in a reduction in the amount of butter used for human consumption; the per capita consumption of that product in 1951 amounted to 7.44 lb.

Because of exchange difficulties arising from the shortage of dollars in the United Kingdom, there has been a great decline in the shipments of Canadian cheese to that market during the past few years and therefore a decline in production. In 1952, only 66,574,000 lb. of cheddar were produced compared with 88,784,000 lb. in 1951, 146,099,000 lb. in 1946 and 206,215,000 lb. in 1942, the all-time high point. The Canadian Government did not make a contract with the Government of the United Kingdom in 1951, although shipments amounting to 27,805,900 lb. were made under a contract executed by the Ontario Cheese Producers Association. Of that amount, 25,633,000 lb. came from Ontario and the remainder from Quebec. In 1952, the Association operated under the Agricultural Products Co-operative Marketing Act of Canada under the provisions of which the Federal Government guaranteed an initial payment of 24 cents per lb. to producers. Furthermore, the Ontario Government assisted cheese producers by paying 6 cents per lb. on that part of the cheese make purchased by the Association in 1952. The domestic wholesale price of first-grade Ontario white cheese at Montreal averaged 31-25 cents per lb. in 1952 as compared with 37 cents in 1951. The export price in 1951 was 32 cents f.o.b. boat as compared with the Association's domestic price of 36 cents.

Concentrated Milk and Ice Cream.—The production of concentrated milk products in 1952 amounted to 471,475,000 lb. compared with 435,762,000 lb. in 1951. Such products include whole-milk products (evaporated, condensed and powdered milk together with products of a variable fat content not otherwise classified) and milk by-products (evaporated and condensed skim milk, powdered skim milk, buttermilk, whey and casein). Evaporated milk, the most important product in the first group, comprising about 70 p.c. of the total in terms of milk, advanced from a production of 290,443,000 lb. in 1951



Dairy farms produced approximately 18,000,000,000 lb. of milk in 1952, 52 p.c. of which was used far factoryproduced dairy products, 26 p.c. was sold in fluid form and 22 p.c. was used on the farms.

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to 305,715,000 lb. in 1952. Skim-milk powder, the most important milk by-product, advanced from 52,748,000 lb. in 1951 to 86,778,000 lb. in 1952. The production of ice cream at 27,238,000 gal. was 7 p.c. higher than the amount manufactured in 1951.

Income and Values.—Farm income from dairying in 1952 amounted to \$443,438,000; the estimated yield from cash sales was \$380,945,000 while income in kind amounted to \$62,493,000, made up principally of the value of dairy butter, milk and cream consumed on the farm. With the single exception of fluid milk, the prices of all products sold off farms declined in 1952. The average price of fluid milk was \$4.39 per cwt. as compared with \$4.09 in 1951, while the average price of cheese milk was \$2.15 per cwt. against \$2.72. Creamery butter fat declined from 65.4 cents per lb. in 1951 to 61.0 cents in 1952.

		м	Miłk		Manufactured Milk Products			
Economic Ar and Year	ea	Fiuld	Total Milk Pro-	Ви	ter	Cheddar	Ice	
the state of the		Sales	duction	Creamery	Dairy	Cheese	Cream	
		'000 ib.	'000 lb,	'000 lb.	'000 lb.	'000 Ib.	'000 gat.	
Maritimes ²	1948 1949 1950 1951	226,316 229,553 234,981 243,244	1.079,889 1.095.337 1.065,793 1.059.312	17.854 18.809 17.873 16.872	8,881 7,582 6,882 6,825	1,466 1,619 1,563 2,143	2,557 2,573 2,324 2,676	
Que, and Ont	1948 1949 1950 1951	2.838.889 2.873.262 2.921.474 2.969.953	10,348,460 10,570,555 10,305,682 10,376,865	171,510 168,220 156,187 158,926	19,854 15,557 14,418 15,976	81.756 109,806 90.782 78,654	15,151 14,617 14,201 14,576	
Prairies	1948 1949 1950 1951	639,331 653,436 665,995 687,822	$\begin{array}{c} 4,668,437\\ 4,526,519\\ 4,410,030\\ 4,331,349 \end{array}$	91,939 88,165 82,732 79,140	32,511 28,455 24,561 22,675	5.372 4.992 4.745 3.906	5,006 5,184 4,846 5,314	
B.C	1948 1949 1950 1951	320,381 327,502 334,577 325,859	633,576 650,934 667,355 624,472	4,326 4,611 4,672 2,666	1,599 1,258 1,036 924	431 498 564 557	2,492 2,416 2,451 2,892	
Totals ² ,	1948 1949 1950 1951	$\begin{array}{r} 4,024,917\\ 4,083,753\\ 4,157,027\\ 4,226,878 \end{array}$	$\substack{16,730,362\\15,843,345\\16,448,860\\16,391,998}$	285,629 279,805 261,464 257,604	62,845 52,852 46,897 46,400	89,0253 116,9153 97,6549 85,2603	25,206 24,790 23,822 25,458	

Dairy Production, by Economic Areas, 1948-51

 $^+$ Concentrated milk products are not shown; total production for Canada was 399,187,000 lb, in 1948, 371,342,000 lb, in 1949, 382,370,000 lb, in 1959 and 434,524,000 lb, in 1951; "Ex-lustic of Newfoundkand." Total cheese production amounted to 94,678,000 lb, in 1948, 121,030,000 lb, in 1949, 102,659,000 lb, in 1950 and 90,615,000 lb, in 1951; these data exclude farm cheese except in 1948 when an estimate of 730,000 lb, was included in the figures given.

Poultry and Eggs

The number of all poultry on farms at June 1, 1952, was estimated at 65,782,000 birds, a decrease of 3 p.c. from the June 1, 1951, figure. The 1952 total included 61,732,000 hens, cocks and chickens, 3,167,000 turkeys, 386,000 geese and 497,000 ducks. The number of domestic fowl decreased by 4 p.c. during the year while turkeys increased 25 p.c., geese 10 p.c. and ducks 14 p.c. Production of poultry-farm products is given in the following table.

	Poultr	y-Meat Proc	luction	Egg Production			
Economic Area and Year	Marketed	Farm- Home Consumed	Total	Marketed	Farm- Home Consumed	Totali	
	'000 lb.	'000 lb.	'000 lb.	'000 doz,	'000 doz.	'000 doz.	
Maritings	11,483	4,618	16,101	18,461	5,804	24.539	
	8,742	4,092	12,834	19,188	5,932	25.512	
	10,415	4,323	14,738	20,381	5,711	26.587	
Que, and Ont 1949	144,341	24,594	168,935	142,263	26.600	173,901	
1950	144,637	22,741	167,378	142,645	27.541	174,320	
1951	170,485	22,399	192,884	134,785	25,825	166,612	
Prairies	53,819	32,931	86,750	67,970	19,690	91,195	
	48,733	30,011	78,744	61,892	19,485	83,415	
	65,195	29,538	94,733	59,443	18,510	80,508	
B.C	10,165	2,280	12,445	21,471	2,289	24,853	
	9,452	2,199	11,651	19,410	1,732	21,920	
	15,526	2,418	17,944	22,778	1,903	25,432	
Totals1949	219,808	64,423	284,231	250,165	54,383	314,488	
1950	211,564	59,043	270,607	243,135	54,690	305,173	
1951	261,621	58,678	320,299	237,387	51,949	299,139	

Farm Poultry-Meat and Farm-Egg Production, by Economic Areas, 1949-51

¹ Includes eggs sold for hatching and used for hatching on farms.

Turkey-raising is usually carried on as a specialized enterprise. Here is shown part of a flock of 3,000 birds on a farm on Manitoulin Island, Ont.





The strawberry is the most important of the small fruits produced in Canada.

Special Crops

Fruit.—Fruit is grown on a commercial scale in Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia. The most important producing areas are in the Provinces of Ontario and British Columbia which, according to the 1951 Census, produced 82 p.c. by value of all fruit in 1950—Ontario 49 p.c. and British Columbia 33 p.c. These figures show a further concentration of the industry in these two provinces since 1940 when together they produced 73 p.c. of the value of the fruit crop—Ontario 46 p.c. and British Columbia 27 p.c. In most of the producing areas, particularly the Annapolis Valley of Nova Scotia, the Niagara Peninsula of Ontario and the Okanagan Valley of British Columbia, fruit-growing is the principal agricultural crop and its prosperity is of paramount importance to the economy of these areas.

The apple crop is, of course, of major importance among the fruits grown, there being large plantings in each of the above-mentioned provinces. Strawberries and raspberries are also produced in commercial quantities in these provinces but production of pears, peaches, cherries, plums and prunes is very largely confined to British Columbia and Ontario. Ontario produces practically all the grapes grown in Canada and British Columbia is the only province in which there is a commercial apricot industry.

The Nova Scotia apple industry, and indeed the entire Canadian apple industry, has been going through a period of readjustment since about the beginning of World War II. During the War the shipping shortage precluded large movements of apples overseas and in most years since then currency problems have either blocked this trade entirely or restricted it severely. Thus the Canadian apple industry has found it necessary to make certain adjustments regarding production and marketing. The number of trees, particularly of varieties which before the War found a market largely in the United Kingdom, have had to be reduced and a larger proportion of the crop diverted to the domestic market.

Fruit	Average 1943-47	1948	1949	1950	1951
	\$	\$	\$	\$	\$
Apples. Pears. Plums and prunes. Peaches. Apricots. Cherries.	20,452,000 1,901,000 1,401,000 4,120,000 337,000 1,884,000	22,631,000 2,185,000 1,889,000 4,953,000 629,000 2,863,000	19,684,0002,436,0001,387,0004,987,000810,0003,436,000	$\begin{array}{r} 19,493,000\\ 2,136,000\\ 1,278,000\\ 2,822,000\\ 93,000\\ 2,168,000 \end{array}$	18,590,0002,790,0001,190,0004,424,000159,0002,369,000
Totals, Tree Fruits.	30,094,000	35,150,000	32,740,000	27,990,000	29,522,000
Strawbetrles Raspberries Grapes Loganberries	3,946,000 3,251,000 2,677,000 193,000	6,821.000 3,279,000 2,559,000 340,000	5,662,000 2,614,000 2,012,000 124,000	6,885,000 2,967,000 3,543,000 177,000	5,830,000 3,416,000 2,812,000 158,000
Totals, Small Fruits	10,066,000	12,999.000	10,412,000	13,572,000	12,216,000
Totals, All Fruits.	40,160,000	48, 149, 000	43, 152, 000	41,562,000	41,738,000

Values of Fruits Produced, 1948-51, with Averages, 1943-47

Estimates place the 1952 apple crop at 11,800,000 bu., some 1,800,000 bu. below the 1951 crop. British Columbia and Nova Scotia reported increased crops but those harvested in Ontario and Quebec were much smaller. Production of all other fruits except peaches was smaller in Ontario in 1952 because the weather was unfavourable to bee flight during the pollination



The Okanagan Valley in British Columbia, Southern Ontario and the Annapolis Valley in Nova Scatia supply the bulk of Canada's apple crop. season and was extremely hot and dry later in the summer. In British Columbia all fruit crops except pears increased in 1952, evidence of a further step in the recovery of the industry from the severe frost damage suffered in the interior of the Province during the winter of 1949-50.

The November 1952 estimates of production with final estimates for 1951 in parentheses were: apples, 11,783,000 bu. (13,610,000); pears, 1,047,000 bu. (1,225,000); plums and prunes, 707,000 bu. (692,000); peaches, 1,908,000 bu. (1,792,000); apricots, 250,000 bu. (38,000); cherrics, 437,000 bu. (419,000); strawberries, 27,113,000 qt. (25,901,000); raspberries, 11,776,000 qt. (11,772,000); loganberries, 1,449,000 lb. (883,000) and grapes, 76,241,000 lb. (88,574,000).

Canning and processing industries have developed in the fruit-growing districts and although the importance of the processing market varies with different fruits it provides a valuable outlet for substantial proportions of most Canadian-grown fruit crops. Some canned fruits are exported.

Tobacco.—Production of all types of tobacco in 1952 was estimated at about 135,000,000 lb., a reduction of almost 19,000,000 lb. from the 1951 figure. This reduction was the result of a decrease in acreage arranged by the Fluecured Tobacco Marketing Board of Ontario which was undertaken largely in view of an anticipated reduction in exports. In 1952, weather conditions were extremely favourable during the latter part of the growing season and as a result yields per acre were unusually high. Total tobacco acreages by provinces for 1952 with data for 1951 in parentheses were: Quebec 7,550 acres (9,080), Ontario 84,400 acres (109,740) and British Columbia 150 acres (150).

Honey.—The 1952 honey crop is estimated at 29,677,000 lb. which is less than the 1951 crop by over 10,000,000 lb. but slightly above the 1950 crop. Both the number of colonies and the yield per colony were lower—there were 15,790 beekeepers with 380,250 colonies in 1952 compared with 18,900 beekeepers and 406,340 colonies in 1951. Yields were down in all provinces except Alberta while colony numbers were down in all but three provinces. The reduced crop in Ontario represents a return to normal yields after the bumper crop of 1951. Below-average yields in 1952 in Manitoba and Saskatchewan are attributed to cool weather during July, which restricted bee flight.

Maple Products.—In 1952, 3,254,000 gal. of maple syrup and 2,161,000 lb. of maple sugar were produced and the gross farm value of these products amounted to \$12,175,000. The production of all maple products, expressed as syrup, was 50 p.c. higher than it was in 1951. Maple products are produced in Nova Scotia, New Brunswick, Quebec and Ontario and each of these provinces shared in the increased output of maple syrup in 1952 but only in New Brunswick and Quebec was the output of maple sugar greater. Quebec is by far the most important producer; in 1952, 85 p.c. of the syrup and 93 p.c. of the sugar was made in that Province.

Sugar Beets.—Production of sugar beets in 1952 amounted to 1,020,000 tons, a 6-p.c. increase over the 965,000 tons harvested in 1951. The area devoted to this crop in the later year was 92,969 acres, down slightly from 1951. The late open fall of 1952 was very favourable to harvesting operations in all sugar-beet growing areas. The harvested acreages by provinces in 1952, with data for 1951 in parentheses, were Quebec 8,150 (10,000); Ontario 31,630 (31,471); Manitoba 16,411 (19,074); Alberta 36,778 (32,595). Processing plants are located at St. Hilaire, Que., Wallaceburg and Chatham, Ont., Fort Garry, Man., and Taber, Picture Butte and Raymond, Alta.

Seeds.—Volumes of the different types of seeds produced in Canada in 1950 and 1951 for the commercial market were as follows:—

Kind	1950	1951	Kind	1950	1951
	'000 lb.	'000 lb.		lb.	lb.
Hay and Pasture-					
Alfalfa	12,535	5,088	Cartot	41,200	9,700
Red clover	3,625	12,931	Cauliflower	380	670
Alsike	2,320	1,665	Corn	353,200	188,600
Sweet clover	22,429	17,507	Cucumber	2,200	360
White clover	25	58	Leek	500	700
Timothy	15,928	9,140	Lettuce	23,400	4,600
Brome grass	13,930	10.200	Mangel	31,500	3,800
Created wheat grace	1.229	875	Muskmelon	2.400	_
Creaning red fouches	559	1.500	Onion	104.400	16,700
Considion blue grass	102	100	Paranin	9,100	1.600
Vantualian blue grass	2 000	500	Pea	7.401.500	8.105.800
Mendacky blue grass	300	454	Patroer	330	280
Meadow lescue	45	40	Dumbin	1 000	00
western rye grass	45		Durlinh	0.400	0.000
Vanatable and Rield			Spinach	8 500	2 100
Root-	21.	th	Sound and moreow	2,100	2.000
KUOL-	10.	10,	Squash and marrow	2,100	405 200
Asparagus	20.100	10,500	Silgar beet	050,100	493,300
Bean	1,212,800	915,200	Swede	40,700	47,400
Beet.	25,400	8,000	Swiss chaid	220	
Cabbage	1,200	40	Tomato	2,200	1,500

Seed Production, by Kinds, 1950 and 1951

Setting up a sprinkler irrigation system in a field of newly planted celery on one of the largest market gardens in the Fraser Valley, B.C.



The first units of the \$60,000,000 Otto Holden Generating Station went into service in June 1952. The plant, which will be generating 273,000 h.p. by early 1953, is the fourth power development on the Ottawa River and also the fourth power project to be completed by the Ontario Hydro-Electric Power Commission under its ten-year extension program started in 1945.

Water Power

CANADA is well endowed with water power resources. In most sections of the country adequate precipitation and favourable topography result in numerous fast-flowing rivers with many falls and rapids capable of development. This is particularly true of British Columbia and that portion of central and northern Canada lying within the Canadian Shield. In the eastern provinces, precipitation is moderately heavy and the rivers, while not large, afford many possibilities for moderate-sized developments. Only the prairies of the south middle west are without hydro-power resources, a lack compensated for by the tremendous coal and oil reserves of that area.

Under present hydraulic practice, the water-power resources of Canada would allow an economic turbine installation of more than 65,000,000 h.p. Slightly less than 22 p.c. of this potential is now being utilized.

	Available 24-Hour Power at 80 p.c. Efficiency		Turbine	
Province or Territory	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	Instal- lation	
	h.p.	h.p.	h.p.	
Newfoundland. Prince Edward Island Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia. Yukon and Northwest Territories.	$\begin{array}{c} 1,135,000\\ 500\\ 25,500\\ 123,000\\ 10,898,000\\ 5,407,000\\ 3,333,000\\ 550,000\\ 550,000\\ 508,000\\ 7,023,000\\ 382,500\\ \end{array}$	$\begin{array}{c} 2,585,000\\ 3,000\\ 156,000\\ 234,000\\ 20,219,000\\ 7,261,000\\ 5,562,000\\ 1,120,000\\ 1,258,000\\ 10,998,000\\ 814,000\\ \end{array}$	286,660 2,299 162,455 135,511 7,250,351 4,004,466 735,900 111,835 207,825 1,444,808 31,450	
Canada	29,385,500	50,310,000	14,373,560	

Available and Developed Water Power, by Provinces, Dec. 31, 1952

The Great Lakes-St. Lawrence River system forms a large part of the power resources of Ontario and Quebec and is the most highly developed in Canada, a fact that has had a marked influence on the rapid industrialization of these two provinces. The gradual change-over of Canada generally from an agricultural to a highly industrialized economy has coincided with the growth of water-power development. Low-cost power is fundamental in meeting the enormous requirements of the pulp and paper industry, permitting the economic mining, milling and refining of base and precious metals and facilitating the fabrication of many raw materials into a multitude of manufactured articles. From hydro-electric plants ranging in capacity from a few hundred to more than 1,000,000 h.p., networks of transmission line carry power to most urban centres and to an increasing number of rural districts. This wide distribution of power has facilitated the decentralization of industry, enabling manufacturing processes to be carried on in many of

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the smaller centres of population. Economical domestic service, too, contributes in no small measure to the high standard of living enjoyed in Canada.

Provincial Distribution of Water Power.—*Prince Edward Island, Nova Scotia* and *New Brunswick,* despite the lack of large rivers, have valuable sources of hydraulic power, a considerable proportion of which has been developed. Estimates give the Island of *Newfoundland* a potential of about 500,000 h.p., 50 p.c. of which has been developed; in Labrador, the Hamilton River is outstanding as a potential source of power.

Quebec ranks highest in available water-power resources, having more than 40 p.c. of the total recorded for all Canada; its power development has been remarkable, its present installation of 7,250,351 h.p. representing over 50 p.c. of the total for Canada. The Saguenay River Shipshaw development of 1,200,000 h.p. and the St. Lawrence River Beauharnois Plant No. 1 of 742,000 h.p. are the two largest in the country. The Province of Ontario has extensive water-power resources and in total hydro-power developed is exceeded only by Quebec. The Hydro-Electric Power Commission of Ontario operates 64 hydro-electric stations with a total capacity of more than 3,200,000 h.p., the largest being the Niagara River Queenston plant of 560,000 h.p. Also a large amount of power is purchased from Quebec.

Manitoba has more water-power resources and has developed them to a greater extent than either of the other Prairie Provinces. Practically all the developed sites are located on the Winnipeg River. These supply not only Winnipeg and its suburban areas but, through the transmission network of the Manitoba Power Commission, power is distributed to more than 400 municipalities and a large part of the rural areas of southern Manitoba where farm electrification is a primary objective. In Saskatchewan water-power development is confined to the northern mining districts. The southern portions of Saskatchewan and Alberta are lacking in water-power resources but have large fuel reserves. In Alberta, present developments are located in the Bow River Basin and serve Calgary and numerous other municipalities between the International Boundary and the area north of Edmonton.

British Columbia ranks second among the provinces in available waterpower resources and its hydraulic development is exceeded only by Quebec and Ontario. Present developments are practically all located in the southern part of the Province in the Fraser and Columbia River basins. In the Yukon and Northwest Territories, power has been developed for local mining purposes.

Hydro-Electric Construction during 1952.—Activity in the development of water-power sites for the production of electric energy continued at a high level during 1952. A total of 1,033,200 h.p. of new turbine capacity was brought into operation although the net increase in capacity shown over 1951 was slightly less than this amount owing to adjustments for old plants that were written off. At the end of 1952, a number of plants with a total capacity of about 640,000 h.p. were under advanced construction for operation in 1953, while preliminary and semi-advanced construction was under way on other projects for operation in 1954 which were tentatively rated at 1,300,000 h.p.

Ontario.—The Hydro-Electric Power Commission of Ontario completed its current program of construction on the Ottawa River by bringing into operation the Otto Holden Generating Station of 272,000 h.p. which

The Beauharnois Pawer Development east of Montreal, on the shores of Lake St. Louis. The completion of new installations in 1953 and 1954 will bring the total capacity to 1,400,000 h.p. and the addition of another 600,000 h.p. under consideration will make this development one of the largest producers of hydro power in the world.



was made on the five-and-a-half-mile tunnel, the two-mile canal and the power-house foundations for the 735,000-h.p. Sir Adam Beck Generating Station No. 2, scheduled for initial operation in 1954. At Pine Portage on the Nipigon River, a third unit of 41,000 h.p. was ordered for 1954 installation. The Commission completed the second and third units, of 66,000 kw. each, in the steam-electric plant at Windsor and the second and third units,

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of 100,000 kw. each, in the Toronto plant; these plants, with capacities of 264,000 kw. and 400,000 kw., respectively, are scheduled for completion in 1953. In addition to the activities of the Commission, the Great Lakes Power Company completed, at the end of December 1952, a new development of 15,000 h.p. in two units at Scott Falls on the Michipicoten River.

Quebec .- Hydro-electric construction was very active in the Province of Quebec during 1952. New capacity of 495,000 h.p. came into operation and good progress was made on other developments. The Quebec Hydro-Electric Commission continued the expansion of its Beauharnois Powerhouse No. 2 by adding two new units, of 55,000 h.p. each, to bring the capacity to 443,000 h.p.; the plant will reach its designed capacity of 663,000 h.p. in 1954. A Commission development of 16,000 h.p. at Rapid II on the upper Ottawa River was under advanced construction for operation in 1953, while sites on the Betsiamites (Bersimis) River were under investigation by the Commission. A major addition to the generating capacity of the Province was made by the Aluminum Company of Canada which completed the Chute-du-Diable development of 275,000 h.p. on the Peribonka River and put into initial operation the first two units, each of 55,000 h.p., in the Chute-à-la-Savanne plant on the same river. The latter plant of 275,000 h.p. is scheduled for completion early in 1953. Progress was made by Price Brothers and Company Limited on the Shipshaw River 70,000-h.p. development at Chute-des-Georges and on the 9,000-h.p. development at Lake Brocket for 1953 operation. Construction schedules were also maintained by the Manicouagan Power Company on a development near the mouth of the

Headworks and power house under construction at McCormick Dam on the Manicouagan River near Baie Comeau, Que.



Constructing a two-mile span of power cable across Kootenay Lake, near Riondel, B.C. The span is a link between hydro plants on the Kootenay River and mining, concentration and chemical fertilizer operations at Kimberley.



Manicouagan River; the initial two 50,000-h.p. units of this 300,000-h.p. plant are scheduled for operation in 1953. The Ste. Marguerite Power Company proceeded actively with the development of 17,000 h.p. on the Ste. Marguerite River for 1954 operation. In June, the City of Megantic began construction of a development on the Chaudière River at Gayhurst with an initial capacity of 2,250 h.p. for 1954 operation and an ultimate capacity of 4,500 h.p.

British Columbia.- The British Columbia Power Commission completed its development of 4,000 h.p. at Clowhom Falls at tidewater at the head of Salmon Arm and had work under way on the 56,000-h.p. extension of the John Hart plant on the Campbell River for 1953 operation. The British Columbia Electric Company Limited had the Wahleach Lake 82,000-h.p. development ready for operation before the end of 1952. For 1953 operation the Company was also constructing a fourth unit of 62,000 h.p. to the Bridge River plant and was increasing the capacity of the Jordan River plant by 4,000 h.p. The Aluminum Company of Canada was actively engaged on several phases of its Nechako-Kitimat development and expects that initial operation will begin in the spring of 1954. The project involves a dam on the Nechako River, a 10-mile tunnel through the Coast Range, and an underground powerhouse which will contain three Pelton turbines each of 150,000 h.p. in the first stage of development and possibly 16 units ultimately. The Consolidated Mining and Smelting Company of Canada Limited had under construction on the Pend d'Oreille River a development of 205,000 h.p. in two units; operation is scheduled for early 1954.

WATER POWER



Electrical equipment plays a vital part in all Canadian industries. A giant furnace transformer which will be used to handle electricity for tin-plating operations, being installed in a Hamilton, Ont., foundry.

Yukon Territory.—The Northwest Territories Power Commission completed construction of a 3,000-h.p. plant on the Mayo River; provision is made for a second unit when required.

Prairie Provinces.—No new water-power developments were made in Alberta or Saskatchewan but Calgary Power Limited will proceed in 1953 with the Bearpaw 25,000-h.p. development on the Bow River near Calgary, partly to relieve winter flooding from ice jams. The Saskatchewan Power Corporation increased the capacity of its steam plant at Saskatoon by 25,000 kw. and has a similar unit on order for 1954. It also increased its Prince Albert plant by 10,000 kw. and was installing a new unit of 20,000 kw. in its Estevan plant for 1953 operation.

The Manitoba Hydro-Electric Board completed the Pine Falls development on the Winnipeg River by bringing into operation 95,000 h.p. in four units. Full plant capacity is now 114,000 h.p. The Board also began preliminary work on a development of 80,000 h.p. at McArthur Falls for operation in 1954. The Winnipeg Electric Company completed the installation of the sixth and final unit of 37,500 h.p. in the Seven Sisters plant on the Winnipeg River. Sheritt-Gordon Mines brought into operation a development of 7,000 h.p. on the Laurie River, to serve the Lynn Lake area. To supplement the output of its hydro-electric plants, the City of Winnipeg brought into operation one unit of 15,000 kw, in the new steam plant and a second unit of 25,000 kw. was under installation for operation in 1953.

Atlantic Provinces.--In New Brunswick, the Maine and New Brunswick Electric Power Company increased the capacity of its Aroostook Falls plant by 2,600 h.p. by replacement of one unit. The New Brunswick Electric Power Commission made good progress on its Tobique River development of 27,000 h.p. for 1953 operation. The capacity of the Commission's steam plant at Grand Lake was increased by 6,250 kw.

The Nova Scotia Power Commission completed its 8,600-h.p. Gulch development on the Bear River, and the Nova Scotia Light and Power Company Limited completed the White Rock 4,000-h.p. development on the Gaspereau River, which replaced a plant of 1,105 h.p. The capacity of the Commission's steam plant at Cantleys Point was increased by 10,000 kw. and the Company was installing a new unit of 20,000 kw. at Halifax for 1953 operation.

The Newfoundland Light and Power Company brought into operation its plant of 7,500 h.p. at Cape Broyle on the Horse Chops River and, at a point four miles upstream, was building a second plant of 7,500 h.p. for 1953 operation. The Anglo-Newfoundland Development Company Limited was carrying out a modernization program in its two plants on the Exploits River which would increase the capacity of each by 6,000 h.p. by 1953. In Labrador, the Iron Ore Company had active construction under way on its 12,000-h.p. development on the Ashuanipi River for 1954 operation, although transportation was a diffcult problem.

Central Electric Stations

Central electric stations are companies, municipalities or individuals that sell or distribute electric energy generated in their own power plants or purchased for resale. They represent what is known as the electric-power industry and are divided into (1) commercial or privately owned, and (2) municipal or publicly owned—those operated by municipal or provincial governments or the Federal Government. They are also classified according to the kind of power used: hydraulic or water driven; fuel or steam; and nongenerating or distributing only.

The 348 hydraulic stations in Canada generate nearly all (97 p.c.) of the total output of central electric stations and are the backbone of the pulp and paper, aluminum, smelting and other manufacturing industries. Canadians enjoy the advantage of probably the cheapest electricity in the world in great volume with a turbine installation of some 14,374,000 h.p. Half the farms in Canada and the great majority of all urban homes have the benefits of power-line service. Revenues of central electric stations in 1950 approached \$324,000,000.

Based on monthly output data, the generation of central electric stations since 1929 was as follows:--

	1929	1939	1949	1951	19521
Generated by-		('000 kwh.)		
Water power Thermal engines	17,294,463 331,464	27,861,784 489,730	45.084.284 1.588.930	55,590,622 1,829,897	59,600,000 2,100,000
TOTALS	17,625,927	28,351,514	46,673,214	57,420,519	61,700,000
1 Estimated.					

Electric energy is exported from Canada under licence and an export tax of 0.03 cents per kilowatt hour is levied. Exports totalled 1,756,752,000 kwh. in 1949, 2,375,420,000 kwh. in 1951 and 2,493,032,000 kwh. in 1952.

WATER POWER

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Men and lumber piler at work. The introduction of mechanical handling equipment has been especially profitable to wood-using industries, effecting savings in labour costs and time.

Forestry

CANADA's forests and forest industries play a vital part in the national economy. They provide direct employment for hundreds of thousands of persons. They yield the largest amount of foreign exchange of any industrial group. They contribute significantly to the national income and, because the forests are a renewable asset, they can be considered inexhaustible. Present-day demands for lumber, pulp, newsprint and other forest products stand at unprecedented levels and it seems certain that they will reach even greater heights in the years to come. All Canadian forest industries are working at or near capacity and manufacturing facilities are being increased from year to year. In these circumstances the attention of governments, of industry and of the public at large has been drawn to the need for conserving the productivity of the forests and for protecting them against avoidable losses. Very much remains to be done, but the rate of progress towards more orderly forest management encourages the conviction that these forest lands are capable of yielding more benefits in the future than they have in the past and of doing so in perpetuity.

The Canadian forests stretch in a belt generally from 600 to 1,000 miles wide across the eastern provinces, curving northward on the prairies and dipping southward again to cover much of the Province of British Columbia. The forests of the Yukon and Northwest Territories and of northern Quebec form a transition zone between the Arctic tundra and the forested and agricultural lands to the south. The total forested area* is estimated to be 1,320,321 sq. miles, 38 p.c. of the country's total land area. The forests within the provinces occupy 60 p.c. of provincial lands. Almost one-half of the total forested area is classified as 'non-productive' forest incapable of producing crops of merchantable timber because of adverse climatic, soil and moisture conditions. Although these lands are of little significance to the forest industries, they do provide valuable protection for drainage basins and shelter for game and fur-bearing animals. The country's 'productive' forests extend over some 764,333 sq. miles-22 p.c. of the total land area of Canada and about one-third of the land area of the ten provinces. A total of 503,000 sq. miles, or 66 p.c. of the productive area, is considered accessible for economic exploitation. Trees of merchantable dimensions occupy 60.5 p.c. of this accessible area, while the remainder consists of young trees which will grow to merchantable size. The inaccessible productive forests, 261,000 sq. miles in extent, constitute a reserve for the future.

Of the total productive forests, approximately $61 \cdot 4$ p.c. is comprised of softwood, $25 \cdot 0$ p.c. mixed wood and $13 \cdot 6$ p.c. hardwood. There are more than 150 tree species in Canada, 31 of which are conifers.

Of Canada's occupied forest lands, 32 p.c. is privately owned, the other 68 p.c. is still in the possession of the Crown in the right of either the Federal or Provincial Governments. Forests lying within the boundaries of the

[•] All figures in this section are exclusive of Labrador, for which information is not yet available.



provinces, as with other natural resources, are administered by the provincial governments. The Federal Government is responsible for administration of forests in the Yukon and Northwest Territories, national parks and forest experiment stations. The general policy of the federal and provincial governments is to dispose of the timber under their jurisdiction by means of leases and annual licences to cut, rather than by the outright sale of timberland. Under this system the Crown retains ownership of the land and control of cutting operations. Revenue is received in the form of timber dues or stumpage, ground rent and fire-protection taxes.

Primary wood products cut from the forests were estimated to average about 3,117,000,000 cu. ft. in the five years 1946-50. Total depletion for that period averaged 3,794,000,000 cu. ft., including an estimated 177,000,000 cu. ft. destroyed by forest fires and 500,000,000 cu. ft. by insects and diseases. Since almost all of Canada's forest products are cut from the 312,438 sq. miles of occupied forest regions, it seems probable that considerable portions of the Canadian forests are being cut too heavily at present. Of vital importance then are the increasing activities of governments and industry alike in the fields of forest research and forest management. The different provinces are requiring lessees of Crown lands to establish and improve forest-working plans in accordance with sound forestry principles; research in forestry and in the utilization of forest products is being intensified in order that the forest manager may be provided with essential information; the Federal Government, under the terms of the Canada Forestry Act 1949, is assisting the provinces in the completion of their forest inventories and in the reforestation of Crown lands. Protective services are being strengthened through improvements in organization and equipment, and through research. Most provinces have stepped-up production of planting stock for the reforestation of Crown and private lands. Along with these tangible efforts is a growing awareness on the part of the people of Canada of the immense economic value of the forest resources entrusted to their care.

is an essential feature of planned forest management in which the Federal and Provincial Governments are vitally interested and increasingly active.



A Forest insects are reared for study.

Mapping and typing forested areas by means of aerial photography.

Examining year-old grafts in outdoor beds.

Forest pathologists determining the amount of decay in a recently felled tree.





Forest Industries

The forest industries of Canada comprise woods operations, the lumber industry, the pulp and paper industry, and the wood-using and paper-using groups of industries, the latter groups using partially manufactured wood, pulp, or paper as their raw materials. The net value of production for the forest industries was \$1,652,000,000 in 1950, which was 28 p.c. of the net value of production for all Canadian industries.

In 1950, more than 356,000 men and women were directly dependent upon the forest industries for their livelihood—8 out of every 100 Canadian workers. The logging industry employed 150,000, the lumber industry 60,000, the pulp and paper industry 52,000 and the wood-using and paperusing industries 94,000.

Woods Operations.—East of the Rocky Mountains, logging operations are generally carried on by individual lumber companies and by pulp and paper companies, although the latter obtain a moderate amount of their requirements from independent pulpwood loggers. In British Columbia most of the large lumber companies operate their own logging units. Truck logging has almost replaced railroad operations and, as a result, there has been some increase in the number of small independent truck loggers but their output

Against a backdrop of British Columbia mountains, a diesel logging truck hauls 200 tons of Douglas fir. Coastal trees, fed by lush soil and warm rain, grow to tremendous sizes—the interior of the Province produces hardy but smaller-sized trees.



Tractor-drawn sleds bring white pine logs to an Ontario sawmill where they are unloaded on the ice.



is only a small proportion of the total for the province. A not inconsiderable part of the country's primary forest production comes from farm woodlots; the chief product is fuelwood, but quite large quantities of pulpwood, sawlogs and wood products for use on the farm and for wood-using industries are also produced from these areas. The output of primary forest products has continued to increase both in volume and value—1950 production amounted to over 3,342,000,000 cu. ft. valued at \$625,734,603.

Product	1949	1950
in the second	\$	\$
Logs and bolts. Pulpwood. Firewood. Hewn railway ties. Poles. Poles. Round mining timber. Fence posts. Wood for distillation. Fence rails. Miscellaneous.	$\begin{array}{c} 207,789,335\\ 270,697,980\\ 48,816,905\\ 917,033\\ 11,485,488\\ 10,376,305\\ 2,640,576\\ 467,997\\ 644,844\\ 7,575,539 \end{array}$	$\begin{array}{c} 253,649,547\\ 285,762,620\\ 49,804,328\\ 495,509\\ 19,209,308\\ 3,767,076\\ 2,906,249\\ 425,918\\ 705,106\\ 9,008,942\end{array}$
Totals	561,412,062	625,734,603

Value of Primary Forest Production, 1949-50

Domestic utilization of primary forest products runs at about 95 p.c. of the total output. Practically all logs, bolts and fuelwood produced are used within the country as well as between 85 and 90 p.c. of the pulpwood.

Lumber.—In 1950 the lumber industry led all other manufacturing industries in total employment and placed third in net value of products as well as in total wages and salaries paid. The number of active sawmills was 7,551. These mills are widely distributed across the country—wherever merchantable trees grow and markets have been developed for lumber products. Most of the larger mills are in British Columbia where the handling of large trees

FORESTRY

requires specialized and massive mechanical equipment that, in turn, necessitates the building of permanent mills employing large staffs and operating throughout the year. In contrast, the smaller trees of eastern forests make it economically feasible to build smaller and comparatively inexpensive mills that generally operate in the summer and autumn seasons.

Province or Territory	Sa Lum Produ	Total Sawmill Products	
	'000 ft. b.m.	\$	\$
Newfoundland. Prince Edward Island. Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia. Yukon and Northwest Territories. Canada.	45,282 11,569 281,222 298,918 1,129,404 819,835 58,345 66,056 331,007 3,508,787 3,383 6,553,898	$\begin{array}{r} 2,214,046\\ 564,831\\ 14,456,475\\ 16,867,224\\ 64,294,496\\ 55,962,481\\ 3,179,488\\ 3,237,996\\ 14,986,473\\ 246,729,414\\ 257,776\\ \hline \end{array}$	2,430,089 632,758 15,772,588 19,774,001 73,571,302 68,488,612 3,351,875 3,641,075 16,005,403 293,022,294 258,401 496,948,398

Production of Sawn Lumber and All Sawmill Products, 1950

The 1950 gross value of \$496,948,398 includes the following commodities: sawn lumber (\$422,480,700); shingles (\$31,807,753); sawn ties (\$6,803,184); processed pulpwood (\$7,211,629); box shooks (\$4,722,513); spoolwood (\$2,130,986); flatted mine timbers (\$1,217,675); staves (\$1,009,359); lath (\$1,134,741); pickets (\$556,814); heading (\$496,714); and other wood products and by-products (\$17,376,330).

Over 54 p.c. of the sawn lumber produced in 1950 was exported and the remainder was used in Canada for structural work and by wood-using industries.

The Pulp and Paper Industry.—Outstanding among all Canadian manufacturing industries, pulp and paper mills lead in net and gross values of production, in total wages and salaries paid and in expenditure on raw materials, fuel and electricity.

Principal Statistics of the Pulp and Paper Industry, 1930, 1940, 1950 and 1951

Item	1930	1940	1950	1951
EstablishmentsNo, Employees	$\begin{array}{c} 109\\ 33,207\\ 45,774,976\\ 215,674,246\\ 107,959,927\\ 3,619,345\\ 112,355,872\\ 2,926,787\\ 173,305,874\\ 762,720\\ 39,059,979\\ 2,332,570\\ 133,370,932 \end{array}$	$\begin{array}{c} 103\\ 34,719\\ 56,073,812\\ 298,034,843\\ 158,230,575\\ 5,290,762\\ 149,005,267\\ 4,319,414\\ 225,836,809\\ 1,068,516\\ 60,930,149\\ 3,242,789\\ 151,360,196\end{array}$	$\begin{array}{c} 123\\ 52,343\\ 169,246,531\\ 954,137,651\\ 511,142,983\\ 8,473,014\\ 502,583,925\\ 6,812,035\\ 710,153,826\\ 1,846,143\\ 208,555,549\\ 4,038,069\\ 485,746,314\\ \end{array}$	$\begin{array}{r} 126\\ 57,291\\ 213,109,900\\ 1,237,897,470\\ 679,257,743\\ 9,314,840,005\\ 7,225,271\\ 824,029,649\\ 2,243,307\\ 365,132,884\\ 5,112,061\\ 536,572,498\end{array}$



Pulp and paper mills at Edmundston, N.B. The forest resources of New Brunswick are of first importance to the Province. Over 80 p.c. of the land area is under forest cover and almost all of this is Crown owned.

