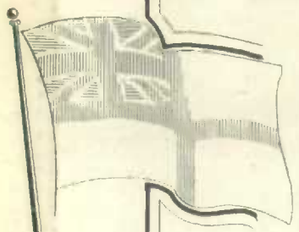
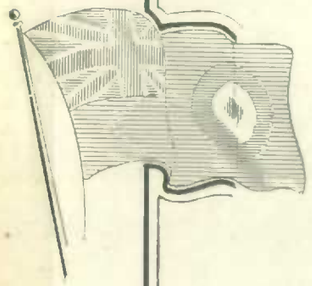
CANADA 1942

The Official Handbook of Present Conditions and Recent Progress



NAVY

ARMY



AIR FORCE

THE BRITISH COMMONWEALTH OF NATIONS MARCHING ALONG TOGETHER

The above is a reproduction of a War Poster displayed in the British Isles, and issued from H. M. Stationery Office.

Canada is determined to fight to the finish alongside Britain and the sister Dominions with whom she enjoys equal political status and with whom she is prepared to make equal sacrifice in proportion to her strength and resources—however remote the end may be. In the words of the Prime Minister, the Right Honourable W. L. Mackenzie King, "This war will not end until all the world is reduced to a condition of servitude or until the nations that are free, triumph over Nazi Germany".

CANADA'S ARMED FORCES IN TRAINING AND ACTION

THE illustrations on the reverse side of this frontispiece afford a pictorial account of various phases in the training and active service duties of Canada's armed forces. Reading from left to right, and downwards:—

The Navy.—(1) A group of naval gunnery officers on parade. (2) Back from a long Atlantic patrol, a Canadian sailor reads a letter that had been awaiting him. (3) Steel-helmeted sailors, aboard a destroyer, man an anti-aircraft gun. (4) Men on an Atlantic mine-sweeper bringing aboard the paravane, used in sweeping the shipping channels free of mines. (5) Inset: An officer aboard a Canadian warship using a "voice gear" to direct the fire of guns. (6) Inset: Survivors of a torpedoed merchantman being rescued at sea by a Canadian destroyer. (7) Her decks awash with the spray of heavy seas, an armed merchant cruiser ploughs along on patrol duty. (8) A convoy of merchant ships laden with supplies sets its course for Britain under the watchful eye of the Navy.

The Army.—(1) Eager young recruits trooping into camp for a four-month training period to learn the rudiments of soldiering. (2) Stepping out smartly, the recruits receive drill instruction. (3) Inset: A decontamination squad breaks through gas during manoeuvres. (4) Enlisted men receiving training in radio mechanics. (5) Modern anti-aircraft guns protect Canada's East Coast—a giant Stranraer patrol 'plane soars overhead. (6) A howitzer field gun is given a work-out under conditions of a gas attack. (7) A troop transport laden with units of the Canadian forces for overseas service. (8) Inset: Operations, during field manoeuvres, aboard a wireless truck equipped with field transmitter.

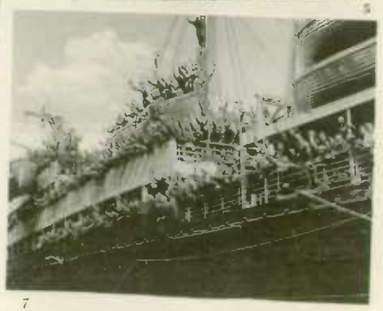
The Air Force.—(1) An R.C.A.F. student pilot of the British Commonwealth Air Training Plan boards a Harvard advanced trainer. (2) A student bombardier prepares to press the bomb release during a training flight. (3) A class studying navigation principles examines a deviascope. (4) A Handley Page Halifax—one of the new four-engine bombers. (5) Pilots study a map and give an eye to the weather, preparatory to a flight in their huge bomber. (6) Inset: A gunner-in-training practising with a beam gun, aimed at a model aircraft "flying" 20 to 30 feet away. (7) Sighting the target with a Vickers machine gun.

Courtesy Department of Public Information

CANADA'S FIGHTING FORCES IN TRAINING AND ACTION

NAVY

ARMY



AIR FORCE

(For Description See Over.)

Canada 1942

The Official Handbook of Present Conditions and Recent Progress

PUBLISHED BY AUTHORITY OF
THE HON. JAMES A. MACKINNON, M.P.
MINISTER OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS
DEPARTMENT OF TRADE AND COMMERCE
OTTAWA, CANADA

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THE growth in popularity of this Handbook since the series was placed on an annual basis in 1930; its extensive use by official and semi-official bodies in regular and special editions; its distribution in large numbers at international exhibitions and in different parts of the world where Canada is officially represented; and its use, by special permission, in financial and commercial houses for distribution to their clients; all attest to the need that exists for a brief and attractive economic handbook of the Dominion.

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

The Handbook is designed to serve two purposes. To those outside of Canada, it will give a balanced picture of the Canadian situation from the Atlantic to the Pacific and of our diversified resources and their systematic development. In Canada, itself, it will help to provide a basis of information for dealing with current problems.

Jas. A. MacKinnon

Minister of Trade and Commerce.

OTTAWA, January 1, 1942.

36343—1½

PREFATORY NOTE

This Handbook has been prepared and edited in the Year Book Division of the Dominion Bureau of Statistics from material that has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other branches of the Government Service.

The Handbook is planned to cover the general economic situation in Canada, the weight of emphasis being placed from year to year on those aspects that are currently of most importance, since there is not space to deal adequately with all. A review of Canada's War Effort and Economic Conditions at the Close of 1941 precedes the chapter material. The special article following this review deals with Canada's Attractions for the Vacationist. This article was specially prepared for the Handbook with the co-operation of D. Leo Dolan, Chief, Canadian Government Travel Bureau, Ottawa.

R. H. COATS,
Dominion Statistician.

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Canada's War Effort and Economic Conditions at the Close of 1941

The Rt. Hon. W. L. Mackenzie King, P.C., M.P., Prime Minister of Canada.

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The War Effort

On Sept. 1, 1939, when the German army invaded Poland, it was announced that Parliament was summoned to meet in Emergency Session on Sept. 7. On Sept. 3, as soon as it was learned that the United Kingdom and Germany were at war, the Prime Minister announced that the Government would recommend to Parliament that Canada place herself at the side of Britain; he also outlined the steps that had already been taken by the Government to meet the emergency. By the War Measures Act of 1914, all necessary power was available to the Government to meet such circumstances as this latest outbreak of hostilities had precipitated. By Sept. 10, Parliament had assembled and acted, and a state of war between Canada and Germany was proclaimed by His Majesty The King.

General Organization

The immediate steps to organize the war effort were taken under authority of the War Measures Act of 1914. The Militia, Naval Service, and Air Force were placed on active service, and certain other provisions were made for the defence of the coasts and for internal security. The "Defence of Canada Regulations" and other emergency regulations were brought into force and the censorship organization was established.

At the emergency session of Parliament, measures were enacted to make financial provision to meet the immediate costs of the War and to provide for the creation, when necessary, of a Department of Munitions and Supply. The Department was established on Apr. 9, 1940, at a moment when the War was entering a more active phase with the German invasion of Norway.

After the special session, several months of what might be termed the organizational phase of Canada's war activity followed. Immediate consideration was given to the most effective way in which Canada could make her maximum contribution to the War. Consultations were held with the Allied authorities and their views were learned. Certain programs were announced and put into operation immediately. These included the preparation of two Divisions for overseas service and the doubling of the strength of the Canadian Naval Service. Representatives of

the United Kingdom, Australia and New Zealand came to Canada at the suggestion of the United Kingdom, and conferred with the Canadian authorities on the establishment of the British Commonwealth Air Training Plan. The Agreement on the details of this Plan (see p. xii) was signed on Dec. 17, by which time action had been taken to put it into effect.

On the economic side, organization proceeded equally rapidly. The creation of an effective economic war organization was, from the outset, an essential part of the war effort. This is dealt with in detail at pp. xiv-xxvii.

Parliament met again in regular session on Jan. 25, 1940, but was dissolved the same day. A general election was held on Mar. 26. By the time the new Parliament assembled on May 16, 1940, Germany had commenced the 'blitzkrieg' against Holland, Belgium, Luxemburg and France. Holland was conquered, and the Germans had broken through into France the day before Parliament met. Parliament acted quickly to meet the new emergencies.

The climax to the legislative action consisted in the introduction and passage, during the third week in June, of the National Resources Mobilization Act, authorizing the Governor in Council to require "persons to place themselves, their services and their property at the disposal of His Majesty in the right of Canada as may be deemed necessary or expedient for securing the public safety, the defence of Canada, the maintenance of public order, or the efficient prosecution of the War, or for maintaining supplies or services essential to the life of the community", with the exception that persons could not be compelled to serve in the armed forces outside of Canada and her territorial waters.

War was declared on Italy on June 10, when that country declared war on the United Kingdom and France. For Canada, the collapse of France and the German occupation of the small neutral countries of Western Europe was marked by redoubled efforts to strengthen the front lines of the Allied struggle against the Axis, and by increasing collaboration with the United States in all matters pertaining to defence and the production of war equipment.

The period since the fall of France has been marked by notable developments in the relations between Canada and the United States. These developments, in turn, have been an aspect of the growing co-operation of the United States with the British Commonwealth and the other countries engaged in hostilities with the Axis powers.

The outcome of the Ogdensburg Agreement of Aug. 17, 1940, was the establishment of the Canada-United States Permanent Joint Board on Defence. On Sept. 3, 1940, the exchange of destroyers for bases was agreed upon by the United States and Britain. As a result of this exchange the destroyer strength of the Royal Canadian Navy was doubled. The Lease-Lend Act was passed on Mar. 11, 1941. A Great Lakes-St. Lawrence Agreement was signed on Mar. 19, 1941. The Hyde Park Declaration, embodying an agreement between Canada and the United States to collaborate in the production of defence materials, was issued by the Prime Minister and President Roosevelt on Apr. 20, 1941. On June 17, 1941, the Governments of Canada and the United States announced the establishment of Joint Economic Committees by both countries. In furtherance of the agreement reached at Hyde Park in April, Joint Production Committees were established by Canada and the United States on Nov. 5, 1941.

Canada's relations with the other nations of the western hemisphere have been strengthened by the exchange of Ministers with the Argentine, Brazil and Chile, and by the visit to the countries of South America of a trade mission headed by the Canadian Minister of Trade and Commerce (August-October, 1941).

A Canadian High Commissioner to Newfoundland was appointed on July 31, 1941; and a Canadian consulate was established at the French Island of St. Pierre in August.

The growing concern of Canada with the Far East is reflected in the establishment of a Chinese legation at Ottawa and the announcement that a Canadian Minister will be sent to China.

The steady growth of Canada's share in the defence of Britain has been reflected in the visits of a number of Canadian Cabinet Ministers to Britain. Also, in August and September, the Prime Minister, Right Honourable W. L. Mackenzie King, spent three weeks in Britain. In the course of his visit, the Prime Minister attended a number of meetings of the War Cabinet of the United Kingdom, conferred informally with the Prime Minister of Great Britain and other members of the British Government, and inspected the Canadian armed forces.

The German attack on Soviet Russia on June 22, 1941, in the words of the Prime Minister, removed the last shadow of doubt concerning the purpose of Hitler to dominate the world. The same day, the Prime Minister described the Nazi attack as a new phase of the attack on Britain and all the democracies. In accordance with this view, Canada, as the Prime Minister indicated in Parliament on Nov. 5, 1941, has maintained the closest association with Britain and the United States in their efforts to support Soviet Russian resistance to Germany.

On Sunday, Dec. 7, 1941, Japan delivered without warning what was obviously a carefully planned attack upon widely scattered territories and forces of the United States and the British Commonwealth in the Pacific. The Canadian Government decided immediately to associate Canada with the United States and the United Kingdom in hostilities against Japan.

The open declaration of war on the United States by Germany and Italy four days later removed the remaining restrictions on United States co-operation with the British Commonwealth, Russia, China and the other Allied powers.

The year 1941 has seen a vast expansion of the armed forces of Canada and a tremendous increase in Canadian war production. Two distinct aspects of the war effort have been developed simultaneously. On the one hand, Canada is raising, equipping and maintaining her own national armed forces on land, at sea and in the air; on the other, Canada is helping, materially and financially, to feed and to arm Britain. All of these developments are outlined below.

The Navy.—The task of Canada's Navy in this War is threefold: the protection of Canada's coasts; the guarding of shipping approaching and leaving her shores; and co-operation with the other naval forces of the Empire. Entering the War with 1,774 officers and men in the Permanent Force and with only six destroyers as an actual fighting force, the Navy has expanded to meet the war needs so that, at November, 1941, it has more than 27,000 officers and ratings on active service and a fleet of some 300 vessels of different classes.

Royal Canadian Navy Volunteer Reserve Officers-in-Training Gaining First-Hand Experience Handling a High-Angle Gun.

Courtesy, Department of Public Information

The destroyer strength has been increased to 13 ships in commission, with an additional destroyer launched and nearing completion. The latter is of the "Tribal" class—the most modern and efficient type afloat. Two of this class are to be built in Canada.

A new class of ship for Canada's Navy, the corvette, is already proving its efficiency and is credited with the destruction of enemy submarines. Naval policy prohibits the giving of details. The corvettes, especially designed as war vessels and built in Canadian shipyards, are used as escort ships with the convoys of merchant vessels crossing the Atlantic, and they also act as patrol ships. Minesweepers, also built in Canada, are included in the present naval strength. Two other new classes for the Royal Canadian Navy are motor torpedo boats and submarine chasers. By November, 1941, 77 corvettes and 59 minesweepers had been launched.

Pending the provision of these ships designed specifically for war, the Royal Canadian Navy in the early days of the War commissioned and armed 15 seagoing yachts for patrol purposes. In addition three fast liners were converted to auxiliary cruisers.

The Royal Canadian Navy has served far afield. Its duties have taken its ships into the Pacific and the Atlantic from the Tropics to the Arctic Circle. In addition to playing an important part in the Battle of the Atlantic, the Navy's ships and men have been engaged in the Battle of Britain. Canadian Naval officers and ratings took part in the evacuation of Allied Forces from France, Greece and Crete. A Canadian destroyer, H.M.C.S. *Fraser*, was sunk off the coast of France during the evacuation operations. Other ship losses have been H.M.C.S. *Margaree* (destroyer) sunk during convoy duty; H.M.C.S. *Bras d'Or* (patrol ship) lost at sea; H.M.C.S. *Otter* (patrol ship) lost by fire and foundering; and H.M.C.S. *Levis* (corvette) lost by enemy action.

The Army.—In the early stages of the War, Canada's contribution was limited to the provision of: two Divisions with necessary ancillary troops for service abroad, including the necessary reinforcements and training establishments to provide for these forces; guards at vulnerable points throughout Canada; and defences on the East and West Coasts.

By April, 1940, the 1st Canadian Division and certain corps troops had been dispatched abroad and Canadian Military headquarters had been set up at London. Canadian forces overseas totalled 23,408 and the Active Army in Canada, 53,234 all ranks. The sequence of enemy

to guard vulnerable points, to perform internal security duties, and to guard prisoners of war and alien internees confined in camps throughout the country. Forty-three similar reserve Veteran Companies are attached to the various units of the Reserve Army. In July, 1941, a Special Duty Company was organized and has been dispatched overseas for duty at Canadian Military Headquarters. In September, 1941, a special employment platoon was authorized for duty with Canadian Forces in Newfoundland.

In August, 1940, the Canadian Armoured Corps was established, and from this an initial formation of one Armoured Brigade Group was mobilized. The creation of an "Atlantic" and a "Pacific" Command, to provide for improved operational control of the eastern and western coast defence facilities, was authorized. These Commands provide for the operational control of field forces available within several Military Districts adjoining the coastal areas.

An important step was taken in August, 1940, by the formation of the Canada-United States Defence Board, on which the Army General Staff was represented. This Board was established to co-ordinate the military defensive measures of the two countries.

The Canadian Corps was formed in December, 1940, consisting initially of the 1st and 2nd Canadian Divisions and Corps Troops. It has since been strengthened by the arrival in England of the 3rd Canadian Division, the 1st Canadian Army Tank Brigade, the 5th Canadian (Armoured) Division and many additional corps, army, and line of communication units. In Canada the 4th Canadian Division has been mobilized to full strength, and the 6th Canadian Division has also been formed.

By October, 1941, a great expansion had been effected, bringing the total strength to 400,000 all ranks, including the Active Army overseas and in Canada, the Reserve Army in Canada, and reserve recruits trained or in training under the provisions of the National Resources Mobilization Act. The total number of troops overseas at the end of October was 110,000.

The Canadian force that arrived in Hong Kong on Nov. 16 to reinforce the British garrison there provides a further indication of Empire solidarity and of Canada's recognition of her position as a Pacific power.

The Air Force.—In previous editions of the Handbook the organization of Canada's air strength during the early period of the War has been outlined. The present review is intended to bring that material up to date.

The British Commonwealth Air Training Plan.—The British Commonwealth Air Training Plan (see p. viii) produces pilots, air observers, and air gunners for service in the Royal Canadian Air Force and the Royal Air Force. These are separate altogether from airmen already sent from Canada for service overseas by the Royal Canadian Air Force, which are a voluntary and entirely supplementary contribution and retain their identity as R.C.A.F. units.

The Plan is administered by Canada's Department of National Defence for Air, assisted by a Supervisory Board at Ottawa composed of three Canadian Cabinet Ministers, representatives of the other participating governments, the Deputy Minister of National Defence for Air and the Chief of the Air Staff.

successes in Europe during the months of May and June, 1940, brought prompt decisions leading to a strengthening of the forces overseas and the defences at home. The dispatch abroad of the 2nd Canadian Division and reinforcements for the 1st Division, already overseas, was accelerated. The 3rd Canadian Division was authorized to mobilize, involving the selection, administration of and provision for, some 72 additional units.