> The 131 plants making pulp and paper at the end of 1952 led the world in production of newsprint and are second only to those of the United States in the production of wood-pulp. Quebec is the leading producer of both pulp and paper, manufacturing almost 50 p.c. of the Canadian output of each product. Ontario follows, producing 27 p.c. of the pulp and 28 p.c. of the paper. British Columbia, New Brunswick, Newfoundland, Nova Scotia and Manitoba account for the remaining production.

> The products of the industry fall into four broad categories: (1) pulp made for sale and conversion into products elsewhere than in the pulp and

FORESTRY

paper mills—besides being the raw material for paper, pulp is converted into numerous other products including rayon, photographic film, cellophane, nitrocellulose and innumerable plastic materials; (2) newsprint, the raw material for the daily newspaper; (3) other papers, which include thousands of grades ranging from cigarette paper to banknote paper, from paperboard for milkbottle caps to the finest coated and rag papers, from tissue to building papers; (4) paperboard, the standby of manufacturers and distributors.

Province	19	49	19	50	19	51
and Type	Quantity	Value	Quantity	Value	Quantity	Value
Quebec-	tons	\$	tons	\$	tons	\$
Newsprint Book and writing	2,704,995	241,981,534	2,766,159	261,176,678	2,884,877	290,191,574
Wrapping Paper boards	116,469	16,781,488	222.632	20,372,400	148.849	27.428,551
Tissue paper Other paper	24,148 62,114	5,651,922 4,863,463	27,366 68,590	6.332,632 5,569.977	28.096 68,530	7,219,406 6,186,727
Totals, Quebec.	3,222,063	310,752,857	3,315,631	339,748,513	3,511,669	389,554,493
Ontatio-						
Newsprint	1,223,636	111,907,500	1.240,116	119,620,533	1,285.925	133,024,418
Wrapping	47,953	9,025,273	52,061	12,069,742	66,741	15,055,396
Paper boards	376,619	36,723,734	417,443	42,960,135	442,490	51,424,489
Other paper	16,746	2,476,719	18,383	2,961,129	18,491	3,729,956
Totals, Ontario	1,817,933	189,616,876	1,903,721	211,416,005	2,019,235	251,918,611
British Columbia	471,619	46,478,981	498,286	52,845,416	513,165	59,763,061
Nova Scotia, New Brunswick, Manitoba and						
Newfoundland	1,028,354	94,611,124	1,094,397	106,143,892	1,181,202	122,793,484
Canada-						
Newsprint	5,187,206	467,976,343	5.318,988	506,968,207	5.561,115	564,361,193
Wrapping	195,585	30.033,478	222,840	37,776,291	257,332	49,664,005
Paper boards	797,023	80,632,075	876,894	92,531,741	960,493	113,469,950
Other paper	92,498	8,269,115	102,474	9,635.415	103,667	11,169,512
Grand Totals	6,539,969	641,459,838	6,812,035	710,153,826	7,225,271	824,029,649

Paper Production, by Provinces and Types, 1949-51

Almost one-quarter of Canada's production of wood-pulp is shipped outside the country, chiefly to the United States and in lesser amount to the United Kingdom. In 1951 over 92 p.c. of the newsprint production was exported and 93 p.c. of that went to the United States. Canada's newsprint exports account for over 80 p.c. of the world's exports of this product.

Wood-Using and Paper-Using Industries.—In 1950 the industries producing furniture, linished lumber, sash and doors and veneers and plywoods yielded over 81 p.c. of the net value of production for the wood-using group, which amounted to \$224,628,348. The net value of production of the small group of industries producing paper boxes and bags, roofing paper and miscellaneous products such as wallpaper, amounted to \$126,968,369.

SIX FOREST LANDSCAPES

Pen and ink sketches of canvasses by six distinguished Canadian artists who were commissioned by the Canadian Pulp and Paper Association to depict in their own ways the chief forest species presently used in Canada's great pulpwood harvest.



SPRUCE-by Thoreau MacDonald.

From Newfoundland to northern British Calumbia, white and black spruce carpet the land to the very limit of tree growth. On hundreds of thousands of square miles of forest land, the spruces are the most valued species.





Throughout Eastern Canada and in the northern parts of the Prairie Provinces, the balsam fir is one of the most common trees. It is second only to spruce as a source of pulpwood.

JACK PINE-by A. Y. Jackson.

Few trees are more hardy than the jack pine or have more ability to endure on poar sites and in harsh climates, Of all the pines, it travels farthest across Canada—from the Maritimes through to northwestern Alberta.





EASTERN HEMLOCK-by Amert Cloutier.

One of the mast beautiful forest trees of Eastern Canada, the eastern hemlock grows mainly in mixed stands throughout the Maritimes, up the valley of the St. Lawrence and across Ontario to the shores of Lake Superior.

WESTERN HEMLOCK-by Franklin Arbuckle.

The largest and most majestic of the four species of hemlocks found on this Continent, the western hemlock grows with the Douglos fir, Sitka spruce and western cedar change the covariat period formation Columnian





POPLAR-by A. J. Casson.

Of the eight species of poplars native to Canada, the trembling aspen and the balsam poplar are common to every province. There are few parts of Canada where these fast-growing, moisture-loving trees do not add life and colour to the forest.



Jack ladder carrying logs into the mill at Dolbeau, Que.



Junior farest wardens receiving instructions on the mechanism of a portable pump.



Underground are cars at Cobalt, Ont. In 1951, 4,500,000 az. of silver and 325,000 lb. of cobalt were produced in the mines of the cobalt area,

Mines and Minerals

industry—its expansion both in discovery and development during the past few years has been so tremendous as literally to transform much of the Canadian mining landscape. The order of importance of the outstanding post-war developments would be difficult to appraise but wherever the discovery of large quantities of natural gas in Alberta, the discovery of deposits of titanium ore in eastern Quebec, the discoveries of asbestos in British Columbia and Ontario, the huge aluminum project at Kitimat in British Columbia, or the other major developments appear in the picture, it is amply evident that Canada is witnessing the greatest wave of mineral resources development in its history.

AINING is Canada's second largest primary

The story of that development is outlined in a special article presented at pp. 21-31. Statistics of the quantity and value of mineral production in 1951, by types and by provinces, are given on the following pages.

Canadian Mineral Production in 1951.—Canada's mineral production attained a new high in 1951, with a total value of \$1,245,483,595, an increase of 19 p.c. over 1950. While very small declines were registered in the output of gold, lead, silver and coal, and larger drops in indium, tin and graphite (the last caused by the sudden flooding of the only producing mine late in 1950), increases, many of them very substantial, were recorded for practically all other products. Percentage gains in output, as compared with 1950, were: bismuth 20, cadmium 56, cobalt 63, copper 2, iron ore 30, nickel 11, platinum metals 11, platinum 23, selenium 46, and zinc 9. In the field of non-metallics, the percentages were: natural gas 17, crude petroleum 64, asbestos 11, barite 27, feldspar 15, fluorspar 16, gypsum 4, mica 28, nepheline syenite 23, quartz 10, salt 12, sodium sulphate 47, sulphur 23, cement 2, lime 10, sand and cravel 27, and stone 3.



New found and's working mines are in the midst of development programs that will boost production considerably. Here streamlined loaders carry are from the Wabana iron mines to vessels in Concetion Bay. Despite a decline in production of $1 \cdot 1$ p.c. from 1950, gold still led all other minerals in value at \$161,872,873, almost 13 p.c. of Canada's total mineral production. Silver output showed a fractional decline in 1951, but higher prices resulted in a gain in value of 16 p.c.; lead, also, despite a production drop of over 4 p.c., registered a value increase of 21 p.c. Copper output increased only 2 p.c. but showed a rise in value of 21 p.c.; zinc production was up nearly 9 p.c. and value of output rose 38 p.c.

A number of all-time production highs were registered in 1951. The recorded production of antimony was greater in 1951 than in 1950 owing to the shipments of antimonial flue dust and slags. Also included in 1951 data were shipments of these materials made in earlier years but not previously recorded. Other metals recording new peaks were cadmium, iron ore, magnesium and zinc. The non-metallics included in this class were asbestos, cement, clay products, crude petroleum, fluorspar, gypsum, lime, natural gas, salt and stone.

Minut	195	0	1951		
Mineral	Quantity	Value	Quantity	Value	
METALLICS		\$		\$	
Antimony. Ib. Beryllium ore. ton Bismuth. Ib. Cabalt. a Copper. a Gold. oz. t. Indium. a Iron ore. ton Iron ingots. a	$\begin{array}{r} 643.540\\ 29\\ 191,621\\ 848,406\\ 583,806\\ 528,418,296\\ 4,441,227\\ 4.952\\ 3,605,261\\ 1,697\end{array}$	215,586 7,882 431,147 1,968,302 964,003 123,211,407 168,988,687 12,083 23,413,547 138,284	6,702,164 230,298 1,326,920 951,607 539,941,589 4,392,751 582 4,680,510 15,554	1,436,713 543,504 3,556,145 1,999,612 149,026,216 161,872,873 1,368 31,114,112 777,145	
Lead lb. Magnesium and calcium lb. Molybdenite	331,394,128 103,550 247,317,867	47,886,452 1,545,011 60,059 112,104,685	316,462,751 381,596 275,806,272	58,229,146 3,618,219 228,958 151,269,994	
etc. oz. t. l'latinum. " Selenium. Ib. Silver. oz. t. Tellurium. Ib. Tin. " Titanium ore. ton Tungsten concentrates. Ib. Zinc. "	$\begin{array}{r} 148,741\\ 124,571\\ 261,973\\ 23,221,431\\ 10,075\\ 796,403\\ 1,253\\ 284,078\\ 626,454,598\end{array}$	7,578,144 10,255,929 633,975 18,767,561 19,143 828,259 7,706 160,343 98,040,145	$164,905 \\ 153,483 \\ 382,603 \\ 23,125,825 \\ 8,913 \\ 346,718 \\ 1,674 \\ 2,833 \\ 682,224,335 \\ \end{cases}$	$\begin{array}{r} 7,950,107\\ 14,542,515\\ 1,239,633\\ 21,865,467\\ 16,400\\ 494,073\\ 9,790\\ 7,098\\ 135,762,643 \end{array}$	
TOTALS, METALLICS		617,238,340	6.1.0	745, 588, 728	
FUELS Coal ton Natural gas M cu.ft. Peat ton Petroleum, crude bbl. TOTALS, FUELS OTHER NOV METALLICE	19,139,112 67,822,230 58 29,043,788	110,140,399 6,433,041 580 84,619,937 201,193,957	18,586,823 79,460,667 50 47,615,534	109,038,835 7,158,920 I,100 116,655,238 232,854,093	
Arsenlous oxide	794.091 875.344 77,177 9 35.548 64,213 3 3.586	52,029 65,854,568 750,378 1,663 428,401 1,553,004 240 390,815	2,353,362 973,198 98,113 92 40,749 74,211 1,569	129,435 81,584,345 1,131,917 3,148 551,097 2,189,875 231,167	

Quantities and Values of Minerals Produced, 1950 and 1951

CANADA 1953

Aircraft and a new family of highly sensitive electrical instruments are speeding up the discovery of metals in Canada's vast outlying The airareas. borne magnetometer detects the presence of ore bodies sometimes hundreds of feet underground. Here the magnetometer unit installed in a Federal Government aircraft is being inspected before takeoff.



Quantities and Values of Minerals Produced, 1950 and 1951-concluded

Manual	19	50	1951		
ATTIDETAL	Quantity	Value	Quantity	Value	
		\$		\$	
Grindstoneton Gypsuma Iton oxidea Magnesitic dolomite, brucite Micea.b Mineral water.gal. Nepheline syenite.ton Peat moss.a Phosphate rock.a Quartz.a Salt.a Silica brick.M Soapstone and talc.ton Sodium sulphate.a Sulphur.a Titanium dioxide.u	$\begin{array}{c} 100\\ 3,666,336\\ 13,696\\ 3,879,209\\ 318,829\\ 65,638\\ 75,195\\ 129\\ 1,730,695\\ 858,896\\ 3,126\\ 32,604\\ 130,730\\ 301,172\\ 1,596\\ \end{array}$	$\begin{array}{c} 10,000\\ 6,707,506\\ 262,632\\ 1,717,879\\ 252,611\\ 158,897\\ 842,886\\ 2,256,870\\ 1,069\\ 1,740,268\\ 7,011,306\\ 408,813\\ 364,635\\ 1,615,867\\ 2,189,660\\ 149,565\end{array}$	60 3,802,692 13,342 4,961,508 325,300 81,108 76,809 6 1,904,885 964,525 3,510 24,846 192,371 371,790 14,123	$\begin{array}{r} 6,000\\ 5,880,853\\ 262,277\\ 2,437,773\\ 447,650\\ 146,071\\ 1,114,943\\ 2,433,008\\ 7,905,977\\ 465,229\\ 283,624\\ 2,383,670\\ 3,120,785\\ 738,577\\ \end{array}$	
I OTALS, UTHER NON-METALLICS		94,721,564		115,706,983	
STRUCTURAL MATERIALS		5.570		box's	
Clay products. Cement. bbl. Lime. ton Sand and gravel. " Stone. "	16.741.826 1.124.188 73.095.163 18.087.064	21,790,888 35,894,124 12,281,084 36,434,759 25,895,357	17.007.812 1.241.041 92.972.821 18.676.706	$\begin{array}{r} 23,527,656\\ 40,446,288\\ 14,082,520\\ 44,627,559\\ 28,649,768\end{array}$	
TOTALS, STRUCTURAL MATERIALS,		132,296,212		151,333,791	
Grand Totals		1,045,450,073		1,245,483,595	

Provincial Distribution of Production.—Newfoundland produced 2-6 p.c., on a value basis, of Canada's 1951 mineral production made up mainly of zinc, iron ore, lead, fluorspar, copper, silver and gold, in that order. Almost 92 p.c.

MINES AND MINERALS

of the Canadian production of fluorspar comes from Newfoundland and the Province is second only to Ontario in iron ore. Nova Scotia's coal mines accounted for 82 p.c. in value of the provincial mineral production, the remainder including gypsum, structural materials, salt, barite and silica brick. Nova Scotia turns out nearly 99 p.c. of Canada's production of barite, 84 p.c. of the gypsum, and 34 p.c. of the coal. New Brunswick's small mineral production consists mainly of structural materials, and also includes small amounts of coal, natural gas, oil and gypsum.

Quebec is second among the provinces in mineral production and has a wide variety of output. The Province attained a new peak in 1951 and accounted for 20.5 p.c. of the Canadian total value. Quebec produced 97 p.c. of the asbestos mined and stood first in feldspar and selenium; second in gold, copper, zinc, quartz and sulphur; and third in silver. Molybdenite, titanium oxide, magnesitic dolomite and brucite are mined in that Province only and Quebec will step into the front rank of producers of high-grade iron ore, when the Quebec-Labrador mines come into production in 1954.

Ontario has held first position in Canadian mineral production for close to half a century and still holds it by a wide margin, accounting in 1951 for 35.7 p.c. of the total value. Metals produced in Ontario made up 82 p.c. of the provincial total value, and 49 p.c. of the total for all Canada. Minerals in which the Province leads, with percentages of total Canadian production, are: copper (48), gold (56), tellurium (71), iron ore (61), quartz (81), soapstone and tale (55), and salt (80). Ontario ranks second in silver, feldspar, gypsun, mica, silica brick and fluorspar and is the only province producing calcium, cobalt, magnesium, nickel, the platinum metals, graphite and nepheline sycnite as well as practically all the platinum. The Munro mine, near Matheson, has brought the Province into the picture as a producer of highgrade asbestos.

While Manitoba has not been one of the great mineral-producing provinces, the development of the large copper-nickel deposits at Lynn Lake and recent successful borings for oil in the southwestern part of the Province will greatly improve its position. The copper-gold-zinc-silver mine at Flin Flon, on the border between Manitoba and Saskatchewan, has been the source of the greater part of the metal output. For 1951 the leading minerals in order of value were copper, gold, zinc, and silver: fairly substantial quantities of cadmium, cement, gypsum, and salt were produced, with lesser quantities of petroleum, selenium and tellurium. The major part of Saskatchewan's metal production comes from the Flin Flon mine; copper and zinc lead the mineral output in value, followed by coal, gold, sodium sulphate, crude petroleum and silver, in that order. Development work continued on the potash beds near Vera. The uranium discoveries north of Lake Athabaska mark a first-rank addition to Canada's mineral resources.

The fourth place in mineral output occupied by Alberta in 1951 is due to production of coal and oil. In 1951 that Province was responsible for $13 \cdot 5$ p.c. in value of Canada's total mineral production. Its oil fields produced more than 96 p.c. of the Canadian output of petroleum, nearly 88 p.c. of the natural gas, and over 41 p.c. of the coal. The Province produces a small amount of salt and a little gold. Sulphur from 'sour' gas is produced at a rate of 21,000 tons annually.

British Columbia ranks third among the provinces in value of mineral output, accounting for 14.1 p.c. of the total production for 1951. Metals made up by far the greatest part of this output-over 86 p.c. British Columbia's contribution to the Canadian total metal production amounted to 20.2 p.c. The Province is credited with all the antimony, indium and tin produced in Canada, and most of the bismuth and cadmium: it occupies first place in lead (80.7 p.c.), sulphur (52.4 p.c.), zinc (49.5 p.c.) and silver (36 p.c.). British Columbia stands second in barite, third in gold and iron ore and fourth in coal and copper. Substantial amounts of gypsum, diatomite, mica, quartz and structural materials are also produced. Active development is in progress in two other fields of some importance-the deposits of long-fibre asbestos in the McDame area in the northern part of the Province, and the tungsten deposits near Salmo; the latter will constitute the most important source of tungsten in the free world.

Silver and gold, in that order, constitute the principal part of the mineral output of Yukon Territory, closely followed by lead and zinc. Yukon also turns out small amounts of cadmium, coal and tungsten. Gold, uranium ore and crude petroleum are the principal minerals produced in the Northwest Territories; small amounts of silver and copper are also mined.

	1949		1950		1951		
Province or Territory	Value	P.C. of Total	P.C. of Value Total		Value	P.C. of Total	
	\$		\$		\$		
Newfoundland Nova Scotia. New Brunawick. Quebec. Ontario. Saskatchewan Alberta British Columbia. Yukon Territory. Northwest Territories	$\begin{array}{c} 27,583,615\\ 56,092,830\\ 7,134,009\\ 165,021,513\\ 323,368,644\\ 23,839,638\\ 36,054,536\\ 113,728,425\\ 136,385,911\\ 3,085,911\\ 5,099,176\\ 6,801,729 \end{array}$	$ \begin{array}{r} 3.0\\ 6.2\\ 0.8\\ 18.3\\ 35.9\\ 2.6\\ 4.0\\ 12.6\\ 15.2\\ 0.6\\ 0.8 \end{array} $	$\begin{array}{c} 25,824,047\\ 59,482,173\\ 12,756,975\\ 220,176,517\\ 366,801,525\\ 32,691,173\\ 35,983,923\\ 135,758,940\\ 138,888,205\\ 9,035,696\\ 8,050,899 \end{array}$	$\begin{array}{c} 2 \cdot 5 \\ 5 \cdot 7 \\ 1 \cdot 2 \\ 21 \cdot 0 \\ 35 \cdot 1 \\ 3 \cdot 1 \\ 3 \cdot 4 \\ 13 \cdot 0 \\ 13 \cdot 3 \\ 0 \cdot 9 \\ 0 \cdot 8 \end{array}$	$\begin{array}{r} 32,410,443\\ 59,727,256\\ 9,564,617\\ 255,530,071\\ 444,667,203\\ 30,045,992\\ 51,042,953\\ 168,144,211\\ 176,278,932\\ 9,793,170\\ 8,288,747\\ \end{array}$	$2 \cdot 6 \\ 4 \cdot 8 \\ 20 \cdot 5 \\ 35 \cdot 7 \\ 2 \cdot 4 \\ 4 \cdot 1 \\ 13 \cdot 5 \\ 14 \cdot 1 \\ 0 \cdot 8 \\ 0 \cdot 7 \\ $	
Totals ¹	901,110,026	100.0	1,045,450,073	100.0	1,245,483,595	100 - 0	

Mineral Production, by Provinces, 1949-51

¹ Excluding pitchblende products.

Sulphur recovery plant at Jumping Pound, Alta., Canada's first plant for the extraction of elemental sulphur from waste acid gases produced in a gas scrubbing plant.





Fisheries

DURING the past quarter-century Canada's Decommercial fishing industry has undergone great changes. Methods of fishing and processing have improved immeasurably; new fishery resources have been discovered and exploited, and new markets have been developed to supplement the traditional outlets. In the same period much has been done to assure the continuance of fish stocks. The federal Department of Fisheries has widened the scope of its conservation measures and in several instances has joined other countries, notably the United States, in treaties designed to protect the fishery resources and at the same time allow maximum exploitation.

Canada's interest in international efforts toward conservation of the fisheries not only in her own territorial waters but in the high seas is stimulated parily by the increasing need in many parts of the world for protein foods. This need for food is driving fishermen to more distant fishing grounds and is encouraging the development of more efficient methods of catching, preserving and processing fish and fishery products. For some years, two international commissions, formed of Canadian and United States members, have operated on the Pacific Coast to manage the halibut stocks and the sockeye salmon runs of the Fraser River. In 1949, the Government of Canada became a signatory, along with ten other countries, to the International Commission for the Northwest Atlantic Fisheries. In 1952 Canada joined with the United States and Japan in signing the North Pacific Fisheries Convention, the main object of which is to find a way of extending the conservation arrangements in the north Pacific. Canada also is one of the 15 countries party to the International Convention for the Regulation of Whaling.

The federal Department of Fisheries, in its program of guarding Canada's fishery resources and assuring their wisest exploitation, bases its regulations on sound biological and technological work. This work is carried out by the Fisheries Research Board of Canada, which conducts constant investigations and experiments; some of these have proved valuable to industry in the development of improved processing methods, cold-storage facilities, means of transportation and methods of processing and packaging. Other results of the Board's work, such as the discovery of new stocks of fish, the provision of information about the movements of fish and the development of improved gear and tackle, have proved beneficial to the fishermen directly.

The annual catch by Canadian fishermen, now greater than ever before, is more than 2,000,000,000 lb., with a landed value of about \$100,000,000 and a marketed value almost double that amount. Part of the increase in value to the fishermen and to the industry as a whole is due to a general advance over the years in the prices of fish and part to the development of such products as frozen fillets that command higher prices.

Approximately two-thirds of Canada's fish production comes from the waters of the northwest Atlantic, divided almost evenly between the Maritime Provinces and Quebec on the one hand and Newfoundland on the other.



Rustico, a lobster-fishing village on the north shore of Prince Edward Island. Lobster is second to cod in volue among Atlantic fishery products.

The remainder is accounted for by British Columbia and the fresh-water fisheries of the inland lakes.

The fishery industry now has more than \$80,000,000 invested in vessels, gear and equipment. British Columbia salmon and Atlantic lobster, halibut from both the Pacific and Atlantic, and whitefish from the freshwater lishery all command premium prices on the world market. Partly as a result of this, Canada's fishery exports, in dollar value, are greater than those of any other country in the world.

The Atlantic Fishery.—The main catches on the great Atlantic banks, which were fished by Europeans even before the settlement of Canada had begun, are cod, haddock, halibut, rosefish, hake and other groundlish.

Lobsters are second to groundfish in value in the Atlantic fisheries. These crustaceans are caught mainly in Prince Edward Island, Nova Scotia and New Brunswick but are found also in the waters of Quebec and Newfoundland. Other shellfish of value to the Maritime Provinces are oysters (chiefly from New Brunswick and Prince Edward Island), clams, mussels and quahaugs. Herring fishery is of importance in southwestern New Brunswick, where large quantities of small herring are caught in fish weirs and processed as sardines.

Both the deepsea and inshore fisheries of the Atlantic Provinces are undergoing drastic changes. The traditional schooners carrying dories from which fishermen long-line for cod and other groundtish are being replaced on the "banks" by large trawlers using nets dragged along the sea floor. Smaller trawlers, known as draggers, are also growing in importance. In some Maritime areas these draggers are changing the nature of the fishery from an inshore to a deepsea operation. Small-boat fishermen who were never able to go more than a few miles offshore are now ranging far out to sea in the summer months. Some inshore fishermen who formerly worked alone

Up and down the Pacific Coast, the individual gillnetter—a small businessman in his own right accounts for a large proportion of the salman catch.

Fishing boats in False Creek, Vancouver, B.C.





Minudie fishermen pick shad from the air. World's highest tides in the Bay of Fundy compel fishermen to elevate their nets. They gather the catch in wagons and race swift incoming waters back to shore.

in small boats are now long-lining from larger vessels that carry crews of four or five men and are thus able to participate in both inshore and offshore fisheries.

The Pacific Fishery.—The five species of Pacific salmon—sockeye, chum, coho, pink and spring—have made the well-organized fishery of British Columbia greater, in terms of landed and marketed value, than that of any other province. The salmon are caught by gill-nets and purse-seines at sea. Halibut and herring are other species important to the British Columbia fishermen and so, to a lesser extent, are soles, albacore tuna, ling cod, black cod, clams, crabs and oysters.

Many fishery products also contribute to British Columbia's revenue from the industry. Meal and marine oil production expanded greatly during the war and post-war years, herring forming the chief source of raw material for meal. Vitamin oils from the livers of such fish as ling cod, black cod and dogfish add to the value of the fishery and, since whaling was resumed after the end of the War, an annual catch of more than 400 whales has supplied a considerable amount of raw material, industrial oil being the chief revenueproducer in this branch of the industry.

The Fresh-water Fishery.—The important commercial catches in the Great Lakes and other large bodies of fresh water such as Lake Winnipeg and Great Slave Lake, as well as in many smaller lakes, are whitefish, lake trout, pike, pickerel and tullibee. All species find ready markets in Canada and in the United States.

Of the advances made in methods of catching, processing, marketing and transportation, possibly the most significant are those that have developed the fresh and frozen fillet industry to a high peak of efficiency. This is particularly noticeable in the Maritime Provinces and Newfoundland, where traditional methods of drying cod for overseas markets are being replaced to a considerable extent by new processes carried out in modern plants.

Statistics of Fisheries Production

The marketed value of the fisheries of Canada, exclusive of Newfoundland, climbed to a new high in 1950, amounting to \$152,063,000. Although no detailed statistics are available for Newfoundland, it is estimated that the total value of the fishery products of that Province is in the neighbourhood of \$30,000,000, which places the total for Canada at over \$180,000,000.

British Columbia was the leading fish producer, with a commercial value of \$68,821,000. Salmon maintained its position as king of Canadian fishes; the marketed value of its products at \$49,929,000 was far above that of any other species.

Trends in Landings, Values of Production and Equipment, and Numbers Employed in the Fishery Industry, 1899-50

1 Call March 1 /	Quanting	Value of	Value of	Employees in-		
Year and Average	Landed	Produc- tion	Equip- ment	Fishing	Fish Processing	
	'000 lb.	\$1000	\$'000	No.	No.	
Average 1899-1908		24,447		77,282	14,070	
1909		29,629		68,663	21.694	
1914		31,265		69,954	24.559	
Average 1909-18		37,976		69,540	24.094	
1919	930,632	56,508	31,376	67,804	18.356	
1924	913,757	44,534	23.543	53,914	15.526	
Average 1919-28	953,496	47,806	27.813	59,139	16,432	
1929	1,150,085	53,519	33,935	64,083	16,367	
1934	933,087	34,022	26,213	68,634	14,802	
Average 1929-38	995,450	37,239	27.672	67,014	14,580	
1939	1,063,774	40,076	25,843	68,941	14,814	
1944	1,179,146	89,440	35,057	64.208	17,272	
Average 1939-48	1,240,570	89,625	38,911	66,130	16,661	
1949	1,317,706	130,946	69,543	64.613	16.087	
1950	1,491,223	152,063	80,118	65,032	14.861	

(Exclusive of Newfoundland)

Atlantic fish was traditionally salted and dried largely for overseas export. However, modern processing methods, such as are used in this new plant at Louisburg, N.S., have resulted in the disposal of a much greater portion of the catch in fresh or frozen slale on domestic and United States markets.



Quantities Landed and Values of All Products Marketed, of the Chief Commercial Fishes, by Provinces, 1949 and 1950

Devines of	Elization (19	-10	1950	
Territory	Fish	Quantity Landed	Value of Products	Quantity Landed	Value of Products
		'000 lb.	\$'000	'000 lb.	\$'000
Prince Edward Island	Lobsters	6,843 6,104 003	1,685	9.098 4.343 1.130	2.240
Nova Scotia	Cod Lobsters	153,427 19,891 45,404	12,203 6,815 3,680	161,411 21,978 36,213	12,450 7,778 4 140
New Brunswick	Lobsters Sardines	9,309 58,597 43,153	5,018 4,379 2,310	11,332 67,489 77,726	5,475
Quebec	Cod Lobsters	59.045	2,475	61.443 2,278 20.821	2,200
Ontario	Whitefish Blue Pickerel	6,655 9,517 2,157	2.224	6,589 8,665 2,510	2,163
Manitoba	Pickerel	8,963 4,220 7,467	1.955 1.151 1.012	9,136 6,217 5,121	2,605
Saskatchewan	Whitefish Trout Picketel	3,542 935 900	559 203 1.33	4,380	799 218 155
Alberta	Whitefish Tullibee	$ 1.870 \\ 3.160 \\ 594 $	422 133 51	2,411 3,673 388	524 165 35
British Columbia	Salmon Herring Halibut	147,368 344,527 17,997	35,898 9,413 4,356	184,700 307,566 18,882	48,702 9,313 5,552
Northwest Territories	Whitefish Trout	4.573 2,628	1,405 856	5,071 2,442	1.561 662
Canada,	Salmon Cod Herring	$\begin{array}{r} 149,744\\ 249,291\\ 470,370\end{array}$	37,278 17,004 14,727	$\begin{array}{r} 186,944\\ 255,729\\ 560,035\end{array}$	49,929 17,242 14,349

(Exclusive of Newfoundland)

Marketed Values of Fish Products, by Provinces, 1950, and Averages 1935-39

(Exclusive of Newfoundhand)

Drovince of Tartitaty	Marketee of Prod	I Values uction	Percentages of Total Values	
Province of Territory	Average 1935-39	1950	Average 1935-39	1950
	\$'000	\$'000	p.c.	p.c.
Prince Edward Island Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba Saskatchewan. Alberta. British Columbia. Northwest Territories. Yukon Territory	921 8,709 4,375 1,983 3,208 1,638 419 378 16,986 11	$\begin{array}{c} 3,321\\ 38,121\\ 18,053\\ 5,496\\ 7,034\\ 6,791\\ 1,360\\ 768\\ 68,821\\ 2,298\end{array}$	$\begin{array}{c} 2 \cdot 4 \\ 22 \cdot 6 \\ 11 \cdot 3 \\ 5 \cdot 1 \\ 8 \cdot 3 \\ 4 \cdot 2 \\ 1 \cdot 1 \\ 1 \cdot 0 \\ 4 \cdot 0 \\ \cdot \\ \cdot \end{array}$	$\begin{array}{c} 2 \cdot 2 \\ 25 \cdot 1 \\ 11 \cdot 9 \\ 3 \cdot 6 \\ 4 \cdot 6 \\ 4 \cdot 5 \\ 0 \cdot 9 \\ 0 \cdot 5 \\ 45 \cdot 2 \\ 1 \cdot 5 \end{array}$
Canada	38,628	152,063	100.0	100.0

⁴ Not collected before 1945.

The value of the equipment used in primary operations of the commercial fisheries in 1950 amounted to \$80,273,000. Of that amount, investment in vessels of all kinds constituted 64 p.c., in nets, traps, lines and other gear, 30 p.c., and in premises such as piers, wharves, freezers, icchouses, smokehouses, etc., 6 p.c. Of the total investment in the agencies of primary production, 86 p.c. was employed by the sea fisheries.

Numbers, Employees and Production of Fish-Processing Establishments, 1939-50

Vear No. P.C. of 1939 Figure	station to the	Employees		Value of P	Value of Fish		
	P.C. of 1939 Figure	No.	P.C. of 1939 Figure	\$'000	P.C. of 1939 Figure	Marketed Fresh as P.C. of Total	
1939 1941 1943 1945 1945 1949 1950	523 463 523 540 594 594 594 599	$ \begin{array}{r} 100 \cdot 0 \\ 88 \cdot 5 \\ 100 \cdot 0 \\ 103 \cdot 3 \\ 413 \cdot 6 \\ 114 \cdot 5 \\ 113 \cdot 0 \end{array} $	$\begin{array}{c} 14,814\\ 15,842\\ 15,800\\ 17,501\\ 18,631\\ 16,087\\ 14,861 \end{array}$	$ \begin{array}{r} 100 \cdot 0 \\ 106 \cdot 9 \\ 107 \cdot 3 \\ 118 \cdot 1 \\ 125 \cdot 8 \\ 108 \cdot 6 \\ 100 \cdot 3 \end{array} $	$\begin{array}{c} 28.817\\ 48.176\\ 64.805\\ 93.545\\ 105.206\\ 111.919\\ 128.424 \end{array}$	$\begin{array}{c} 100 \cdot 0 \\ 167 \cdot 2 \\ 224 \cdot 9 \\ 324 \cdot 6 \\ 365 \cdot 1 \\ 388 \cdot 4 \\ 445 \cdot 6 \end{array}$	28 24 33 41 33 36 36

Exclusive of Newform(land)



Creel census information is recorded to determine the percentage survival of different species of hatcheryraised fish planted in certain lakes and to determine to what extent the removal of coarse fish improves the catch of more desirable species.



Furs produced and finished in Canada are second to none in beauty and utility.

Furs

The fur industry was at one time the most vigorous and remunerative industry in Canada and it still contributes many millions of dollars annually to the national income. Although fur-farming has developed rapidly during the present century, wild fur-bearers still provide well over half the income from raw furs. Wild fur-bearers are taken in moderate numbers in the settled areas of the country but the populations of such animals have been so reduced by the advance of settlement that the principal trapping areas now lie in the northern parts of the provinces and in the Northwest Territories.

The trapper's problems are caused by the vagaries of both nature and man. Most wild animals, including some important fur-bearers, are subject to marked fluctuations in numbers from year to year, which notably affects the numbers of pelts taken. The 'take' is also dependent on fluctuations in demand and in price consequent on change in fashion. Thus, the vogue of recent years for short-haired furs caused a decrease in demand for fox and other long-haired pelts and a corresponding decrease in the number of such pelts taken by the trapper. In areas where these furs were once a staple source of income, this change has resulted in serious hardship. Although this is one problem that cannot be solved by wildlife-management practices, other conservation and rehabilitation measures are receiving increasing attention from federal and provincial authorities. Scientific studies of many species are being made to determine the principal factors controlling their numbers, the optimum annual harvest that should be taken and the best methods of increasing that harvest. Among the controlling factors studied are food, shelter, weather, diseases, parasites and predators. In certain fur-producing districts, provincial and territorial authorities have instituted registration

Beaver in a live trap. The introduction of registered trap lines and the re-stocking of depleted areas in Manitoba, Ontario and Quebec are rapidly restoring the beaver to its historic importance in the fur world.



systems in accordance with which trap-lines or trapping areas are assigned to individuals on a constant basis. This system puts the responsibility on the registered trapper for the conservation of fur-bearers in his own area and has, in general, proved highly successful. Thus, many areas that had been depleted of fur-bearers have once again become productive.

Pelts of Fur-Bearing Animals Taken, by Kinds, Years Ended June 30, 1950 and 1951

		1950		1951		
Kind	Pelts	Total Value	Average Value	Pelts	Total Value	Average Value
	No.	\$	\$	No.	\$	\$
Beaver. Ernine (weasel). Fisher. Fox, silver. Fox, new-type Fox, other. Marten. Mink, standard Mink, standard Mink, mutation. Muskrat Otter. Squirrel. Othert	$\begin{array}{c} 157,416\\ 627,531\\ 2,710\\ 59,029\\ 21,923\\ 19,775\\ 31,806\\ 14,428\\ 564,409\\ 103,278\\ 3,138,609\\ 11,555\\ 2,507,436\\ 117,586\\ \end{array}$	$\begin{array}{c} 3,304,923\\933,626\\78,456\\627,204\\271,950\\167,044\\59,522\\271,360\\9,416,007\\1,461,034\\5,334,160\\242,465\\78,70,809\\145,473\end{array}$	$\begin{array}{c} 20\cdot 99\\ 1\cdot 49\\ 28\cdot 95\\ 10\cdot 6.3\\ 12\cdot 40\\ 8\cdot 45\\ 1\cdot 87\\ 18\cdot 81\\ 16\cdot 68\\ 14\cdot 15\\ 1\cdot 70\\ 20\cdot 98\\ 0\cdot 35\\ 1\cdot 24\\ \end{array}$	$\begin{array}{c} 180, 817\\ 377, 088\\ 3, 707\\ 38, 561\\ 11, 749\\ 52, 566\\ 45, 193\\ 21, 109\\ 598, 008\\ 107, 288\\ 2, 958, 662\\ 13, 567\\ 2, 935, 520\\ 135, 5437\\ \end{array}$	$\begin{array}{c} 4,262,977\\805,770\\91,931\\503,658\\171,684\\684,272\\107,675\\539,065\\12,300,312\\2,317,723\\6,645,903\\374,007\\1,943,103\\386,320\\\end{array}$	$\begin{array}{c} 23\cdot 58\\ 2\cdot 14\\ 24\cdot 80\\ 13\cdot 06\\ 14\cdot 61\\ 2\cdot 38\\ 25\cdot 54\\ 20\cdot 57\\ 21\cdot 60\\ 2\cdot 25\\ 27\cdot 57\\ 0\cdot 66\\ 2\cdot 85\end{array}$
Totals	7,377,491	23,184,033		7.479,272	31,134,400	144

(Exclusive of Newfoundland)

⁴ Includes badget, bear, coyote, fitch, lynx, nutria, rabbit, raccoon, skunk, wildear, wolf and wolverine.

Ontario leads the provinces in value of fur production. The numbers of pelts taken in Alberta, Manitoba and Saskatchewan are usually higher than in Ontario, but in those provinces the lower-priced furs such as muskrat, squirrel and ermine make up the major portion of the total, while in Ontario the more valuable mink and beaver pelts bring the value to a higher level.

Pelts	of	Fur-Bearing	Animals	Taken,	by	Provinces,	Years	Ended
		June	30, 194	19, 1950) an	d 1951		

Province or	1949		1.9	50	1951	
Territory	Pelts	Value	Pelts	Value	Pelts	Value
	No.	\$	No.	\$	No.	\$
Newfoundland Prince Edward Island Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba Saskatchewan. Alberta. British Columbia. Vukon Territory. Northwest Territories	$\begin{array}{r} 47,013\\234,364\\77,232\\555,245\\1,119,957\\1,790,848\\1,667,008\\2,788,864\\548,154\\151,969\\922,136\end{array}$	$\begin{array}{r} 640,289\\612,032\\398,982\\2,388,065\\5,661,318\\4,036,459\\2,248,441\\3,761,729\\1,473,298\\143,810\\1,535,461\end{array}$	$\begin{array}{c} 25,501\\ 88,000\\ 55,315\\ 528,411\\ 936,313\\ 1,257,532\\ 1,030,766\\ 2,191,979\\ 528,700\\ 153,574\\ 561,400 \end{array}$	$\begin{array}{c}\\ 258,440\\ 309,872\\\\ 304,905\\ 2,814,846\\ 6,199,228\\ 4,276,630\\ 2,359,444\\ 3,830,095\\ 1,631,983\\ 199,086\\ 909,504 \end{array}$	$\begin{array}{c} 11.772\\ 356.827\\ 27.814\\ 465.893\\ 1.042.208\\ 1.302.040\\ 875.901\\ 1.861.860\\ 662.792\\ 228.616\\ 643.579\end{array}$	$\begin{array}{c} 176.153\\611.979\\170.670\\3.370.829\\8.210.658\\5.370.335\\2.805.972\\5.280.952\\2.736.544\\361.969\\2.038.339\end{array}$
Canada	9,902,790	22,899,882	7,377,491	23, 184, 033	7,479,272	31,134,400



Trapper digging through the snow to a beaver trap.