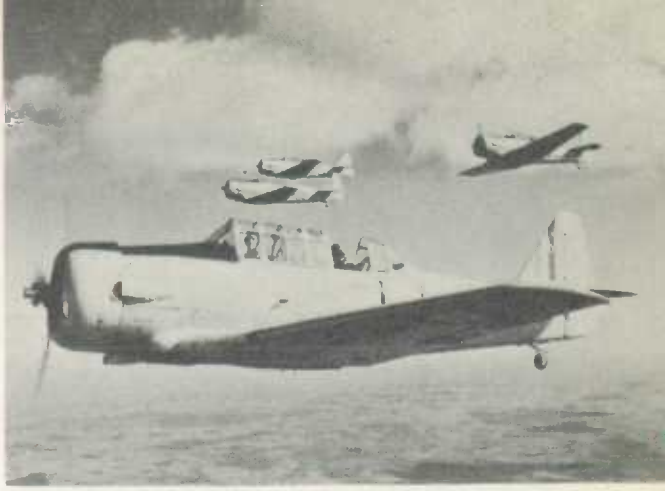
In June, 1940, the mobilization of the 4th Canadian Division was ordered. Because of the growing seriousness of the situation at this time, and in anticipation of the possible calls that might be made on Canadian manhood, arrangements were completed to draft youths of 21 years of age for a period of military training. The Army authorities were given the responsibility of providing for, administering and training this group which, during the first nine months of the War, totalled 80,201 men. This required the urgent provision of 39 training centres with winter accommodation, hospitals, parade grounds, equipment, and training and administrative staffs. The original plans, designed to provide a period of thirty days' training for each class of recruits, were later extended to provide for four months' training to ensure an adequate degree of basic training common to all arms, and a period of specialized training in the particular arm of the Service—or in the R.C.N. or R.C.A.F.—selected by each recruit. Under a later declaration of policy, recruits now in training and those of subsequent drafts will be retained in the Service and allocated to Home Defence Units. Recruits called up under the compulsory service plan may at any time volunteer for service beyond Canada.

To increase the effectiveness of home defences and the defences of territories of strategic importance in relation to the extended ocean lines of communication, action was taken in consultation with the British Government to garrison Iceland with a mixed force of British and Canadian troops. Canadian forces were dispatched to strengthen the defences of Jamaica and Bermuda. In agreement with the Government of Newfoundland, Canadian forces were dispatched to share in the defence of St. John's, and the strategically important air field in that country; these troops have since been augmented. Measures were taken to improve the fixed fortress defences at St. John's and other points.

In May, 1940, the organization of "The Veterans Guard of Canada" was authorized as part of the Active Army; it consists of 29 companies entirely composed of and commanded by veterans of the War of 1914-18. Their role is

Firing Tracer Bullets from a Bren Gun at Night.

Courtesy, Canadian Business



Wing-Tip to Wing-Tip. Harvards Cruise among the Clouds.

Courtesy, Department of Public Information

As a result of the Agreement signed in December, 1939, whereby the Government of Canada was appointed administrator of the British Commonwealth Air Training Plan in Canada, an enormous expansion period in both personnel and material began. The original plan envisaged a training schedule which would reach a peak in the spring of 1942 and would involve the expenditure of $600,000,000.

It will be appreciated that, to implement a plan of so vast a scope as that covered by the Agreement, meant the immediate construction of a very large number of specially designed buildings, aerodromes, etc. In addition, an enormous increase in personnel was necessary for the staffing of the schools.

With the assistance of the Department of Transport the necessary sites were chosen and the buildings were under way in ample time to open according to the original schedule. However, the events in Europe during the early summer of 1940 not only made an acceleration of the plan necessary but also involved the opening of new and hitherto unplanned schools. The geographical characteristics of Canada made the original layout of the Plan readily workable and, in addition, facilitated the later necessary expansion.

Throughout the remainder of 1940 and the following year 1941, the Plan rapidly gathered pace and volume, and the transport overseas of trained aircrew personnel increased correspondingly. So successful was this acceleration that the Plan, which had been expected to be in full operation by the spring of 1942, is now fully under way (December, 1941), and, in addition, 10 schools have been added to the previously projected total of 83. As a result of this expansion the cost of the first phase of the Plan is now placed at well over $800,000,000.

Training under the Plan includes that provided by Initial Training, Elementary Flying Training, Service Flying Training, Air Observer, Bombing and Gunnery and Air Navigation Schools, in addition to many other miscellaneous units necessary to the full operation of the undertaking.

Operations in the Air Defence of Canada.—Although the focus of public attention in Canada has been largely on the more spectacular exploits of the British Commonwealth Air Training Plan, the routine flying of the defence

Commands is equally important, though by the very nature of the duties performed, does not come so readily to public attention. The air defence of Canada is a most important contribution to the success of the British Commonwealth Air Training Plan and if the shores of Canada were not protected from aerial invasion the effectiveness of training might be greatly impeded. But aerial defence of the coasts is not the only activity of the Home War Commands. To them is allotted the aerial protection of convoys leaving Canada. They are also playing a most important role in the combined defence schemes laid out by the United States and Canadian Governments.

Canadian Air Force Overseas.—In addition to the defence of Canada, the Royal Canadian Air Force maintains an ever increasing number of units in the battle zone. For reasons of security, particulars of the strength of the personnel and types of aircraft involved cannot be divulged.

The Economic Effort and Its Organization

Modern war requires the full and effective mobilization of the nation's economic resources to equip and supply the fighting forces and to maintain the civil population while as much as possible of the national effort is devoted to war. For Canada, this implies not only the provision of men and material for her own fighting forces, but the furnishing of food, materials, munitions and equipment to Britain and her Allies. The financing of all these operations is a major task upon which the success of the entire national war effort is founded.

Fortunately, the Canadian financial structure has been developed to such a degree in recent decades that it has now proved itself able to support without damage the extremely heavy demands that have so far been laid on it. These demands have arisen not only from the direct cost to Canada of her own war activities but also from the need to provide Britain with very extensive financial assistance in obtaining war supplies in Canada. In addition there has been a serious foreign exchange problem in the form of a shortage of United States dollars resulting from the need to obtain essential materials and war supplies from that country.

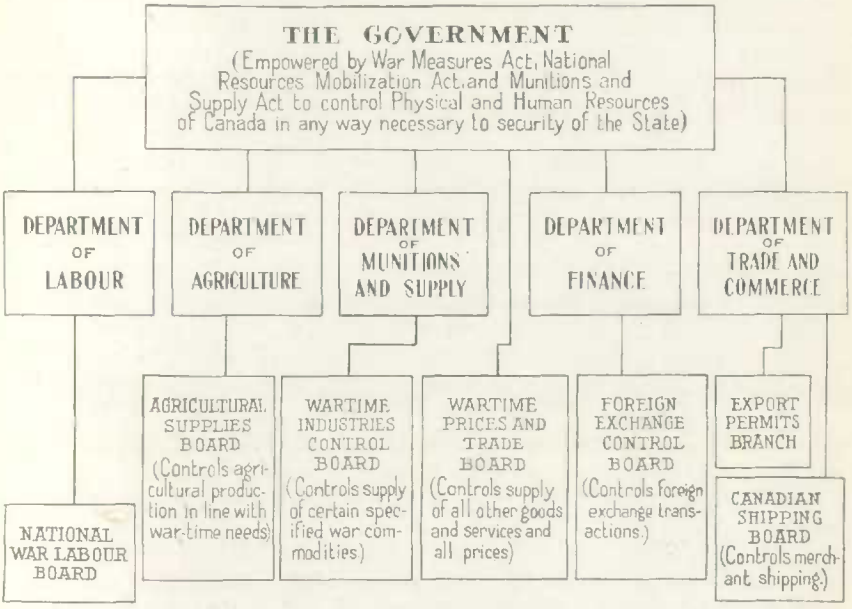
The following paragraphs outline briefly the financial steps that have been taken, the governmental organizations created, and their principal activities.

The Financing of Canada's War Effort.*—At the emergency session of Parliament in September, 1939, an appropriation of $100,000,000 was passed to cover war expenditures. The first War Budget was brought down on Sept. 12 by the Minister of National Revenue. This Budget included moderate increases in income taxes and substantial increases in taxes on certain luxuries and semi-luxuries, notably beverages and tobacco. An excess-profits tax was enacted to divert to the Treasury a large part of increased profits arising from war-time conditions.

When Parliament assembled in May, 1940, a War Appropriation of $700,000,000 was passed to meet the costs in 1940-41 of the greatly extended war effort.

* For more detailed information and interpretations of these financial matters, refer to the three War Budget speeches of Sept. 12, 1939 (Hansard p. 135), June 24, 1940 (Hansard p. 1011) and Apr. 29, 1941 (Hansard p. 2541), and to speeches or statements made by the Minister of Finance in the House of Commons on May 21, 1940 (Hansard p. 83), July 30, 1940 (Hansard p. 2125), Nov. 21, 1940 (Hansard p. 311), Dec. 2, 1940 (Hansard p. 605), Feb. 18, 1941 (Hansard p. 897), Mar. 20, 1941 (p. 1867) and Nov. 6, 1941 (p. 4482). Reference might also be made to the speech of the Prime Minister in the House of Commons on Mar. 25, 1941 (Hansard p. 2016), and in general to the debates on the three Budgets mentioned above.

PRINCIPAL WAR-TIME ECONOMIC CONTROLS



Members of the Sixteenth Dominion Ministry as at Dec. 15, 1941

Office	Occupant
Prime Minister, President of the Privy Council, Secretary of State for External Affairs	Rt. Hon. William Lyon Mackenzie King
Member of the Administration and Minister without Portfolio	Rt. Hon. Raoul Dandurand
Minister of Mines and Resources	Hon. Thomas Alexander Crerar
Minister of Public Works and Transport	Hon. Pierre Joseph Arthur Cardin
Minister of National Defence	Hon. James Layton Ralston
Minister of Pensions and National Health	Hon. Ian Alastair Mackenzie
Associate Minister of National Defence and Minister of National Defence for Air	Hon. Charles Gavan Power
Minister of Finance	Hon. James Lorimer Ilsley
Minister of Fisheries	Hon. Joseph Enoil Michaud
Minister of Munitions and Supply	Hon. Clarence Decatur Howe
Minister of Agriculture	Hon. James Garfield Gardiner
Secretary of State	Hon. Norman Alexander McLarty
Minister of Trade and Commerce	Hon. James Angus MacKinnon
Postmaster General	Hon. William Pate Mulock
Minister of National Revenue	Hon. Colin William George Gibson
Minister of National Defence for Naval Services	Hon. Angus Lewis Macdonald
Minister of National War Services	Hon. Joseph Thorarinn Thorson
Minister of Justice and Attorney General of Canada	Hon. Louis S. St. Laurent
Minister of Labour	Hon. Humphrey Mitchell

Estimates submitted to Parliament for ordinary expenditures showed a substantial reduction from the figure of the previous year. The second War Budget, brought down on June 24, provided for substantial increases in taxes to meet a portion of these additional costs of war. The graduated rates of the personal income tax were raised very substantially and exemption limits were reduced. A National Defence Tax was introduced applying broadly to all persons receiving incomes of more than $600 per annum. So far as possible, this tax is deducted at the source. The Excess Profits Tax was revised and made much more severe. In order to conserve exchange, a War Exchange Tax of 10 p.c. was imposed on all imports except those from the Empire. The excise tax on automobiles was made much more severe and steeply graduated in the upper brackets. These, and the other less important changes, were estimated to produce an increase of $280,000,000 in tax revenue in a full year.

War expenditures were relatively low during the first eight or nine months of the War. They rose rapidly thereafter and by the end of the first year of war were running at a rate of more than $700,000,000 per year. They continued to increase until during the first six months of 1941 they amounted to $484,000,000 —a rate of $968,000,000 per year. For the fiscal year ended Mar. 31, 1941, total war expenditures amounted to approximately $782,000,000.

Financial assistance was provided to Great Britain on a rapidly rising scale as the War progressed. The British Government required Canadian dollars to meet the costs of essential supplies produced in Canada. Some of these were obtained in the normal way from British exports to Canada, and Canadian tariffs on British goods were drastically reduced (in the War Exchange Conservation Acts) to make this easier. However, from Sept 15, 1939, to Mar. 31, 1941, Britain's deficit in her balance of payments with Canada amounted to about $795,000,000. Prior to 1941 Britain was able to send some gold to Canada for Canadian dollars; this gold was transferred to the United States in part settlement of Canada's deficit of payments with that country. The large balance of Canadian dollars that the United Kingdom needed was supplied by the Canadian Government or its agencies by two methods: about $337,000,000, up to Mar. 31, 1941, was transferred to the United Kingdom in exchange for Canadian securities formerly owned there; the remainder was simply transferred to the United Kingdom in exchange for sterling balances accumulated to Canada's credit in London.

In the third War Budget (Apr. 29, 1941) it was necessary to make provision for war expenditures in the fiscal year 1941-42, which were expected to reach as much as $1,450,000,000, and for other expenditures of $468,000,000, while in the same year it was anticipated that financial assistance to the United Kingdom, out of current Canadian incomes, would require $800,000,000 or $900,000,000. Taxes were again increased very substantially, particularly personal and corporate income taxes and the National Defence Tax. A new tax in the form of a Dominion succession duty was introduced. An offer was extended to all Provincial Governments to enable them to vacate the personal and corporate income tax field for the duration of the War without loss of revenue. It was estimated that, including the new taxes, total Dominion revenues for the fiscal year 1941-42 would amount to $1,400,000,000.

During the first seven months of the fiscal year 1941-42, total Dominion expenditures amounted to about $842,000,000, of which about $607,000,000 represented war expenditures, and in addition, about $573,000,000 was provided by the

Dominion Government and its agencies to the United Kingdom Government for purchases by the latter in Canada. In the same period total revenues amounted to about $803,000,000, compared with $443,000,000 in the same seven months of the previous fiscal year.

It has been necessary for the Dominion to borrow large sums in order to meet that part of its own war expenditures that could not be met even by heavy taxation, and also to provide funds for Great Britain. There have been five distinct borrowing operations in addition to the continuing and important War Savings Campaign and the receipts of non-interest-bearing loans from public-spirited citizens. In October, 1939, a short-term loan of $200,000,000 was obtained from the banking system, to facilitate the rapid economic expansion that was necessary in the early months of the War. In January, 1940, the First War Loan was issued to the public, to obtain $200,000,000 in cash, as well as in conversion for a maturing issue. It was very rapidly over-subscribed. In September, 1940, the Second War Loan was offered for $300,000,000 in cash as well as in conversion for another maturing issue. This, too, was over-subscribed, though less rapidly. In January, 1941, another short-term loan was obtained from the banking system, in the amount of $250,000,000, and in the form of 2½-year notes sold to yield 1⅜ p.c. Finally, the Victory Loan of 1941 was issued in June. This was much larger than the earlier loans and the initial objective was a total cash subscription of $600,000,000 (in addition to conversion subscriptions for an issue maturing in November, 1941). After steady progress during the three-week campaign, total cash subscriptions finally reached the amount of $730,376,250. There were also conversion subscriptions of $106,444,000. The total number of subscribers was 968,259.

War-Time Control of Foreign Exchange.—The outbreak of war created new and urgent problems in connection with Canada's financial relations with other countries. Control of foreign exchange and of all financial transactions between residents of Canada and residents of other countries was brought into operation six days after Canada declared war on Germany.

The Foreign Exchange Control Order, which came into effect on Sept. 16, 1939, set forth the basic law on the subject, and established the Foreign Exchange Control Board, responsible to the Minister of Finance, as an administrative body to exercise continuous control over transactions subject to the Order.

The Board, subject to the direction of the Minister of Finance, was entrusted with use of the Exchange Fund established by the Exchange Fund Act of 1935 and the amount of this fund was enlarged by $325,000,000 on Apr. 30, 1940, to enable the Board to acquire more foreign exchange; advances totalling $400,000,000 were made to the Board in July, 1941, to enable it to continue accumulating sterling exchange and thereby to provide the British Government with Canadian dollars required for British purchases in Canada.

Every branch in Canada of the Canadian chartered banks is an authorized dealer and agent of the Board. Postmasters are also agents of the Board with limited authority to sell foreign exchange. All foreign exchange received by residents of Canada must be sold to an authorized dealer or other agent. All such purchases and sales are made for the account of the Board at the official rates of exchange which the Board may prescribe, subject to instruction by the Minister.

It might be pointed out here that, in addition to the actions and policies carried out by the Board, including the restriction of exports of capital from Canada and the restriction of the use of foreign exchange for pleasure travel, other measures have been taken by the Government to meet the shortage of exchange. The most important is the War Exchange Conservation Act, prohibiting or restricting the importation of specified non-essential goods, and providing means for the increasing of exports. The exchange shortage was also relieved in part by the agreements announced by the President of the United States and the Prime Minister of Canada at Hyde Park on Apr. 20, in accordance with which the United States will provide to the United Kingdom, under the Lease-Lend Act, American components of war supplies to be manufactured in Canada for Britain and, more significantly, the United States will buy from Canada certain essential materials and other war supplies that Canada can produce quickly and efficiently.

The Department of Munitions and Supply.—The Department of Munitions and Supply was created to centralize and accelerate the procurement of the increasing volume of war supplies and to expand industrial facilities. It succeeded the War Supply Board which had replaced the Defence Purchasing Board created in July, 1939. The Minister is empowered to examine into and to organize, mobilize, and conserve the resources of Canada for the purpose of furnishing munitions of war and supplies.

The Department centralizes all purchases on behalf of the armed forces, the British Commonwealth Air Training Plan, the United Kingdom, the Dominions, Allied Governments, and the United States of America for war supplies and equipment. From the inception of the Defence Purchasing Board to Sept. 30, 1941, the total value of contracts placed on behalf of the Canadian, United Kingdom, and other Governments was approximately $2,600,000,000, of which over $1,500,000,000 was on Canadian account. This sum represented approximately 200,000 individual contracts.