Fur Farming

Many types of animals are raised on fur farms across Canada, but mink and fox far outnumber all others. There were 3,492 farms operating in 1950, 2,557 of which reported 286,152 mink valued at \$8,408,379, and 985 of which reported 23,811 foxes valued at \$641,828. The decline in the popularity of the fox and the increase in the demand for high-quality and mutation mink has effected a great change in the fur-farming picture. The number of foxes on farms has shown an almost steady decline from 1937 when they numbered 157,053 compared with 23,811 in 1950, while mink

White mink on a large ranch in Western Canada. Theraising of mink is a highly specialized business that has now passed the experimental stage. However, the search for new mutations is neverending.





Canadian furs on exhibition at the 1952 International Trade Fair held at Brussels, Belgium.

increased anach more rapidily in the same period from 11,410 in 1937 to 280,152 in 1950. The present trend generally is towards fewer but more specialized farms, the former practice of raising a few animals, mostly foxes, as a side-line to other farming operations having practically disappeared. The raising of mink is an exacting business and is conducted mainly on scientifically managed farms. The production of this fur has passed the experimental stage and the industry is now placing emphasis on quality and new mutations.

The changeover in demand has also affected the geographical distribution of fur farms. The predominance once held by the Maritimes, where the most intensive fox farming was carried on, has shifted westward with the establishment there of mink farms. In 1950, British Columbia had $9\cdot3$ p.c. of the fur farms, the Prairie Provinces $37\cdot0$ p.c., Ontario $27\cdot3$ p.c., Quebec $16\cdot1$ p.c. and the Maritimes $10\cdot3$ p.c. In that year, 652,665 pelts valued at \$10,835,507 were sold from all fur farms, a decrease of 9 p.c. in number and an increase of 23 p.c. in value over 1949 sales. Average prices for all fox pelts were lower than in 1949 but mink increased by almost \$5 per skin.

Fur Processing

The value of production in the fur goods industry in 1950 at \$61,930,099 was 1+6 p.c. above the \$60,955,010 recorded for 1949 but was 6+7 p.c. below the record figure of \$66,384,085 reached in 1948. Ladies' fur coats, valued at \$45,951,198, accounted for almost 75 p.c. of the total value of production. The number made decreased by 8 p.c. but the average value advanced from \$218 in 1949 to \$239 in 1950. The industry employed 6,329 persons, 5 p.c. fewer than in 1949, but salaries and wages increased slightly from \$14,520,579 in 1949 to \$14,596,702 in 1950. The value of materials used was \$38,309,241 in 1950, 3 p.c. higher than in the previous year. There were also 22 furdressing and dyeing establishments in 1950 which paid out \$3,420,496 in salaries and wages to 1,633 employees.

Fur Grading and Marketing

All Canadian furs placed on the market are graded according to government standards, so that purchases may be made by grade without the necessity of personal examination by the buyer. Such grading offers many advantages to the producer as well. Knowledge of the proper value of his pelts assists the rancher in raising his standards and improving the quality of his product. Grading is also of value in advancing the level of prices for high-quality pelts.

At the present time the United Kingdom and the United States are Canada's best customers for fur pelts, although Canadian furs have a worldwide distribution. Montreal is the leading fur market in Canada, but auction sales are also held at Vancouver, Edmonton, Regina and Winnipeg.

The Canadian fur trade, both export and import, is chiefly in undressed furs; the value of dressed and manufactured furs going out of Canada or coming in make up a comparatively small portion of the total. A large part of the exports consists, of course, of those furs which Canada produces in greatest abundance, mink being the most valuable followed by beaver, muskrat and fox. On the other hand, such furs as Persian lamb, certain types of muskrat and rabbit, which are not produced to any extent in Canada, make up the major portion of the imports.

Year		Exports ¹		Imports			
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries	
	\$	\$	\$	\$	\$	\$	
1942 1943 1944 1945 1946 1946 1948 1948 1949 1950 1951	$\begin{array}{c} 156,586\\ 66,844\\ 28,321\\ 1,363,727\\ 10,842,086\\ 7,378,628\\ 7,965,968\\ 4,875,557\\ 4,009,633\\ 7,325,579\end{array}$	$\begin{array}{c} 16, 869, 153\\ 25, 086, 912\\ 25, 748, 651\\ 19, 679, 471\\ 20, 342, 001\\ 15, 615, 058\\ 18, 078, 008\\ 20, 807, 744\\ 24, 834, 659 \end{array}$	$\begin{array}{c} 17,976,615\\ 26,448,522\\ 27,029,329\\ 29,572,474\\ 32,291,425\\ 29,047,741\\ 34,117,782\\ 23,326,656\\ 25,298,256\\ 31,064,301 \end{array}$	945.360 496.578 250.280 262.775 765.577 697.737 437.805 536.072 755.857 1.914.672	$\begin{array}{c} 3,306,214\\ 4,023,632\\ 6,832,775\\ 9,078,204\\ 14,764,115\\ 18,586,408\\ 21,153,883\\ 17,477,223\\ 18,946,672\\ 16,794,008 \end{array}$	6,448,86t 8,613,879 11,434,257 24,205,173 27,291,573 24,567,786 10,576,098 21,998,958 21,586,369	

Exports and Imports of Raw and Dressed Furs, 1942-51

¹ Canadian produce only



Processing muskrat pelts in a Manitaba fur-dressing and dyeing establishment.



A water-wheel generator shaft weighing over thirty tens being turned to precision limits. The operator is checking the coupling diameter with a micrometer.

Manufactures

To appreciate the reality of increasing manufacturing production in Canada, it is necessary to consider the greatly expanded economic basis on which it stands. Historical events, such as the discovery of a major oil pool on the prairies, the discovery of large-scale deposits of iron and the successful search for uranium, have given new dimensions to Canadian thinking and business planning. That is the explanation of record-breaking capital expenditure year by year since the end of the War. It is not the mere rate of expansion that is significant. There have been other periods when Canada's population has grown more rapidly and in many respects the rate of industrial expansion was relatively as great in the late 1920's as it is now. The significance of the post-war years is that never before has there been an advance on such a broad industrial front. Canada is no longer on the fringes of industrialization but is now developing the essentials of an integrated and well-balanced economy.

Year	Estab- lish- ments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
	No.	No.	\$'000	\$'000	\$'000	\$'000
1870 ² 1880 ² 1800 ² 1900 ³ 1910 ⁴ 1920 ⁴ 1923 1933 1940 1943 1944 1944 1945 1948 1949 1949 1950	41,259 40,722 75,964 14,650 19,218 22,216 23,780 25,513 27,652 28,483 20,050 31,249 32,734 33,447 35,792 26,942	187, 942 254, 935 360, 595 339, 173 515, 203 591, 753 666, 531 468, 658 762, 244 1, 241, 068 1, 222, 882 1, 149, 372 1, 058, 156 1, 131, 750 1, 156, 006 1, 171, 207 1, 188, 297	40,851 59,429 100,415 113,249 241,008 711,080 777,291 436,248 920,873 1,887,292 2,029,621 1,845,774 2,085,926 2,409,809 2,591,891 2,591,891 2,711,267	$\begin{array}{c} 124, 908\\ 179, 919\\ 250, 759\\ 266, 528\\ 601, 509\\ 2, 083, 580\\ 2, 029, 671\\ 967, 789\\ 2, 449, 722\\ 4, 690, 493\\ 4, 832, 333\\ 4, 473, 669\\ 4, 358, 234\\ 5, 534, 280\\ 6, 632, 881\\ 6, 843, 231\\ 7, 538, 535\\ \end{array}$	$\begin{array}{c} 96,710\\ 129,757\\ 219,080\\ 214,526\\ 564,467\\ 1,600,169\\ 1,755,387\\ 919,671\\ 1,942,471\\ 3,816,414\\ 4,015,776\\ 3,564,310\\ 3,467,004\\ 4,292,056\\ 3,467,004\\ 4,940,360\\ 5,330,566\\ \end{array}$	221,618 309,676 460,848 481,053 1,165,976 3,602,748 3,883,446 1,954,076 4,529,173 8,731,861 9,073,603 8,250,360 8,035,602 10,081,027 11,876,700 12,479,503 13,817,526
1954P.		1,247,529	3,253,082	8,973,200	6,925,285	16,270,931

Statistics of Manufactures, 1870-1951

⁴ 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. ² From 1870 to 1890 and from 1920 to 1951 the figures include all establishments irrespective of the number of employees but exclude construction and custom and repair work. ³ Includes all establishments employing five hands or over.

The second point to be observed is the changing emphasis of Canadian manufacturing activity. By 1949, the period of post-war conversion was passed and Canada had entered a new phase of economic expansion which derived its dynamic from the discovery of new resources and the application of new processes. This meant that even the sharp recession in the United States in 1949 failed to have significant effects in Canada. The influence of Korea and the consequent rearmament program gave an added impetus to the expansion of Canadian industry and the development of Canadian basic resources. Capital expenditures which contributed most to the defence of

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Canada were given priority. Additional capacity was created to meet the requirements of the specialized defence program—aircraft, electronic equipment, ships and guns —a good deal of which had heretofore never been produced in Canada. Measures such as steel control, credit regulations and deferred depreciation had the desired effect. There was some increase in capital investment in physical terms in 1951 and 1952, but more significant was the change in composition. A pronounced shift took place towards the further expansion of basic industrial capacity and away from investment in consumer goods and services.

A third general observation should be made to the effect that current levels of manufacturing are based on business assessments of resources and market potentialities. Millions of dollars are being invested in oil because the prairies can produce oil as economically as other great fields on this Continent, Petro-chemical plants are being crected because the raw materials are readily at hand. The Kitimat project is based on the coincidence of abundant and cheap hydro power and access to ocean transportation, both of which are essential to the low-cost production of aluminum. The exploitation of the Ungava iron deposits rests on the belief that the steel industry of this Continent will need the high-grade ores involved in order to meet continuing peacetime demands. No other country is in a more favourable position than Canada to supply uranium for the production of atomic energy. Present plans of industry now under way or in the blueprint stage, while subject to market reverses, are sufficiently large to maintain the current capital outlay through to 1955. These projects will, of course, lead to other developments of which there is no inkling at present for example, new ventures that might follow the completion of the St. Lawrence power and navigation development.

Finally, it should be emphasized that Canada's development as an industrial country is based upon and not independent of her position as a trading nation. Canada is sixth among the world's industrial powers and is the world's fourth largest trader. In 1951 Canada's exports earned 23 p.e.



Fibreglass yarn being processed on a standard textile machine in a new plant at Guelph, Ont

Giant forging press at Trenton, N.S., where some of the largest forgings in the world are made.



of the national income and Canada's per capita trade at \$571 was more than that of any other country. At the same time, Canada's trading position has become more closely linked with North America, the United States taking nearly two-thirds of Canada's exports.

In 1951 Canadian manufacturing production exceeded the record of the previous year, rising from \$13,818,000,000 to an estimated \$16,271,000,000. Employees engaged in manufacturing totalled 1,247,529, slightly higher than in the previous year and solaries and wages paid reached approximately \$3,253,082,000, an increase of \$481,817,000. Cost of materials used advanced from \$7,538,531,000 to approximately \$8,973,200,000. Preliminary estimates of manufacturers' shipments, January-June 1952, show a level of \$8,260,211,000 as against \$8,095,014,000 for the same period in 1951.

When manufacturing enterprise is divided into the broad industrial components of the standard industrial classification, it is found that all groups, with the exception of tobacco and tobacco products, moved forward. The value of output of the industries in the foods and beverages group led the list at approximately \$3,405,114,000 in 1951 compared with \$3,029,810,000 in 1950. Iron and steel products ranked second with a value of production of \$1,903,727,000, paper products stood at approximately \$1,588,857,000, transportation equipment at \$1,535,718,000, non-ferrous metal products at \$1,251,908,000 and wood products at \$1,147,190,000.

Leading Industries.—Almost half the total value of production in 1950 was accounted for by the fifteen industries listed in the following table.

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Principal Statistics of Fifteen Leading Manufacturing Industries, 1950

Industry	Estab- lish- ments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	\$.000	\$.000	\$.000	\$.000
Pulp and paper Slaughtering and meat-	12.3	52.343	169.246	373,882	511,142	954,137
packing	157 19	20,522 29,355	54,532 94,414	645,353 388,496	107.701 284.785	757,043
Non-ferrous metal smel- ting and refining	17	19,863	58,748	428,697	202.711	669,882
Petroleum products	46 7,551	10.056 58.722	30,557 111,492	384,456 252,321	$107.371 \\ 239.225$	511,516 496,948
Primary iron and steel Butter and cheese	55	29.051 21.022	85,411 41,951	159,282 250,017	154.542 74.353	.340,540 330,709
Cotton yarn and cloth Flour mills	51 118	26,967 4,903	55,220	157.835 213,755	05.309 31,836	257.383 247.107
Rubber goods, including footwear.	61	21,812	54.262	101.773	1.34.061	239,184
Motor-vehicle parts	151	19,719	56,092	122,003	103,340	226,539
products.	2.608	31,149	60,073	109,213	98,412	214,586
factory	914	28,981	55,864	-102.712	91,419	194.636
Totals, Fifteen Lead- ing Industries-						
1950	14,243	407,318	999,080	3,812,383	2.337.729	6,342,730
Grand Totals, All In- dustries—						
1950 1949	35,942 35,792	1,183,297 1,171,207	2,771,267 2,591,891	7,538,535 6,843,231	5,942,058 5,330,566	$\substack{13,817,526\\12,479,593}$
Percentages of Fifteen Leading Industries to	20.6	71.1	26.1	50.6	70.3	15 11
An industries 1950,	39.0	34.4	20.1	.50.0	98.9	45.0

The largest industry-pulp and paper-which has been steadily expanding since the end of the War, is embarking on a further stage of development. From 1946 to 1951 the physical volume of production of the industry increased by one-third and new projects were under way or in an advanced state of planning. For example, in British Columbia a \$40,000,000 mill was nearing completion and projects involving around \$75,000,000 were under construction. Other multi-million-dollar plants were scheduled for Alberta, and significant additions to capacity were planned by a number of Ontario and Quebec companies. In 1951, a 5-p.c. increase was secured in newsprint production by speeding up machines and by more efficient plant operation. New mills contributed to a 20-p.c. increase in market pulp production and a 14-p.c. increase in the output of paperboard and papers other than newsprint. The gross value of production of this industry rose from \$954,000,000 in 1950 to an estimated \$1,238,000,000 in 1951. The industry ranks first in wages paid, first in new investment, first in exports as well as first in value of output. It produced one-quarter of the world's output of wood-pulp. Most of the production was processed domestically to provide 54 p.c. of the world's supply of newsprint.

Four industries in the foods and beverages group ranked among the 15 largest in Canada. Because of the basic importance of agriculture to the Canadian economy these industries are in the forefront of industrial activity. The raw products of the farm must be further processed in meat-packing plants, in canning factories, in milk, cheese and butter establishments or in flour mills. The value of production of the slaughtering and meat-packing industry amounted to \$757,000,000 in 1950 and is expected to be about \$882,000,000 in 1951; butter and cheese production was valued at \$331,000,000 in 1950 and an estimated \$372,000,000 in 1951; flour-milling reported a gross value of production in 1950 of \$247,000,000 which is expected to rise to \$280,000,000 in 1951; the bread and other bakery products industry is expected to show a rise in gross value of output from \$215,000,000 in 1950 to approximately \$245,000,000 in 1951. In the post-war years, despite the virtual completion of war relief and emergency feeding programs, the food industries have continued to forge ahead. In 1951 farm income was the highest on record and agriculture's contribution to the Gross National Product of Canada was 30 p.c. higher than in 1950.

The manufacture of motor-vehicles was Canada's third largest industry in 1950 and the motor-vehicle parts industry ranked thirteenth. Gross value of production of motor-vehicles rose from \$676,000,000 in 1950 to about \$743,000,000 in 1951 when the productive capacity of the industry was nearly three times the pre-war capacity. In 1951 over 415,000 vehicles of all types were produced—a record number; in the same year retail sales of passenger cars amounted to \$683,000,000 and sales of commercial vehicles to \$267,000,000, both record highs. The trend of passenger-car ownership reflects the rising standard of living and the growth of the motor-vehicle industry: in 1939 there were 9.5 persons for each passenger car in the country and in 1951 an estimated 6.7 persons per passenger car. The development of the motor-vehicle parts industry also moved upward, production rising from \$227,000,000 in 1950 to an estimated \$262,000,000 in 1951.

The fourth leading industry—non-ferrous smelting and refining—had a gross value of production of \$670,000,000 in 1950 and an estimated production of \$861,000,000 in 1951. Canada has been the world's leading exporter of non-ferrous metals for over a decade and is also one of the world's leading producers of non-ferrous metals, standing first in the production of nickel,



eeef killing flow in an Edmonton packing plant Mass production methods are used in this second largest of Canada's industries. Every aperation is under scientific control and all ment is government inspected and graded. second in aluminum and zinc and fourth in copper and lead. The most important base-metal ore-bodies, at Sudbury, Ont., and Kimberley, B.C., were discovered before the turn of the century. They contain ores of two or more base metals intimately associated and frequently containing appreciable quantities of precious metals such as gold, silver and platinum. Presentday extraction methods are a triumph of modern techniques. Important new discoveries of non-ferrous metals include copper in the Gaspe Peninsula, copper-zinc ores at Chibougamau and zinc in Barraute Township in northwestern Quebec, titanium at Allard Lake on the Gulf of St. Lawrence and nickel-copper at Lynn Lake in northern Manitoba.

The fifth leading industry—petroleum products—grew from \$512,000,000 in 1950 to an estimated \$594,000,000 in 1951. In many respects petroleum has been Canada's most outstanding post-war development. Crude petroleum production almost quadrupled from 1947 to 1951 and relining capacity increased by 50 p.c.

For the Canadian lumber industry, 1951 was a year of near-record activity, the output of sawnills advancing from \$497,000,000 in 1950 to an estimated \$582,000,000. For most of the period since the end of the War, demand for sawnill products continued to exceed the available supply and, as a reflection, lumber prices more than doubled. During these years the annual lumber output averaged 6,200,000,000 bd. ft., a 60-p.c. increase over the average rate for the four years immediately prior to World War II.

Gross value of production of the primary iron and steel industry advanced from \$341,000,000 in 1950 to an estimated \$463,000,000 in 1951. The industry is making tremendous progress because of the expansion of iron-ore production; between 1945 and 1951 production of the Steep Rock mines increased from 500,000 tons to more than 1,300,000 tons and an annual 3,000,000-ton output is expected by 1955. Potentially more important are the developments presently taking place in the Quebec-Labrador area. When production in this field gets under way in 1954, Canada should rank among the six largest producers of iron ore in the world.



The final assembly line in an automobile plant.



Launching a freighter at Port Arthur, Ont. There are fifteen shipyards located at different points on the Great Lakes engaged in the production of commercial vessels and in ship repair work.

In the textile group, three industries ranked among the fifteen largest. The output of the cotton varn and cloth industry advanced from \$257,000,000 in 1950 to an estimated \$272,000,000 in 1951, men's factory clothing from \$227,000,000 to an estimated \$241,000,000, while women's factory clothing remained at approximately \$195,000,000. The industry in 1951 was typical of other consumer goods industries which faced a market softening. Investment resources had been largely expended on the basic enlargement of industrial capacity and in the early post-war years production had been expanded to meet large backlogs of demand. The outbreak of hostilities in Korea provided another stimulus to sales but, as this precautionary buying subsided, idle capacity developed in some industries. The same condition in other industrialized countries resulted in an increase in competition in the Canadian market. The gross value of production of the textile industry rose by 85 p.c. between 1946 and 1950. New investment was high during those years and despite the considerable decline in production and sales from early 1951, planned investment in 1952 was up to the levels of the two previous years.

The gross value of production of the rubber goods industry advanced from \$239,000,000 in 1950 to an estimated \$312,000,000 in 1951. Canada ranks among the leading countries of the world as a manufacturer of rubber goods and the industry makes an important contribution to the country's export trade. It should be pointed out, however, that much of the increase in 1951 was accounted for by price advances. While many kinds of rubber footwear were produced at a rate exceeding that of 1950, there was a decline in the physical production of some important items such as passenger car tires. The industry is practically confined to Ontario and Queber with Outario accounting for almost 70 p.c. of production and employment.

Geographical Distribution. The Province of Ontario, which produces approximately half of the nation's manufactured goods, has established recognition as one of the world's major industrial areas. Its industrial production in the past ten years has more than doubled and has advanced in diversity as well as in volume. Practically all of Canada's output of motorvehicles, agricultural implements and starch products comes from Ontario, as well as more than 50 p.c. of the iron and steel products, rubber goods, electrical apparatus and supplies, flour and feed mill products, hosiery and knitted goods, furniture, fruit and vegetable preparations and tannery products. Ontario is the only Canadian province to produce steam and gas turbines, spark plugs, stainless steel rolling-mill products, and radium products for commercial and medical use. Ontario's pulp and paper industry supplies about 13 p.c. of the world's total of newsprint and paper products.

Between 1946 and 1952 the number of manufacturing establishments in Ontario increased by 15.8 p.c. and the number of their employees by 24.1 p.c. In the same period the gross value of production increased by 129.7 p.c. in current dollars, or by 33.4 p.c. in constant dollars. Between 1946 and 1951, 504 new companies began operations in Ontario, giving employment at the end of 1951 to 32,953 people. Most of the new companies were Canadian in origin. In 1951, of 92 new undertakings, 46 were Canadian, 32 American, 9 British and 5 other European. Three factors have been decisive in the development of Ontario to its present industrial position: the proximity of raw materials, cheap hydro-electric power and a strategic location in relation to export markets not only on the North American Continent but overseas.

Ouebec's importance may be illustrated by the fact that this Province has more than one-half of Canada's developed hydro-electric power-an installed and operating capacity at the end of 1951 of almost 7,000,000 h.p.-and more is under development. Quebec enjoys a wide variety of rich natural resources including most of the world's known reserves of asbestos, vast iron deposits, great reserves of copper, lead and zinc, the largest known supply of titanium, gold in abundance and new finds of oil underlying the rocks of her eastern extremity, the Gaspe Peninsula. In manufacturing, Quebec leads all the provinces in the production of textiles, chemicals and some heavy industry products. From her mills come one-third of the world's wood-pulp and one-fifth of its newsprint. Since the beginning of World War II, 5,600 new manufacturing establishments have come into the Province and, at the same time, agricultural productivity has continued to increase under the impact of modernized farming techniques. It is significant that the recent industrial expansion is not confined to the cities, but has spread through towns and villages all over the accessible areas of the Province. For example, since 1945 no less than 44 new industries, widely diversified, have settled in St. Johns, a city of 19,000 population situated about 20 miles from Montreal. Quebec's large industries cover a wide range including pulp and



Checking the level in an oil tank at an Alberta refinery.

paper, tobacco, cigars and cigarettes, cotton yarn and cloth, leather boots and shoes, clothing, railway rolling-stock, silk and artificial silk, medicinal and pharmaceutical preparations and fur goods.

British Columbia's vast forest resources were responsible for the advance of that Province to third position in manufacturing but the industrial base is being constantly widened. In central British Columbia a large aluminum project is being carried out, a \$30,000,000 cellulose plant has been put into operation, and a new highway to the north is under construction. All over the Province, in the little towns, in the unorganized territories and in the major cities, the natural resources of the forest, mine and field are being fashioned by new and modern processes into goods and materials finding acceptance in domestic and foreign markets. In the past ten years the value of manufacturing production has more than trebled to a figure well in excess of \$1,000,000,000.

The Prairie Provinces are endowed with great natural resources above and below the ground —rich promises of oil, natural gas, uranium and base metals flooding capital investment, new industry and a firm market outlook for peak agricultural production. During 1951, oil and gas discoveries came at the rate of better than one a week and estimated oil reserves soared to 1,700,000,000 bbl.; from Manitoba to the Rockies, natural gas and oil are helping to create a new industrial empire to rival the agricultural mainstays.

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Nitric acid production system in a lorge chemical plant.

In Manitoba the value of manufacturing production established a new record in 1951, amounting to more than \$70,000,000 above 1950. From 1948 to 1951 new investment totalled \$58,600,000 and, during 1951, 25 new industries started operations in the Province, bringing the total since 1946 to 245. Secondary industry plays an important role in Saskatchewan's current activity with manufacturing production in the vicinity of \$250,000,000. Flour-milling, meat-packing, creameries and petroleum-refining make up the four well-developed secondary industries in the Province. Alberta, however, is the outstanding achievement of Prairie industrial expansion. In 1951, new construction starts on industrial development amounted to just under \$100,000,000 and in the foreseeable future to \$800,000,000 more. At the top of the list is the \$54,000,000 celanese plant at Edmonton, largest of its kind in the world. The Company's products will be cellulose acetate, various organic chemicals and synthetic yarn. There are many other projects in the same area, which is emerging as the heart of a new petro-chemical empire.

In the Atlantic Provinces the gross value of manufacturing production has more than tripled since 1939. Recently the fisheries industry has been completely revamped, forest products operations have been expanded and the steel and coal industry has been improved and enlarged. At the same time many new manufacturing projects have been successfully organized. In Newfoundland new economic development is influencing fishing, pulp and paper, mining and agriculture. Since 1949 new projects include a cement plant, gypsum plant, birch plant, heavy machinery plant, tannery, marine oil hardening plant, cotton textile mill, fur dyeing and processing plant, leather goods plant, chipped board plant and an optical plant. In Prince Edward Island there has been a broad advance on all economic fronts. In 1951 records were made in some branches of agriculture, particularly in creamery butter output, and there was steady progress in the fishing and lumbering industries. In Nova Scotia in that year primary industries were solving difficult problems and the expanded national defence program was influencing manufacturing industries. Orders for naval rotor forgings, shells and railroad cars were running into several million dollars and there was modernization in the basic coal, steel and fish-processing industries. In 1951 New Brunswick's three basic industries-agriculture, forest industries and commercial fisheries—moved forward and there was new exploitation of mineral and power resources, the latter having an important bearing on cement production levels. There were also major extensions to many pulp and paper mills. The manufacturing industries based on wood, including sash and door factories, a veneer plant and a plywood plant, maintained a strong position.

Province or Territory	Estab- lish- ments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	\$*000	\$'000	\$'000	\$'000
Newfoundland Prince Edward Island. Nova Scotia New Brunswick Quebec Ontario. Manitoba. Saskatchewan Alberta. British Columbia. Yukon ad Northwest Terrilories.	850 244 1.482 1,107 11.670 12.809 1.507 887 1.671 3,696 19	6,682 1,786 28,479 23,863 390,163 566,513 40,985 10,596 26,732 87,375 123	16.246 2,342 54.888 46.386 851,336 1,412,999 88.701 23.010 58,416 216,657 286	$\begin{array}{c} 31,506\\ 15,243\\ 147,131\\ 148,066\\ 2,225,476\\ 3,598,821\\ 300,386\\ 164,557\\ 272,131\\ 634,178\\ 1,039\\ \end{array}$	$\begin{array}{r} 36,712\\ 4,284\\ 97,780\\ 106,204\\ 1,798,320\\ 3,068,141\\ 177,052\\ 49,494\\ 123,893\\ 479,606\\ 560\end{array}$	71,063 19,811 255,887 263,753 4,142,473 6,822,954 485,906 218,080 402,840 1,133,017 1,731
Canada	35,942	1,183,297	2,771,267	7,538,535	5,942,058	13,817,526

Statistics of Manufactures, by Provinces, 1950



The atom is becoming a servant of industry. In scores of plants, pictures are being taken and materials measured by the use of nuclear fission byproducts. The instrument shown here maintains a continuous check on the thickness of paper rolling off a paper-making machadjustment process. Manufacturing Industries in Urban Centres.—The extent to which the manufacturing industries of Canada are concentrated in urban centres is indicated by the fact that, in 1950, in each of the Provinces of Quebec and Ontario, 94 p.c. of the gross manufacturing production was contributed by eities and towns having a gross production of over \$1,000,000 each. In the Atlantic Provinces and British Columbia the proportions were 69 and 60 p.c., respectively. In the Prairie Provinces manufacturing is confined largely to a few urban centres.

Urban Centres with Gross Manufacturing Production of Over \$50,000,000 in 1950

NOTE. Arvida, Que., and Copper Cliff, Oshawa and Port Colborne, Ont., may not be shown.

	East		S. Lastan	Care at	1ª and	Causa
Tishan Contan	Pastally-	Emp. Inc.	canaries	C.OSL OI	LOSE	Value of
Orban Centre	1 ISIL*	Employees	Wang	Floctricity	Mutariala	Deadurate
	ments		mages	Electricity	MALCE INTS	FIORACES
	No	No	\$'000	\$'000	\$'000	\$'000
				4 000		
Montreal, Que.	4.127	184.982	419.218	17.034	914.907	1.696.677
Toronto, Ont.	4.011	160.063	392.754	18,177	918,699	1.686.923
Hamilton, Ont	549	54.823	145.093	18.862	310.380	625,481
Windsor, Ont.	280	34,901	105.778	4.968	311.563	564.870
Vancouver, B.C.	1.219	34.411	85.543	4.895	234.053	409.347
Montreal East, Oue	25	4.952	13.575	11.463	239,798	318.204
Winnipeg, Man	855	27.804	58,991	3.087	142.487	261.781
Sarnia, Ont	49	7.512	21.243	11.096	99,740	169.803
Kitchener, Ont.	195	14.934	34.412	1.779	86.462	159.409
London, Ont	275	15 781	37.264	2 045	77.887	158 624
Queber, Que	434	14 810	27.329	3 564	72.615	134.262
Brantford, Ont.	1.50	13 544	33,291	1 792	61.751	125.828
New Toronto, Ont.	37	6.589	19.091	1 689	67.336	124.431
Calgary, Alta,	284	7.910	18,509	1.678	89.078	122.767
Edmonton, Alta	292	8,638	20,300	939	82.053	119,448
St. Boniface, Man	85	4,097	10.423	927	92.795	114.751
Peterhorough, Ont.	98	9.724	24.537	1.202	63.570	111.446
Sault Ste. Marie, Ont	54	7,343	21. 950	9,128	58,222	109.521
St. Catharines. Ont	111	10,415	29.679	1.522	48.063	105,507
Leaside, Ont.	.50	8,918	23,483	1.070	51,268	101.285
Welland, Out	58	8,016	23,657	4,233	45,414	97.308
Three Rivers, Oue	80	6.979	17.122	6,204	38,886	92,901
New Westminster, B.C.	114	6,313	16,162	926	50,492	92,790
Shawinigan Falls, Que	45	4,863	13,279	7,216	34,201	84.011
Ottawa, Ont	268	9,80(1	22.539	1,761	37,037	80,886
Niagara Falls, Ont	81	6,106	16,428	4.941	31,992	77.563
Lasalle, Que	36	3,567	8,684	4.348	38,166	75,933
Sherbrooke, Que	100	8,107	16,178	1,1.58	34,978	70,059
Chatham, Ont	72	3,879	9,723	1,1.32	47.782	67.981
Drummondville, Que	46	8.499	18,140	1.714	24,144	67.309
Cornwall, Ont	52	6,811	16,276	3.351	25,463	63.605
Saint John, N.B	107	3,314	6.629	1,052	44.813	62.271
Lachine, Que	54	6,886	19,263	1,020	24,425	61.865
Sydmy, N.S.	38	5,745	15,380	4.883	29,555	57.615
Saskatoon, Sask	11.3	2.715	6.045	7.312	42,269	57,158
Regina, Sask	1.3.2	2,977	7,086	1 203	10.169	54,806
Kingston, Ont.	711	5,168	12.175	1.219	21,626	53.571
Gaelph, Ont.	100	6, DS }	13,725	UOLI	26,406	51.890

Employment in Manufactures

The upswing of employment in manufacturing, which dated from the outbreak of hostilities in Korea in 1950, raised the index in the early months of 1952 to a level which for the time of year was exceeded only in the period of intensified wartime activity in 1943-45. Although the index showed month-to-month increases from Feb. 1 to Oct. 1, the figure from Apr. 1 to July 1 was slightly lower than in the corresponding period a year earlier. Curtailment of activity in certain consumer non-durable goods (notably

textiles, clothing and leather products), a slackening in some of the durable manufactured goods industries as a result of steel shortages, and important labour-management disputes contributed materially to the minor falling-off. From Aug. 1, however, the 1952 index was above its position in the same month in 1951, although it continued below the wartime peak. Production for defence needs was an important factor in the substantial volume of employment afforded in manufacturing during the year.

Weekly wages and salaries reached an all-time maximum in 1952, reflecting widespread upward revisions in wage rates. An advance in the numbers and proportions of more highly-paid workers also contributed to the higher payrolls. The payroll index rose by 10.4 p.c. in the first nine months of 1952 and the accompanying gain in employment in manufacturing was 0.1 p.c. The average weekly wages and salaries mounted by 10.3 p.c. in 1952 over 1951, previously the peak.

The hours reported in manufacturing averaged less than in the preceding year, reflecting, in part, a trend towards shorter standard hours. Other factors contributing to the reduced averages included lower levels of activity in several industries and in some cases labour-management disputes.

Month	1936	1947	t948	1949	1950	1951	1952
Jan. 1 Feb. 1 Mar. 1 May 1 June 1 July 1 Aug. 1 Oct. 1 Nov. 1	$\begin{array}{c} \textbf{154} \textbf{\cdot 9} \\ \textbf{157} \textbf{\cdot 4} \\ \textbf{157} \textbf{\cdot 2} \\ \textbf{157} \textbf{\cdot 2} \\ \textbf{159} \textbf{\cdot 2} \\ \textbf{160} \textbf{\cdot 3} \\ \textbf{157} \textbf{\cdot 9} \\ \textbf{160} \textbf{\cdot 8} \\ \textbf{157} \textbf{\cdot 9} \\ \textbf{160} \textbf{\cdot 5} \\ \textbf{161} \textbf{\cdot 7} \\ \textbf{164} \textbf{\cdot 8} \\ \textbf{467} \textbf{\cdot 0} \end{array}$	$\begin{array}{c} 163\cdot 6\\ 166\cdot 7\\ 167\cdot 1\\ 167\cdot 7\\ 168\cdot 2\\ 169\cdot 7\\ 172\cdot 2\\ 173\cdot 8\\ 174\cdot 8\\ 175\cdot 0\\ 176\cdot 5\\ 176\cdot 5\\ 176\cdot 5\end{array}$	$\begin{array}{c} 172 \cdot 0 \\ 172 \cdot 6 \\ 174 \cdot 1 \\ 173 \cdot 5 \\ 173 \cdot 2 \\ 174 \cdot 6 \\ 177 \cdot 9 \\ 177 \cdot 1 \\ 179 \cdot 7 \\ 180 \cdot 3 \\ 178 \cdot 9 \\ 178 \cdot 5 \end{array}$	$\begin{array}{c} 174\cdot 0\\ 173\cdot 8\\ 174\cdot 2\\ 174\cdot 2\\ 174\cdot 2\\ 174\cdot 4\\ 175\cdot 8\\ 177\cdot 7\\ 176\cdot 7\\ 176\cdot 7\\ 178\cdot 7\\ 178\cdot 7\\ 178\cdot 7\\ 177\cdot 0\\ 175\cdot 2\end{array}$	$\begin{array}{c} 171\cdot0\\ 170\cdot4\\ 171\cdot5\\ 172\cdot0\\ 172\cdot5\\ 175\cdot3\\ 178\cdot6\\ 179\cdot6\\ 182\cdot5\\ 185\cdot6\\ 185\cdot4\\ 185\cdot4\\ 185\cdot3\\ \end{array}$	$\begin{array}{c} 182\cdot 4\\ 184\cdot 5\\ 186\cdot 3\\ 188\cdot 8\\ 189\cdot 9\\ 192\cdot 0\\ 193\cdot 9\\ 194\cdot 0\\ 194\cdot 0\\ 194\cdot 2\\ 194\cdot 2\\ 194\cdot 2\\ 194\cdot 2\\ 189\cdot 1\end{array}$	$\begin{array}{c} 183 \cdot 6 \\ 185 \cdot 2 \\ 187 \cdot 3 \\ 188 \cdot 3 \\ 188 \cdot 7 \\ 190 \cdot 9 \\ 191 \cdot 4 \\ 194 \cdot 1 \\ 198 \cdot 5 \\ 200 \cdot 8 \\ 199 \cdot 8 \\ 199 \cdot 4 \\ 199 \cdot 4 \end{array}$

Monthly Indexes of Employment in Manufacturing, 1946-52

(1939 = 100)

Average Hours and Earnings in Manufacturing, by Months, 1951 and 1952

Month	Average Hours Worked		Avetage Eatri	Hourty	Average Weekly Wakes	
	1951	1952	1951	1952	1951	1952
	No.	No.	cts.	cts.	\$	\$
Jan. 1	$\begin{array}{r} 40 \cdot 1 \\ 42 \cdot 9 \\ 42 \cdot 3 \\ 42 \cdot 2 \\ 42 \cdot 5 \\ 41 \cdot 9 \\ 41 \cdot 7 \\ 41 \cdot 4 \\ 41 \cdot 5 \\ 41 \cdot 9 \\ 41 \cdot 8 \\ 41 \cdot 9 \end{array}$	$38 \cdot 1 \\ 41 \cdot 6 \\ 41 \cdot 7 \\ 42 \cdot 1 \\ 41 \cdot 3 \\ 41 \cdot 3 \\ 41 \cdot 3 \\ 41 \cdot 6 \\ 42 \cdot 1 \\ 42 \cdot 1 \\ 42 \cdot 1 \\ 42 \cdot 5$	$\begin{array}{c} 109 \cdot 0 \\ 110 \cdot 4 \\ 111 \cdot 4 \\ 112 \cdot 8 \\ 114 \cdot 1 \\ 115 \cdot 9 \\ 118 \cdot 4 \\ 119 \cdot 1 \\ 120 \cdot 6 \\ 121 \cdot 9 \\ 123 \cdot 5 \\ 124 \cdot 5 \end{array}$	$\begin{array}{c} 127\cdot 1\\ 127\cdot 1\\ 127\cdot 8\\ 129\cdot 0\\ 129\cdot 4\\ 129\cdot 6\\ 128\cdot 6\\ 128\cdot 6\\ 128\cdot 9\\ 129\cdot 5\\ 129\cdot 9\\ 130\cdot 9\\ 1.32\cdot 1\end{array}$	$\begin{array}{r} 43 \cdot 71 \\ 47 \cdot 36 \\ 47 \cdot 12 \\ 47 \cdot 60 \\ 48 \cdot 56 \\ 49 \cdot 37 \\ 49 \cdot 31 \\ 50 \cdot 05 \\ 51 \cdot 62 \\ 52 \cdot 17 \end{array}$	$\begin{array}{r} 48 \cdot 43 \\ 52 \cdot 87 \\ 53 \cdot 20 \\ 54 \cdot 31 \\ 54 \cdot 22 \\ 53 \cdot 57 \\ 53 \cdot 51 \\ 52 \cdot 98 \\ 53 \cdot 87 \\ 54 \cdot 69 \\ 55 \cdot 11 \\ 56 \cdot 14 \end{array}$
Twelve Months	41.8	41.5	116-8	129.2	48-87	53-62

MANUFACTURES



Capital Expenditures

CAPITAL expenditures are those outlays made to augment and to replace the nation's stock of physical capital. This stock of capital is represented by such things as factory buildings, mines, stores, theatres, railways, telephone lines, power installations and the machinery and equipment used therewith to enable the workers to produce with greater efficiency an increasing volume of goods and services. Included, as well, in the capital stock are governmentowned assets of a physical nature such as roads, canals and office buildings and all houses whether rented or owner-occupied. Excluded from capital expenditures are outlays for the accumulation of inventories and for the acquisition of land.

Capital assets are designed to last and assist in providing goods and services over a period of years; some types of assets, such as motors, may have a useful life of a very few years while others, such as buildings or power installations, may continue in profitable use for fifty years or more. The creation of these capital goods involves the diversion of resources from producing such items as food and clothing which give immediate satisfaction to the production of capital goods which will produce only items for the satisfaction of consumers over a period of future years. Thus, the extent of investment spending in the nation reflects the extent to which the nation is providing for the future, or is becoming industrialized; it also reflects the opinion of businessmen as to future prospects and of governments as to future demands for their services. It will be noted from the following table that since 1926 there have been two periods when capital spending accounted for a substantial portion of gross national product.