The Department maintains a strict supervision and control of certain commodities and industries through Controllers of Chemicals, Construction, Machine Tools, Metals, Motor-Vehicles, Oil, Power, Ship Repairs, Steel, Supplies, Timber, and Transit. As the war effort expands, supplies available for civilian use are being curtailed by the Controllers and war orders given priority. The Controllers are organized into a Wartime Industries Control Board which acts as a mutual consultative agency, and maintains direct liaison with the Wartime Prices and Trade Board.

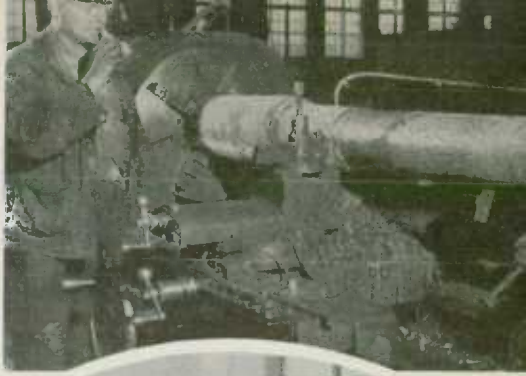
The vast orders for equipment needed for mechanized warfare, including many types, such as Bren guns, tanks, corvettes, destroyers and other naval craft, never before manufactured in Canada, required the expansion of existing plants and the creation of new plants for production on war account. Generally the operation of such new or extended facilities has been left to private management under specified conditions, and subject to the Department's supervision. Certain of the projects, however, have been set up as wholly-owned Crown companies, including those for the manufacture of small arms and precision instruments, for the accumulation of strategic materials, and for exercising supervisory functions. A Crown company has been established to provide housing accommodation for war workers. A list of the equipments new to Canadian industry includes, besides war vessels and tanks, field, naval and anti-aircraft guns, precision instruments, armour plate, bombs, and a variety of intricate components.

The expansion of productive facilities necessitated an extensive program of capital assistance to industry by the Governments of the United Kingdom and Canada for plants, machine tools and equipment. The commitments on this program amount to approximately $550,000,000 with the chemicals and explosives, guns and equipment, and basic materials industries the largest participants (over 20 p.c. each). Aircraft, machine tools, tanks, shipbuilding, and other industries make up the balance with smaller individual amounts.

Welding the Canadian and American Sections of the 236-mile Oil Pipeline at the International Boundary, Aug. 1, 1941. The picture at the top of the page shows William H. Willis, Governor of Vermont State (left) and Hon. C. D. Howe, Canadian Minister of Munitions and Supply, at the Official Ceremony.

Courtesy, Department of Public Information

Owing to the shortage of tankers for shipment of oil, a new pipeline from Portland, Maine, to Montreal, has been completed and for the first time in history, oil is now moving from the eastern sea-board of the United States to Montreal in this manner. The project was carried out at a cost of $8,500,000 as a private enterprise. The line to Montreal will reduce tanker voyages by about 2,000 miles, thus freeing tankers for other vital war services. This pipeline, which is 236 miles long, was officially opened on Aug. 1, 1941.



THE MANUFACTURE OF MUNITIONS IN CANADA

The Department of National War Services.—The Department of National War Services was established by Act of Parliament in July, 1940, to assist in carrying out the provisions of the National Resources Mobilization Act, 1940, concerned with the mobilization of all the effective resources—both human and material—of the nation. The Department was also empowered to promote, organize and co-ordinate voluntary war services and to make the most effective use of existing services and of material contributions made for the prosecution of the War. As organized under P.C. 4748 of Sept. 13, 1940. it consists of the following Divisions: National Registration Division; Mobilization Division; Public Information Division; War Charities Division; Women's Voluntary Services Division; and Salvage Division.

Mobilization of Man-Power.—At its inception, the Department was charged with the direction and supervision of the National Registration. Under the National Resources Mobilization Act, the Department utilizes its National Registration records, and determines the men who will undergo military training; the number is based on the requirements, from time to time, of the Department of National Defence. The regulations are under the jurisdiction of administrative boards for each of the 13 administrative divisions. The men are called for compulsory training in age classes and are subject to medical examination by one of the eight thousand appointed and duly licensed medical practitioners in Canada. Upon passing the required medical examination, the men are sent to the military training centres (see under Army, p. x).

War Charities—The War Charities Division is vitally concerned with the operations of all organizations that are engaged in auxiliary war work. All organizations that appeal to the public for funds or for goods for charitable purposes connected with the War must be registered under the War Charities Act. The Act exercises certain control over the administration of the organizations so registered and the public is thereby assured that the funds are used for the purposes for which the appeal is made. About two thousand funds are registered under the Act and represent voluntary donations of approximately $27,000,000 since the Act came into effect in September of 1939.

The National Salvage Campaign.—The National Salvage Campaign was organized under the Department of National War Services to promote the voluntary collection of all salvable material by patriotic and service organizations. The material is sold through the regular channels of trade and the proceeds are used for war charities or for national defence purposes.

The Department of Public Information.—The Director of Public Information utilizes the press, motion pictures, radio, posters and all other popular media to bring to the attention of the people the facts and ideas that will arm them for the great struggle in which the country is engaged. Pamphlets, booklets and leaflets are distributed to schools, colleges, universities, trade unions, service clubs, boards of trade and church organizations to provide factual summaries of Canada's war effort and inspirational material. The information is carefully selected and originates in Canada and elsewhere. The material is distributed in Canada, the United States and other parts of the world.

The illustrations on the opposite page afford some idea of the vast industrial program being carried on. Reading from left to right and downwards: (1) A number of 25-pounder guns ready for delivery. (2) A heavy gun barrel receiving its first "rough turn" on the lathe. (3) Pouring ship-plate steel into the ingot moulds. (4) Firing a finished Bren gun in practice tests. (5) Workmen making final adjustments on a modern cruiser tank. (6) An electric crane hauls a fresh load of scrap iron to the furnaces. (7) Ten tons of scrap metal have been thrown into this giant electric furnace—a worker directs the pouring of the molten steel into the ladle.

Courtesy, Department of Public Information

The Canadian Travel Bureau.—The flow of tourist travel to Canada is one of the main factors in acquiring and conserving United States exchange and the effort of the Canadian Travel Bureau has, therefore, been energetically and consistently devoted to the promotion of tourist trade from the United States. (See the special article at pp. 1-13. For statistics of the tourist traffic, see Index.

The National Film Board.—The National Film Board produces or arranges for the production of films on behalf of all Government Departments and Divisions and distributes them commercially to approximately 840 English theatres and 60 French theatres in Canada. A wide distribution to theatres abroad is also made. These include the United Kingdom, Australia and New Zealand, the Union of South Africa, the British West Indies, the Netherlands East Indies, the Straits Settlements, Thailand and India. Non-theatrical distribution is arranged through the Central Government Film Distribution Service at the National Film Board.

The Wartime Prices and Trade Board.—The Wartime Prices and Trade Board was established by Order in Council under the War Measures Act on Sept. 3, 1939. To it is entrusted the dual task of providing against undue price increases and ensuring adequate supplies and equitable distribution.

At first its powers were limited to staple articles of food, fuel and clothing. In September, 1940, the control of rents in war-congested areas was added to its duties, and in August, 1941, its jurisdiction was extended to cover all goods and services. In order to provide consistency of policy, the August, 1941, amendment of the Board's powers includes the provision that no other authority, Federal, Provincial or municipal, could fix or approve prices except with the concurrence of the Board.

During the first two years of the War the Board effected its control of prices by concentrating primarily on the problem of supply. Administrators were appointed to organize and regulate the supply of sugar, wool, coal, hides and leather, and oils and fats. On occasion, however, the Board intervened directly to fix maximum rentals for houses, and prices for wool, flour, bread, butter and millfeeds.

By the summer of 1941 it became apparent that expanding consumer income, on the one hand, and limitation of the supply of consumer goods through increasing large-scale diversion of labour and materials to war purposes on the other, were giving rise to an upward pressure on prices that neither control of supply nor piece-meal fixing of prices could resist. The earlier policies of control, adapted to the transition period from peace to total war economy, had to give place to rigorous and complete control of price and supply if serious inflation were to be avoided.

The first step in this program was the licensing of all manufacturers and dealers in foods, feeds and clothing, in September, 1941. This step was designed to facilitate the policing of prices and to provide the necessary basis for allocation of supplies in the event that shortages developed.

The Board's next move was to curb consumer credit by restricting retail instalment sales on a long list of commodities early in October, 1941. A down payment of at least one-third of the purchase price is required and the remainder is to be spread over a period not to exceed 12 months.

The final major step was taken when a universal price-ceiling was announced by the Prime Minister on Oct. 18. Effective from Dec. 1, 1941, the regulations

brought under control the prices of all commodities, retail and wholesale, finished goods and raw materials, as well as a long list of services. Maximum prices were fixed at the level of the "basic period", Sept. 15 to Oct. 11, 1941. Where adjustment is required on account of the time-lag in prices, it is the policy to adjust backward from the retail ceiling.

Where certain prices are outside Canadian control, such as the price of imported goods, a commodity-prices stabilization corporation purchases and re-sells commodities at prices that allow maintenance of the domestic retail price-ceiling. The Board also has power to recommend reductions in duties or taxes, or the payment of subsidies in order to maintain the domestic price level.

In the administration of the general price-ceiling, the Board's personnel was greatly expanded. Membership of the Board was expanded to eleven so as to give representation to each Government Department directly concerned in price control. The maintenance of price control in the various branches of Canadian industry and business is the direct responsibility of administrators recruited from private business and industry to supervise this work. To decentralize administration, regional offices of the Board have been established in thirteen major areas, each with its own staff. In addition, district offices are being opened up as required.

Throughout its operations, the Board co-operates closely with the Department of Munitions and Supply which, through its Wartime Industries Control Board, regulates the supply of vital war materials.

The Department of Labour.—The need for equipment for the Forces and for food and materials for Britain and the Allies put a severe strain on industry and labour, which increased as workmen enlisted in the armed forces. Efforts have been directed particularly to increasing the labour supply; providing industrial training for men for factories and for the forces; reducing labour turnover; organizing the placement of workers through the new Dominion system of employment offices; safeguarding working conditions; and preventing as far as possible any interruption in production through labour disputes. Fuller information concerning the measures taken are given in Chapter XI.

To obtain the advice and co-operation of employers and employed in coping with these problems, the Government set up the National Labour Supply Council

Rope for the Navy.—Workmen splicing the largest hemp rope ever made in Canada; it was produced in a factory in the Maritimes.

Courtesy, Department of Public Information.

in June, 1940. It includes six representatives of the Trades and Labour Congress, the Canadian Congress of Labour, the Confederation of Catholic Workers and the railroad brotherhoods and six representatives on the employers' side. To co-ordinate policies in relation to labour, a committee was formed in October, 1940, representing the Departments of National Defence, National War Services, Munitions and Supply, Finance, and Labour.

As a basis for improved relations between employers and employed and in the interests of increased production, certain principles were set forth by Order in Council in June, 1940. These included fair and reasonable wages adjusted to cost of living by payment of a bonus; no undue extension of hours but the adoption of a shift system whenever possible to prevent excessive fatigue; safeguards for the health and safety of workers; freedom to organize in unions and to bargain through union offices with employers with a view to the conclusion of agreements governing working conditions and providing for the adjustment of differences; and, finally, no stoppage of work on account of labour disputes but settlement through negotiation, conciliation, or under the Industrial Disputes Investigation Act.

A war-time wages policy adopted on Dec. 16, 1940, prescribed that wages in mines, transport and communication and in certain public utilities and war industries should not, with certain exceptions, be raised but that a bonus adjusted to changes in the cost of living should be paid. An Order in Council of Oct. 24, 1941, applied the policy to all employment except that under governmental authorities or in agriculture, horticulture, fishing, trapping, domestic service or casual work, or in hospitals, religious, charitable and educational institutions, or by associations on a non-profit basis. The order provided for a National War Labour Board and a board for each province. Basic rates may not be changed without the permission of the National Board, which may order any increases it deems necessary and may partially or wholly exempt an employer from the necessity of paying a bonus if he is financially unable to do so. The bonus is 25 cents per week for each 1 p.c. of change in the cost-of-living index, except that for male employees under 21 years of age and female employees paid less than $25 per week it is 1 p.c. of basic wage rates.

The Board is charged also with the administration of the Fair Wages and Hours of Labour Act, 1935,* and an Order in Council of Oct. 4, 1941, which amended the labour conditions in contracts for the manufacture and supply of stores, equipment, etc., for the Dominion Government. The latter requires the payment of wages at not less than the rates current in the district where the work is performed and the observance of customary hours but stipulates that male employees of the contractor over 18 and persons trained under Canada's War Emergency Training Program are to be paid not less than 35 cents per hour, female workers over 18 not less than 25 cents and male and female workers under 18, 20 cents. Male beginners are to be paid not less than 20 cents, the amount to increase by 5 cents every four weeks until 35 cents is paid, and female beginners not less than 20 cents for the first four weeks. These conditions supersede those laid down on Dec. 31, 1934, and May 30, 1941.

* This Act applies to government contracts for construction and requires the payment of current wage rates, provided they are fair and reasonable, and an 8-hour day and 44-hour week. A contract may be declared exempt from the Act by Order in Council.

Agricultural Supplies Board.—It is the responsibility of the Agricultural Supplies Board and its collaborating provincial production committees to ensure that Canadian agriculture is conducted, during war-time, in a manner calculated to satisfy, as far as possible, the needs of Canada and the United Kingdom for food and fibres.

The Board acts as a central directive agency, attempting to guide production in the light of Canada's known needs and of British requirements as ascertained through constant telegraphic and, when the need arises, personal communication with the British authorities.

Through special sub-committees the Board assures supplies of fertilizers and pesticides needed in Canada; by Dominion-Provincial joint programs administered by a Seed Supply Committee, production is undertaken in suitable areas of those field root and vegetable garden seeds ordinarily supplied in large measure by Europe; through a Feeds Administrator, control is exercised over the livestock feeds needed to ensure the production of the animal products called for in war contracts; by direct action, the Board ensures the production in Canada of the harvesting and processing equipment required by the fibre flax industry and, through a Flax Fibre Administrator, so controls the industry that desired quantities of fibre and tow are made available to the British Fibre Control and to the domestic market.

To prevent dislocations in the agricultural industry, the Board has endeavoured to assist those branches of agriculture that, through the disappearance under war conditions of normal export outlets, have become war casualties. A case in point is the apple industry, which, particularly in Nova Scotia and British Columbia, has been developed on an export basis.

Independent of the above Board, but working in close collaboration with it, are three Boards which purchase and forward supplies of Canadian farm products contracted for under agreements between the British Ministry of Food and the Canadian Government. The Bacon Board buys, stores, and ships 'wiltshires' and other pork products required by Britain, limiting, when necessary, supplies used in Canada in order to ensure that contract needs are met; the Dairy Products Board acts in a similar capacity with respect to Canadian cheddar cheese needed by the United Kingdom and takes such measures as will ensure needed supplies of other dairy products for Britain or for the domestic market; a Special Products Board, established in the spring of 1941, is responsible for purchasing and shipping to the United Kingdom certain Canadian farm products, such as eggs, and fruit and vegetable products, which are not already being handled by the two Boards mentioned immediately above.

The Dominion Bureau of Statistics.—The great and many-sided expansion of Canadian statistics in numerous fields during the past twenty years, and the work that the Dominion Bureau of Statistics has done to provide a statistical background for economic study, has greatly facilitated the conversion from a peace economy to a war economy. Far more is known about production, internal trade, prices, the balance of international payments, etc., than during 1914-18, and this knowledge has been extensively used by the Government.

The facilities of the Bureau were utilized for the compilation of the results of the National Registration of August, 1940, when 7,863,000 persons were registered in various categories, of which the most important were age and occupation.

As a result of the registration, long lists of persons skilled in various occupations have been compiled and transmitted to the authorities who are concerned with the maintenance of the supply of labour in war industries.

The Census of 1941, the data from which is now being analysed, will furnish a factual basis for the work of post-war reconstruction.

Co-operation with the Wartime Prices and Trade Board.—All establishments handling food and clothing are now required to be licensed. The Internal Trade Branch of the Bureau was made the Records Division for this work of the Wartime Prices and Trade Board. This, in the first instance, has meant the recording of 200,000 establishments, and the widening of the licensing scheme will expand the records to include, in all, between 300,000 and 400,000 establishments.

A section on coal statistics was established to collect and compile information for the Coal Administrator. Monthly statistics of the stocks of hides, skins and leather were established for the Leather Administrator. The work on prices has been expanded considerably, particularly as regards cost-of-living statistics. The Bureau has also worked in co-operation with the Foreign Exchange Control Board and has compiled data from some of the Board's forms. As a result of the requirements of the Board, the work on tourist statistics has also been greatly expanded.

The National Research Council.—The demands made upon the National Research Council for scientific and technical aid in war problems increased greatly in 1941. Since war broke out, the Council has directed its activities almost entirely to the support of the armed forces—the Army, the Navy and the Air Force. Close co-operation is being maintained between these fighting services, Departments of Government, industrial institutions, universities and research laboratories in regard to all scientific and technical experiments for war purposes. The Council is in reality the scientific research station of the three services named; it has been appointed as the official research station for the Royal Canadian Navy.

The Council has constructed prototypes of important tactical weapons that are now in extensive operation and use. Work in connection with secret radio gear and with naval protective devices has been very successful. Equipment and clothing used by the troops is rigorously inspected to ensure that the required high standards of quality are met. Studies are made on specifications, and advice given as required for the inspection and purchase of materials produced in Canada.

Newer activities of the laboratories arising from the war include: intensive study of radio problems; studies antecedent to the production of optical glass in Canada; development of gear and equipment for naval protective devices; work on ballistics; study of scientific and engineering problems involved in the storage of perishable foodstuffs and their transport to Great Britain; research on blood storage; preservation of food; and the study of nutrition problems. All research on methods of defence against chemical attack, except training phases, is carried on by a chemical warfare establishment committee, of which a member of the Council is chairman and technical officers of the Department of National Defence are members. This committee has organized and directed over 70 research projects within the various university laboratories and in the Chemistry Division at Ottawa.

Liaison with the United Kingdom and other countries of the British Empire and the United States has been established and maintained at a high level of efficiency through the interchange of staff and the exchange of information, both as to plans and results.

The activities of the National Research Council are described at length in the chapter on Education and Research.

Other Agencies and Activities.—There are various other special agencies performing important economic functions, either of control or investigation. The Canadian Shipping Board controls the use of both lake and ocean ships of Canadian registry. In allocating ships to particular routes and in seeing that essential cargoes are carried, it co-operates with the United Kingdom Ministry of War Transport and the United States Maritime Commission. The Shipping Priorities Committee determines the degree of urgency or priority of the various shipping requirements, gives direction to the Shipping Board, and forwards necessary requests for the use of United Kingdom and United States ships.

Since the Hyde Park Declaration, joint committees have been set up to co-ordinate the war programs of the United States and Canada on the economic side. The Joint Materials Co-ordinating Committee, linking the Office of Production Management and the Department of Munitions and Supply, is concerned with joint plans for the production, acquisition and use of scarce basic materials. The Joint Committee on Defence Production surveys the plant capacities in each country for the production of complete war equipment and supplies and recommends such modifications in allotment and specifications as will increase the total effectiveness of the program. The Joint Economic Committees, with which the other joint committees maintain continuous liaison, have an over-riding responsibility to investigate and report on joint war-time economic problems not being currently studied by other agencies. They are further charged with the duty of studying joint economic problems of post-war adjustment.

More recently, the problems of co-ordination, both internal and international, in the field of export policy have become more important because of the growing scarcity of essential materials.

In order to keep essential supplies from reaching enemy hands control is exercised over exports from Canada through a special branch of the Department of Trade and Commerce. The Trading with the Enemy Regulations, administered by the Custodian of Enemy Property prevents the enemy from deriving any benefit whatsoever from trade.

There have also been two important committees appointed to investigate and report to the Government on specific or general economic questions from time to time: the Advisory Committee on Economic Policy established in September, 1939, and made up of senior Government officials and advisers; and the Wartime Requirements Board, established in November, 1940, to secure information and to "formulate such plan or plans as may be necessary to ensure that war needs in the order of their importance shall have priority over all other needs" and to report upon other matters referred to it by the War Committee of the Cabinet.

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Economic Conditions in Canada at the Close of 1941

Hon. James A. MacKinnon, M.P., Minister of Trade and Commerce.

The national resources of the Dominion were utilized more extensively in 1941 than during any other year. The expanding nature and urgency of the demand for war supplies was reflected in widespread acceleration. The national income, the most comprehensive measure of prosperity, was about one-fifth greater in the first nine months than in the same period of 1939. The increase in national income from month to month without important interruption since the outbreak of hostilities signifies a marked gain in the purchasing power of Canadians.

Agriculture. — Canada's wheat crop dropped in 1941 to 306,000,000 bu. as compared with 547,000,000 in the preceding year. This decline was due primarily to the Government's policy of reducing wheat acreage by from 20 to 25 p.c., devoting increased areas to coarse grains and hay for livestock feeding. Unfavourable weather further reduced the crop, which should be just about adequate for export and domestic requirements during 1941-42. Production of coarse grains did not vary greatly from the preceding year, lower yields offsetting the increased acreage.

Ceilings were placed by the Wartime Prices and Trade Board on the prices of coarse grains for feeding purposes, and the Government announced the payment of all charges for transportation of these grains to Eastern Canada. It is urgently necessary that stock-raising be stimulated, for British demands call for bacon shipments of 600,000,000 lb. during 1942, as compared with the 425,000,000 lb. exported during the twelve months ended Sept. 30, 1941. A further 20 p.c. increase in Canadian hog production will be necessary to meet these requirements. Increased emphasis is now being placed on the production of cheese, eggs, tobacco and apples for the British market.

Mining.—The Canadian mining industry was more active than ever during 1941, the general mining index for the first nine months having risen 3 p.c. over the high level of 1940. A gain of over 4 p.c. was recorded in total gold shipments with every indication that the 1940 record output of this vitally important metal would be surpassed. Canada's coal production continued to increase gradually during the first nine months of 1941. Gains in the output of these two minerals are exceptionally important at present, in so far as they conserve United States exchange.

Figures are not available regarding production of nickel, copper, lead and zinc, but the marked expansion in non-ferrous metal smelting, which was observed in 1940, was undoubtedly carried over into 1941. It was found necessary to

restrict the use of copper and zinc for non-war purposes, since they were urgently required by the Canadian munitions industry as well as for use in Britain. In view of the scarcity of gasoline, renewed efforts were made to stimulate petroleum production in the Turner Valley.

The expansion in aluminium output continued throughout the year. The British Government had previously agreed to take the entire output of the Aluminium Company of Canada for 1940 and 1941. In June the United States Government contracted for 750,000,000 lb. At present Canada is producing enough aluminium annually for 50,000 medium bombers. Great strides have also been made in the fabrication of finished and semi-finished products. The Canadian production of aluminium is of first importance to the Allied war effort.

Forestry.—During the first nine months of 1941 slight percentage declines were shown both in newsprint production and in exports of planks and boards. During the latter part of the year, however, the newsprint industry was stimulated by a rush of orders from United States defence industries, many of which were for manila paper and other products which could be supplied by the newsprint mills. This additional demand probably led to the provision of as much United States exchange as was furnished by the industry during 1940, when it was by far Canada's largest commodity export to the United States, gold being excepted. Exports of lumber declined 3·4 p.c. from the high level of the first nine months of 1940, but internal requirements assisted in the maintenance of high levels of operation.

Electric Power.—Total electric power production for the first nine months of 1941 was 23,900,000,000 kwh. which constituted an increase of more than 6 p.c. over the corresponding total for 1940, and of about 15 p.c. over the amount for 1939. Ontario's production over the first eight months of the current year was 23 p.c. greater than for the last eight peace-time months in 1939 and the corresponding gain in Quebec was about 12 p.c. Considerable new plant was constructed, especially in Ontario. In the central provinces, however, new production has not been able to keep step with war requirements, although the introduction of daylight saving for the entire year has helped to conserve power.

Aluminium manufacture makes extremely heavy demands on electric power, one-sixth of Canada's present supply being utilized by this industry. War has also increased requirements in the automobile, textile, rubber, and machine-tool industries. The pre-war surplus of several hundred thousand horse-power was immediately absorbed. Electric boilers maintained by the pulp and paper industry, which consumed great quantities of power prior to the War, have now been eliminated.

Manufactures.—The general index of manufacturing production for the first nine months of 1941 showed an increase of 13·8 p.c. as compared with the corresponding period of 1940. The primary iron and steel industry, which may be said to form the backbone of Canada's war production, has made further substantial gains over the preceding year. Large advances were recorded in live-stock slaughterings and in flour milling, with sugar refining also at a distinctly higher level.

The importance of Canadian manufactures to the Allied war effort is indicated by the employment statistics. During the first two years of war, the index has advanced by more than 57 p.c. as compared with less than 15 p.c. for the non-manufacturing industries.

Especially impressive has been the expansion recorded in the durable goods industries, which have practically doubled their working force over the past two years. Gains in the consumer goods industries were less spectacular, but also very substantial. Even omitting the figures for the chemical industry, which has expanded tremendously as a result of war production, employment in the non-durable goods field has increased 26 p.c. since Sept. 1, 1939.

The majority of the consumer goods industries are not directly connected with the war effort. It appears from these figures, therefore, that despite the feverish activity of those industries concerned with war production, the non-war industries have thus far enjoyed a large measure of prosperity. It has been stated by several economists that the war effort, which originally stimulated these industries by providing employment and increasing the general level of purchasing power, is now checking their development in its own interest. They point out that an increasing number of basic raw materials are being strictly rationed, that there is much talk of diverting workers from non-essential industries to those more directly connected with the War, and that the increased general purchasing power, which originally stimulated production of consumers goods, is now being once more restricted by taxes and Government loans. Available statistics, however, indicate that these factors have not yet seriously affected the expansion in non-durable goods industries.

External Trade.—Canada's total exports for the first nine months of 1941 were $1,185,000,000, representing an increase of 36 p.c. over the $869,000,000 recorded for the corresponding period of 1940. Total imports for the same months of 1941 were $1,048,000,000, 36 p.c. above the $769,000,000 listed for the preceding year.

Canadian commodity trade, during 1941, continued to be featured by a very large import surplus from the United States, more than offset by an even larger export surplus in trade with the United Kingdom. Imports from the United States over the first nine months totalled $717,000,000, about $190,000,000 more than was the case in 1940. Exports to the United States recorded a gain over the period of $105,000,000 to $427,000,000.

Newsprint and other wood products remained Canada's largest commodity export to the United States for the current year, but the increase over the 1940 total seemed primarily due to large shipments of aluminium, lead, nickel and zinc, based mainly on the Hyde Park Agreements. Wood and paper products have played a principal part in the 78 p.c. increase in Canada's exports to the United States over 1939. A very heavy increase in purchases of United States iron and steel was by far the most important factor, over the past two years, in swelling Canada's import balance with the United States.

Canadian exports to Great Britain over the period totalled $506,000,000, an increase of $124,000,000 over 1940. Imports rose to $164,000,000. The shipment of war materials, in large measure fashioned from United States iron and steel, was greatly augmented. Exports of agricultural products, including meat, have likewise continued to mount. These commodities were sent to Britain in constantly increasing amounts ever since the outbreak of war. The rise in imports from Britain was fairly moderate in actual amount, and was dispersed among a good many products. The main characteristics of Canada's external commodity

trade were: first, the flow of United States iron and steel to Canada and its re-export to Britain in the form of finished war products; and secondly, the shipment of agricultural commodities to Britain.

Gold is excluded from the commodity trade figures, but shipments to the United States during the current year will probably be very close to their 1940 value of $203,000,000. Great efforts were made to attract additional United States tourists during 1941, and it is hoped the income from this source may have reached $150,000,000. Receipts from gold shipments and the tourist trade combined should offset between 85 p.c. and 90 p.c. of Canada's unfavourable balance in commodity trade with the United States.

Employment.—The increase in employment, which began with the outbreak of war, continued unchecked during 1941. For September the general index stood at 162·7 as compared with 131·6 for September, 1940, a gain of 24 p.c. Over the same period the manufacturing employment index rose 31 p.c. from 138·4 to 181·5. The mining and construction industries recorded gains of 7 p.c. and 27 p.c., respectively, over the same period.

Since the outbreak of war the number of employees in Canada has increased by 890,000, which vastly exceeds the total previously listed as "unemployed". Although a small residue of unemployment is still reported by the trade unions, it is evident that nearly all of those considered 'employable' prior to the War are now at work, together with a great number not so recorded, including married women and students who found work before completing their courses.

It is becoming increasingly clear that drastic measures to provide labour power are necessary if Canada's Army and working force are to continue expanding at their present rates. Plans to shift workers from 'non-essential' ilndustries are under consideration, but it seems fairly certain that such schemes will provide only part of the additional labour required for 1942. The situation is further complicated by the demands of the military authorities for 30,000 or even 40,000 enlistments per month. Never in Canada's history has a thorough analysis of the country's potential labour power been so urgently needed.

The scarcity is especially acute in certain industries, employing a high proportion of skilled labour, which have been expanding with extreme rapidity. In the iron and steel industry as a whole, employment over the first two war years has increased more than 125 p.c. The steel shipbuilding branch of the industry, now employing over 20,000 workers, has been virtually created by war needs, with employment in automobile fabrication and other parts of the industry being more than doubled. Very heavy expansion has also been recorded in the chemical and non-ferrous metal industries.

Despite the publicity given a few spectacular strikes, the time lost due to industrial disputes since the outbreak of war has been relatively small. The total loss of man days in 1940 was about 20 p.c. under the average annual loss over the past ten years. Although figures for the first eight months of 1941 showed a slight aggregate increase, the loss of time per worker has continued to drop, as has also the average duration of strikes.

Prices and Wages.—Wholesale prices for September recorded an increase of more than 12 p.c. over September, 1940, rising to 93·2 as compared with 83·1. The steady rise in prices has gained impetus in recent months, and further price

advances for a wide range of commodities have been forbidden by Order in Council as referred to at the foot of p. xxii. Living costs in October were 14·6 p.c. above the pre-war level, having risen 8 p.c. during the previous twelve months. The September index for food prices was up 24 p.c. since the outbreak of war, and 17 p.c. since September, 1940. Rent increases were small due to extensive controls, but clothing prices for September had risen 17 p.c. during the war period and 4 p.c. since the same month of 1940.

The price-fixing policy outlined above is the logical complement to an official wage policy recently made applicable to all industries by Order in Council. The Order contained two main provisions: (1) The highest wage rates established between 1926 and December, 1940, are to be regarded as fair and reasonable. They may be restored and maintained, but not increased. (2) These wages may be supplemented by a cost-of-living bonus, as a rule $1.25 per week for each 5 p.c. rise in the cost of living. This bonus will safeguard the workers against increases in the cost of basic necessities.

It is hoped that these price and wage policies will effectually halt the inflationary trend that was gradually gaining momentum and stabilize the real income of Canadian labour.

Finance.—Total cheque transactions recorded by Canadian banks during the first nine months of 1941 were about 15 p.c. in advance of the total for 1940. Total deposits, notice and demand, increased about 8 p.c. over the same period. Current loans also recorded a further advance. During the past two years commercial loans have increased steadily in amount, partly through advances to the armament industries. Security holdings have also risen, and, with Canadian securities held in Britain being repatriated on a large scale, continuance of the trend may be expected.

The Budget for the fiscal year 1940-41 illustrates that Canada's finances are now on a genuine war footing. Total Government expenditures will be about $2,820,000,000. Of this tremendous sum, $2,350,000,000, over 83 p.c., will go directly to Canada's war machine or be used to finance the flow of materials to Britain.

Direct war expenditures will be approximately $1,450,000,000 as compared with $792,000,000 during the preceding year. About $900,000,000 will go for aid to Britain over the period. It is hoped that the drastic taxation measures now in force, including a 40 p.c. corporation tax, a personal income tax beginning at 15 p.c., and a national defence tax, will bring in revenue sufficient to meet the whole of the direct war expenditure. About 54 p.c. of the entire Budget, an unprecedentedly high proportion in war-time, should therefore be met through taxation. The funds for aid to Britain and for non-war activities, however, totalling about $1,370,000,000, must be obtained through borrowing. About $200,000,000 may come from the sale of War Savings Certificates and increments from government funds. The sale of war bonds directly to the public will be relied upon to contribute by far the greater part of the money required, the three War Loans already floated having been heavily over-subscribed.

TOTEM POLES OF GITSEGIUKLAS

By

EDWIN HEADLEY HOLGATE, R.C.A.

Courtesy, National Gallery of Canada

MOUNT EDITH CAVELL

Courtesy, Canadian National Railways

EARLY SPRING

By
A. Y. JACKSON

Courtesy, National Gallery of Canada

STORMY WEATHER — GEORGIAN BAY

By
F. HORSMAN VARLEY, A.R.C.A.

VILLAGE IN THE LAURENTIAN MOUNTAINS

By

CLARENCE A. GAGNON, R.C.A.

Courtesy, National Gallery of Canada

CANADA'S ATTRACTIONS FOR THE VACATIONIST

Canada as a vacation land has scope and variety not met with elsewhere in the New World. Its greatest charm lies in the differences from the ordinary run of attractions. While Canada is not steeped in the historic lore that has made Europe and Asia storehouses of civilization's records for ages before America was discovered, yet the four hundred years that have passed since Jacques Cartier first landed on its shores have been replete with stirring events. These are recalled by the habitant life of Quebec, and the old fortifications, monuments, and historic buildings that are scattered from coast to coast.

The tremendous expanse of the country, its diversity of physical features, its comparatively sparse population, the ease and expedition with which almost all parts can be reached, make the Dominion the world's greatest and least crowded playground area. Visitors from the United States can enter at scores of points along the International Boundary by highway, rail, air, or water. Even the most remote hunting and fishing areas can be reached with the help of a guide in a way that does not involve undue hardship.

The Trans-Canada Highway has been under construction for more than a decade. Its progress was continued during depression years as a relief measure, but its final completion has been held up owing to the War. The last remaining link of the highway—that between Hearst and Geraldton in northern Ontario—is now expected to be completed in 1942. It will open to Canadians and their visitors one of the world's longest and most attractive automobile routes. The completion of this highway marks the realization of a long-cherished dream, and is, first of all, a matter of pride with Canadians that they will be able to go by automobile across the breadth of their country, without having to encroach on neighbouring territory or to depend periodically on some other form of transportation. This magnificent scenic highway, stretching from Cape Breton on the Atlantic to the shores of the Pacific, is approximately 4,350 miles long. It passes through many delightful vacation areas and National Parks, and connects with most of the provincial capitals and principal cities across the Dominion and adds another transcontinental travel and freight way to those already existing in the Dominion—to railroad and airway. It will give North America one more cross-country route, and there is solid motoring pleasure in every mile. The Trans-Canada Highway during the usual touring season of the year has numerous advantages over other trans-continental highways. It does not traverse long stretches of desert, alkaline wastes and bad lands. In scenic beauty it is unrivalled by any other highway that spans the continent.

An imaginary trip across the country from coast to coast will perhaps best illustrate the diversity of attractions afforded. From such an outline, the tourist may select his locale according to taste, for one has but to enter Canada at any important port of entry to be impressed.