Year	Value	P.C. of Gross National Product	Year	Value	P.C. of Gross National Product
	\$'000,000			\$'000,000	
1926 1927 1928 1929 1931 1933 1933 1933 1933 1933 1933 1933 1933 1933 1933 1933 1934 1935 1936 1937 1939	$\begin{array}{r} 917\\ 1,087\\ 1,296\\ 1,518\\ 1,287\\ 881\\ 491\\ 327\\ 416\\ 505\\ 590\\ 828\\ 773\\ 765\end{array}$	$\begin{array}{c} 17\cdot 3\\ 19\cdot 2\\ 21\cdot 2\\ 24\cdot 6\\ 23\cdot 2\\ 19\cdot 3\\ 13\cdot 0\\ 9\cdot 2\\ 10\cdot 3\\ 11\cdot 6\\ 12\cdot 6\\ 15\cdot 5\\ 14\cdot 8\\ 13\cdot 4\end{array}$	1940	$\begin{array}{c} 1,048\\ 1,463\\ 1,542\\ 1,485\\ 1,309\\ 1,284\\ 4,703\\ 2,489\\ 3,175\\ 3,502\\ 3,815\\ 4,577\\ 5,122\\ 5,421 \end{array}$	$\begin{array}{c} 15 \cdot 3 \\ 17 \cdot 2 \\ 14 \cdot 6 \\ 13 \cdot 3 \\ 11 \cdot 0 \\ 10 \cdot 8 \\ 14 \cdot 2 \\ 18 \cdot 1 \\ 20 \cdot 3 \\ 21 \cdot 3 \\ 21 \cdot 3 \\ 21 \cdot 3 \\ 22 \cdot 3 \\ 22 \cdot 8 \end{array}$

Capital Expenditures in Canada, 1926-53

In the period from 1926 to 1930 investment accounted, on the average, for 21 p.c. of gross national product; in the period from 1947 to 1952 the average was also 21 p.c. However, in the latter period a high level of investment spending was maintained over a longer period with investment exceeding

CAPITAL EXPENDITURES



Toronto's subway takes shape. Workmen lay ballast and rails along an open cut while others are busy completing the biggest ground-cover project on the continent.

20 p.c. of gross national product in five of the six years while in the earlier period 20 p.c. was only exceeded in three of the five years considered. In the latter period, too, investment was at a much higher level than during 1926-30. Expenditures in 1952 were, in dollar terms, three and one-half times those of 1929. Even if allowance is made for doubling of prices between the two years, the volume of investment was still some two-thirds greater.

In addition to its significance to the long-run industrialization of the country, investment spending is very important in the year in which it is made in giving employment and income to those providing capital facilities.

The most important immediate beneficiary of the investment program is the construction industry. Of total capital spending of \$4,577,000,000 in 1951 about \$2,700,000,000 was spent for new houses, other new buildings and new structures of various kinds. In addition, about \$900,000,000 was expended for repairs to existing structures. Thus, as estimated in the capital expenditure surveys, a total of \$3,600,000,000 was spent on all types of construction in 1951. This information is supplied by agencies or bodies paying for the construction work being done. Other information on construction is collected from companies and individuals actually doing the construction work and this is given in the table following. The total value of all construction in 1951 is given in the table as \$3,299,070,000, about \$300,000,000 below the capital expenditure estimate, due to incomplete coverage. However, the table contains useful information on numbers employed, salaries and wages paid and value of materials used, which data may be obtained only from those actually engaged in construction work.

The balance of new investment spending in 1951, amounting to \$1.842,000,000, went for purchases of new machinery and equipment, providing employment and incomes in the manufacturing industries producing such machinery.

	E	Salaried	Salarias	VALUE	OF WORK PER	FORMED	
Classification and Year		ployees and Wage- Earners	and Wages Paid	New Construc- tion	Alterations, Main- tenance and Repairs	Total Value	
Contractors and		No.	\$	\$	\$	\$	
builders	1950 1951	213,078 240,386	523,255,178 659,119,823	1,419,721,174 1,924,163,964	199,635,484 206,083,623	1,619,356,658 2,130,247,587	
Owner builders	1950 1951	15,180 11,378	35,040,818 26,731,916	111,263,354 85,620,172	528,911 397,341	111,792,265 86,017,513	
Industrial organizations	1950 1951	12,782 14,634	39,495,562 49,834,770	134,158,133	33,946,763 42,018,817	168,104,896	
Steam and electric railways	1950 1951	46,365 49,454	100,223,345 117,719,304	39,420,651 45,284,178	162,040,128 177,260,878	201,460,779 222,545,056	
Hydro-electric powe	er						
commissions	1950 1951	29,558 25,745	71,701,163 71,952,182	238,570,963 227,434,169	22,629,778 24,950,691	261,200,741 252,384,860	
Telephone companies	1950 1951	13,909 14,682	41.276,627 46,960,586	71,537.381 81,464,560	36,809,901 42,890,823	108,347,282 124,355,383	
Federal Government departments	, 1950	14,081	32,393,769	43,491,067	22,135,791	65,626,858	
Provincial	1951	16,712	44,027,748	59,321,962	31,139,236	90,461,198	
departments	.1950 1951	22,990 30,468	43,921,144 52,945,695	65,591,969 68,303,666	51,273,935 57,423,399	116,865,904 125,727,065	
Municipalities	. 1950 1951	15,606 16,932	32,239.719 39,718,653	46,414,295 59,747,554	28,798,032 34,651,969	75,212,327 94,399,523	
Totals	1950 1951	383,549 420,391	919,547,325 1,109,010,677	2,170,168,987 2,682,253,410	557,798,723 616,816,777	2,727,967,710 3,299,070,187	

Principal Statistics of the Construction Industry, 1950 and 1951

Of immediate interest is the investment pattern in the post-war years and the outlook for 1953. During the post-war period, investment by all sectors, with the exception of consumer goods manufacturing, has been well above the pre-war peak of 1929 in terms of dollars. The extractive industries which accounted for about 14 p.c. of investment in 1929 now account for from 16 to 18 p.c. This reflects both the heavy investment being made currently in the mining industry, particularly in the field of petroleum, and the rapid mechanization taking place in agriculture. The present increased emphasis on social welfare is indicated by the larger portion of investment being made by institutions. The same movement probably accounts for the increased shares of investment made by governments and for housing. The bulk of these increases have been at the expense of investment in consumer goods manufacturing.

Sector	1929	1933	1942	1946	1950	1951	1952	1953
			Value i	n millior	is of doll	ars		
Extractive industriest Consumer goods manu- facturing	216 237 137	38 27 15	148 62 324	267 151 187	697 204 208	820 254 539	883 219 723	882 198
Utilities. Service industries. Institutions. Housing Government.	344 131 54 247 152	55 22 15 76 79	202 62 16 223 505	251 137 74 412 224	720 397 208 845 446	900 412 236 821 595	1,097 317 255 850 778	1,143 431 305 981 788
Totals	1,518	327	1,542	1,703	3,815	4,577	5,122	5,421
			Per	centage	Distribu	tion		
Extractive industries Consumer goods manu- facturing Other manufacturing Utilities	14.2 15.6 9.0 22.7	11.0 8.3 4.6 16.8	9.6 4.0 21.0 13.1	15.7 8.9 11.0 14.7	18.3 5.3 7.8 18.9	17.9 5.5 11.8 19.7	$17 \cdot 2$ $4 \cdot 3$ $14 \cdot 1$ $21 \cdot 4$	16.3 3.6 12.8 21.1
Service industries Institutions. Housing. Government	8.6 3.6 16.3 10.0	$ \begin{array}{r} 6.7 \\ 4.6 \\ 23.2 \\ 24.2 \end{array} $	$4 \cdot 0$ $1 \cdot 0$ $14 \cdot 5$ $32 \cdot 8$	8.0 4.3 24.3 13.1	$ \begin{array}{r} 10 \cdot 4 \\ 5 \cdot 5 \\ 22 \cdot 1 \\ 11 \cdot 7 \end{array} $	9.0 5.2 17.9 13.0	6 · 2 5 · 0 16 · 6 15 · 2	8.0 5.6 18.1 14.5
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100-0

Capital Expenditures and Percentage Distribution, by Sectors, 1950-53 and Significant Years 1929-46

Uncludes agriculture, fishing, forestry, mining and the construction industry.

Within the post-war years, two investment patterns are noticeable, one covering the period from 1946 to 1950 and the other the period from 1951. Investment in the years up to 1950 was largely concentrated on conversion from a wartime to a peacetime economy and provision of the facilities to produce the goods and services, the demand for which had been built up during the depression and war years. In the early years of the period the concentration was on investment in manufacturing industries; in the later years investment by institutions and service industries increased their share of the total. Throughout the whole period the extractive industries and utilities each year increased their share of the investment program, reflecting the increasing foreign and domestic demand for Canada's primary products, and the longer-run developments in hydro, transportation and communications facilities.

Events following the outbreak of hostilities in Korea placed different demands upon the economy and this is reflected in the change in the investment patterns in 1951 and 1952. In these years investment for defence and defence-supporting industries took precedence. This emphasis was facilitated by government measures which gave priorities in scarce materials to industries considered essential to defence and which forbade the charging of depreciation against capital assets acquired for less-essential purposes. Other measures discouraged, to some extent, house-building activity. As a result, in both 1951 and 1952, the share of investment accounted for by heavy manufacturing industries, utilities and government rose rapidly with declines being evident in service industries and in house-building.

The following table shows current capital expenditures by type. The 1953 figures are estimates based on surveys of capital expenditure intentions.

Туре	Capital Expenditures (\$'000,000)			Percentage Distribution			
	1951	1952	1953	1951	1952	1953	
Construction— Housing Other building Engineering Marine	821 951 919 44	850 1.095 1.163 49	981 1,197 1,206 48	$ \begin{array}{r} 17 \cdot 9 \\ 20 \cdot 8 \\ 20 \cdot 1 \\ 1 \cdot 0 \end{array} $	16 · 6 21 · 4 22 · 7 0 · 9	18 · 1 22 · 1 22 · 2 0 · 9	
Totals, All Gonstruction	2,735	3,157	3,432	59-8	61 · 6	63 - 3	
Machinery and Equipment	1,842	1,965	1,989	40+2	38.4	36.7	
Totals, Capital Expenditures.	4.577	5,122	5,421	100-0	100.0	100-0	

Capital Expenditures, by Type, 1951-53

Some indication of the physical decline in house-building may be obtained from the following table on housing starts and completions. Housing starts in 1951 were at the lowest point since 1946 while completions reached their low point in 1952. The recovery in starts apparent in 1952 will likely be followed by an increase in completions in 1953.

Perhaps what has been happening in the investment field in recent years may be better illustrated by reference to some of the more important projects

A low-cost housing project in Western Canada. Since 1945, government-sponsored plans have accounted for about one-third of the new houses constructed across the cauntry.





Heavy capital investment in new structures, plant expansion and machinery and equipment has greatly increased Canada's basic industrial capacity in the post-war period. Shown here are the rolling, tube and rod mills of Noranda Copper and Brass Limited, Montreal East, which have recently been considerably enlarged.

Item	19471	19481	10400	1950	1951	1952
Starts Completions	No. 81,276 79,231	No. 95,340 81,243	No. 93,931 91,655	No. 95.270 91.154	No. 72,079 84,810	No. 85,464 76,302

Dwelling Units, including Conversions, Started and Completed, 1947-52

Excluding Newtoundland.

completed or under way. One of the points of greatest interest is the oil development in Alberta. In addition to the investment required in the oil fields themselves, over \$200,000,000 has been spent on expanding petroleum-refining facilities across Canada. One \$60,000,000 oil pipe line has been built and another expected to cost \$80,000,000 is under way. Further large expenditures have been made for tankers to transport oil on the Great Lakes. In the base-metal field the most spectacular project has been the development of new nickel-copper deposits in far northern Manitoba, involving the moving of a whole townsite and mine workings more than 100 miles into the wilderness and the building of a railway to service the operations. In Quebec, a 360-mile railway to the new iron deposits near the Labrador border is being pushed towards completion. On the Pacific Coast, the most important development is the large aluminum project now under way, the first stage of which

alone will cost in the neighbourhood of \$200,000,000. These are but a few of the highlights in investment spending in recent years. Mention could be made of other new developments all across the country: the great increases in primary steel capacity being brought about in Ontario; the new petrochemical industry with its developments in Quebec, Ontario and Alberta; vast new hydro-electric projects in the central provinces and on the west coast; the building up of an aircraft industry; and the expansion of the pulp and paper industry, particularly in British Columbia.

In December 1952 a survey was made of the investment intentions of business, institutions, governments and house-builders for 1953. The results of this survey are summarized in the following table.

Sector	Construc- tion	Machin- ety and Equip- ment	Total	Per- centage of Total
	\$'000,000	\$'000,000	\$'000,000	
Agriculture, fishing and forestry	96 95	505 490	601 585	11-7
Mining, quarrying and oil wells	145	66 86	211	4-1
Construction	6 7	65 41	71 48	1.4
Totals, Extractive Industries 1952 1953	247 265	636 617	883 882	17·2 16·3
Consumer goods manufacturing	53 50	166 148	219 198	4.3
Other manufacturing	290 262	433	723	14-1
Utilities	668 667	429 476	1.097	21 - 4
Service industries	135 241	182	317	6 · 2 8 · 0
Institutions	226 270	29 35	255 305	5.0
Housing	850 981	-	850 981	16.6
Government departments	688 696	90 92	7.1 N 7.8 N	15-2 14-5
Totals, All Sectors 1952 1953	3.157 3,432	1,965 1,989	5,122 5,421	100-0 100-0

Investment Intentions in 1953 as compared with Capital Expenditures in 1952

The industrial pattern in 1953 will show some modification of the trends apparent in the two previous years. The easing in the materials situation, the lifting of the Government's deferred depreciation regulations and the legislative encouragements to house-building have been conducive to increased investment planning by non-essential industries and house-builders. Some of the heavy manufacturing industries have completed their large-scale investment projects with the result that, during 1953, investment in this sector is expected to be somewhat lower. The iron and steel and the pulp and paper industries plan cut-backs from 1952 levels. At the same time, expanded investment programs are planned for consumer goods industries, as well as for petroleum, transportion equipment and non-ferrous metals industries. Increased investment in mining and in utilities is also indicated by the stated intentions of businessmen.

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Labour

DURING the past half-century, Canada has observe the properties of the production of other goods and services.

Accompanying the growth of manufacturing industries and the use of changed techniques in the production of an ever-widening variety of products, there has been a great variation in the types of jobs available and in the skills required. Subdivision of labour and specialization tend to make the worker of to-day more dependent upon the work of others to provide him with his needs and demands than was the case in the comparative selfsufficiency of rural life and skilled craftsmanship at the turn of the century.

Increasing industrialization and the rapid growth of urban centres have brought about the need for group organization and protective legislation. Government legislation protects the worker against the hazards of a more complex economic structure, while labour organizations, active in the interests of labour, now form an integral part not only of the community but of the nation as well.

The Labour Force

The labour force of Canada, as measured by sample surveys conducted by the Dominion Bureau of Statistics, includes those people at work plus those currently available for work. 'Work' in this sense means types of effort for which remuneration is normally received. However, the labour force also includes those persons who did unpaid work which contributed to the running of a farm or a business operated by a relative. Thus a coal-miner or a shopkeeper is considered to be in the labour force but a housewife or a student is not. The labour force is not a fixed body of persons, but is a stream through which most individuals flow for a shorter or longer period. It is constantly changing, as new workers enter and old ones leave.

In June 1952, the Canadian labour force numbered 5,329,000 people, or almost 54 p.c. of the non-institutional civilian population, 14 years of age or over. Of the 4,581,000 people outside the labour force, 3,754,000 were women, 86 p.c. of whom were keeping house. Students numbered 703,000 and 645,000 persons were permanently unable or too old to work or were voluntarily idle.

About three out of four people in the labour force are male and almost onehalf of those in the labour force are from 25 to 44 years of age; the average female worker is considerably younger than the average male worker. Occupationally, one worker out of six is in agriculture; geographically,



Coal-miners preparing to go underground at a Nova Scotia colliery.

almost two out of three live in Outario or Quebee. The percentage of the labour force to the total population 14 years of age or over is lower in Newfoundland, the Maritime Provinces and British Columbia than in the rest of the country.

In non-agricultural industries, which employ 4,298,000 people of whom one-quarter are women, about 87 p.c. of the men and 92 p.c. of the women are paid employees. In agriculture, on the other hand, paid employees form a relatively small element—hardly more than one worker in seven even at harvest season.

Estimates of the Canadian Civilian Labour Force and its Main Components, June 1, 1931, and 1941-52

		Persons w	ith Jobs-	1	Persons	Total Civilian Labour	Persons Not in Labour	Civilian
Year	In No tural	n-Agricul- Industries	In Agri-	Total	Wathout Jobs and Seeking			Insti- tutional
	Paid	Other ¹	culture		Work	Porce	Porce	tion ²
1931 1941 1942 1943 1944 1945 1946 1947	2,006 2,538 2,770 2,906 2,950 2,950 2,914 2,957 3,112	421 476 488 434 369 363 481 548	1,203 1,210 1,127 1,107 1,126 1,134 1,261 1,163	3,630 4,224 4,385 4,447 4,445 4,411 4,699 4,823	475 193 134 75 62 72 125 91	4,105 4,417 4,510 4,522 4,507 4,483 4,824 4,914	2,934 3,552 3,381 3,275 3,349 3,509 3,891 4,019	7,039 7,969 7,900 7,797 7,856 7,992 8,715 8,713
1948 1949 1950 1951 1952	$\begin{array}{c} 3,201\\ 3,312\\ 3,410\\ 3,640\\ 3,782 \end{array}$	537 548 562 535 516	$ \begin{array}{r} 1,177 \\ 1,110 \\ 1,061 \\ 997 \\ 924 \end{array} $	4,915 4,970 5,033 5,172 5,222	81 101 149 83 107	4,996 5,071 5,182 5,255 5,255 5,329	4,057 4,140 4,413 4,459 4,581	9,053 9,211 0,505 9,714 9,910

(Thousands of persons 14 years of age or over)

⁴ Employers, 'own-account' and unpaid family workers. ⁴ Not including persons in return areas or Indians on reservations. ⁵ Includes Newroundhand.

Industrial and Occupational Distribution of Persons with Jobs, by Sex, Week ended May 31, 1952

	All Pe	rsons with	i Jobs	Paid Workers			
Industry or Occupation	Male	Female	Both Sexes	Male	Female	Both Sexes	
Industry	839	85	924	00	1	105	
Forestry. Fishing, trapping Mining, quarrying ²	76 41 95	8 1 1	77 43 98	62 13 93	1 1 1	6.3 14 95	
Manufacturing Construction Transportation ³ .	1,084 349 366	267 1 52	1,351 350 418	1,020 282 332	258 1 51	1,278 289 383	
Public utilities, Traile. Finance, insurance ⁴ .	54 527 91	247	59 774 159	399 80	205 68	59 604 148 849	
Totals	4,053	1,169	5,222	2,885	1,002	3,887	
Occupation— Managerial	409	48	157	158	.17	175	
Professional Clerical Transportation	222 261 343	122 330 1	344 591 346	187 261 323	118 324 1	585 326	
Communication. Commercial Financial	41 200 35	34 147 1	75 347 36	41 193 31	34 127 1	75 320 32	
Service. Agricultural. Fishing logging and tranning.	214 844 102	219 85	433 929 103	201 104 63	200 1	401 110 64	
Mining. Manufacturing and mechanical ⁵ .	64 735 316	170	64 905 317	63 715 281	162	63 877 282	
Labourers.	267	1	27.5	264	1	272	

(Thousands of persons 14 years of age or over)

¹ Less than 10,000. ² Includes oil wells. ³ Includes storage. ⁴ Inindus real estate. ⁴ Includes stationary enginemen and occupations associated with elastric-power production.

Employment in 1952

The upward movement characterizing both employment and payrolls in the major non-agricultural industries in recent years continued during 1952, but on a lower scale than in either 1950 or 1951. To some extent, the slower rate of gain resulted directly and indirectly from industrial disputes that caused substantial losses in employment and man-working days. Another factor was a decline in activity in certain industries, mainly those manufacturing non-durable goods, particularly textiles, clothing and leather products.

Reflecting widespread and substantial increases in wage rates, and also some changes in industrial distribution, the index number of payrolls for the first nine months of 1952 rose to a new maximum, exceeding by over 12 p.c. the figure for the same months in 1951 when the gain over the preceding year had been greater, at 19 p.c. The advances in the average weekly wages and salaries were similar in the two years, standing at about 10 p.c.

There were widely distributed but moderate gains in employment in 1952 in most of the industries covered by the monthly surveys. The expansion in construction took place to a considerable extent on defence and industrial projects, involving in some cases unusually long hours of work and high earnings. As a result, the payroll index and the average weekly wages and salaries

LABOUR 64213-161 in this group showed percentage increases exceeding those in other major industrial divisions. The reduction in the index of employment in forestry was partly due to declining export markets, but prolonged labour-management disputes in British Columbia in the summer of 1952 also contributed to the lower levels recorded in the first nine months of the year as compared with the same period in 1951.

Index Numbers of Employment and Payrolls, and Average Weekly Wages and Salaries, by Industrial Groups, 1951 and 1952

Note, — The figures are averages for the first nine months of 1951 and 1952 and are exclusive of Newfoundhand. (1939 ± 100)

		In	Average Weekly Wages and						
Tendenstern	En	ployme	nt	Payrolls			Salaries		
Industry	1951	1952	P.C. In- crease	1951	1952	P.C. In- crease	1951	1952	P.C. In- crease
							\$	\$	-
Forestry (chiefly logging). Mining Manufacturing . Durable goods. Non-durable goods. Construction . Transportation, storage and communication . Public-utility operation. Trade . Finance, insurance and real estate . Service.	207.9 116.6 180.5 235.5 159.6 169.5 174.7 186.3 172.4 167.7 180.5	$\begin{array}{c} 192\cdot 5\\ 123\cdot 7\\ 189\cdot 7\\ 242\cdot 2\\ 155\cdot 8\\ 185\cdot 9\\ 184\cdot 6\\ 193\cdot 4\\ 175\cdot 0\\ 179\cdot 1\\ 186\cdot 7\\ \end{array}$	$ \begin{array}{r} -7 \cdot 4 \\ 6 \cdot 1 \\ 2 \cdot 8 \\ -2 \cdot 4 \\ 9 \cdot 7 \\ 5 \cdot 7 \\ 3 \cdot 8 \\ 1 \cdot 5 \\ 6 \cdot 8 \\ 3 \cdot 4 \end{array} $	$557 \cdot 8$ $238 \cdot 7$ $419 \cdot 2$ $522 \cdot 4$ $343 \cdot 8$ $427 \cdot 7$ $324 \cdot 8$ $347 \cdot 4$ $333 \cdot 1$ $264 \cdot 7$ $344 \cdot 5$	609-6 277-2 462-9 595-3 367-7 535-9 363-1 402-4 367-7 301-7 377-0	9.3 16.1 10.4 14.0 7.0 25.3 11.8 15.8 10.4 14.0 9.4	$\begin{array}{r} 46\cdot 79\\ 58\cdot 70\\ 50\cdot 36\\ 53\cdot 83\\ 47\cdot 03\\ 47\cdot 15\\ 53\cdot 22\\ 55\cdot 02\\ 42\cdot 23\\ 45\cdot 85\\ 31\cdot 31\\ \end{array}$	$\begin{array}{r} 54\cdot 98\\ 64\cdot 33\\ 55\cdot 57\\ 59\cdot 69\\ 51\cdot 45\\ 54\cdot 12\\ 56\cdot 26\\ 61\cdot 33\\ 45\cdot 98\\ 48\cdot 99\\ 33\cdot 72\\ \end{array}$	$ \begin{array}{r} 17.5 \\ 9.6 \\ 10.3 \\ 10.9 \\ 9.4 \\ 14.8 \\ 5.7 \\ 11.5 \\ 8.9 \\ 6.8 \\ 7.7 \\ \end{array} $
Industrial Composite.	178-0	182-1	2.3	370 - 4	416-0	12.3	48.80	53.63	9.9

Examination of the provincial figures shows a generally upward movement in employment except in British Columbia, where the falling-off was largely due to the strike in the logging and lumbering industry. The greater-thanaverage gain in Alberta was due largely to developments in the oil and related industries.

Index Numbers of Employment, by Provinces, 1951 and 1952

Norm-Figures are averages to	or the first time	 months of 1951 and 195.
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Province	1951	1952	P.C. Eucrease	Province	1051	1953	P.C. Increase
Prince Edward Island Nova Scotia New Brunswick	174-5 146-6 178-1 165-6	190 · 7 153 · 1 181 · 0 172 · 4	9 · 3 4 · 4 1 · 6 4 · 1	Saskatchewan Alberta British Columbia	145+0 199+5 187+6	152-9 213-4 187-0	5 · 4 7 · 0 -0 · 3
Manitoba	180-8	$191 \cdot 5$ $174 \cdot 6$	0.9	Composite.	178-0	182-1	2.3

Wage Rates, Hours of Labour and Working Conditions

The trend of wage rates in Canada has been steadily upward since the beginning of World War H. To show this trend, index numbers of wage rates by industry are compiled in the Department of Labour and published in the

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Labour Gazette and in the Annual Report on Wage Rates and Hours of Labour in Canada. These indexes, however, cannot be used to compare wage levels in one industry with those in another.

The basic statistics are average straight-time wage rates or average straight-time piece-work earnings and do not therefore include overtime or other premium payments. Information on wage rates by occupation and industry is collected by means of a survey of employers conducted as of Oct. I each year with a sample survey each April in order to determine the intervening trend.

The general increase in wage rates from 1939 to 1951 was 142 p.c. with an estimated additional rise of $2 \cdot 2$ p.c. between October 1951 and April 1952.

Index Numbers of Wage Rates for Certain Main Groups of Industries, 1901-51

Year	Logenty	Coal Mining	Metal Mining	Manu- fac- turing	Con- strue- tion	Water Trans- port	Steam Ricil- ways	Urban Trans- porta- tion	Tele- phones	General Aver- age ¹
1901 1905 1910 1915 1920 1925 1925 1930 1930 1946 1946 1946 1946 1946 1946 1946 1948 1958	$\begin{array}{c} 51\cdot 4\\ 57\cdot 0\\ 64\cdot 0\\ 61\cdot 1\\ 142\cdot 5\\ 95\cdot 2\\ 97\cdot 5\\ 73\cdot 1\\ 104\cdot 9\\ 153\cdot 3\\ 167\cdot 4\\ 195\cdot 1\\ 218\cdot 8\\ 216\cdot 2\\ 213\cdot 9\\ 246\cdot 2\end{array}$	$\begin{array}{c} 47\cdot 4\\ 49\cdot 5\\ 54\cdot 0\\ 58\cdot 7\\ 113\cdot 3\\ 96\cdot 1\\ 97\cdot 1\\ 97\cdot 1\\ 146\cdot 2\\ 146\cdot 2\\ 146\cdot 7\\ 166\cdot 7\\ 192\cdot 9\\ 196\cdot 1\\ 200\cdot 7\\ 217\cdot 9\end{array}$	$\begin{array}{c} 61\cdot 2\\ 58\cdot 7\\ 62\cdot 5\\ 66\cdot 2\\ 102\cdot 9\\ 93\cdot 3\\ 93\cdot 9\\ 92\cdot 6\\ 102\cdot 8\\ 128\cdot 2\\ 135\cdot 7\\ 157\cdot 7$	$\begin{array}{c} 50\cdot 1\\ 102\cdot 4\\ 92\cdot 3\\ 05\cdot 5\\ 87\cdot 0\\ 104\cdot 3\\ 146\cdot 5\\ 161\cdot 5\\ 183\cdot 3\\ 205\cdot 9\\ 217\cdot 9\\ 217\cdot 9\\ 230\cdot 7\\ 261-6\end{array}$	$\begin{array}{c} 35 \cdot 3 \\ 42 \cdot 8 \\ 50 \cdot 9 \\ 59 \cdot 4 \\ 106 \cdot 0 \\ 99 \cdot 8 \\ 119 \cdot 1 \\ 93 \cdot 6 \\ 104 \cdot 3 \\ 131 \cdot 1 \\ 143 \cdot 9 \\ 155 \cdot 0 \\ 176 \cdot 3 \\ 184 \cdot 2 \\ 194 \cdot 0 \\ 217 \cdot 2 \end{array}$	$\begin{array}{c} 4.3 \cdot 9 \\ -4.4 \cdot 7 \\ 4.8 \cdot 4 \\ 5.4 \cdot 0 \\ 105 \cdot 2 \\ 90 \cdot 4 \\ 97 \cdot 2 \\ 90 \cdot 4 \\ 97 \cdot 2 \\ 105 \cdot 2 \\ 144 \cdot 6 \\ 162 \cdot 3 \\ 183 \cdot 8 \\ 213 \cdot 8 \\ 213 \cdot 8 \\ 236 \cdot 3 \\ 256 \cdot 0 \end{array}$	$\begin{array}{c} 33\cdot7\\ 36\cdot5\\ 44\cdot1\\ 49\cdot8\\ 108\cdot2\\ 91\cdot2\\ 100\cdot1\\ 90\cdot1\\ 100\cdot5\\ 142\cdot3\\ 142\cdot3\\ 142\cdot3\\ 170\cdot2\\ 179\cdot2\\ 207\cdot4 \end{array}$	$\begin{array}{c} 32\cdot 8\\ 37\cdot 7\\ 44\cdot 0\\ 50\cdot 2\\ 99\cdot 7\\ 96\cdot 4\\ 102\cdot 3\\ 94\cdot 3\\ 103\cdot 9\\ 126\cdot 6\\ 139\cdot 5\\ 162\cdot 3\\ 175\cdot 0\\ 179\cdot 0\\ 179\cdot 0\\ 192\cdot 1\\ 215\cdot 2\end{array}$	92-2 89-1 94-7 93-0 101-3 125-6 125-2 132-2 -140-5 151-5 158-9 175-8	$\begin{array}{c} 38\cdot 1\\ 43\cdot 1\\ 49\cdot 9\\ 53\cdot 2\\ 107\cdot 0\\ 93\cdot 8\\ 99\cdot 9\\ 88\cdot 4\\ 103\cdot 9\\ 141\cdot 8\\ 155\cdot 2\\ 173\cdot 7\\ 195\cdot 8\\ 204\cdot 6\\ 215\cdot 9\\ 243\cdot 6\end{array}$

(Rates in 1939=100)

* Includes laundries.





During the twelve months ended Oct. 1, 1951, the normal work week of plant workers in Canadian manufacturing decreased about three-quarters of an hour to a national average of 43.6 hours. At that date, 70 p.c. of the plant workers in manufacturing were on a five-day week, as compared with 65 p.c. in October 1950; in about half the establishments with a five-day week, the number of hours normally worked was 40. Only 23 p.c. of plant employees in manufacturing were working in establishments where the weekly schedule was more than 45 hours.

The percentages of non-office workers on a five-day week in other major Canadian industrial groups were as follows: mining, 40.3; transportation, storage and communication (exclusive of steam railways), 45.5; public utilities, 71.5; trade, 33.1; and services, 20.3.



Workmen's compensation laws in certain provinces provide for the rehabilitation of injured workmen. Here patients in an Ontario convalescent centre are assisted to regain their occupational skill before returning to their jobs.

> Arrival of a stretcher case at the Molton, Ont., Convalescent Centre.



Apprentice silver smiths at work.

For office workers, the weekly work schedule most common was 37.5 hours; only 17.0 p.c. had a normal weekly schedule of more than 40 hours. Approximately two-thirds of office workers in the six major industrial groups were on a five-day week in 1951.

Practically all industrial workers in Canada are paid for vacations of at least one week. By October 1951, almost 90 p.c. of the plant workers in manufacturing and more than 98 p.c. of the office employees in Canadian manufacturing were working in establishments where they could become eligible for an annual paid vacation of two weeks provided they had fulfilled the necessary service requirements. For plant employees, this minimum employment requirement was most commonly five years, although an increasingly high proportion were working in establishments which granted a two-week paid vacation after shorter periods of service. Office workers usually received two weeks after only a year of service.

Close to half the plant workers were in establishments providing a threeweek paid vacation, usually after 15, 20 or 25 years of service. About 55 p.c. of the office workers covered in the survey could become eligible for a threeweek vacation after fulfilling similar minimum service requirements.

Labour Legislation

Most of the laws for the protection of labour in Canada are provincial. Within provincial authority are those that regulate and provide for inspection of mines, factories, shops and other workplaces, establish a minimum age for employment, set limits on daily and weekly hours of work, fix minimum rates of wages, provide for annual holidays with pay and ensure the payment of compensation for injuries received at work.

All provinces except Newfoundland and Prince Edward Island have factory Acts, and all except Prince Edward Island have mines Acts. In all provinces, a minimum age is fixed for most types of employment. Five provinces have laws setting working hours of eight per day and 48 or less per week. All provinces except Prince Edward Island have minimum wage legislation under which minimum rates are set for most classes of workers except farm labourers and domestic servants. The Nova Scotia Act does not apply to men, and in Optario no orders respecting men are in effect. In seven provinces there is legislation for applying wages and hours conditions, reached by agreement in a representative section of an industry, to all employers and workers in the industry and area. In six provinces most employers are required to grant their workers an annual paid vacation of one week or more. Workmen's compensation laws in all ten provinces provide compensation for industrial accidents and diseases through a system of state insurance under which employers are collectively liable for compensation and medical costs. Apprenticeship laws in all provinces provide for the training of young people in designated skilled trades through a combination of on-thejob training and class instruction for a period usually of four years. During his training an apprentice receives a proportion of journeymen's rates of nay. Grants from the Federal Government have enabled the provinces to expand the program since the War.

Two new types of law recently enacted are equal pay laws in Ontario and Saskatchewan and a law in Ontario prohibiting discrimination in employment on the grounds of race, creed, colour or national origin.

To encourage collective bargaining and promote harmonious relations between employers and employees in undertakings within provincial jurisdiction, all provinces have labour-relations Acts. Under these Acts, an employer is required to bargain for the conclusion of a collective agreement with a trade union representing his employees. Conciliation services are available if negotiations break down. Strikes and lockouts are prohibited until the procedures set out in the Act have been carried out.

Under Federal laws, an unemployment insurance plan covers most workers throughout Canada and, associated with unemployment insurance, a nation-wide chain of employment offices is available to all workers and employers (see p. 238). Fair wages legislation requires contractors for federal public works and government equipment and supplies to limit daily and weekly working hours to eight and 44, and to pay "fair and reasonable" wages, generally accepted as current in the district. From Jan. 1, 1953, all government contracts will contain a clause prohibiting discrimination by the contractor in hiring and employment on grounds of race, national origin, colour or religion. The Canada Shipping Act sets standards for the welfare and safety of seamen. The Vocational Training Co-ordination Act, 1942, authorizes the Minister of Labour to co-operate with the provinces in carrying on various types of vocational training. The Industrial Relations and Disputes Investigation Act governs labour relations in undertakings within federad jurisdiction.

Federal Legislation re Collective Bargaining and Conciliation.—The Industrial Relations and Disputes Investigation Act, which came into effect on Sept. 1, 1948, replacing earlier labour-relations legislation, applies to industries within federal jurisdiction, i.e., navigation, shipping, interprovincial railways, canals, telegraphs, steamship lines and ferries, both interprovincial and international aerodromes and air transportation, radio broadcasting stations, and works declared to be for the general advantage of Canada. The



An employee with many years of experience applies his skill to winding the stator of a waterwheel generator.

Act provides that provincial authorities may enact similar legislation for application to employees within provincial jurisdiction and make arrangements for the administration of such legislation by the federal authorities.

The Minister of Labour and the Canada Labour Relations Board, composed of four representatives from organized labour and four from management, a chairman and a vice-chairman, jointly administer the provisions of the Act. The legislation provides for the right of free association of employees and employers, for the safeguarding of that right by prohibiting unfair labour practices, for compulsory collective bargaining between trade unions and employers upon notice following certification or upon notice to negotiate the renewal of an agreement. Where direct negotiation fails to produce an agreement, conciliation services may be provided by officers and boards. Strikes and lockouts and the taking of strike votes are prohibited until the legislative procedures of negotiation and conciliation, laid down in the Act, have either been satisfied or the Minister has refused to appoint a Conciliation Board. Where a Board has been appointed, a strike or lockout may take place seven days after the report of the Board has been given to the Minister of Labour. Where the Minister neglects to appoint a Board, a strike or lockout may take place after 15 days or earlier if the Minister gives notice of refusal to appoint a Board.

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Labour Organization

Almost one-third of Canada's non-agricultural wage-earners are union members. Geographically, the distribution of this group follows closely that of the population generally. Thus, 61 p.c. of the total union membership is found in Ontario and Quebec, 14 p.c. in British Columbia, 13 p.c. in the Prairie Provinces, and 10 p.c. in the Maritimes. Each urban community with a population of 30,000 or more contains at least 2,500 union members. These communities account for three-quarters of the membership.

The majority of union members belong to unions affiliated with one of the larger central labour congresses. At Jan. I, 1952, approximately 75 p.c. of the membership was included in unions belonging to the Trades and Labour Congress of Canada (523,000 members) and the Canadian Congress of Labour (331,000 members). The greater number of unions affiliated with these two congresses are international organizations with headquarters in the United States. A further 89,000 workers belong to the Canadian and Catholic Confederation of Labour. About 12,000 are in unions affiliated only with United States labour congresses. The remainder of the 1,146,100 unionists belong to smaller labour groups or independent unions. One large group among the independent unions is the International Railway Brotherhoods, comprising 41,000 members.

The major function carried on by the unions is collective bargaining. To-day, more than 5,000 agreements are in effect throughout Canada. The agreements cover such matters as wage rates, hours of work, union security, vacations, and statutory holidays. In the major industrial groups, the percentages of workers under agreement during 1950 were as follows: mining 72·1 p.c.; manufacturing 49·1 p.c.; construction 43·9 p.c.; electricity and gas 51·3 p.c.; transportation and communications 77·3 p.c.; trades 7·0 p.c.; and services 10·8 p.c. There is little organization as yet among agricultural workers and, as a consequence, practically no collective bargaining takes place.

Unemployment Insurance

The Unemployment Insurance Act 1940, which came into operation in July 1941, provides for a contributory scheme of unemployment insurance and a nation-wide free employment service. The Act is administered by an Unemployment Insurance Commission, consisting of a Chief Commissioner and two Commissioners—one appointed after consultation with organized labour and one after consultation with employers. Regional and local officers strategically located across the country handle applications for employment and claims for unemployment insurance benefit.

All persons employed under a contract of service are insured unless specifically excepted. Exceptions include such employments as agriculture, fishing, domestic service, school-teaching, and those employed on other than an hourly, daily, piece or mileage basis with annual earnings exceeding \$4,800. Persons employed on an hourly, daily, piece or mileage basis are insured regardless of their earnings level. Employers and their insured workers contribute equally, the contributions being based on the wages or salaries earned. The Federal Government adds one-fifth of the total employer-employee contributions and pays administration costs.

Rates of Contribution and Benefit under the Unemployment Insurance Act

	Wei Contri	ekly hutions	Rates of Benefit				
Range of Earnings	Em-	Em-	Person Without a Dependant		Person With a Dependant		
	pioyer	Person	Daily	Weekly	Daily	Weekly	
While Earning in a Week-	cts.	ets.	\$	\$	Ş	\$	
Less than \$ 9.00	. 18	18	0.70	4.20	0.80	4.80	
\$ 9.00 to \$14.99	24	24	1.00	6.00	1.25	7.50	
\$15.00 to \$20.99.	30	30	1.45	8.70	2.00	12.00	
\$21.00 to \$26.99	36		1.80	10.80	2.50	1.5 -00	
\$27.00 to \$33.99	42	42	2.15	12.00	3.00	18-00	
\$34.00 to \$47.99	48	48	2.50	13 (00	3.50	21-00	
\$18.00 or more	.5.)	54	2.85	17-10	-4 = EH 3	24.00	

(Effective July 14, 1952)

During the calendar year 1951 there were 1,141,555 initial and renewal claims filed, 828,332 claimants were considered entitled to benefit on initial and on renewal claims, and benefit payments totalled \$72,769,192. Comparable figures for 1950 were 1,057,979 claims, 832,767 entitlements to benefit, and payments of \$94,500,207.

During the first six months of 1952, a total of 760,580 initial and renewal claims were filed in Local Offices across Canada. Claimants considered entitled to benefit on initial and on renewal claims numbered 568,465 while benefit payments amounted to \$72,883,220.



Tea reaches Canado in bulk and is packaged in Canadian plants for the retail market.

Persons Insured under the Unemployment Insurance Act, by Industrial Group, Sex and Province, as at Apr. 1, 1951

Industrial Group	Males	Females	Province	Males	Females
Agriculture. Forestry and logging. Fishing, hunting and trapping Mining, quarrying and oil wells. Manufacturing. Construction. Transportation, storage and communication. Public-utility operation Trade communication. Finance, insurance and real estate Service. Unspecified Communiced	1,690 105.420 320 90,870 880,400 167.700 276.310 34.140 208,840 187,600 5,440 148,240	$\begin{array}{r} 490\\ 2,360\\ 100\\ 280,680\\ 4,680\\ 4,680\\ 4,680\\ 44,520\\ 4,070\\ 188,420\\ 188,420\\ 138,220\\ 1,600\\ 38,500\end{array}$	Newfoundland P. E. Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia.	40,770 5,820 83,850 73,630 641,080 902,110 127,640 50,270 104,520 211,150	5,960 2,100 19,150 17,180 226,950 338,230 42,530 18,690 30,730 65,500
Totals	2,240,840	767,010	Totals	2,240,840	767,010

Provision was made for the payment of supplementary benefits during the period Feb. 28 to Apr. 15, 1950, and in subsequent years during the period January to March, to certain classes of contributors whose contributions would ordinarily be insufficient to establish benefit rights. Both employee and employer contributions were increased by one cent a day to provide these payments at rates equal to approximately 80 p.c. of the regular benefit rates. During the period for which supplementary benefit was payable in 1951, 75,219 persons were paid \$3,922,395.

The National Employment Service.—The Unemployment Insurance Commission also operates the National Employment Service rendering service to all employers of Canada and to all workers regardless of their insurance status. Unemployment insurance benefit is paid to eligible insured persons when it is certified that the Employment Service is unable to refer them to suitable work. The employment offices of the Commission, more than 200 in number, are linked in a national chain through a system that enables an employer to draw workers from distant areas when applicants are not available in his own locality, and which permits workers to seek employment in any part of Canada when there are no job vacancies near at hand.

Job-finding facilities are provided for persons in technical and managerial occupations and for applicants whose earning capacities have been impaired by physical or other handicaps. Facilities also exist for vocational guidance and counselling of young workers and other applicants entering the employment market for the first time. This activity is carried out in co-operation with school and educational authorities. In co-operation with the Department of Labour, the Employment Service has assisted in the establishment in employment in Canada of displaced persons and other immigrants, particularly from European countries.

In 1951 a total of 926,149 vacancies were filled by the Service for Canadian employers. Of these 735,248 were jobs for regular employees and 155,492 were casual placements; the number of persons transferred to jobs in other areas was 35,409.

Vocational Training

The Training Branch of the Department of Labour is responsible for the administration of the Vocational Training Co-ordination Act, 1942, which provides financial assistance to the provinces for various types of training agreed upon between the Federal Government and the provincial governments concerned.

Training programs and activities include apprenticeship training, the training of supervisors and foremen, trade training for unemployed persons who require such training to fit them for suitable employment, special programs for handicapped persons, and both general and specialized courses under the Youth Training Program for rural young people in agriculture, homecraft and handicrafts. Financial assistance is also given to nursesintraining and to university students in the form of grants or loans.

The cost of classes specially organized for the training of workers in defence industries is shared on the basis of 75 p.c. from the Federal Government and 25 p.c. from the province in which the classes are conducted. The full cost of organizing and operating trade-training programs for members of the Armed Forces and special classes for the rehabilitation of veterans is borne by the Federal Government.

The Federal Government is assisting in the organization and operation of vocational technical schools below university grade in each province for a ten-year period that started in 1945. The \$20,000,000 provided for this purpose is allocated according to the number of persons in each province in the age group 15 to 19 years. An additional \$10,000,000 was allotted to be used for capital expenditures for buildings and equipment before Mar. 31, 1952. Under the terms of agreement, the amount paid to a province must be matched from the provincial treasury. The total budget of the Training Branch for the year cuded Mar. 31, 1953, is \$5,481,000.

Government Annuities

The Canadian Government Annuities Act was passed in 1908 to authorize the issue of Government annuities, the purpose being to encourage and aid Canadians to make provision for old age. Any resident of Canada may purchase a Canadian Government annuity up to \$1,200, payable for life only, or for life with a guarantee period of 5, 10, 15 or 20 years, or for the lives of joint annuitants with continuation to the survivor. Immediate annuities may be purchased in a lump sum and are payable immediately. Deferred annuities, usually bought by employed persons, are purchased by payment of periodic premiums or a single premium, and are payable on retirement.

Annuities may be purchased under individual contracts or by members of groups under group contracts. A group contract is generally an agreement with an employer to implement a retirement plan approved by the Minister of Labour, the purchase money being, as a rule, derived jointly from the employer contributions and deductions from wages.

On Mar. 31, 1952, annuity income of \$26,341,603 was payable under 58,057 contracts. The number of deferred annuities being purchased by redividuals privately was 99,887. The number of group contracts was 915 covering 131,749 registered employees. The balance at credit of the Annuities Fund was \$675,931,703.



Transportation Communications

EXTENSIVE and efficient transportation and communication facilities are vitally necessary to Caaada, perhaps more so than to most other countries. Canada extends more than 4,000 unles from east to west and its main topographic barriers run north and south, tending to separate one section of the country from another. The relatively small population of 14,000,000 is mainly concentrated in a narrow uneven strip along the southern border but, as Canada's vast resources come under development, the movement is gradually northward. Distance to markets is always great, whether goods are destined for domestic consumption or for export. The task of keeping this vast area 3,845,774 sq. miles—with its scattered population, closely integrated by rail, road, water and air transportation facilities and by radio, telegraph, telephone and post office communication facilities is fundamentally important to Canada's economic development and to the maintenance of national unity and identity.

Transportation

The range of requirements for transportation services is so wide that no single medium can meet the demands of industry and the travelling public. The railways have served and will continue to serve as the principal facility of movement because only they have the capacity to supply cheap all-weather transportation in large volume over continental distances. But they are being faced to an increasing extent with selective competition from air, water and other land transport enterprises each of which is specialized by reason of advantages derived from its particular technique of operation.

The air lines, for example, are specialized in speed of movement which gives them a definite advantage in the transport of passenger and mail traffic. The air lines, too, are taking over the opening up of new areas for development, a job formerly carried on by railway and waterway facilities. But speed, lower capital outlays in instituting service and ability to reach otherwise inaccessible areas have been instrumental in establishing the air lines in this field. To-day there are many isolated mining properties that have been prospected, proven, developed and maintained by air transport.

Water carriers are specialized in low-cost bulk movement of goods in which speed of service is not a critical factor. Most of the movement in this field is over the Great Lakes-St. Lawrence waterways. About 50 p.c. of the lake tonnage is engaged in carrying grain and the balance carries ore, coal, pulpwood, limestone and general cargo. Also a fleet of specialized tankers now carries crude petroleum from the Head of the Lakes to the refineries at Sarnia. The oil pipe line itself, a relatively new development in Canada, can now be considered as a means of transportation that has a delinite advantage over other methods for the movement of petroleum and petroleum products where a very large volume is assured over a sufficient number of years to amortize the initial costs of construction.

TRANSPORTATION


Iron ore en route by rail from the mines at Steep Rock to the ore dock at Port Arthur, Ont., from which point it will be shipped by lake freighter to the steel mills of eastern Ontario.

The roads have, of course, since the earliest days, played an unparalleled part in local passenger and freight movement. Their service has gradually extended until now they form great arteries for both short- and long-distance commercial and passenger traffic. The relatively low cost of operation of commercial road vehicles makes them particularly suitable for short-hauf traffic moving in comparatively small volume.

Railways

There are two great railway systems in Canada, the Canadian National Railways, a government-owned system formed from the consolidation of several private and government lines in 1923, and the Canadian Pacific, a joint-stock corporation which began transcontinental operations in 1885. Each has a transcontinental line and a network of branch lines connecting the principal urban and rural centres of Canada. Each company constitutes a tremendous organization, serving the public in many fields of transportation and communication. The C.N.R. is Canada's largest public utility operating, in addition to its rail network and the multifarious associated facilities, a fleet of coastal and ocean-going steamships, a nation-wide telegraph service providing efficient communication between all principal points of Canada with connections to all parts of the world, express facilities in Canada and abroad, a chain of hotels, a scheduled trans-Canada air service and a transatlantic air service. The C.P.R. in addition to its far-flung railway operations, also has a fleet of inland, coastal and ocean-going vessels, a north-south air line system which is one of the world's greatest air freight carriers, a transpacific air-line service to the Orient and the Antipodes, a chain of year-round and resort hotels, a cross-Canada telegraph network, a world-wide express service, and a truck and bus transport service.

These two transportation systems co-operate, under government supervision, in avoiding unnecessary duplication of railway service. They have long-standing agreements for the joint use of certain terminals, joint running rights, joint switching and other types of operation, use of each other's lines in cases of necessity, as well as joint ownership of property. The Board of Transport Commissioners controls freight and passenger rates as well as other matters relating to the construction, operation and safety of railways.

The combined length of line operated by these two companies, together with that owned by a number of smaller companies, was 58,150 miles in 1951. Gross operating revenues of all railways amounted to \$1,088,583,789 and operating expenses were \$977,577,062 compared with \$958,985,751 and \$833,726,562 in 1950. The 64,300,417,559 ton-miles of freight carried in 1951 was an increase of almost 8,763,000,000 ton-miles over 1950. Passengers carried numbered 30,995,604 compared with 31,139,092 in 1950 and employees averaged 204,025 as compared with 190,385.

Although actual track mileage has increased very little since the 1920's, great strides have been made in efficiency and speed of service. Since 1928 the mileage obtained per serviceable freight-car day increased from 33 to 45 and the daily mileage of serviceable freight locomotives rose from 107 to 152. The average carload increased from 25 to 30 tons, while the average freight train increased from 1,409 to 1,749 tons. Average freight train speed rose from 13 to 16 miles per hour and gross ton-miles per train hour increased from 18,500 to 28,100. Thus, the railways now furnish 58 p.c. more freight transportation with 12 p.c. fewer locomotives and $12 \cdot 4$ p.c. fewer freight cars and, in terms of quality, the average speed has been raised by 23 p.c. This improvement was accompanied by a significant decline in fuel consumption and the use of relatively less manpower. The most important recent development in motive power was the introduction of the diesel locomotive. The total number in service at the end of 1951 was 574.

Urban Transport Services

Widespread changes in urban transport systems have been taking place in recent years. Electric street railways have been replaced or supplemented in



Intersection of Robson and Granville Streets, Vancouver, B.C.



Freedom to drive to the curb or poss standing traffic makes electric tralley-buses preferable in congested traffic areas, and their almost total silence of operation and speedy pick-up makes them acceptable in residential areas.

many Canadian cities by motor-buses and trolley-buses, and a large number of inter-urban electric lines have been abandoned. In most cases urban and interurban transportation systems are owned and operated by the municipalities.

In 1951, urban transit systems carried 1,428,121,000 passengers compared with 1,457,202,000 in 1950. Inter-urban services carried 100,927,879 passengers, 1,935,199 fewer than in the previous year. There has been a definite downward trend in traffic on transit facilities since 1948. One contributing factor is the great increase in the number of new motor-vehicles available in Canada. A large proportion of the 2,900,000 private passenger vehicles in use, including motor-cars, motorcycles and bicycles, is competitive with the transit systems. The recent rapid development of suburban areas has had the effect of encouraging the purchase of private cars as well as increasing the operating costs of transit company service. At the same time, the advance in fares made necessary mainly because of this suburban expansion has discouraged to some extent the previously profitable short-haul city traffic. General fare advances were responsible for the increase in revenue from \$152,029,085 in 1950 to \$158,805,912 in 1951, since patronage dropped 2 p.c. in the year. Though the industry generally showed little profit in 1951, considerable amounts continued to be spent on modernization and improvements.

Roads and Highways

Canada, at the end of 1950, had 166,899 miles of surfaced road and 400,256 miles of non-surfaced road. Of the surfaced road, 142,022 miles were gravel, 22,775 miles were bituminous-surfaced and 2,045 miles concrete.

All roads, except those in the Territories, the National Parks and Indian Reservations, which are the responsibility of the Federal Government, are under the jurisdiction of provincial and municipal authorities. Of the almost \$278,000,000 spent on new construction and maintenance of roads, bridges, ferries, etc., in 1950, \$243,000,000 was supplied by the provincial governments and the remainder by the federal and municipal governments. To appreciate fully the extent of usage of public roads and the high cost of maintenance, it must be realized that motor-vehicle registrations have more than doubled in the past 15 years, rising from 1,240,124 in 1936 to 2,872,420 in 1951. In addition to domestic traffic, Canadian highways carry millions of foreign tourist cars annually, more than 7,277,000 entries having been recorded in 1951. Again, apart from wear and tear by vehicles, the natural climatic conditions are severe and play havoc with the roadways in the form of snow, frost, floods, etc.

The construction of a national coast-to-coast highway was sanctioned in December 1949, each participating province undertaking to construct and maintain that portion of the highway, other than on federal lands, within its borders. The general administration and co-ordination of the program is the responsibility of the Federal Government, which also shares with each province the cost of new construction to a maximum of 50 p.c. as well as part of the cost of existing highways taken into the plan.

All the provinces, except Quebec, had signed agreements with the Federal Government by the spring of 1952. The mileage of the route selected by the participating provinces totals 4,580 miles. By the end of March 1952, 4,258 miles were considered passable for vehicular traffic, but only 1,986 miles were paved.

Sections of the road system which will eventually be linked together to form the nationwide Trans-Canada Highway are gradually being completed. However, mojor feats of engineering still face the road builders blasting 150-foot cliffs along the Fraser River, tunnelling through British Columbia's mountains and bulldozing through timber and rock barriers in northern Ontario.



Motor-Vehicles

There were more motor-vehicles registered in Canada in 1951 than ever before. Of the 2,872,420 registrations—compared with 2,600,511 in 1950— 2,097,594 were passenger cars and 774,826 commercial vehicles, including 688,784 trucks, 8,659 buses and 77,383 other vehicles. Registrations in the different provinces were as follows: Newfoundland, 20,058; Prince Edward 1sland, 16,896; Nova Scotia, 105,262; New Brunswick, 83,023; Quebec, 500,729; Ontario, 1,205,098; Manitoba, 171,265; Saskatchewan, 215,450; Alberta, 259,841; British Columbia, 291,417; and the Yukon and Northwest Territories, 3,381.

Provincial revenues from motor-vehicle registrations and licences reached a high of \$73,707,694 in 1951, and provincial gasoline tax revenues amounted to \$178,505,307. Taxable gasoline sold, most of which was consumed by motor-vehicles, amounted to 1,528,905,858 gal. in 1951.

The apparent supply of new passenger vehicles in 1951 amounted to 282,920 cars, 58,221 less than in 1950. The 1951 figure includes 243,155 cars made for sale in Canada plus 42,631 imports less 2,866 re-exports of imported cars. In that year, 275,686 passenger cars valued at \$683,182,846 were sold, as well as 109,962 trucks and buses valued at \$266,976,665. Only 33 p.c. of the number and 20 p.c. of the value of these vehicles were financed by finance companies. The average financed value was \$1,514.

Motor-Carriers.—The movement of freight and passengers by motorvehicle has assumed great importance in the national transportation picture during the past quarter-century. Since the end of World War II, particularly, motor-vehicle traffic has made giant strides forward with the improvement in equipment and the extension of hard-surfaced highways.

Motor-carrier statistics do not represent a complete coverage of the industry, which is made up predominantly of small businesses with hundreds of licensees, each operating one or two trucks. Their bookkeeping is often sketchy and, at the same time, amalgamations and retirements are numerous, making a census difficult. In 1949, 3,493 carriers reported and, of these, 1,830 were small operators with revenues under \$8,000 for the year, most of them driver-owner operated. Eight hundred and forty carriers had revenues of between \$8,000 and \$19,999 and \$23 had revenues of \$20,000 or over.

ltem		1946	1947	1948	1040
Investment in land, buildings,					
and equipment	- 8 -	72,725,752	91,278,837	1011, 116, 005	119,207,606
Revenue	\$	102,241,162	118, 139, 496	132, \$79,445	152,841,541
Equipment-					
Trucks	No.	6.652	7.183	7.858	7,980
Tractors, semi-trailer,	64	2.387	2.657	2,867	3.875
Trailers	14	1.368	1.791	1.694	2.314
Buses	1.4	3.824	1,125	4,1190	4.612
Passengers carried		261.041.676	281.651.437	295,671,927	376, 187, 196
Freight, inter-city and rural	ton	11,014,384	13.071.060	13,843,387	14, 1121, 489

Statistics of Motor-Carriers, 1946-49

[†] Increase due largely to the inclusion of two companies formerly reported as electric railways. Freighters in the lower St. lawrence, heading for the open sea. The Great Lakes. St. Lowrence system is the busiest waterway in the world.



Shipping

Shipping on the waterways of Canada, including canals, inland lakes and rivers, is open to all countries of the world on equal terms except in the case of the coasting trade.

During 1951, customs officials reported 118,875 vessel arrivals in foreign and coasting service as compared with 115,485 in 1950 and 112,577 in 1949. It was, relatively, the busiest year since 1940 when a war-inspired peak of 124,453 arrivals was recorded. Registered net tonnage of vessels arriving amounted to 108,311,140 tons, the heaviest on record; the tonnages arriving at the five major ports were: Vancouver, 17,752,313 tons: Montreal, 8,251,462 tons; Victoria, 7,869,598 tons; Halifax, 5,040,478 tons; and Quebec, 4,051,591 tons. The total tonnage of all cargoes loaded and unloaded in foreign trade at all Canadian ports amounted to 65,549,193 tons of which 33,133,080 tons or 50-5 p.c. was carried by vessels of Canadian registry.

As in former years, the bulk of foreign trade was with the United States which accounted for 40,616,881 tons, or 62 p.c. of the total. Canadian vessels carried three-quarters of this water-borne commerce. In trade with other countries, however, Canadian shipping fared less well, carrying only 2,367,726 tons of a total of 24,932,312. Most of this freight was carried by vessels of the United Kingdom, United States, Panama, Norway and Sweden.

Commodities imported amounted to 38,269,394 tons, an advance of $3\cdot 5$ p.c. over the 1950 total. This increase, mainly due to larger quantities of bauxite, petroleum and products, iron ore, limestone and general merchandise, was distributed among the three geographical regions as follows: Atlantic was down $9\cdot 4$ p.c., Great Lakes was up $11\cdot 4$ p.c., and Pacific up $4\cdot 8$ p.c.

Exports rose to 27,279,799 tons, an increase of 6,051,869 tons or $28 \cdot 5$ p.c. over the 1950 total of 21,227,930 tons. Commodities which were exported in larger quantities, with the 1950 totals in parentheses, include: wheat, 6,620,022 tons (4,253,260); oats, 668,562 tons (158,380); barley, 1,002,246 tons (334,235);

TRANSPORTATION

iron ore, 3,382,146 tons (2,362,584); pulpwood, 1,934,906 tons (1,000,398); as well as wood-pulp and asbestos and other ores.

The gross investment in vessels, docks, wharves, warehouses, land and buildings, and equipment reported by the water transportation industry in 1950 amounted to \$230,632,000. Gross income received from this investment was \$190,773,000. The industry employed 19,905 workers and paid out \$40,100,000 in salaries and wages, an average of \$2,015 which did not include the value of meals and lodging estimated at \$5,746,000.

Harbours

Eight of the principal harbours—Halifax, Saint John, Chicoutimi, Quebec, Three Rivers, Montreal, Churchill and Vancouver—are administered by the National Harbours Board. Seven other harbours are administered by commissions that include municipal as well as federal appointees. In addition, there are about 300 public harbours, all of which come under the supervision of the Department of Transport.

Facilities provided to enable interchange movements include the necessary docks and wharves, warehouses, special equipment for handling bulk freight, harbour railways, grain elevators, coalbunkers and oil-storage tanks and, in some cases, dry-dock accommodation.

The freight loaded and unloaded at a larger port from sea-going vessels frequently constitutes a surprisingly small part of the total freight handled. Usually, the volume coming in or going out by coasting vessels is larger. It is not possible to obtain statistics of freight handled in all ports and harbours, but the water-borne cargo loaded and unloaded at the six principal ports in 1951 was as follows:—

	Inward	Outward
	tons	tons
Montreal.	6,797,082	8,119,958
Vancollver.	5,961,684	5,196,216
Halifax	2,296,266	1,582,009
Saint John	1,028,729	1,328,836
Three Rivers	2,636,993	557.021
Quebec	1,948,099	863,951

Operating revenues and expenditures of these six harbours in 1951 amounted to \$14,563,154 and \$8,782,347, respectively.

Canals

There are six canal systems in Canada: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary via the Richelieu near Lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to Lake Huron, and (6) from the Atlantic Ocean to the Bras d'Or Lakes in Cape Breton. These canals open to navigation from the Atlantic about 2,000 miles of waterways.

The St. Lawrence River, improved by a system of canals above Montreal, and the Great Lakes with their connecting rivers and canals, form one of the busiest waterways in the world. The canals constructed between Montreal and Lake Superior include the Lachine, Soulanges, Cornwall, Farran's Point, Rapide Plat, Gallops, Welland Ship and Sault Ste. Marie. Their aggregate length is 75.92 miles. The 31 locks on these canals overcome a rise in level of 554 feet. The canals on the St. Lawrence have a navigable depth of up to 14 feet but between the lakes the navigable depth is 25 feet, permitting the passage of large lake freighters from the Upper Lakes to Prescott on the St. Lawrence. Plans are under way for deepening the St. Lawrence channel to permit these freighters passage to the Atlantic and to allow large sea-going vessels to ply the Great Lakes.

In 1951, the tonnage of traffic using all three canals—the St. Ławrence, the Welland Ship and the Sault Ste. Marie—was 591,442. Traffic using the St. Lawrence system only amounted to 5,256,275 tons. Vessels moving between Lake Ontario and Lake Superior carried 3,968,414 tons. Of the 29,325,034 tons of freight passing through Canadian canals only during 1951, 87 p.c. was transported in Canadian vessels. For the Welland Ship Canal, the percentage was 79 and for the St. Lawrence canals, 97. Domestic vessels carried all freight passing through smaller canals.

Civil Aviation

The control of civil aviation in Canada is under the jurisdiction of the Federal Government. The Department of Transport deals with the technical side which includes matters of registration of aircraft, licensing of airmen, establishment and maintenance of airports and facilities for air navigation, air traffic control, accident investigation, and the safe operation of aircraft. Certain statutory functions with respect to the issue of licences to operate commercial air services and the subsequent economic regulation of commercial air services in accordance with the dictates of the public interest are assigned to the Air Transport Board.



One of Canada's largest grain carriers at Port Colborne, the Lake Erie entrance to the Welland Ship Canal.



Trans-Canada Air Lines North Star skyliner over Ottawa and Hull, These aircraft serve Canada on international, transcontinental and transatlantic routes.

Air transport services are grouped into two broad classes: (1) Non-scheduled services, and (2) Scheduled services.

Non-Scheduled Services. Non-scheduled services include specific pointto-point services not on regular time schedules; charter and contract services; and specialty services such as crop dusting, aerial photography, surveying, forest fire patrol, timber cruising and fish cultivation.

The non-scheduled services provide access to sections of Canada that are inaccessible by other means of transportation, and also act as feeders to the scheduled air lines. Vital to the exploration and development of the remote parts of Canada, the use of aircraft has made many northern projects economically sound and physically possible. Journeys which previously required months of slow and arduous travel by canoe and dog-team can now be accomplished in a few hours.

Millions of tons of supplies, equipment and machinery have been transported by air to those remote areas that would otherwise have had to await the huilding of many miles of roads or railways for their development,

At Mar. 31, 1952, there were 165 commercial operators licensed to conduct non-scheduled and specialty services, and there were 109 flying schools and flying clubs licensed to conduct flying training.

Scheduled Services.—*Trans-Canada Air Lines.*—During the calendar year 1951. Trans-Canada Air Lines provided air transportation for 980,000 passengers, a record volume of traffic in the company's 15-year history. The total revenue mileage flown increased by 11 p.c. over 1950, with an additional 16-p.c. increase in revenue ton-miles. Growth of air transportation reflected the general expansion of Canadian economy, and the air line met the increased public demand for air travel by increasing flight frequency in existing routes rather than by geographical expansion of operations. The only exception was the inauguration of service between Montreal and Paris, which established, for the first time, a direct link between Canada and continental Europe.

At Dec. 31, 1951, Trans-Canada Air Lines was providing service for passenger, mail and commodity traffic over nation-wide routes totalling 9,126 miles, and overseas routes totalling 8,688 miles, touching at England, Scotland, Ireland, France, Bermuda, the Bahamas, Jamaica, Barbados and Trinidad.

In the domestic service, 949,849 revenue passengers, 4,094,521 ton-miles of mail, and 4,063,420 ton-miles of commodity traffic were carried in 1951-52 as compared with 838,271 passengers, 3,682,812 ton-miles of mail, and 3,876,670 ton-miles of commodity traffic in the previous year.

Overseas flights during 1951-52 accommodated 46,674 passengers, 542,156 ton-miles of mail, and 2,018,958 ton-miles of commodity transport, compared with 40,452 passengers, 409,998 ton-miles of mail, and 1,689,189 ton-miles of commodity transport in 1950-51.

Gander Airport, N'Fld., the most strategic paint on the trans-oceanic air route. It serves mainly as a refueling and service stop for all air traffic in the North Atlantic area which includes the United States, Bermuda, Canada, Europe and the Azores.

THE NEW YORK AND A

Canadian Pacific Air Lines Limited.—This company operates scheduled domestic services with a total of 9.525 route miles together with overseas services from Vancouver to Australia, New Zealand and the Orient totalling 15,295 route miles.

The 15 scheduled domestic services operated by CPAL supply regular transport between the larger cities and the far northern terminals and intermediate points. The overseas services comprise a fortnightly service from Vancouver to Australia and New Zealand via San Francisco, Honolulu, Canton Islands and Fiji, and a weekly service to Tokyo and Hong Kong via the Great Circle.

Domestic operations during the year ended Mar. 31, 1952, with the preceding year's figures in parentheses were: 5,305,779 (4,753,788) revenueniles, 68,431,051 (53,544,691) passenger-miles, 1,087,307 (1,072,892) cargo ton-miles and 572,644 (399,751) mail ton-miles were flown, and 177,476 (152,379) revenue passengers were carried.

Overseas operations during the same period, with preceding year's figures in parentheses, were: 2,666,247 (1.734,256) revenue-miles, 54,084,388 (34,113,629) revenue passenger-miles, 143,217 (113,507) cargo ton-miles and 91,285 (43,912) mail ton-miles were flown, and 12,650 (6,417) revenue passengers were carried.

Maritime Central Airways Ltd.—Operates scheduled services between Prince Edward Island, New Brunswick and Nova Scotia, and between the Magdalen Islands and Prince Edward Island.

Queen Charlotte Airlines Ltd.—Operates scheduled services connecting Vancouver and Victoria with points north in the Pacific coastal area.

Central Northern Airways Ltd,-Operates scheduled services out of Winnipeg into the mining area of northwestern Ontario.

Rimouski Airlines Ltd.—Operates a scheduled service on the north shore of the St. Lawrence River.

International Agreements.—Canada's position in the field of aviation as well as its geographical location makes imperative its co-operation with other nations of the world engaged in international civil aviation. Canada played a major part in the original discussions that led to the establishment of the International Civil Aviation Organization now with permanent headquarters at Montreal. Canada has actively participated in the deliberation of ICAO and its many committees and, as a result, has secured the benefits of the joint knowledge and experience of all Member States in the technical and economic aspects of every phase of civil aviation.

In recent years Canada has been a signatory to agreements concerning civil aviation with Australia, Belgium, Denmark, France, Ireland, The Netherlands, New Zealand, Norway, Portugal, Sweden, United Kingdom and United States. On the North Atlantic, Canada was given extended rights for traffic from Ireland, Iceland and the Azores, and also rights in Brussels by the Belgian Government and landing rights in France by the French Government.

On the Caribbean route, rights have been obtained in Florida from the United States and for points of call in British territories. In the Pacific, agreements provide for calls at Honolulu, Fiji and Hong Kong. In the transborder field, TCA has the right to operate from Montreal to New York, and The aeroplane is extending the concept of Canada farther and farther northward. From Yellowknife to Ungava, millions of pounds of freight are now moving in and out of the hinterland over the highways of the air. Many of the large mining and power developments under way are dependent almost entirely on the aeroplane which has demonstrated its ability to carry everything required to build a railroad, to bring a mine into production or to create and maintain an isolated community.



from Montreal and Toronto to the Bahamas and Jamaica with stops at Tampa or St. Petersburg, Florida. Operating certificates have been issued to 14 Commonwealth and foreign scheduled services flying into Canada.

Telegraphs and Cables

In 1951 there were seven telegraph systems operating in Canada, four in conjunction with the railways, two operated by the Federal Government, and one small system owned and operated independently. One United States company uses lines crossing Canadian territory.

On Apr. 1, 1950, a new Crown corporation, the Canadian Overseas Telecommunication Corporation, took over the operations and external telecommunications assets in Canada of the Halifax and Bernudas Cable Company, the Pacific Cable Board, Cable and Wireless, Ltd., and the Canadiam Marconi Company. This new Crown corporation was sanctioned by Parliament in 1949 to establish public ownership and consolidation of the radio and cable systems in line with the recommendations of the Commonwealth Telegraphs Conference held in Australia in 1942. The Corporation now operates 23,826 nantical miles of cable and a trans-oceanic wireless system. In addition to the Crown corporation, two private companies operate cable and wireless systems. In all there are 35 cables between Canada and the United States, England, Ireland, the Azores, Australia, New Zealand, St. Pierre and Miquelon, and Bermuda. Two cables link North Sydney and Canso, N.S., three cables North Sydney and Newfoundland, and three cables Canso, N.S., and Newfoundland.

These systems have 430,050 ntiles of telegraph wire in Canada, 5,298 miles outside of Canada, and 62,942 nautical miles of submarine cable between Canada and other countries. Multiple circuits in 1951 produced 1,263,304 miles of channels for telegraphic use. In the same year, a total of 21,815,837 telegrams and 1,785,836 cablegrams, excluding messages between foreign countries, were handled by these systems.

Telephones

At the end of 1951, Canada had 3,113,766 telephones or 22 per 100 population. The estimated number of telephone calls on all systems in Canada reached a peak of 5,273,644,419 in 1951, representing an average of 1,694 calls per telephone or 376 calls per head of population. Long-distance calls, too, attained a new record at 127,406,419, and calls to other countries were generally higher. Canadians are currently within telephone reach of 87 countries and connections are possible with nearly 96 p.c. of all telephones in the world.

Of the 2,904 telephone systems operating in 1951, no fewer than 2,255 were co-operatively owned systems serving the rural districts in most provinces. The largest of the 448 stock companies were the Bell Telephone Company and the British Columbia Telephone Company; the former, with its subsidiaries, operating in Ontario, Quebec and New Brunswick, reported 62 p.c. of all telephones in Canada. The provincial systems of the Prairie Provinces reported 11 p.c. of the total. Provincial and federal systems serve outlying districts where no commercial service is available.

Since the end of the War, the operations of the telephone companies have grown impressively and this progress has been paralleled by some remarkable A switchboard operator in the Canadian Government exchange, through which all government telephones are connected to outside lines.



technical advances. The adaptation of the principles of radio transmission, introduced in 1928, has been extended so that to-day the standard carrier systems transmit 16 separate conversations on open wire and 12 on cable. Special equipment has been installed to permit the use of cable carrier for distances of 20 to 200 miles; previously it had been used only on longer routes.

Carrier has added greatly to the capacity of the country's long-distance network, and most long-distance calls are now put through while the caller holds the receiver. Expansion is also taking place in operator toll-dialing, whereby a long-distance operator in one city may dial the actual number required in another city belonging to the same inter-toll dialing group, instead of passing the call to an operator.

There have been advances also in radio-telephony. Mobile telephone service is now provided in several Canadian cities and a number of microwave units have been set up since the War. These are useful as substitute submarine cable over short distances—between Prince Edward Island and the mainland, for example, and across the St. Lawrence at Quebec city. Canada possesses an intricate, efficient telephone network which permits the average Canadian to make more use of telephone service than a citizen of most other countries in the world.

Capital investment in telephone systems amounted to 909,581,399 in 1951 and employees, numbering 47,387, received \$117,677,652 in salaries and wages.

Radio

At Oct. 1, 1952, there were operating in Canada 157 standard broadcast band stations, of which 20 were Canadian Broadcasting Corporation stations and 137 were privately owned stations. In addition there were 35 shortwave stations, 27 of which were CBC and 8 privately owned, together with 5 CBC and 31 privately owned frequency-modulation stations.

COMMUNICATIONS



The entropy finger enans one minute to go before the start of another foreign-language program over the CBC's International Service. Here members of the CBC Spanish-language stoff are about to broadcost to Latin America and the Calibbean.

Canadian Broadcasting Corporation. The publicly owned Canadian Broadcasting Corporation is operated as a national public service; privately owned stations provide local community service, and many are affiliated with the CBC networks. As constituted under the Broadcasting Act, the CBC is responsible to Parliament through a Minister of the Crown. From time to time the work of the CBC is reviewed by a special committee of the House of Commons. The last such committee, reporting in December 1951, endorsed the earlier recommendations of the Royal Commission on National Development in the Arts, Letters and Sciences, which had made an exhaustive study of broadcasting in Canada. The Commission had recommended that the CBC continue to have direction and control over radio broadcasting in Canada, and that it have the same control over television.

CBC policy is determined by a Board of 11 Governors who act as trustees of the national interest in broadcasting. The Governors, representing the main geographic divisions of Canada and various facets of Canadian life, are appointed by the Governor General in Council for three-year terms. The Chairman is appointed for a ten-year term on a full-time basis. Day-to-day operations and administration of the system are the responsibility of a General Manager and an Assistant General Manager. The CBC's income for radio broadcasting is derived from an annual statutory grant and from income from commercial programs. Less than 24 p.c. of the total hours of network broadcasting is devoted to commercial programs.

Radio Broadcasting Facilities and Program Service.—The CBC operates 56 transmitters for its National Service and two for the International Service. Twenty are standard band AM stations, and eight of these are of 50,000 watts, to give good service to rural areas. Five are frequency-modulation transmitters: four are shortwave transmitters (used on 11 frequencies) to reach remote areas: 27 are low-power "repeater" transmitters operating automatically with the network lines and serving sparsely settled areas. Twenty additional repeater stations are to be installed. CBC network service reaches more than 95 p.c. of the radio homes in Canada. Program service extends from St. John's, N'f'ld., in the east to Vancouver Island in the west. The Trans-Canada and Dominion networks serve English-speaking listeners from sea to sea, and the French network serves French-speaking listeners in the Province of Quebec, northern Ontario and in Western Canada. One hundred and eleven of the privately owned stations in Canada function as network outlets.

Canada's system of broadcasting is designed to overcome the problems posed by great distances, a scattered population, two official languages and seven of the world's 24 time zones. Programs are planned regionally as well as nationally on CBC networks not only to provide as complete a service as possible during the broadcasting hours of each region but also to fulfill the regional needs and tastes of the listening public in various parts of the country. National programs are planned with a view to uniting the cultural tastes and interests of Canadians and to provide good radio entertainment from each of the main program production centres.

Through CBC facilities, schools across Canada are provided with at least 30 minutes daily of broadcast programs specifically planned by departments

Studio scene as the CBC Light Opera Company presents a Gilbert and Sullivan operetta over the air.





CBC National School Broadcasts are planned by experts to suit classroom needs. They supplement the teacher's efforts with dramatizations of historical happenings, nature study descriptions and character studies of important Canadian personages.

of education to meet classroom requirements. In addition, national school broadcasts, prepared with the advice of the departments of education and teachers and financed by the CBC, are heard Fridays. Canada's agricultural population is served by the most complete service of farm broadcasts in the world, including the weekly *National Farm Radio Forum*. A comparable program, *Citisens' Forum*, provides a national platform for discussion of topics of current interest. Programs of interest to women are scheduled for afternoon listening, there are special children's programs for out-of-school listening, and time is allotted regularly for religious programs. Free-time political broadcasts arranged with the parties concerned are heard both nationally and regionally. For listeners with discriminating tastes in programs, the special *CBC Wednesday Night* program offers a full evening of drama, music, talks, poetry, recitals and performances by such groups as the CBC Opera Company.

Television.— The first two CBC television stations began regular program service early in September 1952—CBLT in Toronto, Channel 9, and CBFT, Montreal, Channel 2. Both stations are fully equipped centres for the production of Canadian television programs, and began operations with a varied schedule of plays (ranging up to 90-minute productions), variety shows, films, discussion programs, televised music programs and sports. CBFT, Montreal, transmits programs in both English and French—CBLT, Toronto, in English only.

To launch Canadian television, the CBC arranged three loans from the Government, totalling \$8,000,000. This money served to construct the first two program production centres and stations (in the country's two largest The beginning of regular CBC televisian transmissions from Taronto and Montreal brought to a climax many months of planning, construction, training and rehearsing. These two stations serve approximately 30 p.c. of the population of Canada. Plans call for stations at Vancauver and Winnipeg in Western Canada, in the Ottawa, Windsor, Hamilton and London areas of Ontario and at Quebec city, which will raise the coverage to 50 p.c. CBC

population centres); to hire and train the staffs and buy the necessary technical facilities; to pay for training productions and test telecasts; and to provide funds for the first two months of regular service. It also provided for a start on a third television station, at Ottawa, and for payments for the use of a network link which will join the three stations together and provide a connection with United States television systems.

CBC International Service.—The International Service is operated by the Canadian Broadcasting Corporation on behalf of the Government of Canada. Its finances are provided wholly by a parliamentary appropriation; it uses none of the revenue of the CBC designated for its service to Canadian listeners. The policies of the International Service are formulated through consultation with the Department of External Affairs and with an Advisory Committee on which are represented the Department of External Affairs, the Department of Trade and Commerce, the Privy Council, the National Film Board and the CBC.

Since its inception in February 1945, the International Service of the CBC has been steadily expanding and programs are now heard abroad in 15 languages. The *Voice of Canada* Russian-language programs are timed to coincide with those of the British Broadcasting Corporation and the *Voice of America*. The CBC's shortwave transmitters at Sackville, N.B., send out the strongest signal to be heard in Europe from North America.

A monthly program schedule designed to provide factual information about Canada is distributed free to listeners on request. Two editions are published, one for Europe and one for Latin America and the Caribbean. They have a combined circulation of more than 100,000.

In addition to broadcasting Canadian programs some 14 to 15 hours daily, an increasing number of programs are relayed over national networks in foreign countries. Programs are also relayed daily to Canadian forces in Korea and Europe. An important function of "Radio Canada" has been the coverage of United Nations activities by means of reports and interviews by the CBC correspondent and the foreign-language correspondents at UN headquarters at New York. The CBC International Service also places its transmitters at the disposal of the United Nations Radio Division for the broadcasting of its official reports and commentaries to Europe and to the south Pacific.

Postal Service

Postal service in Canada is provided from Newfoundland to the west coast of Vancouver Island, and from Pelee Island, Ont., the most southerly point of Canada, to settlements and missions far within the Arctic.

Various facilities are used in the transporting of mails—railways, aircraft, motor-vehicles and inland and coastal steamers—but the principal means is the railway mail service which operates on about 40,000 miles of track and covers an annual track mileage exceeding 47,000,000. There are about 1,343 railway mail clerks employed in sorting and exchanging mails while *en route* in postal railway cars and in steamers serving the coastal settlements of Newfoundland. The far northerly points receive mail by steamer, air-stage service and aircraft courtesy flights.



Bagging letter mail for shipment by rail.

> Canada's air-mail system provides several flights daily and constitutes a great air artery from St. John's, N'f'ld., to Victoria, B.C., intersected with branch and connecting lines radiating to every section of the country and linking up with the United States air-mail system. All first-class domestic mail up to and including one ounce in weight is carried by air between one Canadian point and another, whenever delivery is thus facilitated. There are, altogether, approximately 31,653 miles of air-mail and air-stage routes in Canada.