Looking Across Freshwater Lake to Cape Smoky, Cape Breton Highlands National Park, N.S.
Courtesy, National Parks Bureau

Nova Scotia.—The visitor who reaches Canada by steamer and lands at Yarmouth, Halifax, or other Nova Scotian port enters a province 381 miles long by 50 to 105 miles wide, entirely surrounded by sea except for the Isthmus of Chignecto—the connecting link with the mainland, through which run the railway lines and motor roads between Nova Scotia and New Brunswick. Here the sea and the love of maritime pursuits are embedded in the very marrow of the inhabitants' bones and, naturally, give a maritime flavour to vacation trips in this Province. Along the coast, snow-white lighthouses crown cliffs overlooking the sea, along the horizon drifts the smoke of a hull-down steamer, or nearer at hand white-sailed fishing schooners breast the waves. One feels that the quaint cottages of the fishermen, which line the streets straggling up the hillsides from the sea, are appropriate dwellings for the hardy crews. The apple orchards, the lakes and streams that web the interior, the trout of the rivers and the sea fishing along the coast, the forests replete with game, the excellent motor roads, all tend to induce the tourist to prolong his stay in this delightful Province.

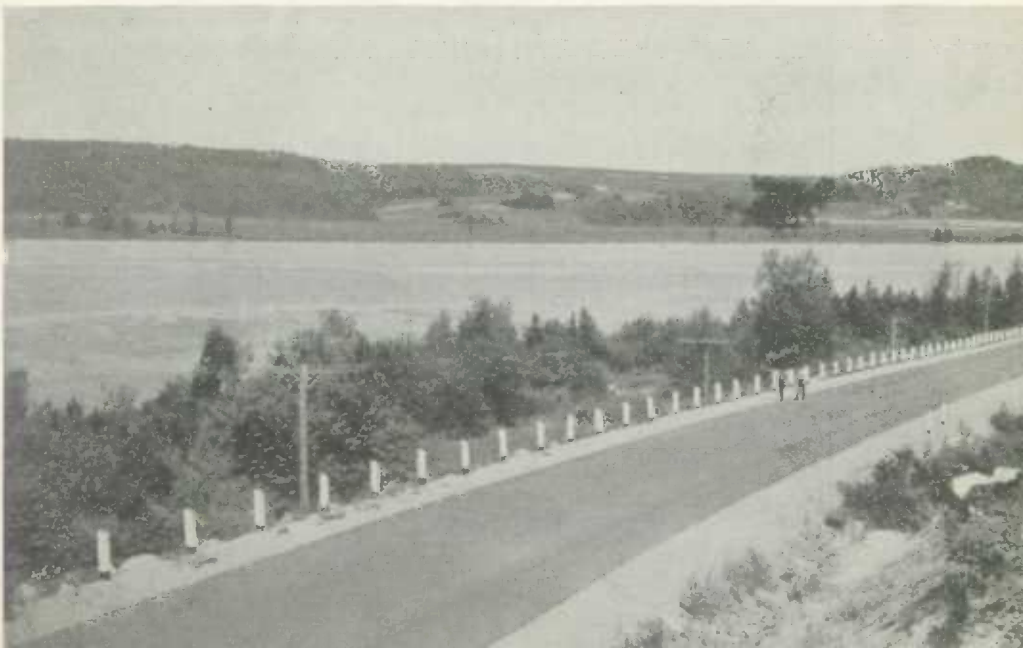
A tour of Nova Scotia reveals a country of peace and character, of history and beauty. Each district has some outstanding feature to offer. Halifax, the capital city, is always interesting with its old Citadel and ancient cannon. There is Peggy's Cove, one of many points that have an appeal not alone for the artist with brush and palette. Lunenburg with its fishing fleet, Pictou with its lobster fisheries, Grand Pré and memories of Evangeline, Kentville and the pageantry of the annual Apple Blossom Festival, and Cape Breton with the beautiful Bras d'Or Lakes and the quaintly Acadian Isle Madame are but a few of the many places

to be explored and enjoyed. Cape Breton Highlands National Park stretches across the northern part of the Island from the Atlantic to the Gulf of St. Lawrence. The rugged shoreline and numerous coves, the forest-clad slopes, and the soft roll of the hill-and-vale scenery of the interior, gives to the Park a solitary grandeur peculiar to itself.

New Brunswick.—Across the Bay of Fundy, the blue shores of New Brunswick invite. Saint John is the largest city and its harbour, like that of Halifax, is open the year round. From the activity that the visitor sees on every hand, it is quite evident that shipping is the important industry in this part of the country. The St. John River flows into the Bay of Fundy at this point and natural forces create a sight above the city that should not be missed—the unique Reversing Falls, where twice a day the normal flow of the river makes a right-about-face. Following the St. John River, the course winds north and west to the Maine border passing Fredericton, the capital city.

About two hundred miles above Saint John are the beautiful Grand Falls where the forces of nature have been harnessed and converted into 'white coal', Central New Brunswick and the east coast are of more than passing interest for here are great game areas and fishing waters that have a world-wide reputation. Along the east coast are Miramichi Bay and the Baie de Chaleur, popular spots for summer vacations. Here the angler is inclined to turn aside and test some of the famous salmon pools of the Restigouche River or the fishing and canoeing that are to be had on the Tobique and Nipisiquit Rivers. The north shore of the Baie de Chaleur presents precipitous cliffs of brick-red sandstone so lofty that they seem to cast their shadows half-way across the bay, and yawn with rifts through which boisterous torrents tumble to the sea. Behind these cliffs the hills rise in long undulations and from here one is ushered into the Province of Quebec by way of the scenic Matapedia Valley and the Gaspe Peninsula.

The Trans-Canada Highway along the St. John River, N.B.
Courtesy, Canadian Travel Bureau



The North Shore, P.E.I.
Courtesy, Canadian National Railways

Prince Edward Island.—Before leaving this part of Canada, however, a most delightful excursion should be made to the smallest province, Prince Edward Island, only 120 miles in length and with an average width of 21 miles. The climate, tempered by the surrounding waters of the Gulf, is ideal; the red colour of the rich soil contrasts pleasingly with the emerald-green vegetation, and sea and rural pleasures are nowhere more intimately combined than in this 'Island Province'. Agriculture is the chief pursuit, and 85 p.c. of the entire surface is cultivable. The Island is the original home of the fox-farming industry for experiments in breeding date back to early in the 19th century.

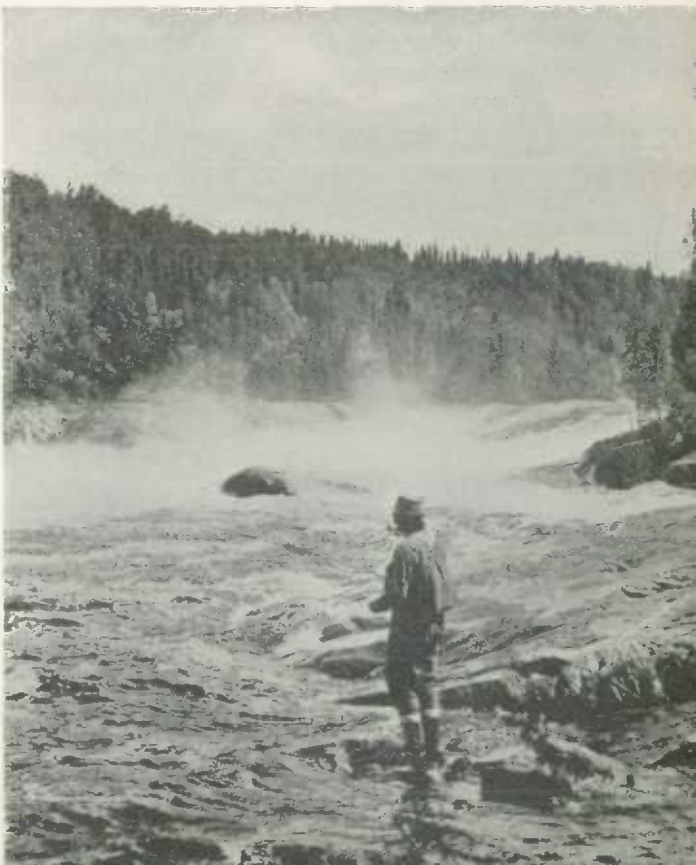
Prince Edward Island National Park extends as a coastline strip for nearly twenty-five miles along the north shore and includes some of the finest beaches in Eastern Canada—beaches that are reddish brown in colour and beaten smooth and broad by the action of the surf. Here salt-water bathing and relaxation on the smooth sandy stretches are delightful pastimes. Inland streams and pools provide sport for the angler, and coastal waters offer sea trout, mackerel, and other fish. If sailing be one's hobby, the Island's waters afford delightful sport in this direction. Excellent motor roads lead to every part of the Province and provide pleasant driveways through a beautiful rolling lowland.

Quebec.—Historic, charming, and picturesque is the Gaspe Peninsula, which thrusts itself into the Gulf of St. Lawrence. The isolated mass of almost vertical limestone—Percé Rock—with its wave-formed tunnel; Bonaventure Island, the sea-bird sanctuary; Gaspe Bay, where Jacques Cartier landed in the summer of 1534; virgin forests, mountain streams, and indented seaboard—haunts of the fishermen seeking salmon and trout; a country where the inhabitants live much as did their

forefathers hundreds of years ago; these are all part of Gaspe, but only a very small part of its real glamour and fascination. An excellent highway system around the Peninsula opens up to the tourist magnificent stretches of coastal scenery.

The traveller from the east journeying by the majestic St. Lawrence, which, with the Great Lakes, provides an excellent waterways system to the very heart of the continent, sees its surface dotted with outgoing and incoming steamers and sailing-craft of various descriptions. But in the lower section, below Quebec City, it is not an ordinary river that is travelled but a tidal estuary whose broad bosom provides a tranquil seaway route of magnificent proportions for a distance of four hundred miles from the Gulf to the city of Quebec. Most noticeable among the tributaries below Quebec City is the beautiful Saguenay, which enters from the north at Tadoussac. Here towering Cape Trinity guards the picturesque beauty of this fiord-like river. During the summer season well-appointed pleasure steamers ply from Montreal, Quebec, Rivière du Loup, and intervening points to Chicoutimi on the Saguenay. The grandeur of the Saguenay trip is most inspiring. Farther on up the north shore Murray Bay is passed and other notable summer resorts. On the south shore the river flows by Métis, Bic 'the beautiful', Cacouna, Rivière du Loup, and many pretty French-Canadian villages that show evidence of their association with lumbering and other industries connected with the soil.

The tourist who has made the St. Lawrence trip will not soon forget the thrill afforded by the sight of Quebec City from the river. This city is the capital of the Province and is eloquent of all the doughty deeds surrounding the struggle for the possession of British North America in the eighteenth century. Cobbled lanes, winding stairway streets, old houses and fortifications combine with modernity in Quebec. A short distance below the city are the famous falls of the Montmorency River and a few miles above the city is one of the engineering triumphs of man—the Quebec Bridge, the central span of



Casting for Ouananiche, Peribonka River, Que.

Courtesy, Canadian Travel Bureau

which curves one hundred and seventy feet above the water. The waters narrow appreciably after Quebec City is passed but the river is still one of noble proportions.

Cathedral spires and cross-surmounted churches bear witness to the religious influences that animate the daily life of the inhabitants. Looking to the north the visitor in imagination pictures the network of woods, lakes, and streams that has been preserved as the Laurentides Park by the Provincial Government, and still farther afield the waters of Lake Mistassini lie in their rock-bound cradle. In the Eastern Townships to the south, and near the United States border in the Lake Memphremagog area, a region of outstanding charm around Mount Orford has been lately set aside as a Provincial Park.

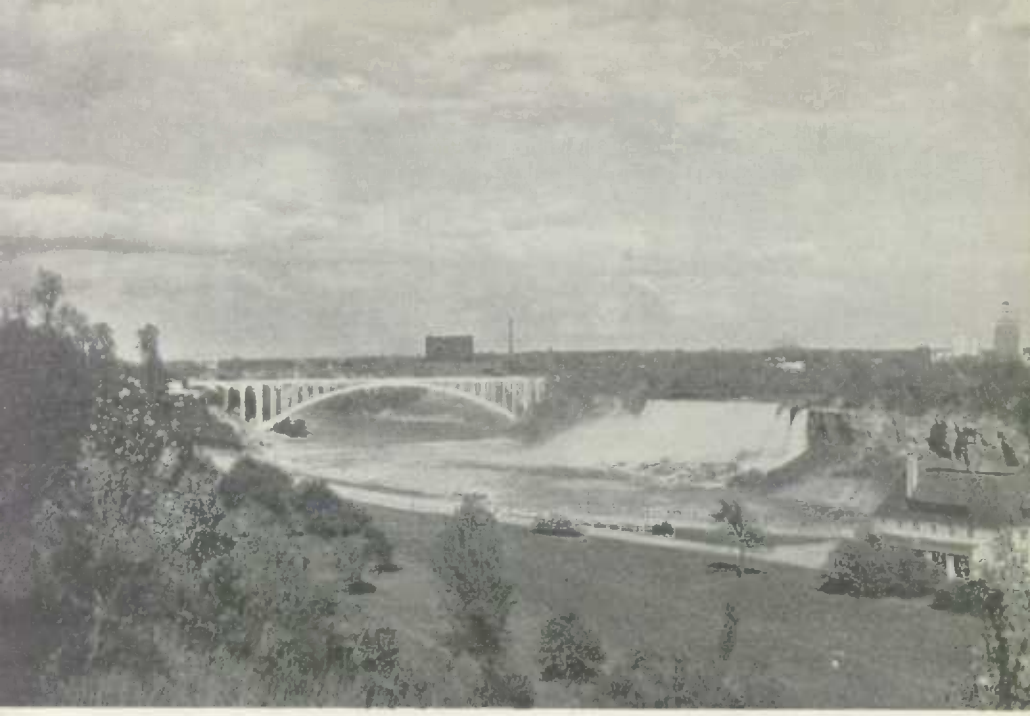
About one hundred and fifty miles upstream from Quebec City is Montreal, the largest city in Canada. It is a cosmopolitan city and is interesting both from a historical and a commercial viewpoint. Mount Royal gives it a solid background and its mixture of French and English customs, its streets, market places, and extensive waterfront offer much that is both curious and quaint.

North of Montreal lies the beautiful Laurentian district, land of lakes, hills, streams and woodland trails; in winter a mecca for skiers from every corner of the continent; in summer the playground of the bather, fisherman, hunter and golfer and those in search of relaxation amid scenes of abiding beauty. West of the Laurentians and north of the city of Ottawa is the charming Gatineau section, while farther west is to be found the immense Pontiac district, famed for the plenitude of its fish and game resources.

Ontario.—The Ottawa River, which enters from the north at Montreal, divides the Province of Ontario from that of Quebec. It is a historic water-highway flowing through a valley rich in the lore of the lumber trade. The wild 'white horses' that, in Indian legend, pranced in the rapids of the tumultuous rivers that are tributary to the Ottawa have, in many cases, been converted by the White man into 'white coal', but a large number still await development. The quiet beauty of this great river, the verdure-clad hills that guard its shores, its long expanses, its island-dotted reaches, and the adjoining lakes, forests, and fishing areas make the Ottawa Valley a most attractive playground.

One hundred and twenty miles from Montreal, high on a bluff on the Ontario side of and overlooking the Ottawa River, rise the towers and turrets of the Parliament Buildings that are located in the city of Ottawa, the seat of the Dominion Government. Away to the north rise the blue Laurentain Hills of Quebec; to the south winds the Rideau Canal which, through the Rideau River and Lakes, links the Ottawa with the St. Lawrence at a point near Kingston one hundred or more miles away. Ottawa is a beautifully situated city and, with its government buildings, legations and residences, its splendid system of driveways, and its parks and boulevards, has much to attract and impress the visitor.

Ascending the Ontario portion of the St. Lawrence Valley, many historic sites and modern towns are passed. Through the canals, which are cut around the rapids in the river, large lake and river vessels carrying valuable cargoes pass on their way to and from the Great Lakes. On the upper reaches of the St. Lawrence, the picturesque Thousand Islands section is reached before one gets to Kingston at the foot of Lake Ontario. The Government of Canada has set aside as national recreational areas a number of these islands, which now form St. Lawrence Islands National Park. The part of Ontario that lies between Lake



The New Rainbow Bridge, Niagara Falls, Ont.—The recent completion of this bridge symbolizes the amity between Canada and the United States. It replaces the Falls View Bridge, better known as the Honeymoon Bridge, which was destroyed by ice pressure in January, 1938.

Courtesy, Niagara Falls Bridge Commission

Ontario and Lake Huron is usually referred to as southern Ontario and is the most thickly settled section of the Province. Prosperous towns and villages, all of which are potential tourist resorts—for this is in every sense the 'garden of Ontario'—are scattered throughout the rich countryside; in fact the tourist can holiday to his taste anywhere in this area for, should he crave more natural surroundings than these towns and villages provide, there are the summer resorts dotting the Rideau or the far-flung chain of Kawartha Lakes.

Toronto, on the north shore of Lake Ontario, is the provincial capital and the second largest city in the Dominion. In September of each year it is the home of the greatest annual exhibition in the world, the Canadian National Exhibition. The journey around the head of Lake Ontario to Hamilton takes the traveller through a rich and diversified agricultural area to the "Niagara Peninsula", famous for its fruit orchards and the great Niagara Falls. By way of the Welland Ship Canal the huge freighters and smaller craft which ply the Great Lakes pass between Lakes Ontario and Erie. Point Pelee National Park is situated in the southwest corner of Ontario and forms the most southerly extension of mainland in Canada. It is a region of unusual physical charm and is one of the most interesting bird sanctuaries in Eastern Canada.