> Post offices are established for the transaction of all kinds of postal business at places where the population warrants, and letter-carrier delivery is given in 126 cities and towns. An extensive organization distributes mail to rural districts: 5,200 rural mail routes are in operation covering 120,750 miles of road and serving 397,084 rural mail boxes, and the majority of these receive daily service. Rural mail routes are generally circular in pattern and average 23 miles in length. Some 4,700 side services are in operation to transport mail between post offices, railway stations, steamer wharves and airports, while 3,050 stage services operate to service post offices not situated on railway lines. In cities and larger towns there are approximately 500 services conveying mails to and from sub post offices, postal stations, and railway stations, collecting mails from street letter boxes and delivering parcel post. In all, approximately 13,450 land mail service couriers travel in the neighbourhood of 50,000,000 miles annually. Land mail services are performed under a contract system, the contracts being awarded to the lowest tenderer who must provide all the requisite equipment.

> An estimated 2,932,000,000 items of mail are delivered annually, requiring the utilization of the most up-to-date mechanical handling devices. There were, in all, 12,390 post offices and 11,320 money-order offices in operation across the country on Mar. 31, 1951. For the year ended on that date, postage paid by means of postage stamps amounted to \$57,178,573 and the gross postal revenue was \$122,278,760. Post Office Savings Banks in operation in all parts of the country had combined deposits of \$38,031,232.



The wheat lands of the prairies in 1952 produced the greatest crop this nation has ever known, straining elevator capacities. Conveyor tubes are sending rivers of golden wheat rushing into ships' holds bound for overseas markets and Canadian mills.

Domestic Trade

The term "domestic trade", taken in a broad sense, encompasses a very wide range of activities. It includes all values added to commodities traded by agencies and services connected with the transportation, storage, distribution and sale of goods such as railways, steamships, warehouses, wholesale and retail stores, financial institutions, and so on. It also takes into account various professional and personal services pertaining to medical attention, education, entertainment, etc., required in the every-day round of living. However, in this small publication, only certain phases of the merchandising field can be covered, which information is followed by brief data on wholesale prices and the consumer price index.

Merchandising

A complete coverage of the multiplicity of establishments making up Canda's distributive system is attempted only in census years. The census results are supplemented by statistical measurements of month-to-month and year-to-year changes in the more important segments of distribution by means of sample surveys in some fields and by complete coverage in others. For the 1951 Census of Distribution, questionnaires were sent out to all wholesale, retail and service establishments early in 1952 to cover 1951 operations. The results will be known and made available in bulletin form early in 1953.

Retail Trade.—From Canadian fields and farms, forests, mines, stockyards, factories and mills, from the scaports and across the International Boundary commodities travel through innumerable channels to converge finally on the



Constant investigation is carried on by establishments concerned with the transportation and storage of perishable foods in order thal they may reach the cansumer market in the best possible condition, no matter how distant that market may be from the specialized producing district. retail outlets before being dispersed again to the consuming public. Thus the retailer occupies a primary place between producer and consumer and is the most important link in the distribution chain.

The total value of retail trade passed the \$10,000,000,000 mark for the first time in 1951 and continued to a still higher dollar level in 1952, particularly toward the latter part of the year. In the latest period, sales of motor-vehicles, furniture, household appliances and radios showed greater increases than sales of non-durable merchandise items. Estimates for some of the more important trades and sales by provinces are given in the following tables.

Retail Store Sales for Selected Types of Business, 1941, 1951 and 1952

Turne of Rusiness		Sides	Percentage	Percentage Change-		
Type of Dustriess	1941	1951	1952	1951-52	1941-52	
	\$'000,000	\$*000,000	\$'000,000			
Grocery and combination stores. Meat stores. Country general stores. Department stores. Variety stores. Motor-vehicle dealers. Garages and filling stations. Men's clothing stores. Family clothing stores. Shoe stores. Hardware stores. Lumber and building materials dealers. Furniture stores. Appliance and radio stores. Restaurants. Coal and wood dealers.	$\begin{array}{c} 567\cdot 3\\ 80\cdot 0\\ 213\cdot 3\\ 377\cdot 8\\ 85\cdot 2\\ 205\cdot 1\\ 70\cdot 9\\ 73\cdot 8\\ 71\cdot 1\\ 44\cdot 0\\ 73\cdot 1\\ 79\cdot 8\\ 64\cdot 1\\ 45\cdot 9\\ 126\cdot 6\\ 98\cdot 6\\ 98\cdot 6\\ 100\cdot 0\\ \end{array}$	1,709-3 196-9 520-7 901-7 189-6 1,954-8 520-4 199-0 176-3 187-2 100-3 202-0 360-9 168-7 152-6 379-6 204-4 204-9	$\begin{array}{c} 1,851\cdot 2\\ 1,89\cdot 4\\ 534\cdot 8\\ 969\cdot 3\\ 205\cdot 3\\ 200\cdot 1\\ 106\cdot 6\\ 207\cdot 4\\ 106\cdot 6\\ 207\cdot 4\\ 300\cdot 1\\ 171\cdot 2\\ 307\cdot 4\\ 209\cdot 1\\ 171\cdot 2\\ 397\cdot 4\\ 211\cdot 8\\ 211\cdot$	$\begin{array}{r} +8 \cdot 3 \\ -3 \cdot 8 \\ -4 \\ -4 \\ -7 \\ -7 \\ +8 \cdot 1 \\ +6 \cdot 3 \\ +2 \cdot 5 \\ +3 \cdot 7 \\ +18 \cdot 6 \\ +12 \cdot 2 \\ +4 \cdot 7 \\ +3 \cdot 6 \\ -4 \\ -4 \\ -6 \\ -8 \\ -6 \\ -8 \\ -8 \\ -8 \\ -8 \\ -8$	$\begin{array}{c} +226\cdot 3\\ +136\cdot 8\\ +150\cdot 8\\ +150\cdot 8\\ +151\cdot 6\\ +157\cdot 3\\ +183\cdot 3\\ +183\cdot 3\\ +183\cdot 3\\ +183\cdot 3\\ +183\cdot 3\\ +182\cdot 3\\ +183\cdot 3\\ +1142\cdot 3\\ +1$	
All other trades	690.3	2,155.0	2,346.9	+8.9	+240.0	
Totals	3,436-9	10,517.3	11,275-4	+7.2	+228-1	

(Exclusive of the Vukon and Northwest Territories and Newform the fl

Retail Store Sales, by Provinces, 1941, 1951 and 1952

Province		Sales	Percentage Change-		
LIOAIUCG	1941	1951	1952	1951-52	1941-52
	\$'000,000	\$'000,000	\$'000,000		
Maritime Provinces ¹ Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	$\begin{array}{r} 282 \cdot 8 \\ 818 \cdot 7 \\ 1,407 \cdot 0 \\ 210 \cdot 8 \\ 186 \cdot 9 \\ 221 \cdot 1 \\ 309 \cdot 6 \end{array}$	$712 \cdot 9 \\ 2,466 \cdot 1 \\ 4,037 \cdot 8 \\ 656 \cdot 3 \\ 631 \cdot 9 \\ 818 \cdot 4 \\ 1,193 \cdot 9$	777 · 8 2,631 · 3 4,255 · 8 676 · 6 724 · 8 912 · 5 1,296 · 6	$ \begin{array}{r} + 9 \cdot 1 \\ + 6 \cdot 7 \\ + 5 \cdot 4 \\ + 3 \cdot 1 \\ + 14 \cdot 7 \\ + 11 \cdot 5 \\ + 8 \cdot 6 \end{array} $	$+175 \cdot 0 +221 \cdot 4 +202 \cdot 5 +221 \cdot 0 +287 \cdot 8 +312 \cdot 7 +318 \cdot 8$
Totals	3,436.9	10,517-3	11,275-4	+ 7.2	+228-1

¹ Exclusive of Newfoundland.

The number of new passenger cars sold was lower in 1951 than in 1950, but rose again to 292,054, valued at \$724,960,046 in 1952. Of all the new cars sold in the latter year, 43 p.c. were financed by finance companies, the highest proportion of sales recorded for any one year.



Cars parked before the gateway to Exhibition Park, Toronto, where Canadian manufacturers and distributors annually exhibit their products and services to a vast potential market, numbering in the neighbourhood of two and a holf million persons.

	1950			1951			1952		
Province	Sold	Financed		Sold Financ		need Sold I		Financed	
Atlantic. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia	No. 25.767 57.643 142.972 16.921 19.184 25,908 36.508	No. 8,896 20,365 38,047 4,889 5,405 8,630 10,819	p.c. 34-5 35-3 26-6 28-9 28-2 33.3 29-6	No. 19,176 52,786 121,479 16,668 18,013 22,448 25,116	No. 5,841 18,080 31,489 4,777 5,768 8,670 7,101	p.c. 30·5 34·3 25·9 28·7 32·0 38·6 28·3	No. 21,529 58,756 124,624 16,351 19,488 25,174 26,132	No. 9.737 27.507 48.874 6.570 7.952 13.251 10.885	p.c. 45.2 46.8 39.2 40.2 40.8 52.6 41.7

New Passenger-Car Sales and Financing, 1949, 1951 and 1952

¹ Newfoundland not included in 1950.

According to the 1951 Census figures, 479 chain stores operated in that year and reported 16.4 p.c. of the total sales of all retail stores. These figures may be compared with those of the 1941 Census which showed 529 chain stores reporting 18.6 p.c. of the total retail sales. Firms considered as 'chains' are those operating four or more stores under the same ownership and carrying on the same type or related types of business. Department stores are not included—they are considered independents regardless of the number of stores operating.

DOMESTIC TRADE

Chain Store Statistics, 1930, 1941 and 1945-51

Year	Stores	Retail Sales	Salaries to Store Employees	Stocks End Store	m Hand, d Year Warehouse	Accounts Outstand- ing, End of Year
	Av. No.	\$'000	\$'000	\$'000	\$'000	\$'000
1930	8,097	487,336	50,405	60,457		
1941	7,622	639,210	57,777	68,619	20,976	38,376
1945 1946 1947 1948 1949 1950 1951	6,580 6,559 6,716 6,821 6,838 7,155 7,585	$\begin{array}{c} 876,209\\ 1,014,847\\ 1,177,323\\ 1,335,735\\ 1,420,081\\ 1,559,693\\ 1,726,354\end{array}$	$\begin{array}{c} 68,196\\ 77,474\\ 91,266\\ 107,450\\ 115,903\\ 129,334\\ 144,792 \end{array}$	$\begin{array}{c} 68,247\\ 85,345\\ 105,041\\ 119,132\\ 123,696\\ 159,083\\ 178,799\end{array}$	29.013 37.436 43.546 46.330 46.755 60.501 59.504	16,36919,64331,49340,37850,00165,00153,169

(Exclusive of Newfoundland)

Retail Consumer Credit.—Consumer credit has been influenced in recent years by the imposition of Government controls and later by the relaxation of such controls. The greatest fluctuations have been shown in instalment sales.

Retail Consumer Credit Statistics, 1941 and 1949-52

(Exclusive of the Yukon and Northwest Territories and Newfoundland)

Darlad	S	Sales duri	ng Period	Accounts Receivable at End of Period			
renod	Cash	Instal- ment	Charge	Tntal Sales	Instal- ment	Charge	Toint
		D	ollar Est	imates (ir	millions))	
1941 1949. 1950. 1951.	2.460.7 6.192.2 6.884.4 7.532.7	305 · 9 515 · 0 720 · 1 816 · 2	670-2 1,720-7 1,862-9 2,168-4	3,436-8 8,427-9 9,467-4 10,517-3	82 · 5 139 · 8 169 · 5 104 · 0	157 · 4 327 · 7 377 · 1 401 · 5	239-9 467-5 546-6 505-5
1951—JanMar. AprJune July-Sept. OctDec. 1952—JanMar. AprJune July-Sept.	1,586.0 1,997.2 1,918.7 2,030.8 1,609.5 2,027.6 1,990.0	192.9 211.3 207.6 204.4 199.3 350.5 314.0	481-7 547-6 543-3 595-8 505-4 573-6 566-5	2,260.6 2,756.1 2,669.6 2,831.0 2,314.2 2,951.7 2,870.5	143-2 121-8 99-8 104-0 96-5 136-3 180-3	348 · 7 356 · 5 356 · 9 401 · 5 352 · 5 397 · 1 420 · 8	491.9 478-3 456-7 505.5 449.0 533.4 601.1
			Perce	ntage Con	oposition		
1941. 1949. 1950. 1951.	71-6 73-5 72-7 71-6	8.9 6.1 7.6 7.8	19·5 20·4 19·7 20·6	100-0 100-0 100-0 100-0	34·4 29·9 31·0 20·6	65 · 6 70 · 1 69 · 0 79 · 4	100+0 100+0 100+0 100+0
1951—JanMar. AprJune. July-Sept. OctDec. 1952—JanMar. AprJune. July-Sept.	70 · 2 72 · 5 71 · 9 71 · 7 69 · 6 68 · 7 69 · 3	8-5 7-6 7-8 7-2 8-6 11-9 11-9 11-0	21 · 3 19 · 9 20 · 3 21 · 1 21 · 8 19 · 4 19 · 7	$ \begin{array}{r} 100 \cdot 0 \\ \end{array} $	$\begin{array}{c} 29 \cdot 1 \\ 25 \cdot 5 \\ 21 \cdot 9 \\ 20 \cdot 6 \\ 21 \cdot 5 \\ 25 \cdot 6 \\ 30 \cdot 0 \end{array}$	$\begin{array}{c} 70 \cdot 9 \\ 74 \cdot 5 \\ 78 \cdot 1 \\ 79 \cdot 4 \\ 78 \cdot 5 \\ 74 \cdot 4 \\ 70 \cdot 0 \end{array}$	$ \begin{array}{c} 100.0\\ 100.0\\ 100.0\\ 100.0\\ 100.0\\ 100.0\\ 100.0\\ 100.0\\ 100.0\\ \end{array} $

In the consumer credit surveys only those trades in which extension of credit plays an important part are included. Retail trade instalment sales were estimated at \$816,200,000 in 1951, 13 p.c. above the 1950 figure. In the same comparison, charge-account sales increased 16 p.c. and cash sales 9 p.c. In the first nine months of 1952, instalment sales increased 41 p.c.

CANADA 1953



Mail order selling is the most efficient form of retailing yet devised and the growth of this type of business since the War has far surpassed that of other retail outlets. An estimate places Canadian moil order business at well over one-fifth of all department store sales.

over the same period of 1951, charge sales 5 p.c., and cash sales 2 p.c. Balances outstanding at the end of September 1952 stood at an unprecedented high level, to which both types of credit contributed.

Operating Results of Retailers.—Surveys on the operating results of retail stores are conducted on a biennial basis; independent stores in certain major retail trades are covered in one year and retail chain stores and certain wholesale trades in the alternate year. Latest figures available for both groups are given in the following table.

Operating Results of Retail Independent and Chain Stores, based on 1950 Operations

Type of Business	Gross Profit	Salaries and Wagest	Occu- pattcy Expense	Total Expenses	Net Profit [‡]	Stock Turn- over ³
Independent Stores— Grocery and meat Yomen's clothing Family shoe Hardware Furniture Filling station Restaurant Fuel Drue	p.c. 14.9 26.8 27.4 25.8 27.0 18.7 38.7 20.6 28.9	p.c. 5-3 8-2 7-6 7-4 6-7 6-8 19-1 4-1 8-5	p.c. 2.6 5.9 5.4 3.9 4.9 3.9 9.2 2.1 4.6	p.c. 10.8 19.1 16.8 15.4 18.3 12.7 32.2 15.5 17.0	p.c. 4-1 7.7 10.6 10.4 8.7 6.0 6.5 5.1 11.9	No. 13.9 3.5 1.9 2.4 2.9 22.5 13.2 3.4
Drug Jewellery Chain Stores— Grocery Combination Meat Meat's clothing Family clothing Family clothing Shoe Variety Furniture Drug	28.9 38.8 15.5 15.8 28.7 28.8 28.7 28.8 31.5 37.8 30.7 33.7	8.5 11.2 8.5 7.6 9.8 14.1 14.6 12.2 14.6 17.1 12.6 18.0	4.6 6.9 1.2 1.0 1.3 3.4 4.8 4.6 3.0 3.4 4.3	$\begin{array}{c} 17 \cdot 0 \\ 24 \cdot 8 \\ 14 \cdot 1 \\ 12 \cdot 7 \\ 15 \cdot 4 \\ 26 \cdot 2 \\ 26 \cdot 8 \\ 25 \cdot 6 \\ 26 \cdot 5 \\ 27 \cdot 6 \\ 27 \cdot 2 \\ 30 \cdot 5 \end{array}$	$ \begin{array}{r} 11.9 \\ 14.0 \\ 1.4 \\ 3.1 \\ 0.4 \\ 2.5 \\ 2.0 \\ 2.7 \\ 5.1 \\ 10.2 \\ 3.5 \\ 3.2 \\ \end{array} $	$ \begin{array}{c} 3 \cdot 4 \\ 1 \cdot 4 \\ 10 \cdot 6 \\ 18 \cdot 2 \\ 44 \cdot 3 \\ 2 \cdot 5 \\ 3 \cdot 4 \\ 5 \cdot 7 \\ 2 \cdot 5 \\ 4 \cdot 9 \\ 3 \cdot 1 \\ 3 \cdot 7 \\ \end{array} $

(Exclusive of the Vukon and Northwest Territories and Newfoundland) North.--Items, except stock turnover, are expressed as percentages of net sales-

¹ Independent store salaries do not include delivery service or proprietors' withdrawals. Chain store salaries include those paid to executives. ¹ Independent store net profits are computed before deduction of proprietors' salaries and income tax. Chain store net profit is before income tax deduction. ¹ Cost of goods divided by average of year beginning and ending inventories. In the modern department store, planned lighting and open display arrangements make shopping on easy and pleasant task. EU

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Wholesale Trade.—Monthly index numbers of sales are calculated for nine wholesale trades, based on reports received from a sample of firms whose sales made up about 68 p.c. of the total volume of business done by wholesalers proper in those trades in 1941. The sample of reporting firms is limited to wholesalers proper, i.e., wholesale establishments that perform the complete functions of jobbers, and wholesalers buying merchandise in large quantities on their own account and selling in broken lots. The volume of wholesale sales in Canada, measured by an index of sales, was 13 p.c. higher in 1951 than in 1950. All of the nine trades surveyed reported increases.

Indexes of Wholesale Sales, by Types of Business, 1941 and 1945-51

(1935-39 = 100)

Type of Business	1941	1945	1946	1947	1948	1949	1950	1951	P.C. Change 1950-51
Automotive equipment. Drugs. Clothing. Footwear. Dry goods. Fraits and vegetables. Groceries. Hardware. Tobacco and confection- ery.	$157 \cdot 8 \\ 145 \cdot 2 \\ 142 \cdot 8 \\ 141 \cdot 6 \\ 141 \cdot 8 \\ 131 \cdot 2 \\ 134 \cdot 7 \\ 165 \cdot 2 \\ 150 \cdot 6 \\$	242 · 8 222 · 1 186 · 3 224 · 0 161 · 9 262 · 4 180 · 2 212 · 0 258 · 1	334-0 245-2 229-3 279-4 197-5 291-2 208-9 277-4 296-9	369 - 8 254 - 6 255 - 4 300 - 8 244 - 5 274 - 7 244 - 2 325 - 0 317 - 1	379-9 281-8 265-1 286-8 264-7 237-2 254-0 359-7 354-8	397 · 6 305 · 5 248 · 2 281 · 9 240 · 4 263 · 0 257 · 0 374 · 9 372 · 8	429 · 2 313 · 8 248 · 0 282 · 9 246 · 0 271 · 6 276 · 4 404 · 5 381 · 1	510-3 347-3 252-6 328-5 249-4 288-0 304-1 455-7 409-4	$ \begin{array}{r} + 18.9 \\ + 10.7 \\ + 10.9 \\ + 16.1 \\ + 1.4 \\ + 6.0 \\ + 10.0 \\ + 12.7 \\ + 7.4 \end{array} $
Composite Index	142.0	205-4	244.0	272.0	283-2	291.3	307 - 2	347 - 1	+ 13-0

(Exclusive of the Yukon and Northwest Territories and Newfoundland)

Operating Results of Wholesalers.—Operating results of 10 wholesale trades show major profit and expense categories expressed as percentages of net sales. The trades surveyed are those dealing in the more important consumer commodities and comprise wholesalers proper, i.e., wholesalers who take title to the goods and perform warehousing and delivery functions. The main operating ratios are shown in the following table.

Operating Results of Selected Wholesale Trades, 1951

Kind of Business	Gross Profit	Selling Expense	Wate- house and Delivery Expense	General and Adminis- trative Expense	Net Profit ⁱ	Stock Turnover
	p.c.	p.c.	p.c.	p.c.	p.c.	No.
Grocery. Fruit and vegetable. Tobacco and confectionery. Dry goods. Piece goods. Footwear. Automotive parts and accessories. Hardware. Plumbing and heating supplies.	8.0 11.3 7.6 16.9 15.2 14.1 25.3 20.5 17.8 13.4	$ \begin{array}{r} 1 \cdot 4 \\ 1 \cdot 9 \\ 2 \cdot 1 \\ 5 \cdot 0 \\ 4 \cdot 5 \\ 4 \cdot 5 \\ 4 \cdot 5 \\ 7 \cdot 3 \\ 4 \cdot 0 \\ 3 \cdot 0 \\ 2 \cdot 2 \\ \end{array} $	$ \begin{array}{r} 2 \cdot 3 \\ 4 \cdot 4 \\ 1 \cdot 5 \\ 2 \cdot 2 \\ 1 \cdot 9 \\ 2 \cdot 3 \\ 3 \cdot 9 \\ 2 \cdot 8 \\ 2 \cdot 4 \\ 2 \cdot 7 \\ \end{array} $	$ \begin{array}{r} 3 \cdot 3 \\ 4 \cdot 1 \\ 2 \cdot 7 \\ 6 \cdot 7 \\ 7 \cdot 4 \\ 7 \cdot 0 \\ 9 \cdot 3 \\ 7 \cdot 0 \\ 6 \cdot 6 \\ 6 \cdot 1 \\ \end{array} $	$ \begin{array}{c} 1 \cdot 0 \\ 1 \cdot 0 \\ 1 \cdot 3 \\ 3 \cdot 1 \\ 1 \cdot 4 \\ 0 \cdot 3 \\ 4 \cdot 8 \\ 6 \cdot 7 \\ 5 \cdot 8 \\ 2 \cdot 4 \end{array} $	$ \begin{array}{r} 10 \cdot 1 \\ 39 \cdot 1 \\ 17 \cdot 2 \\ 4 \cdot 3 \\ 3 \cdot 4 \\ 4 \cdot 3 \\ 4 \cdot 5 \\ 3 \cdot 9 \\ 6 \cdot 8 \\ 5 \cdot 6 \\ \end{array} $

¹ Before addition of miscellaneous income or deductions of miscellaneous expense and income tax. ⁴ Cost of goods sold divided by average of year beginning and ending inventories.

Co-operative Associations

Membership in co-operative associations in Canada in 1951 was 1,416,429, reported by 2,768 associations doing business valued at \$1,016,550,971. Compared with 1950, the number of associations was fewer by 147 but the membership was larger by 78,540. The decrease of \$23,250,000 in the volume of business transacted as compared with 1950, the first decline since 1946, was mainly accounted for by co-operatives marketing grain and seed. The low quality of the grain crop affected average prices for grain and seed, a decline not offset appreciably by the production increase of 24 p.c. in 1950-51 over the total reported for 1949-50.

Sales of farm supplies through co-operatives increased in 1951 by almost \$4,000,000 to a total volume of \$210,000,000. Revenue reported by service co-operatives increased by \$1,500,000 to a total of \$9,250,000 and total business, both marketing and purchasing, of fishermen's co-operatives increased by \$2,000,000 to a total of \$18,800,000.

Co-operative Marketing.—The total value of farm products marketed by co-operatives in Canada during the crop year ended July 31, 1951, amounted to \$769,264,824. Decreases in sales volume were reported for all commodities with the exception of live stock, lumber and wood, wool, furs and mapie products. The proportion of farm products marketed commercially in Canada by co-operatives is estimated to be $33 \cdot 9$ p.c. Percentages handled by co-operatives in the main commodity groups during 1951 were: dairy products 25.8, live stock 21.4, poultry and eggs $12 \cdot 2$, wool $87 \cdot 5$, grains $56 \cdot 9$, and fruits and vegetables $27 \cdot 1$.

Co-operative Purchasing.—Total sales of merchandise and supplies through co-operative associations in 1951 amounted to \$209,985,815, an increase of about 2 p.c. over the total reported in 1950. Main increases in sales were made in the merchandising of petroleum products and feed and fertilizer. Sales of machinery and equipment and clothing were less but all other groups of items handled by co-operatives reported increases.

Co-operative Wholesaling.—Every province, with the exception of Newfoundland, has one or more wholesale societies engaged in the co-operative purchase of farm supplies and consumer goods for redistribution to local co-operatives. Some of these wholesales also market agricultural products. The total volume of business transacted by such wholesales during 1950-51 was \$141,478,212 compared with \$128,455,066 reported in 1949-50. Main development in this field was made by Interprovincial Co-operatives Limited at Winnipeg, the federated wholesale owned by the provincials, which opened a coffee mill at Vancouver, B.C., and a canning factory at Beamsville, Ont.

Co-operative Services.—The technique of co-operation has been applied successfully to providing services in such fields as housing, rural electrification, hospital and medical care, transportation, storage and lodging. Total revenue reported by 324 such co-operatives in 1950-51 was \$9,300,000. Alberta and Quebec have large numbers of rural electrification co-operatives, while housing groups are numerous in Nova Scotia and Quebec. Ontario has about 40 co-operatives providing medical and hospital care. Membership in service co-operatives in 1951 was reported as 216,779.

Feed being delivered to a co-operative marketing warehouse. About 35 p.c. of all farm produce marketed commercially in Canada is handled by co-operative associations.



Fishermen's Co-operatives.—Fishermen's co-operatives exist in every province except Alberta. In 1951 there were 96 groups of this type comprising 15,412 members. Total value of fish and fish products marketed during that year was about \$15,500,000 and sales of fishermen's supplies, equipment, clothing, petroleum products and consumer goods were valued at \$3,300,000.

Credit Unions.—There were 3,121 credit unions holding provincial government charters at the end of 1941; their membership of 1,100,000 had accumulated over \$358,000,000 in savings. Loans to members during the year reached a total of \$125,000,000.

Wholesale Prices

The general wholesale price index measures commodity price changes mainly at production and primary distribution levels. It includes over 600 price series, including price quotations ranging from those paid by primary producers for basic raw materials to prices paid by retailers for finished articles.*

The upward movement in wholesale prices, which commenced with the sharp deterioration in the international situation in June 1950, moved the wholesale index to a new post-war peak level of 243.7 by July 1951. Since that date prices have fallen almost steadily to reach 221.2 by December 1952. Declines were general, although primary and secondary items recorded the sharpest losses. Certain commodities moved against the trend, notably, potatoes, newsprint, and iron and steel. Strength in the Canadian dollar was a contributing factor to lower prices for export and import items.

Canadian farm product prices at terminal markets moved substantially lower during 1952. From a post-war peak of 277.1 reached in July 1951, the composite index dropped to 222.3 by December 1952. As in previous years,

^{*} Detailed information concerning the construction of this index is given in D.R.S. Reference Paper No. 24, Wholesale Price Indexes 1913-1950.

lower indexes in the second half of 1952 reflected a drop in the initial prices to western producers for grains at the commencement of the crop year on Aug. 1. Live-stock prices were considerably lower in 1952 although some stability followed the establishment of support prices for beef and pork. These support prices were set in April 1952 following the United States embargo against Canadian live stock and meat due to the outbreak of footand-mouth disease.

Monthly Index Numbers of General Wholesale Prices and Wholesale Prices of Canadian Farm Products, 1951 and 1952

Year and Month	General Wholesale Prices	Canadian Farm Products	Year and Month	General Wholesale Prices	Canadian Farm Products
1939 August	95.6	84-3	November December 1952	239+1 237+7	273 - 4 275 - 0
1951 January Februtay. Match April. May. June. June. July. August September. October.	$\begin{array}{c} 232 \cdot 5 \\ 238 \cdot 6 \\ 241 \cdot 9 \\ 242 \cdot 4 \\ 241 \cdot 9 \\ 243 \cdot 0 \\ 243 \cdot 0 \\ 243 \cdot 0 \\ 243 \cdot 7 \\ 241 \cdot 4 \\ 240 \cdot 0 \\ 239 \cdot 6 \end{array}$	250-9 262-5 272-9 265-4 265-3 272-6 277-1 271-7 268-8 267-7	Junnary. February. March. April. June. July. August. September. October. November. December.	230 · 8 242 · 6 230 · 8 226 · 9 224 · 8 226 · 5 225 · 5 223 · 9 222 · 1 221 · 0 221 · 9 221 · 2	271.5 259.6 256.7 253.8 252.7 257.9 252.8 236.2 225.5 221.3 222.9 222.9

(1935-39 = t00)



Farmers looking over the stock at a cattle sale.



The Chateau Laurier Hotel, Ottawa, in winter, viewed from across the Plaza.

Consumer Prices

In October 1952 the Dominion Bureau of Statistics issued a new series of Canadian index numbers of retail prices entitled the "Consumer Price Index". This index, which is on the base 1949 = 100, replaces the cost-ofliving index as the official measurement of retail prices of goods and services. It is an entirely new series constructed from post-war expenditure patterns. Its purpose, however, is the same as that of the cost-of-living index, viz., it measures the average percentage change in retail prices of goods and services bought by a large and representative group of Canadian urban families. The change in title was made to clarify the point that the index is a measure of price change and is not affected by changes in standards of living.

The new index appeared for the first time in a special report *The Con*sumer Price Index, January 1949-August 1952, which gives information on such aspects of the index as definition, family coverage, base period, as well as details of item content and weights. Methods of price collection and special techniques such as the incorporation of seasonal variation in food consumption and the measurement of home service costs are also explained.

The new index is based on goods and services purchased during the year ended Aug. 31, 1948, by 1,517 families, representing all Canadian urban

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families with the following characteristics: (1) living in 27 Canadian citics with over 30,000 population (1941 census); (2) ranging in size from two adults to two adults with four children; (3) with annual incomes during the survey year ranging from \$1,650 to \$4,050.

To measure the influence of price change on the cost of goods and services purchased by such families, the consumer price index contains 224 items, nearly 40 p.c. more than the cost-of-living index. Additional items have been determined by a purely objective approach to the problem of measuring price movements of goods and services purchased by families of the type described. Thus, no attempt has been made to differentiate between "luxuries" and "necessities". This has led to the inclusion of additional items such as margarine, cake mix, chicken, lettuce, chocolate bars, fur coats, children's clothing, fuel oil, electric irons, lawnmowers, household help, phonograph records, and carbonated and alcoholic drinks. Included in the cost-of-living index but not given specific representation in the consumer price index are such items as rice, dried beans, prunes, rayon hosiery, coke, wool flannel, oilcloth, and cigars. These items have been omitted because, on average, families did not report purchasing them in significant amounts.

The consumer price index moved up to a peak of $118 \cdot 2$ (1949 = 100) by Jan. 2, 1952. Thereafter, prices receded spasmodically to lower the index to 116.0 by Oct. 1. Lower indexes were in evidence for all sub-groups except shelter and other commodities and services which advanced over January levels. Food registered the greatest change, the index dropping from a peak of 122.5 for November-December 1951 to 115.1 by October 1952.

Year and Month	Food	Shelter	Clothing	House- hold Oper- ation	Other Commodi- ties and Services	Total
1949. 1950. 1951. 1952.	100 · 0 102 · 6 117 · 0	100 · 0 106 · 2 114 · 4	100 · 0 99 · 7 109 · 8	$ \begin{array}{r} 100 \cdot 0 \\ 402 \cdot 4 \\ 113 \cdot 1 \end{array} $	$ \begin{array}{r} 100 \cdot 0 \\ 103 \cdot 1 \\ 111 \cdot 5 \end{array} $	100-0 102-9 113-7
1951 January February March April May June July August September October November December	$\begin{array}{c} 109 \cdot 0 \\ 111 \cdot 0 \\ 114 \cdot 1 \\ 115 \cdot 5 \\ 114 \cdot 3 \\ 115 \cdot 8 \\ 117 \cdot 9 \\ 119 \cdot 0 \\ 120 \cdot 5 \\ 121 \cdot 3 \\ 122 \cdot 5 \\ 122 \cdot 5 \\ 122 \cdot 5 \end{array}$	$\begin{array}{c} 110 \cdot 0 \\ 110 \cdot 4 \\ 111 \cdot 5 \\ 111 \cdot 8 \\ 112 \cdot 4 \\ 115 \cdot 2 \\ 115 \cdot 5 \\ 115 \cdot 8 \\ 117 \cdot 2 \\ 117 \cdot 2 \\ 118 \cdot 2 \\ 118 \cdot 2 \\ 118 \cdot 2 \end{array}$	$\begin{array}{c} 102 \cdot 6 \\ 105 \cdot 1 \\ 106 \cdot 7 \\ 108 \cdot 5 \\ 109 \cdot 0 \\ 109 \cdot 5 \\ 109 \cdot 7 \\ 110 \cdot 7 \\ 111 \cdot 9 \\ 114 \cdot 1 \\ 114 \cdot 5 \\ 115 \cdot 2 \end{array}$	$\begin{array}{c} 107 \cdot 1 \\ 108 \cdot 6 \\ 110 \cdot 5 \\ 111 \cdot 4 \\ 112 \cdot 7 \\ 113 \cdot 8 \\ 114 \cdot 3 \\ 115 \cdot 1 \\ 115 \cdot 5 \\ 115 \cdot 8 \\ 115 \cdot 8 \\ 115 \cdot 9 \\ 116 \cdot 4 \end{array}$	$\begin{array}{c} 107\cdot 4\\ 108\cdot 0\\ 108\cdot 3\\ 108\cdot 6\\ 110\cdot 4\\ 111\cdot 8\\ 112\cdot 2\\ 113\cdot 4\\ 113\cdot 6\\ 114\cdot 1\\ 114\cdot 8\\ 115\cdot 0\end{array}$	107 · 7 109 · 1 110 · 8 111 · 7 112 · 2 113 · 7 114 · 6 115 · 5 116 · 5 116 · 5 117 · 1 117 · 9 118 · 1
1952 January. February. March. April. June. July. August. September. October. November. December.	$\begin{array}{c} 122\cdot 4\\ 120\cdot 8\\ 117\cdot 6\\ 117\cdot 2\\ 115\cdot 5\\ 115\cdot 7\\ 116\cdot 0\\ 115\cdot 7\\ 115\cdot 8\\ 115\cdot 7\\ 115\cdot 8\\ 115\cdot 1\\ 115\cdot 7\\ 115\cdot 7\\ 114\cdot 1\end{array}$	$\begin{array}{c} 118 \cdot 3 \\ 118 \cdot 3 \\ 119 \cdot 1 \\ 119 \cdot 4 \\ 119 \cdot 6 \\ 120 \cdot 6 \\ 120 \cdot 6 \\ 120 \cdot 6 \\ 121 \cdot 2 \\ 121 \cdot 5 \\ 121 \cdot 4 \\ 122 \cdot 2 \end{array}$	$\begin{array}{c} 114 \cdot 9 \\ 113 \cdot 5 \\ 112 \cdot 9 \\ 112 \cdot 5 \\ 112 \cdot 5 \\ 112 \cdot 3 \\ 111 \cdot 8 \\ 111 \cdot 7 \\ 111 \cdot 6 \\ 110 \cdot 9 \\ 109 \cdot 9 \\ 109 \cdot 8 \\ 109 \cdot 7 \end{array}$	$\begin{array}{c} 116\cdot 4\\ 116\cdot 3\\ 116\cdot 9\\ 116\cdot 8\\ 116\cdot 2\\ 115\cdot 9\\ 115\cdot 9\\ 115\cdot 8\\ 115\cdot 8\\ 115\cdot 8\\ 115\cdot 8\\ 115\cdot 8\\ 115\cdot 9\\ 115\cdot 9\\ 116\cdot 1\\ 116\cdot 1\end{array}$	$\begin{array}{c} 115\cdot 5\\ 115\cdot 8\\ 116\cdot 4\\ 116\cdot 6\\ 115\cdot 6\\ 115\cdot 7\\ 115\cdot 6\\ 115\cdot 8\\ 115\cdot 8\\ 116\cdot 8\\ 116\cdot 4\\ 116\cdot 6\\ 116\cdot 6\end{array}$	$\begin{array}{c} 118 \cdot 2 \\ 117 \cdot 6 \\ 116 \cdot 9 \\ 116 \cdot 8 \\ 115 \cdot 9 \\ 116 \cdot 4 \\ 116 \cdot 4 \\ 116 \cdot 1 \\ 116 \cdot 0 \\ 116 \cdot 1 \\ 116 \cdot 0 \\ 116 \cdot 1 \\ 115 \cdot 8 \end{array}$

Consumer Price Index Numbers, 1949-52

(Av. 1949=100)



Cammercial centre of Canada's largest city, Montreal, Que.



Foreign Trade

IN 1951 and 1952 Canada's foreign trade was at a record peacetime level. Both exports and imports were greater in value and volume in 1951 than in earlier years, and the average prices at which transactions were conducted in that year were also higher. In 1952 export and import prices declined, although the volume of trade was even larger than in 1951. The increase in the volume of exports was greater than the decline in export prices, and the value of exports therefore set a new record in 1952. For imports, the 1951 peak value was not surpassed in 1952.

Period	Exports				Tatel	Rohmon
	Domestic Produce	Foreign Produce	Total	Im;wort-	Trade	of Trade
Calendar Year	$\begin{array}{c} 2,312\cdot 2\\ 2,774\cdot 9\\ 3,075\cdot 4\\ 2,993\cdot 0\\ 3,118\cdot 4\\ 3,914\cdot 5\end{array}$	27 · 0 36 · 9 34 · 6 29 · 5 38 · 7 48 · 9	2,339·2 2,811·8 3,110·0 3,022·5 3,157·1 3,963·4	I,864+6 2,573+9 2,636+9 2,761+2 3,174+3 4,084+9	4,203.7 5,385.7 5,747.0 5,783.7 6,331.3 8,048.2	+474.6 +237.8 +473.1 +261.2 - 17.2 - 121.5
January-September— 1951. 1952.	2,784-6 3,140-3	$\begin{array}{c} 33 \cdot 6 \\ 40 \cdot 4 \end{array}$	2,818-2 3,180-6	3,142.0 2,945.5	5,960-2 6,126-2	$-323 \cdot 8 + 235 \cdot 1$

Exports, Imports and Total Trade of Canada, 1946-52

(Millions of (Iollars)

The value of world trade expressed in United States dollars was also higher in 1951 than in earlier years. Statistics compiled by the International Monetary Fund show that the value of the trade of the non-communist world increased by about 36 p.c. over the total recorded for 1950. Higher prices played an important part in establishing this record value, but the gain in volume was also substantial. Estimates prepared by the United Nations Statistical Office show that the average price of world exports was about 21 p.c. higher than in 1950 in terms of United States dollars, or about 17 p.c. higher in terms of Canadian dollars. The volume of world exports gained about 11 p.c. over the 1950 level. Canada's exports in 1951 were also 11 p.c. greater in volume than in 1950, but their average price rose only 13 p.c.

Canada has ranked among the world's leading trading countries throughout the post-war period, and in 1951 accounted for $5 \cdot 2$ p.c. of world trade as recorded by the International Monetary Fund. In value, Canada's trade was surpassed only by that of the United States, the United Kingdom and France, and the per capita value of Canada's trade was again greater than that of all other leading trading countries except Hong Kong and New Zealand. The increase in the value of Canada's trade from 1950 to 1951 was proportionately less than that of the trade of most of the other countries shown in the following table, due in part to the greater increases in price

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Leading wheat for the United Kingdom at Lapointe Pier, Vancouver, B.C

affecting the exports (and imports) of many other countries. External trade is an important determinant of Canadian prosperity; exports accounted for $23 \cdot 0$ p.c. and imports for $23 \cdot 7$ p.c. of the net national income in 1951.

Leading Countries in World Trade, 1950 and 1951

Countries are ranked by total trade and total trade per capita in 1951. Note.—Sources of data: Trade—International Monetary Fund. Population—United Nations Statistical Office.