The Georgian Bay country, the Muskoka Lakes and Lake of Bays, Parry Sound, Algonquin Park (an Ontario Government Park), and the French and Pickerel River districts are well known to canoeists, fishermen, and campers and cannot fail to delight all who love to spend a holiday in a land of lakes, streams, and forests. The shoreline of Georgian Bay is broken by hundreds of deep sheltered bays and along the eastern side lies an archipelago of nearly 30,000 islands, about

30 of which are set aside as the Georgian Bay Islands National Park. What is known as New Ontario lies north and west of the French River. The southern part is the scene of large-scale mining developments and the nickel of Sudbury, the silver of Cobalt, and the gold of Porcupine and Kirkland Lake all have had a large part in the spectacular mineral development of Ontario. Northward through this wild forest region, the Temiskaming and Northern Ontario Railway winds its twin steel threads far away to Ontario's only salt-water port, Moosonee on James Bay. This New Ontario is rich in fish and game and here lie the gem-like lakes of Timagami, the streams of Algoma, Nipigon with its famous trout, Lake of the Woods and hundreds of miles of unspoiled lake and forest. Quetico Provincial Park adjoins the International Boundary west of Port Arthur, and a myriad of lakes lie about Kenora and Minaki, near the western boundary of the Province.

Manitoba.—Passing into the Province of Manitoba, the transition to the great rolling prairies of the West is made. In the north the prairie passes to typical Canadian Shield terrain. Here the canoes of the fur traders once sped on their lonely journeys and in recent times promising discoveries of gold, copper, and other minerals have been made. Through this north country runs the line of the Hudson Bay Railway closely following the Nelson River for many miles then turning north to the port of Churchill, which looks out over the inland sea of Hudson Bay.

Winnipeg, once a frontier village, is now a great modern city with broad streets and magnificent buildings. It is the transportation hub and business centre of the Prairie Provinces. Its founding is linked with the early fur trade, but its growth has been dependent on the great wheat fields of the West. A few miles

Children Riding Ponies on the Beach, Clear Lake, Riding Mountain National Park, Man.
Courtesy, National Parks Bureau

Bird Shooting in Saskatchewan.

Courtesy, Canadian Travel Bureau

north of Winnipeg is Lake Winnipeg, some 300 miles long, and on its southern reaches are many delightful beaches and resorts. The lake also affords a novel and pleasant steamer trip, lasting a week, which takes the visitor to interesting ports of call, quaint fishing settlements, and Norway House, at the northern end, where a two-hundred-year-old Hudson's Bay Company post still trades with the trappers of the district. In the cities and towns throughout the Province there is much to interest the visitor. Natural parks (including Riding Mountain National Park), splendid waterways, good roads, majestic forests, and the proverbial hospitality of Manitobans, all assure the visitor an enjoyable holiday.

Saskatchewan.—Saskatchewan is a region of infinite variety for in the southern part are thriving cities and modern farmsteads, and in the north are rocky heights and primeval forests untouched by the hand of man. The traveller may enjoy all the conveniences of great cities and up-to-date rural districts, or visit the haunts of Indian and White trappers in the north, paddle with them in their canoes on swift rivers and great inland lakes, enjoy the primitive life in their cabins or at the nearest trading-post.

Years ago Saskatchewan became famous for its No. 1 hard wheat and still retains its well-merited reputation. As one motors through the province or rides in a comfortable observation car, poplar bluffs, glistening sloughs, and quaint little towns distinctively marked by towering grain elevators meet the eye. Regina, the capital city, is busy and attractive, with theatres, splendid shopping centres, substantial homes, and public buildings, as well as parks and tree-lined boulevards. Saskatoon on the broad Saskatchewan River, Moose Jaw, and Prince Albert are other cities of importance. The last-named is the gateway to the famous Prince Albert National Park and to a north country of fish and game that extends beyond the Churchill River to Athabaska Lake.

Alberta.—Alberta covers a large area, being over 700 miles from north to south, and 400 miles at its greatest breadth. Extending from the southern boundary to one hundred miles north of Calgary lies the prairie zone, a great ranching country. Calgary itself, situated at the gateway to the Rockies, is one of the largest

Lac Beauvert, Jasper National Park, Alta.

Courtesy, Canadian National Railways

cities in Alberta and its proximity to the Turner Valley oil fields has made it a great manufacturing centre. Edmonton, about two hundred miles north of Calgary, is the capital city of the Province and the trading centre of 50,000 square miles of excellent agricultural land and park-like country. This city is also the gateway to the new agricultural settlements of the Peace River District and to the vast Mackenzie River Valley. Progressively from east to west one passes through the prairies, the foothills, and finally the Rocky Mountains where Banff, Jasper, and other scenic National Parks are located. From the time the tourist leaves the Manitoba boundary, a loadstone—the Rocky Mountains—seems to draw him westward. It is in Alberta that the first glimpse of these majestic heights is obtained. Much has been written describing the glories of these ranges, but, as with all stupendous spectacles, they must be seen to be really appreciated. Banff, Jasper and Waterton Lakes National Parks have been set aside as national playgrounds in the Rocky Mountains. In these areas are to be found some of the finest scenery of its type in the world, high snow-capped mountain peaks, cold glaciers, foaming mountain streams, resplendent waterfalls, crystal lakes, charming valleys, natural hot springs, and other wonders of nature. The combination of mountain and prairie in Alberta offers fulfilment for almost any type of vacation—the joy of crowds or the peace of solitude.

British Columbia.—The eastern slope of the Rockies is for the most part in the Province of Alberta and down the other side British Columbia extends to the sea, rising and falling over the Selkirk and Coast Ranges before bathing its

western shore in the Pacific. The Province of British Columbia offers the colour and romance of the Cariboo Trail, the beauty of the Kicking Horse Trail and other scenic highways. Indian villages with their characteristic totem poles and dugout canoes, tall Douglas firs, huge cedars, streams tumbling from rocky heights, and wide-flung vistas of myriad lakes and snow-capped mountains are a source of pleasure on every hand. Lakes, streams, and inlets offer fine fishing; the mountains and forests harbour grizzly bear, deer, moose, bighorn sheep, mountain goat and other game in infinite variety. The inland waters of the Province afford thrilling canoe trips and its beautiful fiorded coastal waters invite cruises along the sheltered Inside Passage amid scenes of impressive grandeur. The Province contains four National Parks—Yoho, Kootenay, Glacier and Mount Revelstoke—and suggests to the visitor a vast playground.

If the mountain areas of British Columbia furnish the most imposing scenery, the broad plateaus throughout the Province are equally attractive. The Province also has its lakelands such as that included within the boundaries of Tweedsmuir Park to which Ootsa Lake is the gateway. Vancouver, on Burrard Inlet at the mouth of the Fraser River, is Canada's gateway to the Pacific. It ranks next to Montreal as an ocean port and is a metropolis of great natural beauty. Vancouver Island and the Pacific Coast area are blessed with a climate softened by the Japan Current, which meets the northwest coast to turn south, hugging the coast until it rejoins the equatorial current. Victoria, the provincial capital, with its 'Old Country' charm and sedate atmosphere, is at the southern tip of the Island. In this beautiful city flowers may bloom all year round, and the climate may be compared to that of the south of England.

The Lions Gate Bridge, Vancouver, B.C.

Courtesy, Canadian Travel Bureau

Yukon.—In the uttermost northwest of the Dominion lies Yukon, a land of contrasts and of extremes in climate, in physical characteristics, in its flora and fauna, and in human interest. It is a country of mountain ranges and rolling hills, upon which the once-famous Klondike goldfields have thrown a glamour of romance and adventure. In summer, the average possible range of sunlight is from seventeen to eighteen hours per day in the vicinity of Whitehorse, and in the northernmost strip from twenty-three to twenty-four hours. On the map this Territory appears to be remote, but it is really comparatively easy of access and in a way that is full of enjoyment. The route is by way of Skagway, Alaska, which is reached by steamer from Prince Rupert or Vancouver. From Skagway the White Pass and Yukon Railway runs to Whitehorse, Yukon, a distance of one hundred and ten miles. From June to October, well-appointed steamers ply between Whitehorse and Dawson, four hundred and sixty miles, by way of Lake Laberge and the Lewes and Yukon Rivers.

The scenery along the route of the Inside Passage from Vancouver to Dawson is magnificent. This is one of the most imposing scenic water routes in the world. The rail journey from Skagway to Whitehorse is also of exceptional beauty, as the mountains, glaciers, and canyons are unusually striking. The boat trip down the Yukon River is both interesting and thrilling. Apart from its splendid scenery, the greatest attraction of Yukon is the variety of its game animals and the excellence of its fishing waters.

Winter Sports in Canada

To the visitor who has the opportunity and the desire to holiday in the season of ice and snow, Canada's attractions are unexcelled. The winter season extends from December until March and during these months Canadians from all walks of life find time to devote themselves to outdoor sports of varied character. Inter-city and inter-provincial clubs maintain a keen spirit of competition and stimulate good sportsmanship. Carnivals, ski-meets, and bonspiels, where devotees of individual sports meet in competition, are common. Those of Eastern Canada centre around Quebec City, Montreal, Ottawa and Toronto; the annual meets of the French-Canadian snowshoe clubs, made gay and attractive by the wide variety of picturesque costumes and the boisterous 'chansons' of the 'habitants', have a character all their own. The Winnipeg curling bonspiel is an annual event that attracts large numbers of visitors from all parts of Canada and the United States. The dog derbys held at The Pas in northern Manitoba and other centres receive widespread support, and the importance of Banff and Jasper in the Canadian Rockies as centres of winter sports is known all over the continent. The Revelstoke ski tournament in British Columbia is an outstanding western event.

As a matter of fact all sections of Canada enjoy ideal conditions for winter sports, including skating, skiing, hockey, snowshoeing, sledding, tobogganing, curling, ice-yachting, and dog derbys. The crisp, invigorating air, the evergreen forest, and glistening snow-clad hillsides against a background of clear blue sky make a winter holiday in Canada stimulating and delightful.

Several of the National and Provincial Parks organize winter sports programs for visitors. Besides those centring on Banff and Jasper already mentioned, there are Mont Tremblant in the Laurentian Highlands north of Montreal, and Huntsville (the gateway to Algonquin Park in Ontario), which is becoming an important winter sports centre in Ontario.

Typical Ski Terrain in the Neighbourhood of St. Adele, Que.
Courtesy, Canadian Pacific Railway

Historic Sites and Monuments in Canada

The work of restoring, preserving, and marking sites of national historic interest in Canada was inaugurated about twenty years ago, and is under the direction of the National Parks Bureau. In the important task of weighing and considering the historic background and association of sites and memorials, the Bureau is advised by the Historic Sites and Monuments Board of Canada, an honorary body whose members, resident in various parts of the country, are historians of recognized standing.

The Board has considered the circumstances surrounding more than a thousand sites, of which over three hundred have been judged to be of sufficient national importance to warrant their being suitably marked and maintained. These include: Indian earthworks, canoe routes, and portages; French forts, trading-posts, and mission enterprises; sites connected with British exploration and naval and military operations in the long struggle for the possession of Canada; posts of the Hudson's Bay Company; and sites related to the economic and industrial development of the Dominion. At some of the more important sites, careful excavation work has been carried out, old relics have been preserved and ruins restored. Museums have been established at several of the larger sites where guides are ready to explain the historical events commemorated and their significance.

CHAPTER I

Population—Vital Statistics—Hospitalization

Population

The present population of the earth is estimated at approximately 2,000,000,000.* The British Empire, which covers slightly less than one-quarter of the land area of the earth, has an estimated population of 500,870,000 or slightly less than one-quarter of the world's population. Canada, which occupies over one-quarter of the area of the British Empire, has an estimated population of 11,422,000 (1940) or only about one forty-fifth of the Empire population. The latest official estimates of population of other British countries are: the British Isles, 49,452,000 (1939); Union of South Africa, 10,341,200 (1940); Australia, 6,930,000 (1938); New Zealand, 1,636,000 (1940); all India, 362,828,000 (1938). While there is no absolute standard for population density, a certain minimum density is desirable.

Growth of the Canadian Population.—The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that decade of any country in the world. In the second decade the rate was 22 p.c., again the greatest, with the one exception of Australia where growth was greater by a fraction of 1 p.c. A century earlier the United States grew 35 p.c. decade by decade until 1860, but with this exception there has been no recorded

* The Statistical Year Book of the League of Nations, 1939-40, gives the population of the world as 2,145,000,000 not including estimates of certain populations, chiefly in Asia and Africa, where censuses are incomplete or do not exist.

A Mining Townsite in Northern Ontario.—The mining industry is the foundation of many pioneering settlements in Canada that, in the absence of agricultural or forest resources, would be economically unimportant were it not for the discovery of rich ore deposits.

example of more rapid population growth than that of Canada in the early decades of the twentieth century. In 1871, only 2·97 p.c. of the population dwelt west of Lake of the Woods. In 1921 the proportion was 28·37 p.c. and in 1931, 29·51 p.c.—3,061,745 compared with 110,000 at Confederation.

Populations of Canada, Census Years 1871-1941

Province	1871	1881	1891	1901	1911	1921	1931	1941
P.E.I.	94,021	108,891	109,078	103,259	93,728	88,615	88,038	93,919[1]
N.S.	387,800	440,572	450,396	459,574	492,338	523,837	512,846	573,190[1]
N.B.	285,594	321,233	321,263	331,120	351,889	387,876	408,219	453,377[1]
Que.	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776	2,360,665[2]	2,874,255	–
Ont.	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292	2,933,662	3,431,683	–
Man.	25,228	62,260	152,506	255,211	461,394	610,118	700,139	711,216[3]
Sask.	–	–	–	91,279	492,432	757,510	921,785	931,547[3]
Alta.	–	–	–	73,022	374,295	588,454	731,605	772,782[3]
B.C.	36,247	49,459	98,173	178,657	392,480	524,582	694,263	–
Yukon	–	–	–	27,219	8,512	4,157	4,230	–
N.W.T.[4]	48,000	56,446	98,967	20,129	6,507	7,988	9,723	–
Canada	**3,689,257**	**4,324,810**	**4,833,239**	**5,371,315**	**7,206,643**	**8,787,949**[5]	**10,376,786**	–

[1] Preliminary 1941 Census figures. [2] Revised in accordance with the Labrador Award of the Privy Council, Mar. 1, 1927. [3] Quinquennial Census of 1936 figures. [4] The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan, and Yukon and to extend the boundaries of Quebec, Ontario, and Manitoba. [5] Includes 485 members of the Royal Canadian Navy.

Estimated Populations.—Annual figures of population are required for many purposes such as the calculation of birth, death, and marriage rates and of per capita figures of production, trade, and finance. The Dominion Bureau of Statistics estimates such figures for intercensal years.

Estimated Populations of Canada for Intercensal Years since 1931[1]

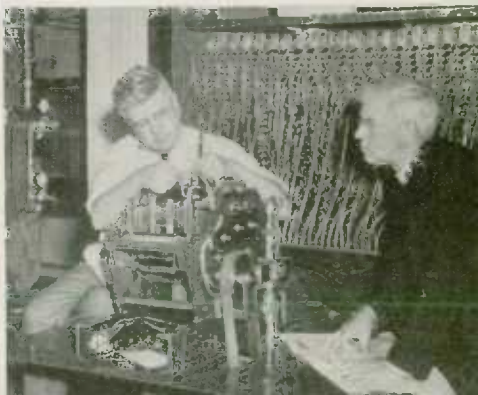
Province	1932	1933	1934	1935	1936	1937	1938	1939	1940
	'000	'000	'000	'000	'000	'000	'000	'000	'000
Prince Edward Is.	89	89	89	89	92	93	94	95	[2]
Nova Scotia	519	522	525	527	537	542	548	554	[2]
New Brunswick	413	420	425	429	435	440	445	451	[2]
Quebec	2,910	2,970	3,018	3,062	3,096	3,135	3,172	3,210	[2]
Ontario	3,475	3,564	3,629	3,673	3,690	3,711	3,731	3,752	[2]
Manitoba	709	710	711	711	711	717	720	727	[2]
Saskatchewan	933	932	932	931	931	939	941	949	[2]
Alberta	740	748	756	764	772	778	783	789	[2]
British Columbia	704	712	725	735	750	751	761	774	[2]
Yukon	4	4	4	4	4	4	4	4	[2]
Northwest Terr.	10	10	10	10	10	10	10	10	[2]
Canada	**10,506**	**10,681**	**10,824**	**10,935**	**11,028**	**11,120**	**11,209**	**11,315**	**11,422**

[1] These estimates are subject to revision as later data are made available [2] Provincial figures will be interpolated for 1940 from results of the 1941 Census.

Rural and Urban Population.—As regards rural and urban distribution, though Canada is still largely agricultural, town dwellers in 1931, for the first time, exceeded the numbers living upon the land (5,572,058 urban and 4,804,728 rural). Sixty years ago the towns and cities of Canada accounted for only 19·58 p.c. of the people (722,343 urban and 2,966,914 rural), and at the beginning of the century the percentage was but 37.

Census of 1941.—On June 2, 1941, the decennial census of Canada was taken according to plans published previously. Since the country had been organized under war conditions, difficulties were encountered that under normal circumstances


Canada



would not have prevailed and that will consequently delay the publication of early results beyond the usual term. Preliminary figures for certain of the provinces are shown in the first table on p. 15. At the time of going to press, preliminary figures for a number of cities, towns and incorporated villages have been announced and those for the larger centres are given in the following table. Most of the important census analyses should be available for the 1943 Handbook.

Populations of Cities and Towns having over 25,000 Inhabitants

NOTE.—In all cases the populations for previous censuses have been rearranged as far as possible to compare with those of the same areas in 1931. The arrangement is according to the latest *final* census figures, viz., 1931.