Country	Export	s f.o.b.	Imports c.i.f.		Total Trade		
country	1950	1951	1950	195 I	1950	1951	
	Value	of Trade	(Millions	of United	States Dollars)		
United States. United Kingdom. France. Canada . Germany, W. Belgium and Luxembourg. Netherlands. Australla. Italy. Brazil. India. Japan. World Total !	10, 281 6, 334 3, 079 3, 097 1, 981 1, 653 1, 414 1, 208 1, 346 1, 263 1, 346 1, 263 20 56, 563	15,038 7,580 4,161 4,038 3,461 2,647 1,978 2,199 1,644 1,757 1,540 1,355 76,100	10,074 7,397 3,066 3,200 2,704 1,942 2,063 1,557 1,483 1,098 1,279 974 59,476	12,444 10,954 4,523 4,194 5,495 2,528 2,567 1,910 2,166 2,011 2,028 1,905 81,486	20,355 13,731 6,145 6,297 4,685 3,595 3,477 3,038 2,691 2,444 2,542 5,542 1,794	27,482 18,534 8,684 8,232 6,956 5,175 4,545 4,109 3,813 3,768 3,568 3,350 157,586	
	T	rade Per	Capita (U	nited Sta	tes Dollar	s)	
Hong Kong New Zealand. Ganada. Belgium and Luxembourg. Malaya and Singapore Switzerland. Sweden Australia Norway. Notherkunds. Venezuela. Denmark	291 207 224 185 210 192 157 181 119 140 253 156	387 356 288 295 311 228 252 261 188 193 287 195	295 238 231 217 152 223 168 190 208 204 122 200	425 306 299 282 244 287 251 227 266 250 142 235	585 504 455 402 362 416 326 371 327 344 376 355	813 662 588 576 554 515 503 487 454 454 443 429 430	

⁴ Exclusive of China, U.S.S.R., and eastern European countries not reporting trade currently.

CANADA 1953

Trade Trends in 1950-52. In the early months of 1950, Canada's foreign trade adapted itself to the new environment created by the general readjustment of exchange rates in September 1949. Adjustments to the commodity composition of trade were relatively small, since Canadians still had the same principal commodities to sell and still needed the same imported goods. Adjustments in the shares of various countries in exports and imports were more noticeable. Exports to the United States increased sharply, while those to overseas countries, especially the United Kingdom, the Commonwealth countries and Europe, fell off. Imports from the United States were more subject to competition from overseas goods whose prices had been decreased by devaluation, and the share of overseas countries in Canada's imports showed some increase. These adjustments were eased by the recovery of the United States economy from its 1949 recession and the consequent atmosphere of expanding markets and gently rising prices that prevailed in this period.

The outbreak of the Korean war in June 1950 disturbed the emerging pattern of peacetime trade. Demand for strategic raw materials was intensified as the non-communist countries rearmed. Production of goods increased, resulting in greater current consumption of raw materials, and in addition there was heavy inventory buying to facilitate greater production and to guard against possible shortages. The prices of many important commodities began to rise sharply, especially those of goods produced in southeast Asia and Australasia. From June to December 1950, import prices rose almost 8 p.c. and export prices almost 5 p.c. in spite of the insulating effects of the appreciation of the Canadian dollar after the exchange rate was unpegged in



Loading lumber aboard o United Kingdom freighter at Soint John, N.B. The United States factors about 70 p.c. of Canada's exported lumber, most of the remainder going to the United Kingdom, the British West Indies. irance, The Netherland October. From December 1950 to June 1951, there was a further rise of more than 11 p.c. in import prices and almost 10 p.c. in export prices.

The adverse movement in the terms of trade resulting from the slower advance of export than import prices contributed to the heavy import balance on trade recorded in this period. More important was the greater increase in import volume than export volume. Because Canada's demand for most commodities is a relatively small fraction of total world demand, and because Canada's financial position was strong throughout the period, the rapid growth of imports was not severely restricted by foreign productive capacity, by exchange problems, or even by price. On the other hand, the expansion of most exports at that time was limited owing to the large proportion of Canadian production of many commodities already consumed abroad, and also to growing Canadian demand for Canadian goods.

In the second half of 1951 this picture began to change. Demand for imports levelled off as inventory growth ceased and fears of war-born shortages were dispelled. In the consumer-goods field, the anti-inflationary credit controls imposed in the 1951 Federal Budget lowered demand for imports of some goods and for materials and components with which to produce them. The same controls reduced the Canadian market available to Canadian producers of these goods, thus increasing exportable supplies. The steady growth of Canadian productive capacity, stimulated by high prices, permitted greater exports of many important industrial materials. Good grain crops, together with poor crops in many other producing and consuming countries, also contributed heavily to increased exports.

Price trends worked with volume trends to create an export balance on trade in this period. Spot prices of many important import commodities began to decline in February 1951 and, after June 1951, Canada's import price index moved downward. Export prices continued to advance until November, and their subsequent decline until the middle of 1952 was due more to the appreciation of the Canadian dollar than to lower world prices for these commodities. The terms of trade became strongly favourable in this period.

Desired	Va	alue of Tra \$'000,000	de	Price I (1948)	ndexes = 100)	Volume (1948)	Indexes = 100)
L Giroof	Total Exports	Imports	Trade Balance	Domestic Exports	Imports	Domestic Exports	Imports
1950 JanMar. AprJune July-Sept. OctDec. 1951 JanMar. AprJune July-Sept. OctDec. 1952 JanMar. AprJune July-Sept.	$\begin{array}{c} 657\cdot 0\\ 791\cdot 1\\ 800\cdot 1\\ 908\cdot 0\\ 819\cdot 6\\ 043\cdot 0\\ 1.055\cdot 6\\ 1.145\cdot 2\\ 1.000\cdot 0\\ 1.114\cdot 7\\ 1.065\cdot 9\end{array}$	$\begin{array}{c} 649\cdot 5\\ 803\cdot 6\\ 806\cdot 4\\ 914\cdot 8\\ 943\cdot 9\\ 1,158\cdot 5\\ 1,039\cdot 6\\ 942\cdot 9\\ 916\cdot 1\\ 1,034\cdot 2\\ 995\cdot 2\\ \end{array}$	$\begin{array}{r} + & 7 \cdot 5 \\ - & 12 \cdot 5 \\ - & 6 \cdot 3 \\ - & 5 \cdot 9 \end{array}$ $\begin{array}{r} -124 \cdot 2 \\ -2215 \cdot 5 \\ + & 16 \cdot 0 \\ +202 \cdot 3 \end{array}$ $\begin{array}{r} + & 83 \cdot 9 \\ + & 80 \cdot 5 \\ + & 70 \cdot 7 \end{array}$	$\begin{array}{c} 104\cdot7\\ 106\cdot3\\ 110\cdot2\\ 111\cdot8\\ 111\cdot8\\ 111\cdot8\\ 122\cdot1\\ 122\cdot1\\ 124\cdot8\\ 125\cdot5\\ 124\cdot4\\ 121\cdot3\\ 120\cdot3\\ 120\cdot3\end{array}$	107 - 8 108 - 8 110 - 8 114 - 8 122 - 4 127 - 7 122 - 1 127 - 7 122 - 1 117 - 4 110 - 9 107 - 2	80.6 95.6 93.2 104.5 89.5 90.2 108.8 117.1 103.2 118.2 114.1	91-4 112-2 110-4 121-1 1364-1 117-1 1364-1 116-8 118-0 140-9 140-5

Summary Trade Statistics, by Quarters, 1950-52

Between the early months of 1950 and the middle of 1952 there was also a full cycle of change in the direction of Canada's trade. Before the outbreak



Holstein calves in paddock ready for shipment to Trieste, Italy. These calves were from five to twelve months ald and were obtained from about 300 pure-bred Holstein herds in Ontario and Quebec.

of the Korean war the share of the United States in Canada's exports was increasing while that of overseas countries was declining, and the reverse tendencies were developing in imports. The war accentuated the latter tendency, imports from Commonwealth countries expanding especially sharply, and at first did not disturb the new export pattern. In the last half of 1950 and the first half of 1951 the balance of Canada's trade with most principal countries and trading areas was better than in any other post-war period.

In 1951 these changes began to reverse. The more moderate expansion of Canadian prices than those of most other countries increased the attractiveness of Canadian goods to overseas buyers. Since many overseas countries had improved their exchange position in 1950 they were able to respond with greater purchases in Canada. Price ceilings in the United States market also tended to divert Canadian exports overseas. After the middle of the year exports to the United States were relatively stable at a high level, and the further expansion in exports, especially those of grains, was almost entirely to overseas markets. Imports from the United States remained at a high level and even increased somewhat in volume, but the value of imports from overseas countries was reduced by rapidly falling prices, by lower inventory buying, and by a drop in consumer demand for some goods. By the first half of 1952 the share of the United States in exports was little greater than it had been in 1949, and that country's share in imports had increased even above the 1949 level. The bilateral imbalance of Canada's trade was again very pronounced, although it remained proportionately less than in 1949.

During the third quarter of 1952 the decline in import prices moderated and export prices were almost stable. Both exports and imports remained much greater in volume than in any corresponding post-war quarter. Several problems faced Canada in the sphere of international trade, notably the renewed balance of payments difficulties of the sterling area and the large trade

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deficit with the United States. Price adjustments by overseas competitors stiffened competition for Canadian exporters of many goods, and better crops in other countries suggested greater competition in grain sales. However, these problems seemed less formidable than those in most earlier post-war years.

Item and Period	United States	United Kingdom	Europe	Common- wealth and Ireland	Latin America	Others
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Total Exports-		0.2.5			4.2	10
Calendar year1949	50.4	25.5	1.0	10.0	4.4	4.0
1950	65.0	15.0	6 · 1	6.3	4.6	3.0
1951	58.9	16.0	8.7	6.7	5.3	4.4
JanSept1952	53.5	18.2	10.3	7 - 1	6.4	4.5
Imports-	A STATE	Date: No.				
Calendar year 19491	70.7	11.1	3.1	6.7	7.0	1.4
1950	67 .1	12.7	3-3	7.6	6.7	2.6
1951	68.9	10.3	4.3	7.5	6.7	2.3
JanSept1952	73.8	8.8	3.7	4.8	7.1	1.8
Total Trade-		1.00				
Calendar year 19491	60.1	17.6	5.4	8.4	5.5	2.8
1950	66.0	13.8	4.7	7.0	5.7	2.8
1951	64.0	13.1	6.5	7.1	6.0	3.3
JanSept	63.2	13.7	7 - 1	0.0	6.8	3.2

Distribution of Canadian Trade by Leading Countries and Trading Areas, 1949-52

¹ Excluding Newfoundland. In the first three months of 1949 Newfoundland accounted for 0.32 p.c. of the year's exports, 0.03 p.c. of imports, and 0.18 p.c. of total trade.

Trade Policy.—In the 1950-52 period, the Government continued its efforts to reduce world trade barriers. The Torquay Conference in 1950-51 was the principal occasion for giving and granting tariff reductions but, in addition, bilateral negotiations were conducted with some other countries. Efforts were made to persuade other governments to reduce non-tariff restrictions, but almost the only achievement here was some liberalization of the trade controls of the British West Indies. Payment problems sustain quantitative restrictions in some countries, protectionism in others. For its part, the Canadian Government abolished the few remaining trade controls devised to deal with the war and post-war emergencies: in October 1950 the fixed exchange rate was abandoned; at the end of 1950 the last of the emergency exchange conservation controls were abolished; and in December 1951 foreign exchange control was ended.

Canada still enforces a few trade controls, but these are of a special and temporary nature. During the defence emergency, exports of certain strategically important materials are subject to control for security reasons. Canada has attempted to integrate her security restrictions with those of her allies to minimize interference with trade. The discovery of foot-and-mouth disease in Canada in February 1952 caused the United States to ban imports of Canadian live stock and meats. The Canadian Government therefore imposed import controls on meats to preserve the Canadian market for Canadian producers so long as export outlets were restricted. The Government also negotiated an agreement with the United Kingdom and New Zealand whereby Canadian beef replaced New Zealand beef on the British market while the The Canadian International Trade Fair held in June 1952 was the fifth annual Fair of its kind. Nearly 25,000 business persons came to see the 1,300 exhibits representing the goods of many countries. However, the success of the Fair is not measured by attendance, but by the amount of business transacted.



Machine tools from Germany. Actual demonstration of machinery and plant equipment is one of the features making the Trade Fair valuable to manufacturers.

Lingerie from France. Although not a large item in the economy, high-quality, luxury textiles have a definite and active marked in Canada. New Zealand product went to the United States. This resulted in the first substantial shipments of Canadian beef to the United Kingdom since 1948.

Commodity Exports and Imports. Exports of most important Canadian commodities were greater in 1951 and 1952 than in earlier years. The chief determinant of the rate of increase in the volume of most exports was the rate of growth of Canadian production, although some irregularities were caused by temporary market disturbances. Foreign demand for Canadian goods was generally strong throughout the post-war period. High exports together with heavy domestic investment played important roles in maintaining employment in primary and secondary industry and in keeping agriculture prosperous.

Several commodities showed particularly marked gains. Large Canadian crops in 1951 and 1952 permitted heavy exports of grains, especially of wheat. Exports of wood-pulp increased sharply in 1951 due to greater Canadian production and to prices below those of principal foreign competitors. In that year Canada displaced Sweden as the world's largest exporter of woodpulp. Exports of automobiles and trucks were high during the last half of 1951 and the first half of 1952 due to the restrictive effect of credit controls on the home market. And in 1952 there were heavy deliveries of aircraft, particularly to the United States defence authorities. There was some softening of export markets in 1952 due to more intense foreign competition and to declines in demand for some goods. Export prices declined somewhat. Wood products, especially wood-pulp, were affected by competition. Exports of cattle and beef to the United States were eliminated after the discovery of foot-and-mouth disease, and beef sales in the British market did not make up for this loss. The volume of sales of most commodities remained high.

Country		Calend	ar Year		January-S	September		
Country	1948	1949	1950	1951	1951	1952		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000		
United States United Kingdom Belgium and Luxem-	1,500,987 686,914	1,503,459 704,956	2,020,988 469,910	2.297,675 631,461	1,691,341 446,369	1,669,629 576,289		
Japan Brazil Union of South Africa	8,001 28,601 83,248	5,860 17,259 77,713	20,533 15,806 42,561	72,976 53,684 52,736	51.052 25.859 39.501	63,973 58,552 41,074		
Australia Italy. France.	38,257 32,379 92,963	35,363 12,567 36,004	35,446 15,476 18,403	49.079 48.763 46.538	31,956 39,345 29,873	34,201 38,898 39,074		
India. Norway Mexico.	33,698 23,429 15,045	72,551 21,736 15,411	31,520 18,924 17,624	35,737 32,198 29,880	26.277 21,213 20,638	49.709 29.897 28.310		
Venezuela. The Netherlands Switzerland. New Zealand	16,935 43,684 19,389 18,375	27,689 13,759 32,281 14,489	25,457 8,617 26,435 10,983	26,982 26,191 25,345 21,757	19,437 17,628 15,625 11,595	28,123 26,545 15,982 15,744		
Ireland Cuba Philippines	9,257 10,987 9,810 4,405	9,052 14,391 13,983 3,633	13,321 18,005 10,829 6,864	20,921 20,424 15,598	14.349 15.328 10.866	16,792 18,536 12,471 6,905		
Colombia. Sweden Hong Kong Israel	8,406 7,207 8,256 5,036	8,012 5,516 10,099 12,709	14,806 4,250 8,004	12,311 12,125 12,033 11,816	8,948 4,878 8,355 8,388	10,372 9,530 6,992 9 404		

Domestic Exports to Leading Countries, 1948-52 NOTE.—Countries ranked by value of exports in 1951.

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A large portion of the china and pottery sold in Canada is imported from the United Kingdom and the United States.



Imports also increased in 1951 and 1952. Gains in both price and volume were general in 1951, and although prices declined the volume of most imports remained high in 1952. Imports of wool, tin and rubber were particularly affected by rising prices in 1950 and early 1951, and by falling prices thereafter. Imports of most textiles were influenced by lower demand in 1952 as well as by lower prices. But aside from textiles and some materials the volume of imports remained high in 1952 and in many cases increased. Lower prices, accentuated by the appreciation of the Canadian dollar, were responsible for most value declines. The trend towards lower imports of fuels continued. As Canadian oil production and refinery capacity have expanded, the need for imported crude oil and petroleum products has become relatively less. In addition, oil is tending to displace coal in many uses. Coal, petroleum and petroleum products accounted for almost 19 p.c. of imports in 1948, for only

From Lion's Gate Bridge, the Chief Signalman checks a vessel arriving in Vancouver harbour.



about 15 p.c. in 1949 and 1950, and for about 13 p.c. in 1951. In the first nine months of 1952 their share in Canada's imports was further reduced to 12 p.c.

Imports from Leading Countries, 1948-52

Country		Calend	January-September			
c.ounery	1948	1949	1950	1951	1951	1952
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
United States. United Kingdom. Venezuela. Federation of Malaya Australia. Brazil. India. Belgium and Luxem- bourg. Germany. New Zealand. British Guiana. France. Arabia. Jamaica. Mexico. Switzerland. Ceylon. Syria and Lebanon. Trinidad and Tobago Italy. The Netherlands. Argentina. Barbados. Colombia.	$\begin{array}{c} 1.805, 763\\ 299, 502\\ 94, 758\\ 82, 878\\ 27, 415\\ 20, 559\\ 33, 400\\ 13, 661\\ 1, 729\\ 11, 603\\ 15, 380\\ 12, 648\\ 1\\ 9, 557\\ 27, 258\\ 7, 444\\ 14, 182\\ 28\\ 9, 027\\ 6, 981\\ 5, 831\\ 5, 746\\ 6, 387\\ 8, 668\\ \end{array}$	$\begin{array}{c} 1,951,860\\ 307,450\\ 91,697\\ 16,187\\ 27,429\\ 21,163\\ 26,233\\ 19,022\\ 7,134\\ 8,910\\ 22,355\\ 23,309\\ 12,127\\ 16,577\\ 16,577\\ 16,577\\ 16,577\\ 25,494\\ 10,902\\ 429\\ 9,034\\ 429\\ 9,034\\ 3,324\\ 7,080\\ 12,588\end{array}$	$\begin{array}{c} 2,130,476\\ 404,213\\ 87,264\\ 404,213\\ 87,264\\ 28,852\\ 32,803\\ 28,178\\ 37,262\\ 22,795\\ 11,026\\ 11,855\\ 21,735\\ 14,669\\ 28,115\\ 14,669\\ 28,415\\ 14,669\\ 22,974\\ 14,464\\ 62\\ 22,974\\ 14,464\\ 62\\ 15,205\\ 9,373\\ 8,873\\ 8,873\\ 8,873\\ 10,057\\ 13,342\\ \end{array}$	$\begin{array}{c} 2.812.927\\ 4.20.985\\ 136.718\\ 57.980\\ 46.228\\ 40,627\\ 40.217\\ 39.095\\ 30.936\\ 30.107\\ 25.025\\ 23.974\\ 22.659\\ 18.041\\ 18.013\\ 16.388\\ 16.396\\ 16.381\\ 15.082\\ 14.217\\ 14.217\\ 13.955\\ 13.400\\ 13.063\\ \end{array}$	$\begin{array}{c} 2,146,910\\ 335,515\\ 98,852\\ 47,848\\ 40,064\\ 29,079\\ 33,307\\ 29,226\\ 22,492\\ 26,744\\ 14,916\\ 18,299\\ 18,748\\ 17,147\\ 14,266\\ 11,994\\ 13,415\\ 13,511\\ 13,458\\ 10,575\\ 10,396\\ 12,482\\ 12,148\\ 8,867\\ \end{array}$	$\begin{array}{c} 2,172,317\\ 259,392\\ 98,853\\ 19,401\\ 13,432\\ 26,058\\ 19,401\\ 25,463\\ 16,152\\ 13,128\\ 15,685\\ 13,967\\ 7,010\\ 8,543\\ 18,762\\ 11,168\\ 9,315\\ 10,281\\ 18,518\\ 7,866\\ 11,492\\ 2,755\\ 7,237\\ 7,249\\ 12,916\end{array}$
Barbados. Colombia Japan	6,387 8,668 3,144	7,080 12,588 5,551	10,057 13,342 12,087	$ \begin{array}{r} 13,409\\ 13,063\\ 12,577 \end{array} $	12,148 8,867 9,150	7,2 12,9 9,1

Norn.-Countries ranked by value of imports in 1951.

¹ Not listed separately.

Principal Domestic Exports, 1948-52

NOTE .-- Commodities ranked by value of exports in 1951.

Commodity	Calendar Year January-Septe					
Commodity	1948	1949	1950	1951	1951	1952
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newsprint paper Wheat. Wood-pulp. Planks and boards Nickel Aluminum, primary and semi-fabricated. Wheat flour.	383,123 243,023 211,564 196,023 73,802 92,737 125,151	433,882 435,158 170,675 160,420 92,324 91,032 97,693	485,746 325,614 208,556 290,847 105,300 103,206 93,839	536,372 441,043 365,133 312,198 136,689 120.853 113,854	395,284 281,367 264,808 233,651 96,786 94,238 90,078	436.755 438.567 229.006 222.568 117,500 104.904 84,563
rain implements and machinery inery (except tractors) and parts. Zinc, primary and semi- fabricated.	73,760	84,127 55,700	78,512	96,873 83,669	76,351 57,560	78,052 76,988
Copper, primary and semi- fabricated Asbestos, unmanufactured. Pulpwood. Barley. Whisky. Oats. Fish, fresh and frozen.	75,206 41,309 43,573 26,947 26,957 22,560 35,263	84.052 36.934 31.317 25.472 32.703 18.533 34.752	82,990 62,752 34,768 23,442 41,682 16,571 49,711	81,691 80,333 68,103 58,822 54,039 53,899 53,363	56,540 60,744 47,334 25,662 37,277 39,575 38,136	76,032 63,697 47,893 75,385 33,819 44,427 39,913
Beef and yeal, fresh Lead, primary and semi- fabricated	36,594 34,322	30,629 41,886	34,219 38,105	50,965 45,290	43,167 30,977	21,497 37,957

CANADA 1953

Principal Domestic	Exports, 1948	3-52-concluded
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Commodity		Calenda	January-September			
Commodity	1948	1949 1950		1951	1951	1952
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Cattle, chiefly for beef Machinery (non-farm) and	47,226	46,146	61,686	44.314	35,614	1,584
parts	40,539	31,840	25,644	40,271	26,480	35,003
Automobiles, passenger	20,703	15,883	19,365	38,490	22,807	31 766
Ferro-alloys	24.057	19.182	17.075	31.347	22,392	22.726
Platinum metals and scrap	16.832	18.046	21,215	30,359	23,687	23,647
Fur skins, undressed	23,262	22.533	23.792	28,316	23,441	17,247
Antomobiles, freight	18,841	12,168	8,827	24.873	9,320	38.869
Aircraft and parts (except						
engines)	11,290	24,935	4,383	7,524	5,030	30,835

Principal Imports, 1948-52

NOTE.-Commodities ranked by value of imports in 1951.

Commedity		Calenda	ır Year		January-S	January-September	
Commodity	1948	1949	1950	1951	1951	1952	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
Machinery (non-farm) and							
parts.	217,090	216,316	226,249	328,741	248,213	200,824	
refined	107 048	180 306	203 964	233 148	176 735	156 509	
Automobile parts (except	197,049	109,070	24/0, 2012	100,110	110,100	100,007	
engines).	101.261	117.748	158,405	195,177	154,585	143,841	
Rolling-mill products	83,929	98,093	93.639	173,127	125,858	110,443	
Tractors and parts	88,670	118,506	108,319	125,562	97.176	95,864	
Electrical apparatus, n.o.p	62,127	69,802	82,585	120,101	91,183	96,994	
Coal, bituminous	127,673	93,455	118,788	115,275	85,606	75.411	
Cotton, raw	55,540	65,670	88,401	94,315	70,965	44.913	
Engines, internal combust-	42 021	15 610	17 068	80 214	56 268	101 470	
ion, and parts	43,031	40,010	77 208	77 100	61 207	40 760	
Farm implements and mach-	03,001	00,120	11,200	11,100	01,000	30,107	
inerv (excent tractors) and							
parts.	51.325	58,706	53,322	69.529	58,195	65,529	
Rubber, crude and semi-		11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
fabricated	20,878	17,662	34,361	64.973	56,409	22,774	
Fuel oils	33,066	18,134	45,909	58.389	44,268	45,197	
Automobiles, passenger	21.428	38,970	75,330	56,6.12	54,619	38,991	
Cotton fabrics	52,815	52,000	45,901	54,984	45.843	37,902	
Wool, raw.	23,030	18,849	20,800	54,301	51.130	14,300	
Coal, anthracite	30,292	45,598	34,203	31,230	25 270	34,203	
Conee, green	23,420	20.004	22 000	40,400	37 047	46 311	
Dringingt chamicals (amonth	510	20.047	33,090	41,071	34.731	40,511	
poida) # a b	28 018	31 576	37 161	43 960	32 777	37 214	
Pinee tubee and fittinge	18 598	28 145	35 304	43, 183	31,990	39.512	
Aircraft and parts lescent	10,000		001011				
engines)	7,754	13,256	10,942	41,438	24.294	70,709	
Wool noils and tops	23.946	18,193	28,178	39,495	36.339	7,753	
Wool fabrics.	42.648	41,747	.31.719	38,567	32,395	23.635	
Vegetable oils (except essen-							
tial oils).	18,008	20,550	31,162	35,025	.31,399	14,512	

The Canadian Balance of International Payments

Canada's commercial and financial transactions with other countries are reflected in statements of the Canadian balance of international payments. These statements include exchanges of services and international movements of capital as well as foreign trade in merchandise. Consequently, the effects of economic changes in countries throughout the world as well as in Canada tend to influence the balance of payments as it is a measure of Canada's full surplus or deficit with other countries.

During recent years wide fluctuations occurred in Canada's current account. There were current account surpluses in 1948 and 1949 and again in 1952, but in the years 1950 and 1951 current deficits appeared for the first time since the early 1930's.

During the same years the unbalance in trade with some individual countries and regions was greatly reduced. The change was most accentuated in 1950 when the unbalance in trade was unprecedently small, as the result of a falling-off in the export balance to the United Kingdom and overseas countries and a contraction in the import balance from the United States. But in 1951, and even more in 1952, there was a return to enlarged export balances with overseas countries and a substantial import balance with the United States, though the latter was not as great as the rise in export balance. This was a leading reason for the growth of the export balance with all countries and the resulting current account surplus in 1952.

The great fluctuations that occurred in the current account are illustrated when 1948 is compared with 1951. The transition between these two years was from a current surplus of \$451,000,000 in the former year to a current deficit of \$522,000,000 in 1951. There was a swing on merchandise account from an export balance of \$432,000,000 in the former year to an import balance of \$153,000,000 in 1951, the result of a greater rise in the value of imports than of exports. The greater rise in the volume of imports and some deterioration in terms of trade, due to a greater increase in import prices than in export prices, led to the change in the balance of merchandise account. At the same time, there was a sharp change in the balance on account of other current transactions-from a credit of \$19,000,000 in 1948 to a debit of \$369,000,000 in 1951-owing to a number of factors. In the case of both international travel expenditures and the freight and shipping item, the large credit balances earned in 1948 had disappeared in 1951. In addition, there was a growth in the deficits on income account and from miscellaneous current transactions, and contractions in the credit balance from inheritances and migrants funds, and in the value of gold available for export.

The surplus in 1948 was partly owing to the effects of the emergency exchange conservation measures introduced at the end of 1947 to restrict expenditures of United States dollars following the rapid loss in official reserves in that year. In the same year there was a sharp rise in Canadian exports to the United States as restrictions on exports to that country were removed at a time when supplies available for shipment to that country were improving. By 1951, the emergency measures had all been withdrawn and Canadian expenditures abroad again increased under the stimulus in Canada of high levels of economic activity, of heavy investment and of the rise in inventories. Consequently, the rise between 1948 and 1951 in current expenditures by Canada was much greater than the rise in current receipts.

The transition to a current surplus first appeared in the closing months of 1951 due to the reappearance of an export balance from merchandise trade. The export balance of 1952 was larger than the deficit from all other current transactions, which was caused by an adverse trend on travel account and in the value of gold, and by larger expenditures abroad on defence activities. Favourable trends were recorded in the balance on freight and shipping account and on income account, although the latter continued to be a large contributor of debits.

Movements of capital into Canada were substantial during the three years 1950 to 1952. The predominant movements were inward into Canada from the United States in 1950 and 1951, while in 1952 movements were more diverse and the net movement was outwards. A feature of the inflows, which were at a peak in the summer of 1950, was the acquisition of domestic bonds of the Government of Canada by residents of the United States. Inflows of capital for direct investments were substantial in 1950, and continued to be heavy in the two following years, particularly for the financing of Canadian petroleum and other mineral developments by United States companies. Another important type of inflow was borrowing from the United States through sales of new issues of securities, a source chiefly employed by provincial and municipal governments and corporations. While retirements of Canadian securities were also heavier in the earlier part of the period, new issues exceeded retirements by a wide margin in both 1951 and 1952. In 1952 a prominent feature of capital movements was the liquidation of holdings of outstanding Canadian bonds by residents of the United States, continuation of a trend in evidence towards the end of 1951. At the same time, capital continued to come into Canada for the acquisition of stocks of Canadian companies. Short-term movements of capital were particularly heavy in the years from 1950 to 1952-predominantly inward in the first two years but outward in 1952.

Related to the balance of payments trends were the fluctuations in the Canadian dollar since the departure from a fixed rate of exchange in October

Loading newsprint in a ship's hold. Canada's forest products hold the top three positions in value of exports—in 1952 newsprint and wood-pulp were first and second and lumber was third.





Canado's spectacular Rocky Mountain parks are well known and popular vacation lands.

1950. The average value of the United States dollar in Canada was \$105.27 in 1951 and \$102.56 in December of that year. In 1952 the Canadian dollar strengthened during the year and in September the United States dollar averaged \$95.98 in Canada.

Travel Between Canada and Other Countries

Prior to 1951 travellers from other countries normally spent more money in Canada every year than Canadian travellers spent in other countries. Each year international travel expenditures brought to Canada a substantial credit balance with the United States and a small debit balance with overseas countries. However, in 1951 travel for the first time produced a net outflow of funds from Canada. The credit balance with the United States which has been customarily substantial, dropped from \$67,000,000 in 1950 to \$12,000,000 and was too small to offset a debit balance of \$18,000,000 with overseas countries. In 1952 there was a debit balance between Canada and the United States. With a population less than a tenth that of the United States, Canadians spent more on travel in the United States than residents of that country spent on travel in Canada.

Year	Credits	Debits	Balance	Year	Credits	Debits	Balance
	(M	illions of D	ollars)		(M	itlions of D	ollars)
1947	241	152	+ 89	1950	260	193	+ 67
1948.	267	t13	+154	1951.	258	246	+ 12
1949	267	165	+102	1952	258	294	- 36

CANADA 1953

The high credit balance in 1948 was largely due to restrictions under the emergency exchange conservation measures. Withdrawal of these restrictions in subsequent years left Canadians free to travel in the United States and each year they have gone in ever increasing numbers until in 1952 their expenditures were between two and three times the 1948 level. During the same period, expenditures in Canada by visitors from the United States have shown little change but have surpassed those of any other year by a margin of \$15,000,000 or more.

Expenditures of travellers between Canada and the United States from 1946 to 1951 are classified below by means of travel.

Means of Travel	1946	1947	1948	1949	1950	1951
EXPENDITURES IN CANADA OF TRAVELLERS FROM U.S		(Millio	ons of Car	adian Do	ollars)	
Automobile	98.0	118-4	139-4	145.3	148 - 1	151-6
Rail	61.4	56.6	55.9	52.8	43.5	43.6
Boat	17.3	22-1	16.0	13.8	13.7	10.5
Through bus	15-8	16.7	20.8	24.4	20.8	17.7
Aircraft	10.3	13-1	12.1	17.6	21.4	22.2
Other (pedestrians, local bus, etc.)	13.3	14.2	23.2	13.2	12.2	12.4
TOTALS	216 - 1	241 - 1	267 - 4	267 • 1	259 • 7	258-0
EXPENDITURES IN U.S. OF TRAVELLERS FROM CANADA-						
Automobile	21.7	32.6	25.1	52.9	67.3	03.0
Rail	49.6	52.2	35.9	46.2	47.0	58.2
Boat	3.2	4 - 1	3.1	4.6	3.5	3.9
Through bus	28.5	34.6	25.5	33.1	42.0	48.8
Aircraft	8.8	9.0	7.3	9.7	13.8	22.1
Other (pedestrians, local bus, etc.)	18.1	19.8	16.3	18.4	19-1	19.0
Totals	129.9	152.3	113.2	164.9	192 - 7	245.9

The distribution of population in Canada and the United States has an important effect on travel between the two countries. Most of the Canadian people reside within a few hundred miles of the international boundary, whereas the population of the United States is spread over a large area with many important centres of population far from the northern border. Thus it is easier for most Canadians to visit the United States than it is for most residents of the United States to visit Canada.

In terms of volume of traffic there are still more United States visits to Canada than Canadian visits to the United States. The average American visit, however, brings in less money than the average Canadian visit takes out. In 1951 the average expenditure rate per traveller for visits lasting longer than 48 hours was \$85* for Canadians visiting the United States against \$53* for Americans visiting Canada.

The volume of travel between Canada and overseas countries is normally less than 1 p.c. of that between Canada and the United States. Overseas travellers, however, stay for longer visits and transportation costs are higher, hence their expenditures are more significant than the number of travellers would suggest. The sum of debits and credits in Canada's overseas travel in 1952 amounted to more than \$50,000,000, close to 10 p.c. of travel expenditures between Canada and the United States. The debit balance from Canada's overseas travel in 1952 amounted to approximately \$24,000,000.

These rates are inclusive of children and of persons visiting friends or relatives. Corresponding rates restricted to adults using hotels or other commercial accommodation would be materially higher.



Centre Block of Canada's Parliament Buildings in tulip time.

Finance

Public Finance

A summary of the combined finance statistics of all governments is given in this section, together with more detailed treatments of federal, provincial and municipal statistics. The public finance data are followed by an outline of the Canadian banking system, the money supply, and figures of the insurance business conducted in Canada.

Combined Statistics of All Governments

Combined Revenue and Expenditure. The following tables show the trend of government revenue and expenditure for the past few years. In 1949, revenue of the Government of Canada decreased and that of provincial and municipal governments increased, continuing the trend of the post-war years. The expenditure table reflects the accelerated participation by provincial and municipal governments in capital expenditure programs deferred during the war years, but does not yet reflect the participation of the Government of Canada in the defence preparedness program.

Revenue and expenditure are shown on a "net" basis. Examples of revenue treated as offsets to expenditure are grants-in-aid and shared-cost contributions from other governments, interest revenue, institutional revenue, and certain other sales of commodities and services. It should be noted that expenditure excludes debt retirement but includes expenditure financed from capital borrowings.

Comparative Government of Canada, Provincial and Municipal Revenue, 1937-49

NOTE.-Figures are for fiscal years ended nearest to Dec. 31. Inter-governmental transfers such as subsidies paid by the Government of Canada to the provinces are excluded.

No.	Government	Provin	icial and Muni	cipal	Grand				
Year	of Canada	Provincial	Municipal	Total	Total				
		Revenue							
	\$'000	\$'000	\$'000	\$'000]	\$'000				
1037	460.544	221.397	304 161	525.558	986.102				
1030	480 027	236.223	316.964	553.187	1.033.214				
1941	1.389.433	301.842	331,206	633,048	2,022,481				
1943	2.522.414	250.646	340,690	591,336	3,113,750				
1945	2,694,116	316.724	356.2891	673,013	3,367.129				
1947	2,663,310	533,857 1	413,3511	947,208	3.610,518				
1948	2.575.514	635,697	462.9771	1.098.674	3.674,188				
19492,	2.411,218	730,842	511.8351	1,242,677	3.653,895				
		Perce	ntage Distribu	tion					
1937	46.7	22.5	30.8	53-3]	100.0				
1939	46.5	22.8	30.7	53-5	100.0				
1941	68.7	14.9	16-4	31.3	100.0				
1943	81.0	8-1	10.9	19-0	100.0				
1945	80.0	9.4	10.6	20.0	100-0				
1947	73-8	14.8	11-4	26.2	100-0				
1948	70.1	17-3	12.6	20.9	100.0				
1949	-66-0	20.0	14.0	34-()	100.0				

1 Includes estimate for Quebec.

2 Includes Newfoundland.



Official Residence of Canada's Prime Minister, Sussex Street, Ottawa.

Comparative Government of Canada, Provincial and Municipal Expenditure (Capital and Current), 1937-49

NOTE.-Figures are for the fiscal years ended nearest to Dec. 31. Inter-governmental transfers such as subsidies paid by the Government of Canada to the provinces are excluded.

	Government	icipal	Grand					
rear	Canada	Provincial	Municipal	i Total	Total			
		Expenditure						
	\$'000	\$'000	\$'000	\$'000'\$	\$'000			
1937	444.599	359.689	296.288	655.977	1,100.576			
1939	1,718,787	311,260	292.517	603,777	2,322,564			
1943	4,907,475 4,652,841	300.997 370.875	300,579 334,2614	601,576 705,136	5,509,051 5,357,977			
1947	1,762,472	625,539 775 814	454.477	1,080,016	2,842,488			
1949:	2,010,587	873.929	619,1061	1.493.035	3,503,622			
	Percentage Distribution							
1937	40.4	32-7	26.9	59.6	100.0			
1939	46-4	28.8	24.8	53-6	100.0			
1943	89-1	5.5	5.4	10.9	-100.0			
1945	86-8	6.9	6.3	13-2	100.0			
1948	57-7	24 8	17-5	42.3	1(81.0			
1949	57-4	24-0	17.7	42.6	100-0			

¹ Includes estimate for Qualact.

2 Includes Newfoundland.

Combined Debt.—The combined debt of all governments increased by about 2.5 p.c. from 1949 to 1950, only the indirect debt of the Federal Governmet and of municipal governments showing any decrease in this comparison. Comparing 1946 with 1950, the increase of \$771,608,000 in the combined debt was mainly accounted for by an advance in the indirect debt of provincial governments.

Combined Government of Canada, Provincial and Municipal Direct and Indirect Debt, 1946-50

Item	1946	1947	1948	1949:	E9504
Direct Debt-	\$'000	\$1000	\$1000	\$'000	\$ 000
Government of Canada Provincial Municipal ⁸	18,048,660 1.817,524 936,835	17,631,616 1,746,824 980,550	17,460,635 1,820,191 1,009,193	17,299,664 1,941,941 1,128,926	17,554,469 2,005,071* 1,277,841
Totals. Less Inter-governmental Debt.	20,803,019 231,055	20,358,990	20,290,019 166,338	20,370,531 199,066	20,837,381 214,391
Combined Direct Debt	20, 571, 964	20,208,943	20,123,681	20,171,465	20,622,990
Indirect Debt— Government of Canada Provincial. Municipal ^a .	621,058 220,459 45,994	603,468 471,599 45,574	654,803 564,509 47,006	729,756 737,870 46,249	701,181 860,371 45,542
Totals Less Inter-governmental Debt.	887.511 21.710	1,120,641 21,094	1,266,318 22,382	1,513,875 21,900	1,607,094 20,711
Combined Indirect Debt.	865,801	1,099,547	1,243,936	1,491.975	1,586,383
Grand Totals, Direct and Indirect Debt	21,437,765	21,308,490	21,367,617	21,663,440	22,209,373

NOTE .- Figures as at fiscal years ended nearest Dec. 31.

¹ Includes Newfoundland, ² Includes Yukon Territory, ³ Includes an estimate for Quebec.

Drawing room, Surveys and Mapping Branch of the Federal Department of Mines and Technical Surveys, where the official maps of Canoda are made.



Governmental guarantees of debt which increase indirect debt, and capital borrowings for non-expense purposes such as for loans and advances which increase direct debt, are not reflected in the revenue and expenditure tables.

Finances of the Federal Government

Federal Government accounts for the fiscal year ended Mar. 31, 1952, showed a surplus of revenue over expenditure amounting to \$248,033,402 compared with a surplus of \$211,294,251 for the previous fiscal year. Revenue increased and expenditure was at the highest level since 1946.

One of the most interesting aspects of federal finance to the ordinary citizen is the growth in the net debt of Canada. The following table is of particular interest since it shows the trend from Confederation down to the latest year, 1952. At Confederation the total net debt of Canada was only \$76,000,000 and represented \$21.58 per head of the population. The two world wars caused staggering increases; the net debt which was \$336,000,000 in 1914 increased to \$2,341,000,000 in 1921, or from \$42.64 per capita to \$266.37 per capita. By the end of World War II in 1946, the net debt reached \$13,421,000,000 or \$1,091.85 per head of the population. The Budget surpluses of subsequent years reduced the net debt in 1952 to \$775.14 per capita.

						1
Vear	Total	Per Capita	Total	- Per Capita	Net Debt at	Net Debt
r car	Revenue	Reve-	Espenditure ²	Expend-	End of Year	Per
				Tenter		Capita"
	\$	\$	s	\$	\$	5
1868	13.687.928	3.95	14.071.689	4.06	75.757.135	21.58
1871	19.375,037	5.34	19,293,478	5.32	77,706,518	21.06
1881	29,635,298	6.96	33,796,643	7.94	155,395,780	35.93
1891	38,579,311	8.07	40,793,208	8.54	257,809,031	49.21
1901	52,516,333	9.91	\$7,982,866	10.94	2.38,480,004	49.99
1911	t17,884.328	16.87	122,861,250	17.58	340,042,052	47.18
1921	436,292,184	50.99	528,302,513	61-75	2.340,878,984	266.37
1931	357.720,435	35.04	441,568,413	43.26	2.261.611.937	217.97
1939	502,171,354	45.03	553,063,098	49.60	3.152.559.314	279.80
1940	562,093,459	49.89	680,793,792	60 - 42	3,271,259,647	287-43
1941	872,169,645	76.63	1,249,601,446	109.80	3,648,691,449	317.08
1942	1,488,536,343	129.36	1,885,066,055	163.82	4,045,221,161	347-11
1943	2,249,496,177	193.02	4.387,124,118	376-45	6,182,849,101	524-19
1944	2,765,017,743	2.34 + 42	5,322,253,505	451-23	8,740,084,893	731-63
1945	2.687,334,799	224-96	5,245,611.924	439-11	11,298,362,018	935-91
1946	3.013.185.074	249-60	5.136.228.505	425.47	13.421.405.449	1.091-85
1947	3,007,876,313	244.70	2,634,227,412	214.30	13.047.756.548	1.039.58
1948	2.871.746.110	228.81	2,195,626,453	174.94	12.371.636.893	964 - 80
1949	2,771,395.075	216-13	2,175,892,332	169.69	11,776,134,152	875-74
1950	2.580,140,615	191-87	2,448,615,662	182.09	11,644,609,199	849-23
1951	3.112.535.948	226.99	2,901,241,698	211.58	11,433,314,948	816-14
1952	3,980,908,652	284-17	3,732,875,250	266-46	11,185,281,546	775-14

Finances of the Federal Government, Years Ended Mar. 31, 1868-52

¹ The basis of calculation is the estimated population figure as at June 1 of the immediately preceding year. ² Includes non-active advances to railways and transfers from active to non-active assets for 1911 and subsequent years. ² The basis of calculation is the estimated population figure as at June 1 of same year.

Summary of Revenue and Expenditure, Years Ended Mar. 31, 1949-52

the second se	the second s			
Item	1049	1950	1051	1952
	8	8	S	S
Revenue	~		*	
C	222 07F 171	220 027 601	305 731 750	146 264 862
Excise duties	222,975,471	225.811.083	295,721,750	340,304,303
Income tax	1 207 000 404	1 272 650 191	1.513.135.510	2.161.373.408
Excess profits tax	44,791,918	-1,788,388	10,140,910	2,364,909
Sales tax (net)	377,302,763	403.437.159	460,120,405	573,470.562
Succession duties	25.549.777	29,919,780	33,599,089	38,207,985
Other taxes	202.870,974	172,450,150	231, 380, 901	518,055,072
Totals Revenue from				
Taxation	2.436.142.276	2.323.117.079	2,785,349,899	3,657,775,082
Non-tax revenue	212,947.551	205, 599, 358	233, 348, 382	281,971,660
Totals, Ordinary Revenue	2.649,089,827	2,528,716,437	3,018,698,281	3,939,746,742
Special receipts and other				
credits	122,305,248	51,424,178	93,837,667	41.161.910
Totals, Revenue	2,771,395,075	2,580,140,615	3,112,535,948	3,980,908,652
Ernenditure				
Experiorcure			A CONTRACTOR OF	
Finance	701,178,588	745,239,512	752.572.062	873,613,548
Agriculture	61,772,531	75,046,567	142,785,183	07,134,389
Citizenshin and	333,192	301,004	010,111	001,120
Immigration ¹		17,701,414	20,672,564	23,240,788
Civil Service Commission	1,364,297	1,512,851	1,580,319	1,691,663
Chief Electoral Officer	287,092	4,450,108	270,925	307,730
External Affairs	14 514 056	16 680 410	22 079.561	37 582.459
Fisheries.	5,423,415	7.586.370	8,964,464	8,733,025
Governor General and				
Lieutenant Governors	242.380	274,025	244,239	215,114
Instice including peniten.	202.937	311,400	300,141	10,000
Listies	9,887,873	10,959,086	12,406.679	14,038,715
Labour	60,427,224	56,143,234	62,628,099	64,302,099
Legislation	5,105,152	5,229,174	4,710,900	3,945,205
Mines and Technical	27, 320, 9772	***		
Surveys ¹		25,356,752	17,556,401	27,751,836
National Defence	268,804,813	384,879,008	782.457.272	1,415,473,862
National Health and Wel-	350 613 610	423 320 122	418 852 007	408 752 115
National Revenue	49.323.139	50,604,219	48,460,884	54,063,557
Post Office	77,641,621	82,639,741	91,781,466	97,973.263
Prime Minister's Office	105,605	120,142	124,315	4,057,687
Privy Council Office	4,350,010	4,008,209	4,125,791	251 018
Public Printing and	112.510	190,104	200,900	
Stationery	753,345	866,069	706,201	1,103,156
Public Works	51,067,102	67,058,184	75.040,433	77,544,088
Reconstruction and Supply*	4,780,319	***	***	4.1.4
ment ¹		25,388,855	31,200,626	34,432,805
Royal Canadian Mounted	12.010.000	12 020 100	10.000 (20	37 240 243
Police	13,717,042	15,970,904	19,800,688	27,340.713
Trade and Commerce	58,698,315	50,758,895	48,878,312	46,896,842
Transport.	101.269.992	127,766,477	85,123,464	99,900,569
Veterans Affairs	276,879,498	246.377,400	216,392,434	216,026,529
		2 444 445	2 001 344 400	2 722 075 350
Totals, Expenditure.	2,175,892,334	2,448,615,662	2.901.241,698	3,132,875,250
Deficit or Surplus	-595 502 741	-131 574 951	-211.294.250	+248,033 402
Lenere or outputs .	107775045741	A CER & CLOR & A LULA	1	

¹ In 1950 the Department of Mixes and Resources was reorganized into the three Departments—Citizenship and Immigration. Mixes and Technical Surveys, and Resources and Development. ² This Department was dissolved in 1949. Revenue from taxation accounted for 91.9 p.c. of total revenue in 1951-52, compared with 89.5 p.c. in 1950-51. As a result of higher personal incometax rates, revenue from income taxes, sustained by the buoyant condition of the national economy, increased by \$648,238,000 over the previous year. Non-tax revenues were up \$48,624,000 compared with 1950-51.

Some of the major items of expenditure were: interest on the public debt, which increased from \$425,217,500 in 1950-51 to \$432,423,000 in 1951-52; family allowances, which increased from \$309,465,000 to \$320,458,000; and expenditures by the Department of National Defence, which increased from \$782,457,000 to \$1,415,474,000. In addition, expenditure by the Department of Defence Production totalled \$30,978,000.

The 1952-53 Budget. The Budget for the fiscal year ending Mar. 31, 1953. was presented to Parliament on Apr. 8, 1952. It proposed a number of tax changes which were designed to put the tax structure on a more orderly and stable basis. The 20-p.c. defence surtax on personal incomes was repealed and a new rate schedule was proposed which incorporated part of the defence surtax and at the same time provided for an average income-tax reduction of 6 p.c. in a full year. Tax deductions from salary and wages based on the new schedule commenced July 1, 1952, and the 1952 taxation year personal income-tax liability is determined from an income tax schedule which averaged the pre-budget structure and the new rate structure. Corporation income tax rates which had been 15 p.c. on the first \$10,000 of profits and 45.6 p.c. on profits in excess of \$10,000 were replaced by rates of 20 p.c. and 50 p.c. effective Jan. 1, 1952. It was announced that the eight provinces with which the Federal Government had tax rental agreements and which had been levying 5 p.c. corporation income taxes would be not asked to levy these taxes on profits carned after Dec. 31, 1951. Concurrently provision was made for a tax credit of 5 p.c. against the federal tax in respect of profits earned in provinces that did not enter into a tax agreement and continued to levy a provincial corporation income tax.

The rate of excise tax on all articles previously subject to a tax of 25 p.c. was reduced to 15 p.c. The 30-p.c. excise tax on soft drinks was reduced to 15 p.c. The 15-p.c. tax on stoves, washing machines, and refrigerators was repealed. The excise tax on cigarettes was reduced from 23 cents for five cigarettes to 2 cents for five cigarettes.

Borrowings. – During the year ended Mar. 31, 1952, the Federal Government reduced its oustanding net debt by \$248,033,402. Total redemption of debt during the year, excluding the recurring issues of treasury bills, amounted to \$2,759,589,380, of which \$2,100,000,000 was financed through renewals or conversions and \$357,649,750 was raised by the sale of new issues to individuals for cash. Such new issues consisted of \$200,000,000 of $1\frac{1}{8}$ p.c. Deposit Certificates issued Aug. 29, 1951, and maturing Feb. 27, 1952, and a two-year 2-p.c. loan of \$200,000,000 issued Nov. 1, 1951, at 99.15 p.c.; \$357,649,750 was raised by the sale of a new issue of $3\frac{1}{2}$ p.c. Canada Savings Bonds, Series VI, for cash.

Income Tax.—The income tax was instituted in 1917 as a part of war-tax revenue. Before the outbreak of World War II, it had become a permanent and important part of the taxation structure and the chief source of ordinary



"D" Company of the Princess Patricia's Canadian Light Infantry on exercise, travelling by snowmobile over the rugged terrain north of Whitehorse, Yukan Territory.

revenue. Income-tax rates were increased to help finance the second world war and a compulsory savings feature was adopted with respect to individuals and to corporations. Repayment of the refundable portion of the personal income tax was completed in 1949 and of the excess profits tax in 1952.

Since the end of the War, the weight of individual income tax was reduced each year up to and including 1949 and higher exemption allowances were given. However, the expansion of personal incomes and the growth of the labour force offset to a considerable extent the effects of the reduction in rates. In 1950 the rates of personal income tax were increased again to take care of rising defence costs following the outbreak of war in Korea, and in 1951 a defence surtax of 20 p.c. was introduced which applied at the rate of 10 p.c. to 1951 incomes. The Budget of 1952 announced a new schedule of rates which incorporated the greater part of the 20-p.c. defence surtax.

Taxes on corporation incomes were reduced following the end of the War. Excess profits tax rates were also reduced and finally ceased to apply after Jan. 1, 1948, and with the ending of that tax, corporation income-tax rates were again raised.

Income tax changes in the Budget of 1952-53 are given briefly at p. 300.

Number of Taxpayers, Total Income and Tax Collected Thereon, by Income Classes, 1950

Income Class	Taxonyers	Total Income	fetal Tax
Below \$1,000 \$1,000— 2,000	No. 7,700 739,360	\$ 4,163,000 1,105,645,000	\$ 354,000 48,165,000
2.000- 3.000	889.900	2,227,347,000	96,504,000
3.000- 4.000.	434,200	1,471,108,000	80,976,000
4.000- 5.000	134,380	593,282,000	44,223,000
5.000-10.000	125,420	823,957,000	95,209,000
Over \$10,000	<u>43,280</u>	807,304,000	209,505,000
Totals	2,374,240	7,032,803,000	574,936,000

Number of Taxpayers, Total Income and Tax Collected Thereon, by Occupational Classes, 1950

Class	Taxpayers	Total Income	Total Tax
	No.	\$	\$
Primary producers Professionals Employees Salesmen Business proprietors Financial Estates Deceased Unclassified.	$\begin{array}{r} 42,630\\ 25,640\\ 2,084,590\\ 24,900\\ 137,970\\ 50,350\\ 3,990\\ 3,430\\ 740\end{array}$	$\begin{array}{c} 160,975,000\\ 190,291,000\\ 5,578,592,000\\ 111,198,000\\ 683,781,000\\ 279,626,000\\ 10,851,000\\ 15,033,000\\ 2,456,000\\ \end{array}$	$\begin{array}{c} 14,601,000\\ 34,523,000\\ 368,053,100\\ 11,323,000\\ 92,306,000\\ 49,224,000\\ 2,715,000\\ 1,957,000\\ 2,34,000\\ \end{array}$
Totals	2,374,240	7,032,803,000	574,936,000

Increasing tax rates during a period of rapidly rising income has resulted in the heavy tax collections that are such a marked feature of current revenue.

Collections under the Income Tax Act, Years Ended Mar. 31, 1943-52

Year	General	Income Tax	Tax on Un- distributed	Non- Resident	Total Income	
	Individuals	Corporations	Income	Tax	Tax	
	\$	\$	\$	\$	\$	
1943 1944 1945 1946 1947 1948 1948 1948 1950 1951 1952	$\begin{array}{c} 534,138,152\\ 813,435,128\\ 767,755,082\\ 691,586,114\\ 694,530,146\\ 659,828,215\\ 762,563,516\\ 621,982,243\\ 652,328,680\\ 975,776,320\\ \end{array}$	$\begin{array}{c} 347.969.723\\ 311.378,714\\ 276.403.849\\ 217.833.540\\ 196.819.253\\ 351.535.006\\ 488.549.610\\ 602.072.622\\ 711.576.735\\ 1,118.067.202 \end{array}$	41,972,700 12,596,108 3,440,510 87,619,776 14,612,872	$\begin{array}{c} 28,080,797\\ 26,943,193\\ 28,599,137\\ 28,309,619\\ 30,136,146\\ 35,889,028\\ 43,445,764\\ 47,474,846\\ 61,610,319\\ 55,017,014 \end{array}$	$\begin{array}{c} 910,188,672\\ t,151,757,035\\ 1,072,758,068\\ 937,729,273\\ 963,458,245\\ 1,059,848,357\\ 1,297,999,404\\ 1,272,650,191\\ 1,513,135,510\\ 2,163,473,408 \end{array}$	

Provincial Finance

When comparing 1949 figures of revenue, expenditure or debt of all provinces with those for previous years, it should be kept in mind that the 1949 figures include the Province of Newfoundland for the first time.

CANADA 1953

The school is one of the first considerations in the establishment of the new communities springing up around outlying industrical projects. Here several elementary grades are taught in one classroom in the contractor's base camp school at Seven Islands, Que.



There has been an impressive increase in both revenue and expenditure of all provincial governments during the past decade. In 1939 most provincial governments derived their largest revenue from taxes (chiefly corporation taxes and gasoline sales taxes), motor-vehicle licences and liquor-control revenues. To-day, taxes from all sources are still the greatest revenue producer. Privileges, licences and permits represent the second largest source of net general revenue, followed by Federal Government subsidies and tax agreement payments, and liquor profits. The emphasis in spending has also changed. In 1939 the main expenditures in order of size were for social welfare, debt charges (excluding debt retirement), education, health and transportation. In 1949 the heaviest item of expenditure was transportation, followed by education, health, social welfare and natural resources.



The Ontario Government's system of forest fire protection, based on the lookout tower with radio communication and augmented under certain conditions by aircraft patrol, is considered the most effective detection system in use anywhere.

Direct and Indirect Debt of Provincial Governments (less Sinking Funds), 1949 and 1950

	Dire	rt Diebit	Indirect Debt		
Province	1949	1950	1949	1950	
	\$'000	\$'000	\$'000	\$'000	
Newfoundland	4,949	4.397	5,025	5.867	
Nova Scotia	138,958	15,710	3,854	3.814	
New Brunswick	141,271 374,930	451,473	299,185	12,615	
Öntario	681.679 97.839	684.212	394,441 841	492.899	
Saskatchewan	151.029	161,886	654	805	
British Columbia	201.821	223,902	20,485	28,865	
Totals	1,941,941	2,005,051	737,870	860,371	

Details of Direct and Indirect Debt of Provincial Governments (less Sinking Funds), 1949 and 1950

1040	1950	Detail	1040	1950
\$'000 ,955,095 343,986	\$'000 1,946.505 308,114	Indirect Debt— Guaranteed bonds. Less sinking (ands.	\$'000 681,506 3,625	\$'000 787,152 5,413
,611,109	1,638,391	Net guaranteed bonds	677,881	781,739
93,703 39,380	89,664 63,587	Guaranteed bank loans. Municipal Improve- ment Assistance Act	16,396	23,088
133,083	153.251	Joans	4,470 39,123	4,212 51,332
68,991	1,770	Totals, Net In- direct Debt	737,870	860,371
9,998 107 857 96,282 21,514	5,063 301 1,419 182,565 21,790	Grand Totals	2,679,811	2,865,422
1,941,941	562			
	\$'000 .955,095 343,986 .611,109 93,703 39,380 133,083 68,991 9,998 107 857 96,282 21,514	\$'000 \$'000 .955,095 1,946,505 .343,986 .308,114 .611,109 1,638,391 93,703 89,664 .93,800 63,587 133,083 153,251 68,991 1,770 9,998 5,063 107 3.01 957 1,419 96,282 21,729 .941,941 2,005,051	\$'000 \$'000 .955,095 1,946.505 .343,986 .308,114 .611,109 1,638,391 .93,703 89,664 .93,380 63,587 .133,083 153,251 68,991 1,770 9,998 5,063 107 301 .857 1,419 96.282 182,562 .941,941 2,005,051	\$'000 \$'000 .955,095 1,946,505 343,986 308,114 Guaranteed bonds. 681,506 .434,986 308,114 Guaranteed bonds. 681,506 .611,109 1,638,391 Net guaranteed 677,881 93,703 89,664 .93,80 63,587 Municipal Improve ment Assistance Act loans. 16,396 133,083 153,251 Other guarantees 09,123 68,991 1,770 9,998 5,063 107 301 857 1,419 96,282 182,565 21,514 21,729 562 562 9,941,941 2,005,051

Gross Provincial Bonded Debt, by Currency of Payments, 1949 and 1950

Pagasie m	1010	19501
	\$'000	S'ODHI
Canada only	1,361,933 28,670 7,582 346,182 210,728	$\begin{array}{r} 1,421,651\\19,359\\2,974\\16,875\\300,867\\183,014 \end{array}$
Totals	1,955,095	1,944,740

1 Excludes bonded debt of other authorities, assumed by provincial governments.

Municipal Finance

At the end of 1950, there were 4,118 incorporated municipalities in Canada varying greatly in size, population and population density. They are classified as: (1) municipalities in metropolitan areas (the metropolitan areas outlined in the 1951 Census of Canada), whether urban or rural in character or organization, but chiefly urban; (2) other urban; and (3) other rural (whether semi-urban or entirely rural). Many of the larger municipalities delegate authority to subsidiary boards to supervise specific activities or services, such as utilities, health services and community planning. A few combine with other municipalities to establish special authorities which unify services for an area. In the sparsely settled areas of the provinces services that would normally be provided by local government are administered by the province when required. Local government in the Territories exists in modified form in a few settlements.

In most provinces the municipalities levy the local taxation for school authorities but exercise little or no control over school administration or finance. In much of Quebee and Prince Edward Island and in fimited areas of some other provinces, school authorities levy and collect their own local taxes.

Municipal governments have felt, as have other levels of government, the pressure of post-war inflation and expansion, with a resultant increase in taxation, ordinary expenditure, and capital expenditure. The volume of the latter has led to a rapid growth in debenture debt since 1946 in urban areas to finance services required by expanding populations, reversing the downward debt trend of the period 1932-46.

Municipal Revenue and Expenditure.—Estimated municipal revenue for 1950 was 8576,200,000 of which 8402,100,000 or 69.8 p.c. was derived from taxes on real property, 878,300,000 or 13.6 p.c. from other taxes, and the remaining 895,800,000 or 16.6 p.c. from licences and permits, public utility contributions and provincial subsidies, etc.

110112

City Hall, Vancouver, B.C. Support of local schools currently requires the largest expenditure by municipal governments. In 1950 the amount spent on that service was \$174,300,000 or 30.6 p.c. of all expenditures. Other services cost \$311,200,000 or 54.6 p.c. and debt charges, together with provisions for debt repayment, \$84,300,000 or 14.8 p.c. Total expenditures were \$569,800,000. In 1939 expenditures of \$329,038,000 were divided as follows: 25 p.c. for school support, 48 p.c. for other services and 27 p.c. for debt charges and debt retirement.

Year and Province	Valuations on which Taxes were Levied	Tax Levies	Tax Collections (Current and Arrears)	Percentage of Levies to Collections	Total Taxes Receivabl• and Property Acquired for Taxes.
	\$'000	\$'000	\$'000		\$'000
1941 1943 1945 1945 1948 ² 1948 ²	$\begin{array}{c} 7,859,415\\ 7,906,826\\ 8,155,068\\ 6,237,747\\ 6,504,665\\ 7,232,125 \end{array}$	$\begin{array}{c} 272,458\\ 278,697\\ 291,693\\ 259,911\\ 291,680\\ 334,138\end{array}$	$\begin{array}{r} 237,680^{\circ}\\ 298,196\\ \hline \\ 255,748\\ 287,793\\ 325,109\\ \end{array}$	104+61 107+0 	237.133 192.777 134.021 79.482 81.386 87.423
1950					
Newfoundland Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario Manitoba Saskatchewan Alberta British Columbia.	$\begin{array}{r} 22,958\\ 2.39,606\\ 325,113\\ 2,530,702^3\\ 4,199,319\\ 597,903\\ 886,389\\ 747,262\\ 622,442\\ \end{array}$	$\begin{array}{c} 1.031\\ 865\\ 14,320\\ 12,294\\ 188,960\\ 32,658\\ 38,178\\ 30,563\\ 38,959\\ \end{array}$	970 823 13,946 11,178 187,673 30,417 35,082 37,312 38,931	$\begin{array}{c} 94.1\\ 95.1\\ 97.4\\ 91.0\\ 09.3\\ 93.1\\ 01.9\\ 04.3\\ 04.3\\ 09.9\end{array}$	353 244 5,211 4,539 22,500 10,747 20,844 21,381 9,138
Totals, 1950	10,171,784	366,828	356,332	97-1	94,963

Municipal Assessed Valuations, Tax Levies, Collections and Receivables, 1941-50, and by Provinces, 1950

¹ Excludes Quebec cities and towns, available. ³ Cities and towns, only. * Quebec not included as information not

Direct and Indirect Liabilities of Municipal Governments (less Sinking Funds), by Provinces, 1948-50

Province	1948		1949		1950	
	Direct	Indirect	Direct	Indirect	Direct	Indirect
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	$\begin{array}{r} 2.3841\\ 26.2213\\ 26.852\\ 295.143\\ 42.972\\ 31.645\\ 65.535\\ 95.016\\ \end{array}$	612 201 16,517 7,701	$\begin{array}{r} 3.312\\ 2.4951\\ 31,7361\\ 32.854\\ 348,568\\ 46,735\\ 35.013\\ 76,364\\ 110,162\end{array}$	829 669 15,907 8,032	$\begin{array}{r} 3,589\\ 3,031^4\\ 37,494^1\\ 37,402\\ 421,843\\ 52,896\\ 41,038\\ 103,317\\ 116,299\\ \end{array}$	1, 129 652 13, 196 7, 569
Totals	585,768	41,282	687,239	42,477	816,909	39,547
Grand Totals	627,050		729,716		856,456	

¹ Exclusive of rural schools.

The extensive public services naw accepted as indispensable by the urban dweller increase in complexity with the growth of the municipality so that in the larger cities the organization, pravision and maintenance of such services as water, light, drainage, disposal, streets, playgrounds, fire and police protection, etc., constitute a lorge-scale business.

Municipal Bonded Debt and Sinking Funds, Certain Years 1919-47, and by Provinces, 1932, 1949 and 1950

Vear	Gross Bonded In-	Total Sinking	Province	Gross Bonder) Indebtoduess		
	debtedness	Funds		19321	1949*	1950*
	\$'000	\$'000		\$'000	\$'000	\$'000
$\begin{array}{c} 1010 \\ 1025 \\ 1030 \\ 1038 \\ 1038 \\ 1038 \\ 1039 \\ 1040 \\ 1041 \\ 1042 \\ 1043 \\ 1044 \\ 1044 \\ 1044 \\ 1044 \\ 1045 \\ 1046 \\ 1047 \\ \end{array}$	$\begin{array}{c} 729, 715\\ 1,015,950\\ 1,271,390\\ 1,372,026\\ 1,302,201\\ 1,280,856\\ 1,244,001\\ 1,196,491\\ 1,136,897\\ 1,074,777\\ 1,006,936\\ 965,450\\ 503,4269\\ 515,066^3\end{array}$	$\begin{array}{c} & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & $	Newfoundland. Prince Edward Island. Nova Scotia. New Brunswick Quelae. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia. Totals.	2,120 31,606 24,753 463,614 504,756 92,471 59,238 76,892 129,333 1,384,792	3.001 3.327 39.321 37.076 292.542 55.059 30.141 63.185 137.618 661,270 ⁴	3,001 3,302 42,797 41,402 363,578 55,038 32,035 80,428 146,351 767,932 4

Debt for rural schools in the Maritimes not included. * Excludes rural schools in Prices Edward Island and Nova Scotia. Sinking fund totals not available previous to 1934; Alberta showed net debt to 1928. Does not include Quebec.

Banking

The Canadian banking system is a strong and stable structure with many outstanding features that have grown up since its foundations were laid more than a century ago. It consists of the Bank of Canada, which is a government-owned central bank, and ten privately owned commercial banks* competing among themselves for the domestic and foreign banking business of the Canadian people.

The Bank of Canada is the keystone of the structure. It was incorporated in 1934 as a central bank to regulate credit and currency, to control and protect the external value of the Canadian dollar and to stabilize the level of

* An Act incorporating an additional chartered bank, the Mercantile Bank of Canada, was passed on Fob. 5, 1953.



A'adium und longform capital recuired by small enterprises is evailable through the facilities of the Industrial Development Bank.

production, trade, prices and employment so far as may be possible within the scope of monetary action. The Bank acts as the fiscal agent of the Government of Canada, manages the public debt and has the sole right to issue notes for circulation in Canada. It is empowered to buy and sell securities on the open market; to discount securities and commercial bills; to fix minimum rates at which it will discount; and to buy and sell bullion and foreign exchange. The Bank is managed by a Board of Directors appointed by the Government and composed of a Governor, a Deputy Governor and 12 Directors, the Deputy Minister of Finance being a member of the Board.

The Industrial Development Bank, established in 1944, is a subsidiary of the Bank of Canada but operates as a separate entity. Its function is to supplement the activities of the chartered banks and other lending agencies by supplying the medium and long-term capital needs of small enterprises; the bank does not engage in the business of deposit banking. The extent of its operations is indicated by the following figures.

Loans, Investments and Guarantees of the Industrial Development Bank, by Provinces and Industries, as at Sept. 30, 1952

Classification	Author- ized	Out- standing	Classification	Author- ized	Out. stability
Province	\$	\$	Industrial Enterprise—concl.	s	\$
Newfoundland P.E. Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia and the Territories	90,000 671,182 1.337,721 21,754,259 11,820,949 1.582,250 3,618,848 2,485,200 7,279,185	55,691 429,755 982,260 14,847,927 8,169,533 790,469 1,331,460 1,035,058 5,969,779	Paper products (incl. pulp). Printing, publishing and allied industries Iron and steel pro- ducts (incl. machin- ery and equipment) Transportation equipment. Non-ferrous metal products. Electrical apparatus and supplies.	4,335,600 710,000 5,064,462 2,673,664 448,500 1,060,100	4,004,988 374,138 3,136,606 1,990,661 228,193 692,749
Totals Industrial Enterprise Foods and beverages Leather products Textile products (ex- cept clothing) Clothing (textile and fur) Wood (products	49, 639, 594 5, 506, 092 887, 500 3 , 076, 659 1, 354, 150 7, 446, 260	33,611,932 3,622,682 420,173 2,440,170 802,150 5,463,170	Non-metallic mineral products of petrol- eum and coal. Chemical products. Miscellaneous manu- facturing industries Refrigeration. Generation or distri- bution of electricity Commercial air ser- vices. Totals	2,484,461 2,880,000 6,994,343 740,000 3,630,803 250,000 100,000 49,639,594	1,777,568 776,661 4,738,824 494,002 2,589,191 33,611,932

The commercial banks of Canada, whose main function is to provide a safe repository for savings and surplus funds and to furnish credit for carrying on the business of the country, have developed branch-banking to a high degree. The ten banks in operation have branches across Canada, offices in many foreign countries and banking correspondents throughout the world. This type of system is particularly suited to a country such as Canada, vast in area and with a small but expanding population and an active foreign trade. Every community, regardless of location or size, is served by a branch of at least one bank through which the resources and facilities of a nation-wide institution are available. There are now 3,846 branches in Canada's ten



Canadian banks are strong and stable institutions that have lang ago earned the confidence of the people. It is many years since a Canadian bank failed or since a depositar in a Canadian bank lost any part of his money.

provinces, as well as 112 offices in foreign countries, mostly in the United States, the United Kingdom, and Central and South America.

Canadian commercial banks are called 'chartered' because they receive a charter or licence from the Federal Government. They operate under one federal statute—the Bank Act. This Act is revised every ten years after public hearings by the Banking and Commerce Committee of the House of Commons, with the result that banking in Canada never becomes static or rigid but is adaptable to new needs, safeguards and economic conditions. The charters of the Canadian banks extend for only ten years and must be renewed at each decennial revision. An officer of the Department of Finance inspects the books and loans and securities of each bank once a year and may do so oftener. This inspection is in addition to that carried out by auditors appointed by the shareholders and reporting to them, and the continuous inspection by the banks' internal auditors.

Although Canadian banks are subject to close regulation by federal authorities, they are uncontrolled in their day-to-day business. Competition among them is keen. There is competition for deposits, loans and general banking services and competition in the opening of new branches, not only in the cities but in frontier areas. In the past ten years, 486 new branches have been opened in various parts of Canada as the demands of a larger population and newly developed areas became evident.

The branch bank is a self-contained unit. It operates under the general supervision of its head office but has a full range of banking services, whether in a city or in a rural hamlet. The strength of the whole institution stands behind each branch, which is fully responsible for its commitments and under-takings. Excess funds from branches where deposits exceed loan requirements are credited to head office which, in turn, makes them available to branches where lending funds are needed. In this way, there can be no dearth of credit through lack of local funds.

The chartered banks are privately owned, there being 60,000 shareholders of the ten institutions, most of them Canadians. In 1952, the shareholders' investment in the banks totalled \$381,400,000 and dividends averaged 4.9 p.c. There has been no bank failure since 1923 and note holders have experienced no losses whatever since 1881.

Statistics of Chartered Banks, Certain Years, 1930-52

NOTE.—These figures are averages computed from the twelve monthly returns in each year, except in the case of the numbers of branches which are as at Dec. 31.

Bank and Year	Branches in Canada and Abroad ¹	Total Assets	Liabili- ties to Share- holders	Liabili- ties to the Public	Loans and Dis- counts	Total Deposit Lia- bilities [‡]
	No.	\$	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000
1930 1939 1945. 1948. 1949. 1950. 1950. 1951. 1952.	4,246 3,459 3,240 3,551 3,658 3,784 3,871 3,958	3,237 3,592 6,743 8,(40 8,658 9,015 9,385 9,760	305 279 282 328 333 337 347 360	$\begin{array}{c} 2.910\\ 3.298\\ 6.439\\ 7.799\\ 8.310\\ 8.660\\ 9.020\\ 9.384 \end{array}$	$\begin{array}{r} 2,065\\ 1,244\\ 1,505\\ 2,389\\ 2,618\\ 2,872\\ 3,496\\ 3,608\end{array}$	2,517 3,061 6,160 7,403 7,922 8,221 8,465 8,899

¹ Includes sub-agencies which numbered 710 in 1952, including 6 outside Canada. ² Excludes inter-bank deposits.

Statistics of Individual Chartered Banks, December 1952

Bank	Branches in Canada and Abroad ¹	Total Assets	Liabilities to Shareholders	Liahilities to the Public	Loans and Discounts	Total Deposit Liabilities ²
	No.	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000
Bunk of Montreal	\$80	7 317 100 042	7 316 497 081	387 861	748 375 208	2.119.002.785
Bank of Nova Scotia	408	640 SU2 314	256 148 250	762 725	452 448 749	843 429 402
Bank of Toronto.	240	535 101 419	533.063.800	28.360	198.205.947	492.325.697
Provincial Bank of						
Canada	346	192.754.947	192.118.982	79,447	67.493.511.	180.615.727
Canadian Bank of						
Commerce	634	1.845.750.364	1.844.096.308	535,985	749.635.420	1.682.666.892
Royal Bank	780	2.711.417.792	2.710.637.553	1.912.250	975,442,826	2.478.518.824
Dominion Bank	174	511.003.968	509,844,964	568,362	238,166,992	460,735,423
Banque Canadienne						
Nationale	555	484,212,776	483,811,684	41.452	186,069,274	461,334,834
Imperial Bank of						
Canada	228	588,204,254	586,989,513	147,549	254,876,117	545,247,356
Barclays Bank						
(Canada)	4	32.111,441	31,918,271		9,013.024	22,366,076
Totals	3,958	10,157,350,247	10.144,819.591	4,458,991	3,879,727,068	9,286,243,016

Includes sub-agencies which numbered 710, including 6 outside of Canada.

2 Excludes inter-bank deposits.

Volume of Money. In recent years, the Bank of Canada has developed a presentation of statistics concerning the public holdings of certain liquid assets. These include notes and coin outside the banks, active and inactive bank deposits, and also Government of Canada securities which, though not used to make payments, are forms in which the public holds its liquid funds. Figures for alternate years from 1938 are given in the following table.

General Public Holdings of Certain Liquid Assets, as at Dec. 31 of Alternate Years, 1938-52

Dec, 31-	Carrea∈y and Astive Bank Deposits	Inactive Chartered Bank Notice Deposits ¹	Government of Canada Securities ²	Total
1938	1,131	1.472	3.228	5,831
1940	1,563	1.438	3.670	6,67
1942	2.349	1,436	5,344	9,129
1944	3.153	2,060	9,131	14.34-
1946	3,996	2,856	11.175	18,023
1948	4,335	3,408	10,249	17,993
1950	4.851	3,861	10,066	18.778
1951	4.843	3,804	9 388	18,123
1952	5.173	4.129	9.062	18,365

Millions of dollars

 4 Estimated aggregate minimum quarterly balances in chartered bank personal savings deposits in Canada, plus non-personal notice deposits in Canada. \pm Holdings of all investors other than the Bank of Canada, chartered banks and Government of Canada accounts.

Cheque Payments.—Business operations consist of innumerable individual transactions, the great majority of which employ money either in the form of currency or as cheques drawn against bank deposits. It is estimated that about 80 p.c. of the commercial transactions are financed by cheque, the value of which serves as an excellent index of the business trend at any given time.

The record-breaking trend in the value of cheques cashed was continued in 1952. The total value of payments in 35 Canadian centres amounted to \$125,196,894,021, 11+6 p.c. greater than in 1951 and the highest aggregate ever recorded. The advance reflected a high level of economic activity. Payment of salaries and wages rose sharply, due to an increase in rates and, to a lesser extent, in numbers employed. Advances were also recorded in the value of retail and wholesale sales. In addition, the levels of the physical volume of industrial production averaged moderately higher in 1952 than in the preceding year. By contrast the general index of wholesale prices was about 6 p.c. below 1951.

The increase in payments in 1952 was fairly general throughout the country with 31 of the 35 centres showing a gain over 1951, although the magnitude of these advances varied greatly. On a regional basis, the Prairie Provinces showed the largest increase with a gain of nearly 17 p.c. over 1951. Ontario and British Columbia followed with advances of about 12 p.c. each, while Quebec recorded a gain of 8+5 p.c., and the Atlantic Provinces a gain of 6 p.c. Cheques cashed in Canada's five largest clearing centres of Toronto, Montreal, Winnipeg, Vancouver and Ottawa now account for more than 75 p.c. of the Canadian total and largely determine the regional trends with the exception of those of the Atlantic Provinces. Payments in the two largest centres, Toronto and Montreal, rose 13-4 p.c. and 8.7 p.c., respectively.

The Canadian aggregate value of cheques cashed has shown a continuous series of increases since 1938, the level reached in 1952 having been above that of any previous year. The total was 305 p.c. greater than in 1938 and 168 p.c. above the inter-war record achieved in 1929.



The ten chartoned banks in Canada have branches all across the country. Each branch, while operating under the general supervision of its head office, is a self-contained unit offering a full range of banking services and fully respansible for its own commitments.

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Economic Area	1948	1949	1950	1951	1952
	S	\$	\$	\$	8
Atlantic					
Provincest	1,970,079,395	2,317,673,928	2,648,160,641	2,888,445,151	3,066,364,735
Quebec	23,689,833,048	24,732,489,732	29,106,858,312	32,728,719,454	35,494,559,222
Ontario	33.381.605.192	36,469,080,580	43.146.166.945	47.046.956.487	52.717.444.206
Prairie					
Provinces	14.602.310.298	16.494.526.390	17.287.706.202	19.574.933.117	22.807.514.530
British					
Columbia	7.043.619.628	7.540,592.213	8,446,566,739	9,945,578,848	11.111.011.328
Totals:	80,687,447,561	87,554,362.843	100,635,458,839	112,184,633,057	125,196,894,021

¹ Data for St. John's, N'f'ld., are included from April 1949.

Insurance

Life Insurance.—Life insurance business in Canada in 1951 continued the ever-increasing rate of expansion in evidence particularly since the end of World War II. The sale of life insurance, which combines both protection and savings, has been greatly influenced by the international unrest experienced

FINANCE

during these years—uncertainty stimulates the human instinct to conserve against a time of emergency. Also Canada's impressive industrial expansion and the prevalent trend towards individual security has strengthened the demand for the services and protection of life insurance. During 1951, new business written, including industrial and group insurance, amounted to \$2,164,000,000, which brought the total life insurance in force in Canada at the end of the year to \$18,234,000,000. This represents an average of \$1,302 of insurance protection for every man, woman and child in the country. The amount of premiums paid to carry this insurance was \$416,000,000. Total benetits paid during the year to policyholders, including death claims, matured endowments, disability claims, dividends, surrender values and annuity payments were over \$260,000,000. Life insurance in Canada is actively transacted by 58 companies registered by the Federal Government, of which 31 are Canadian, 5 British and 22 foreign. There are also a few companies operating under provincial licence only.

Fire Insurance.—The growth of the fire insurance business has also been phenomenal and, though a good part of this growth may be attributed to the increase in the practice of insurance, it is also indicative of the advance in the amount and value of insurable property throughout the country. Fire insurance in force at the end of 1951 amounted to approximately \$37,000,000,000, premiums written amounted to \$151,000,000, and claims paid to \$60,000,000. At the end of 1951 there were 284 companies registered by the Federal Government transacting fire insurance business in Canada: 69 of these were Canadian companies, 84 British and 131 foreign.

Casualty Insurance.—Casualty insurance includes: accident (personal accident employers' liability and public liability); aircraft; automobile; boiler; credit; earthquake; explosion; falling aircraft; forgery; guarantee; hail; impact by vehicles; inland transportation; live stock; personal property; plate glass; real property; sickness; sprinkler leakage; theft; water damage; weather; and windstorm.

The classes of casualty business accounting for the largest and most rapidly increasing premium income are automobile, personal accident and sickness, and personal property. Premiums written for these classes amounted to \$198,000,000 in 1951, and those for all classes of casualty to \$259,000,000. In 1951 there were 292 companies transacting casualty business, of which 70 were Canadian, 78 British and 144 foreign. The majority of these companies also reported fire business.

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