City or Town	Province	Populations					
		1891	1901	1911	1921	1931	1941[1]
Montreal	Quebec	256,723	328,172	490,504	618,506	818,577	882,398
Toronto	Ontario	181,215	209,892	381,833	521,893	631,207	656,930
Vancouver	British Columbia	13,709	29,432	120,847	163,220	246,593	271,597
Winnipeg	Manitoba	25,639	42,340	136,035	179,087	218,785	217,994
Hamilton	Ontario	48,959	52,634	81,969	114,151	155,547	163,768
Quebec	Quebec	63,090	68,840	78,710	95,193	130,594	147,002
Ottawa	Ontario	44,154	59,928	87,062	107,843	126,872	149,881
Calgary	Alberta	3,876	4,392	43,704	63,305	83,761	87,264
Edmonton	Alberta	–	4,176	31,064	58,821	79,197	92,404
London	Ontario	31,977	37,976	46,300	60,959	71,148	77,043
Windsor	Ontario	10,322	12,153	17,829	38,591	63,108	103,961[2]
Verdun	Quebec	296	1,898	11,629	25,001	60,745	65,927
Halifax	Nova Scotia	38,437	40,832	46,619	58,372	59,275	69,326
Regina	Saskatchewan	–	2,249	30,213	34,432	53,209	56,520
Saint John	New Brunswick	39,179	40,711	42,511	47,166	47,514	50,084
Saskatoon	Saskatchewan	–	113	12,004	25,739	43,291	42,269
Victoria	British Columbia	16,841	20,919	31,660	38,727	39,082	41,787
Three Rivers	Quebec	8,334	9,981	13,691	22,367	35,450	41,732
Kitchener	Ontario	7,425	9,747	15,196	21,763	30,793	35,366
Brantford	Ontario	12,753	16,619	23,132	29,440	30,107	31,527
Hull	Quebec	11,264	13,993	18,222	24,117	29,433	32,474
Sherbrooke	Quebec	10,097	11,765	16,405	23,515	28,933	35,501
Outremont	Quebec	795	1,148	4,820	13,249	28,641	28,621
Fort William	Ontario	2,176	3,633	16,499	20,541	26,277	30,317
St. Catharines	Ontario	9,170	9,946	12,484	19,881	24,753	29,919
Kingston	Ontario	19,263	17,961	18,874	21,753	23,439	29,441
Oshawa	Ontario	4,066	4,394	7,436	11,940	23,439	26,552
Sydney	Nova Scotia	2,427	9,909	17,723	22,545	23,089	28,081
Sault Ste. Marie	Ontario	2,414	7,169	10,984	21,092	23,082	25,620
Glace Bay	Nova Scotia	2,459	6,945	16,562	17,007	20,706	25,050
Sudbury	Ontario	–	2,027	4,150	8,621	18,518	31,806
Timmins	Ontario	–	–	–	3,843	14,200	28,464

[1] Preliminary figures. [2] Amalgamation of Windsor City, Walkerville Town, East Windsor City and Sandwich Town, July 1, 1935.

Aboriginal Races

According to 1939 figures, the aboriginal population amounts in all to little more than 1 p.c. of the total population. The majority is made up of Indians.

The layout on the left illustrates some of the main operations in the enormous task involved in taking the Census. *Upper Left.*—The Official Proclamation, which was displayed in post offices across Canada. *Upper Right.*—An enumerator interrogating a French-Canadian family of 14 children with their parents. Information regarding every man, woman and child in the Dominion was collected personally by trained enumerators in city, town and hamlet. *Centre Left.*—Clerks engaged in checking information from the enumerators' sheets. A temporary staff of more than 1,000 clerks is now engaged in transcribing, classifying and tabulating the resulting mass of data. *Centre Right.*—A "pantograph" punching machine. The clerk transfers the checked information from the Census schedule direct to a punched card. *Lower Left.*—Checking a group of the punched cards, after they have been sorted. In a single operation, the machine shown will sort and total the cards into 12 different classes. *Inset.*—This machine lists all the information punched on cards (including names and addresses, if desired) as well as tabulates total of groups, subgroups and grand totals. *Lower Right.*—A compressed air tabulator. This unique tabulating machine has many improvements that were developed in the Bureau of Statistics and is the finest machine of its kind in existence. It automatically tabulates all data on the punch cards, and is furnished with no less than 545 individual totalizers. The cards are taken by the machine at the rate of 250 per minute. A permanent record of the tabulated results is made in photostat form by means of a camera attachment at the rear of the machine.

Indians.—Indian affairs are now administered by the Indian Affairs Branch of the Department of Mines and Resources under the authority of the Indian Act. Reserves have been set aside for the various bands of Indians in the Dominion since the earliest times and the Indians located thereon are under the supervision of the local agents of the Branch. The activities of the Branch, as guardians of the Indians, include the control of Indian education, the care of health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions, and the general supervision of their welfare.

The Indian Act provides for enfranchisement of Indians. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem. Indians who become enfranchised lose the special protection attached to their wardship, so that premature enfranchisement must be avoided.

According to the 1931 Dominion Census, the total number of Indians was 122,911 (62,943 males and 59,968 females) made up by provinces as follows: P.E.I., 233; N.S., 2,191; N.B., 1,685; Que., 12,312; Ont., 30,368; Man., 15,417; Sask., 15,268; Alta., 15,249; B.C., 24,599; Yukon, 1,543; N.W.T., 4,046. The Department of Indian Affairs made a later count of Indians in 1939 and the figure given at that date was 118,378, made up by provinces as follows: P.E.I., 274; N.S., 2,165; N.B., 1,922; Que., 14,578; Ont., 30,145; Man., 14,561; Sask., 13,020; Alta., 12,163; B.C., 24,276; Yukon, 1,550; N.W.T., 3,724.

Eskimos.—The Eskimos of Canada are found principally on the northern fringe of the mainland and on islands in the Arctic Archipelago and in Hudson Bay, although in the Baker Lake-Chesterfield Inlet area on the west side of Hudson Bay there are bands of Eskimos who are essentially an inland people, and who subsist chiefly on caribou.

The administrative care of Eskimos outside of the organized provinces devolves upon the Lands, Parks and Forests Branch of the Department of Mines and

Eskimo Winter Dwellings in Arctic Canada.—During the long winter season the Eskimos live in carefully built snow houses, or igloos.

Courtesy, Hudson's Bay Company

Resources, which, by regulative measures, conserves the natural resources necessary to their subsistence. Contact with the Eskimos is maintained through permanent stations in the eastern, central, and western Arctic, at a number of which medical officers are located, and by means of the annual Canadian Eastern Arctic Patrol by steamship. Law and order in all regions in Canada inhabited by Eskimos is maintained by the Royal Canadian Mounted Police.

According to the Dominion Census of 1931, there were 5,979 Eskimos in Canada, nearly 80 p.c. of these being in the Northwest Territories. The distribution by provinces was: N.W.T., 4,670; Que., 1,159; Yukon, 85; Man., 62; and Alta., 3.

Immigration

Total immigrants into Canada during the fiscal year ended in 1941 numbered 11,496 as compared with 16,205 in 1940 and 17,128 in 1939.

English, Scottish, Irish, and Welsh from overseas numbered 3,104 as compared with 3,566 and 3,373 in 1940 and 1939, respectively; immigrants from the United States totalled 7,443 in 1941 as compared with 5,748 and 5,663, respectively, for the two previous years; from other countries the number was 949 as compared with 6,891 and 8,092.

A movement not included in the immigration statistics is that of 'returned Canadians'. These Canadian citizens are divided into three groups: (*a*) Canadian born; (*b*) British born (outside of Canada); (*c*) naturalized in Canada. The total for 1940-41 was 5,140 as compared with 4,561 in 1939-40.

Although tourists entering Canada are not immigrants, their admission calls for an immigration examination on the International Boundary and at ocean ports. In 1940-41 the number of entries in this class totalled 18,416,000, made up of 13,176,000 tourists, etc., 5,235,000 residents returning and 5,000 Canadians returning after residence in the United States, as mentioned in the preceding paragraph; in 1939-40 the total entries numbered 28,337,000 divided between 16,723,000 tourists, etc., 11,610,000 returning residents and 5,000 returned Canadians.

Vital Statistics

Canada has had a national system of registration since 1920, organized by the Dominion Bureau of Statistics in collaboration with the Registration Officials in the provinces.

Births, Deaths and Marriages in Canada, by Provinces

Province	Births			Deaths			Marriages		
	1940[1]		1926	1940[1]		1926	1940[1]		1926
	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M
Prince Edward Is.	2,047	21·3	20·1	1,057	11·0	10·3	702	7·3	5·3
Nova Scotia	12,755	22·8	21·3	6,166	11·0	12·4	6,391	11·4	5·6
New Brunswick	11,675	25·5	26·1	4,977	10·9	12·6	4,829	10·6	7·4
Quebec	83,857	25·8	31·6	32,799	10·1	14·3	35,069	10·8	6·8
Ontario	68,393	18·1	21·4	38,383	10·2	11·3	41,235	10·9	7·5
Manitoba	14,771	20·2	22·9	6,339	8·6	8·3	8,849	12·1	7·1
Saskatchewan	19,245	20·1	25·2	6,438	6·7	7·4	7,805	8·2	6·7
Alberta	17,329	21·8	23·8	6,198	7·8	8·5	8,778	11·0	7·4
British Columbia	13,763	17·7	16·6	8,291	10·7	9·0	9,624	12·4	7·3
Canada[2]	**243,835**	**21·4**	**24·7**	**110,648**	**9·7**	**11·4**	**123,282**	**10·8**	**7·1**

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

Births.—From 1926 to 1930 the number of births showed an upward trend rising from 232,750 to 243,495. This movement was reversed until 1939 when the number of births was 229,468 as against 229,446 in 1938. In 1940 the figure rose to 243,835, the highest since the Province of Quebec entered the Registration Area in 1926. Because of the growing population, the rate showed a steady drop from 1926 to 1937 of from 24·7 to 19·8 but in 1940 the rate stood at 21·4.

The decline in births during the depression is apparent and, in great measure, was affected by rural depopulation.

Deaths.—The six chief causes of death accounted for well over one-half of the total deaths in Canada in 1940 and "diseases of the heart" considered as a group, was the most important cause. Cancer was second; incidentally the death rate from this cause has advanced almost every year from 1926 to 1940, the increase in that period being from 80·7 to 116·5. This trend is in a considerable measure accounted for by (*a*) the improvement in diagnostic and X-ray techniques, and (*b*) the ageing of the Canadian population. Third in importance as a cause of death was the group "diseases of the arteries", which has also shown an upward trend from 1926 to 1940 of from 52·8 to 102·8. Nephritis was in fourth place, early infancy was next and accidental deaths, pneumonia and tuberculosis sixth, seventh and eighth. In 1926 pneumonia was in third place with a rate of 89·3. Its drop in 1940 to seventh place with a rate of 53·7 is no doubt attributable to the general use of sulphanilamide and its derivatives as antigens for this disease.

Infant Mortality.—In Canada during recent years this rate has shown a substantial reduction, falling from 102 per thousand live births in 1926 to 61 in 1939 and 56 in 1940.

Infant Deaths and Death Rates in Canada

Province	Infants under One Year				Rates per 1,000 Live Births			
	1926	1938	1939	1940[1]	1926	1938	1939	1940[1]
Prince Edward Island	123	114	168	135	70	58	79	66
Nova Scotia	882	754	761	797	80	62	64	62
New Brunswick	1,095	859	893	933	106	75	79	80
Quebec	11,666	6,486	6,210	5,856	142	83	78	70
Ontario	5,302	3,245	2,979	2,956	78	49	46	43
Manitoba	1,122	750	752	756	77	56	55	51
Saskatchewan	1,681	941	930	969	81	52	51	50
Alberta	1,233	812	763	832	85	51	46	48
British Columbia	588	556	483	520	58	45	39	38
Canada[2]	**23,692**	**14,517**	**13,939**	**13,754**	**102**	**63**	**61**	**56**

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

Natural Increase.—Natural increase results from the difference between births and deaths. The birth rate (as indicated in the table at p. 19) is, in general, declining in Canada, although it increased in 1940. The death rate is declining at a somewhat lower rate (1937 shows a slight rise) with the result that the rate of natural increase has been downward on the whole since 1930. The rate for 1926 was 13·3 per thousand; for 1929 it was 12·2; for 1933, 11·3; and for 1938, 11·0; while for 1940 the rate was 11·7.

Marriages.—In 1929 marriages in Canada numbered 77,288. The depression exercised a marked influence on marriages and the marriage rate, causing a downward trend until 1933 when a gradual recovery commenced. The increase continued

Modern Tabulating Equipment Used in the Classification of Primary Vital Statistics, which are Collected by the Provincial Governments.

Courtesy, Provincial Board of Health, British Columbia

until 1938 when the yearly total for marriages stood at 88,438. The influence of the early months of war is reflected in the abnormally large figures for the years 1939 and 1940 of 103,658 and 123,282, respectively.

Hospitalization

Origin and Growth of Hospitals and Benevolent Institutions

Hospitals.—The foundation of hospitals in Canada dates back to the French régime. The first hospital in New France was the Hôtel-Dieu de Québec, founded in 1639 under the auspices of Les Hospitalières de la Misericorde de Jésus. Other hospitals founded during this period were: Hôtel-Dieu, Montreal, 1644; L'Hôpital Général, Quebec, 1693; L'Hôpital Général, Montreal, 1694; and Hôtel-Dieu, Three Rivers, 1697. Montreal General was opened in 1818 and the Marine Hospital, Quebec, in 1830. In Upper Canada, the earliest hospital recorded was one founded in 1790 at Sault Ste. Marie for the care of the Indians. Toronto General was founded in 1819, Kingston General in 1833, Ottawa General in 1844, Hôtel-Dieu at Kingston in 1848 and Hamilton General in 1850. With the expanding population of Canada, the increase in hospitals was very marked during the last half of the nineteenth century. St. Boniface General in Manitoba was erected in 1844, Saint John General in New Brunswick in 1860, Halifax City Hospital in 1859, Winnipeg General in 1872, Vancouver General in 1886, Royal Jubilee at Victoria in 1887, Calgary General in 1890 and Regina General in 1907. As a result of this growth, at the present time hospitals are to be found not only in every city and town of any size throughout the Dominion, but also at strategic points in many rural districts, and even in the sparsely settled northern areas. Summary statistics of hospitals of all kinds are given in the table at p. 24.

Public hospitals are usually erected and supported by the municipalities, their actual administration being in the hands of boards of trustees; their revenue, in addition to that provided by the municipalities, is derived from grants from the Provincial Governments, donations of individuals and societies, and fees paid by patients. Admission and treatment are free of charge to all deserving applicants whose resources are so limited as to prevent them from receiving proper medical attention otherwise; it is generally expected of others that payments for services

shall be made in proportion to costs and their ability to defray them. Such public hospitals include isolation and maternity hospitals, tuberculosis sanatoria, etc. The two lazarettos for lepers are under Dominion administration, as well as hospitals for veterans and certain marine and immigrant hospitals.

There are numerous private hospitals in Canada; these do not receive public grants. There are also hospitals that are conducted by various religious orders, most common in the Province of Quebec; Red Cross hospitals and outposts; and special hospitals that may be privately administered or maintained by the provinces.

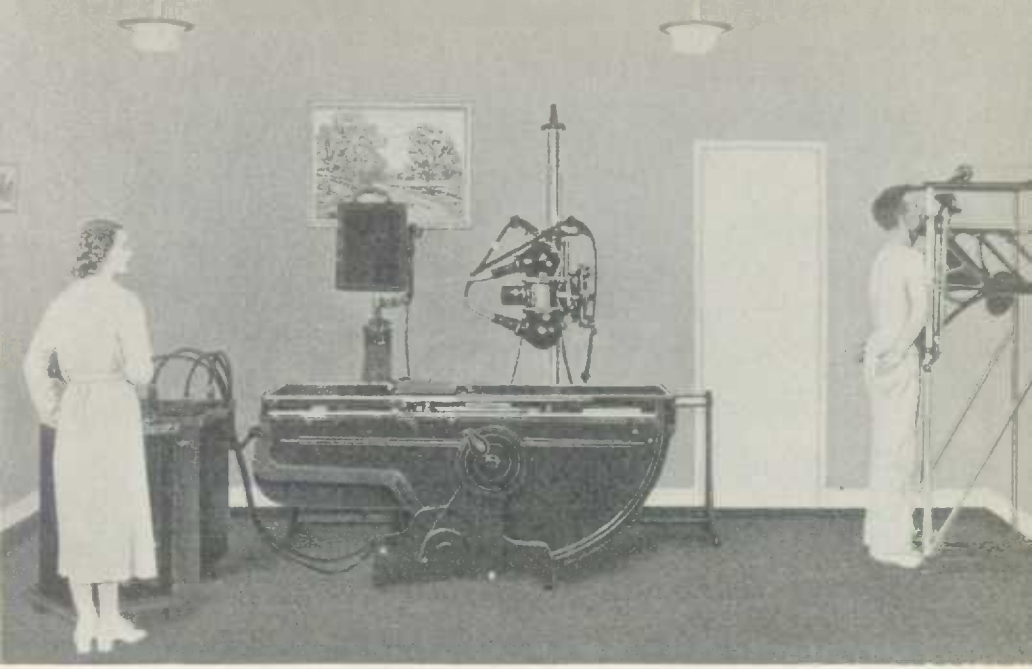
Mental and Neurological Institutions.—Institutions for the care of the insane in Canada had their genesis in the general hospital. The first on record was in connection with L'Hôpital Général, Quebec. About 1714 a small dwelling was built in connection with this hospital for the reception and treatment of those suffering from mental diseases. In 1753 L'Hôpital Général, Montreal, erected several small buildings for the care of the insane. In 1824, a special committee of the Legislative Council of Lower Canada was appointed to inquire into the establishments for the reception and care of the insane and to report their findings with a view to improved methods of treatment.

In Upper Canada an Act was passed in 1830 making provision for the relief of destitute lunatics and in 1841 the first building was opened in Toronto for the care of the insane. In 1845 provision was made for the proper care and treatment of mental cases by the erection of such institutions as Quebec Asylum and that at Baie St-Paul.

About the same time the movement for the provision of proper care of the insane was developing in other provinces. In Prince Edward Island, after the passing of an Act authorizing the erection of an asylum near Charlottetown, a building was begun in 1844 which was replaced in 1879 by the Falconwood Asylum. In New Brunswick, in 1847, the old cholera hospital was abolished and the first of the group of buildings that now comprise the Provincial Hospital of Saint John was built and occupied. In 1856 the cornerstone of the first mental hospital of Nova Scotia was laid in Halifax. Rockwood Asylum at Kingston was opened in 1856, followed by the London Mental Hospital in 1859. The construction of the first mental institution in Manitoba was begun at Selkirk in 1884, and was followed by Brandon Asylum in 1890. In Saskatchewan the first provincial mental hospital was built at Battleford in 1911, and soon afterwards the large mental hospital at Weyburn. The mental hospital at Ponoka, in Alberta, was completed in 1911 and the Provincial Mental Hospital at Edmonton in 1912. The Insane Asylums Act of British Columbia was passed in 1875 and the first mental hospital was erected in 1878 at New Westminster.

Mental institutions (homes for the feeble-minded and the epileptic) are in most cases under provincial administration, although in Nova Scotia the insane are cared for in county institutions.

Census statistics regarding the number of insane and feeble-minded in Canada were first made in connection with the Decennial Census of 1871, and general data were collected under the heading: "People of Unsound Mind". Very little reliance can be placed on the figures before 1921, as the information was collected for patients in provincial mental hospitals only and did not include a large number of insane and feeble-minded in other institutions. The number of mental institutions in 1939 and their bed capacities are shown by provinces in the table at p. 24.



A High-Powered X-Ray Apparatus being Employed for Radiography of the Chest.—The rapid strides made in medicine in recent years owe much to the application of X-ray to the diagnostic treatment of disease.

Courtesy, Presbyterian Publications

Charitable and Benevolent Institutions.—In Upper Canada an Act was passed in 1799 to provide for the education and support of orphan children. The most serious welfare problems, particularly in Upper and Lower Canada, were those connected with immigration. Many immigrants were destitute on their arrival and were dependent on charity. During the pre-Confederation period, the orphanage and the industrial school were all that were available to the child who lacked normal home care.

Since Confederation, the principle has become generally recognized that the indigent, the aged and infirm, orphans, dependent and neglected children, the deaf and dumb and the blind should be wards of the State. Numerous Acts of the Provincial Legislatures have recognized municipal and provincial responsibility for these classes of the population by establishing institutions for their care. In every province of Canada, public welfare organizations now exist to look after their protection and well-being. Child-welfare work as it is known to-day was not recognized as a special field for case work until towards the close of the nineteenth century. Now, noteworthy contributions are being made in such work by the Provincial Government Departments of Child Welfare, the Children's Aid Societies, Juvenile Immigration Societies and Day Nurseries.

Statistics of charitable and benevolent institutions in Canada are collected quinquennially; the latest are those taken as at June 1, 1936, and cover 415 charitable and benevolent institutions (5 did not report, making a total of 420) and 39 allied agencies. Of the 459 charitable and benevolent institutions and allied agencies, 137 were for adults, 88 for adults and children, 118 were orphanages, 95 were children's aid societies, 6 juvenile immigration societies, and 15 day nurseries.

Numbers and Bed Capacities of Hospitals and Sanatoria in Canada, by Provinces, 1939

Type of Institution	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
Population ('000's omitted)	95	554	451	3,210	3,752	727	949	789	774	11,315
Public—[1]										
General.....No.	4	26	16	56	111	38	77	81	78[2]	487
Beds	285	2,176	1,538	10,053	14,080	3,435	4,117	4,564	6,096[2]	46,344
Women's (only) No.	Nil	2	1	3	3	Nil	Nil	1	Nil	10
Beds	"	116	40	417	388	"	"	58	"	1,019
Children's.....No.	"	1	Nil	3	2	1	1	1	1	10
Beds	"	80	"	438	487	135	28	50	75	1,293
Isolation.....No.	"	1	"	3	6	2	Nil	3	Nil	15
Beds	"	60	"	321	603	336	"	117	"	1,437
Convalescent...No.	"	Nil	"	3	8	1	"	Nil	"	12
Beds	"	"	"	445	392	50	"	"	"	887
Red Cross.....No.	"	"	"	Nil	30	Nil	10	"	5	45
Beds	"	"	"	"	444	"	142	"	35	621
Incurables.....No.	"	"	1	4[3]	8	1	2	3	1	20
Beds	"	"	34	1,057[3]	1,156	375	192	116	164	3,094
Not classified..No.	"	"	Nil	7	1	Nil	Nil	2	Nil	10
Beds	"	"	"	2,592	28	"	"	154	"	2,774
Totals, Public,[1] No.	4	30	18	79	169	43	90	91	85	609
Beds	285	2,432	1,612	15,323	17,578	4,331	4,479	5,059	6,370	57,469
Private[1].....No.	Nil	7	7	38	53	10	84	40	37	276
Beds	"	80	135	829	915	97	712	266	881	3,915
Totals, Public No.	4	37	25	117	222	53	174	131	122	885
and Private,[1] Beds	285	2,512	1,747	16,152	18,493	4,428	5,191	5,325	7,251	61,384
Special—										
Dominion[4].....No.	5	17	11	27	46	18	11	23	15	173
Beds	195	1,364	331	1,505	3,343	833	415	828	622	9,436
Mental.....No.	1	16	1	9[5]	17[6]	4	2	5	4[7]	59
Beds	275	2,285	1,150	11,916[5]	13,711[6]	2,348	2,700	2,443	2,459[7]	39,287
Tuberculosis...No.	1	3	3	11	13	5	3	1	1	41
Beds	80	386	525	1,858	3,612	804[8]	740	210	658	8,873
Totals, All No.	**11**	**73**	**40**	**164**	**298**	**80**	**190**	**160**	**142**	**1,158**
Hospitals. Beds	**835**	**6,547**	**3,753**	**31,431**	**39,159**	**8,413**	**9,046**	**8,806**	**10,990**	**118,980**
T.B. Annexes of 10 Beds or Over in General Public No.	Nil	6	Nil	11	1	Nil	Nil	3	4	25
Hospitals. Beds	"	168	"	881	12	"	"	189	290	1,540

[1] Other than mental and tuberculosis. [2] Includes 9 hospitals in Yukon and N.W.T. with 332 beds. [3] Includes one unit of 84 beds in a general hospital. [4] Operating, under construction, and construction approved. [5] Includes one Dominion hospital with 265 beds and one private hospital with 60 beds. [6] Includes one Dominion hospital with 482 beds and 2 private hospitals with 160 beds. [7] Includes one private hospital with 34 beds. [8] Capacity of one not reported.

CHAPTER II

Survey of Production—National Income

Survey of Production

The stimulation of war demands was the main element in the extraordinary expansion of Canadian production during the past two years. After elimination of duplication, the output of commodities, which had risen 8·4 p.c. in 1939 over the preceding year, showed, according to preliminary information, a much greater expansion in 1940 and 1941. The index of the physical volume of business recorded a gain of 18·8 p.c. in 1940 over the preceding year, while the index of wholesale prices was 9·8 p.c. greater. The rise in employment was 9 p.c.

Statistics available indicate that the advance was continued in 1941. Indexes of the physical volume of business and wholesale prices showed gains of 12·6 p.c. and 6·5 p.c., respectively, over the first eight months of 1940. The increase in the index of employment, averaged for the first seven reporting dates, was very substantial, amounting to no less than 22·7 p.c. While the expansion was due largely to military demand, the civil aspects were also conspicuous.

This article deals only with the industries that are generally considered as having a *direct* connection with production. Such forms of economic enterprise—agriculture, fishing, mining, forestry, trapping, power production, manufactures and construction—involve either the actual creation of materials or the making over of materials into new forms. They are, therefore, distinguished from activities such as transportation, merchandising and personal and professional services, which,

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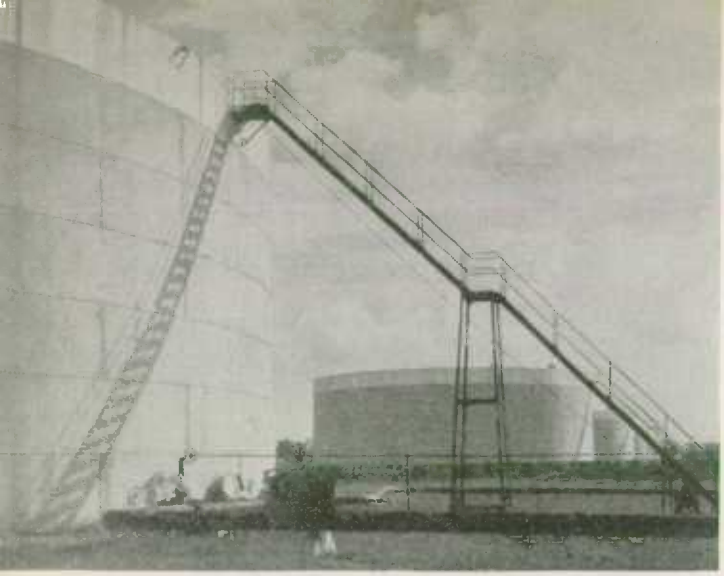
Canada has still large resources of undeveloped water power. Such potential sites as this abound in many portions of the Precambrian Shield and in British Columbia.

Courtesy, Department of Mines and Resources



A Few of Nearly a Thousand Oil Storage Tanks at Sarnia, Ont.—Sarnia is one of the important oil distribution centres of Eastern Canada.

Courtesy, Imperial Oil Limited

admittedly, are also productive in the broad economic sense. The custom and repair group is also included, since its function is to renew and preserve the value of the materials originally created by some of the eight industries listed above.

The emphasis, as in previous articles, is here placed upon *net* production; net production is defined as the value left in producers' hands after the elimination of the cost of materials, fuel and purchased electricity and supplies consumed in the process of production. Net production is, therefore, a much better criterion of the value of an industry to the community in which it operates than gross production.

During 1939, the net value of production as a whole rose to $3,224,000,000, an increase of 8·4 p.c. over the total of $2,975,000,000 recorded during the preceding year. Since the level of wholesale commodity prices declined from 78·6 in the preceding year to 75·3, the actual increase in production, on a volume basis, was greater than the above comparison would indicate. The year was featured by an extension of the advance in agricultural output recorded during 1938.

Seven of nine industries included in the survey recorded increases in net value of output during 1939. Slight declines were shown in fisheries and in the activities of the custom and repair group.

The net value of agricultural production during 1939 was 14 p.c. greater than that recorded for 1938, despite a 12·6 p.c. drop in the prices of farm products, the index of which fell off from 73·6 to 64·3. The marked recovery in the agricultural returns of Saskatchewan was the main factor in this increase, that Province posting a gain of 86·5 p.c. or nearly $85,000,000 over the total for farming operations in the preceding year. Moderate gains were recorded in the other Prairie Provinces and in Ontario, while the Maritimes showed a minor recession for the area. The value of field-crop production rose $84,000,000 due to the heavy wheat harvest. Live-stock and poultry output also recorded gains, but there was little change in dairy production.

The net value of mining production reached record levels for the fourth consecutive year, rising 5 p.c. during 1939 above the total for 1938. Most of this expansion centred in Quebec and Ontario. The value of the gold output, which passed five million ounces for the first time, rose nearly 11 p.c. over 1938; significant gains were also recorded in copper and zinc.

Marked progress was also made in the electric power industry during 1939, the gain in net production value being 5·3 p.c. over 1938. Not only were new

water-power installations completed that afforded 97,000 additional horse-power, but the transmission and distribution facilities were extended in many districts. The firm power available for ordinary use in Canada was increased by nearly 8 p.c. over 1938.

Canada's manufacturing industries showed a 7·2 p.c. increase in value of production during 1939 and a 10·6 p.c. increase in volume of output as compared with 1938. Especially prominent in this recovery were the textile and primary iron and steel industries, both of which were stimulated by war demands.

Value of Production in Canada, by Industries, 1938 and 1939

Industry	1938		1939	
	Gross	Net	Gross	Net
	$	$	$	$
Agriculture	1,062,645,000	742,020,000	1,224,616,000	846,066,000
Forestry	425,019,266	244,564,571	466,032,290	271,723,416
Fisheries	53,182,700	35,593,009	52,883,913	34,378,681
Trapping	6,572,824	6,572,824	7,919,412	7,919,412
Mining	653,781,836	374,415,674	663,342,816	393,232,044
Electric power	144,331,627	142,320,725	151,880,969	149,863,892
Totals, Primary Production	2,345,533,253	1,545,486,803	2,566,675,400	1,703,183,445
Construction	353,223,285	176,661,077	373,203,680	183,706,338
Custom and repair	146,399,500	99,086,100	163,259,301	96,652,386
Manufactures	3,337,681,366	1,428,286,778	3,474,783,528	1,531,051,901
Totals, Secondary Production	3,837,304,151	1,704,033,955	4,011,246,509	1,811,410,625
Grand Totals[1]	**5,431,756,699**	**2,974,673,454**	**5,821,781,248**	**3,223,956,573**

[1] Excludes duplication in "Manufactures" of items included under primary production.

Value of Production in Canada, by Provinces, 1938 and 1939

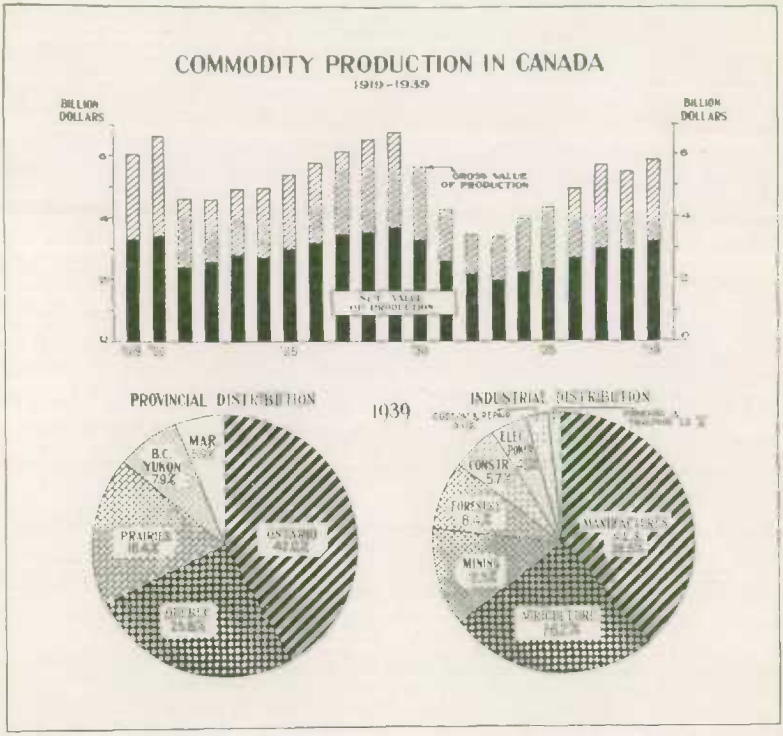
Province	1938		1939	
	Gross	Net	Gross	Net
	$	$	$	$
Prince Edward Island	20,458,390	11,832,958	22,705,070	12,748,646
Nova Scotia	168,300,064	99,158,589	181,518,282	103,459,716
New Brunswick	126,852,056	70,047,728	138,843,805	75,136,314
Quebec	1,450,142,356	764,189,933	1,569,855,174	830,013,220
Ontario	2,429,302,024	1,292,574,329	2,519,670,167	1,354,389,317
Manitoba	263,484,363	145,101,719	277,843,898	149,256,552
Saskatchewan	231,430,092	136,980,819	328,720,576	225,576,383
Alberta	308,419,193	208,382,832	331,044,275	219,734,377
British Columbia[1]	433,368,161	246,404,547	451,580,001	253,642,048
Grand Totals	**5,431,756,699**	**2,974,673,454**	**5,821,781,248**	**3,223,956,573**

[1] Includes Yukon and Northwest Territories.

Each of the nine provinces recorded a net commodity output per capita higher than for 1938. Ontario, with a highly diversified economy, raised its per capita total by over $14 to $360·98. British Columbia was once again in second place with $321·88. Alberta ranked third, as in the preceding year, with $278·50. Quebec showed a substantial gain at $258·57, and Saskatchewan's improved agricultural situation contributed to a 63·3 p.c. gain at $237·70. Manitoba's per capita output

rose slightly to $205·30. The Maritimes showed an appreciable increase, Nova Scotia having a per capita net production of $186·75, New Brunswick of $166·60 and Prince Edward Island of $134·20.

The size of the working forces, without distinction as to status, is an excellent measure of the relative importance of the various industries in the economic life of the Dominion. Agriculture stood head and shoulders above any other industry in regard to the number engaged. Manufactures, n.e.s., engaged less than half as many as the main extractive industry. The commodity-producing activities engaged nearly 60 p.c. of the man-power, while the commodity-handling and facilitating divisions occupied the attention of about 19 p.c. and 21 p.c., respectively.



National Income

A simple definition of national income is: the net value of commodities produced and services rendered.

The gross operating revenue of a considerable number of industrial and service groups is known from year to year by means of the surveys of the Bureau of Statistics. It is necessary to deduct from the gross revenues the payments to other groups and make provision for the maintenance of plant and equipment by depreciation reserves. The remainder is the net national product or the national income.

An alternate approach is based on the fact that the essential purpose of income is for the satisfaction of the recipient. Account is taken of the flow of commodities

and services to consumers at the price paid for the finished product. The ultimate disposal of goods, whether in response to consumers' outlay or the building and maintenance of plant and equipment, constitutes the core of the inquiry. The expenditure for services to the individual is added while the expenditure for the benefit of productive enterprise is excluded.

The national income, once arrived at, is distributed among the several claimants: the employees contribute to the productive process with their labour, receiving salaries and wages; the working proprietors co-operate with labour, management and ownership; shareholders and owners of bonds receive dividends and interest in return for supplying capital either as speculators or investors. The positive or negative savings of enterprises are also important components.

Largely as a result of the stimulus provided by the war program, the national income of Canada rose to $3,891,000,000 in the first nine months of 1941, more than $380,000,000 above the total in the same period of the preceding year. National income, which may be regarded as a comprehensive measure of the net value of production by the economic enterprises of the Dominion, was greater in these nine months of 1941 than in the same period of any other year. On a per capita basis and in terms of the physical quantity of goods and services produced, it was also at a new maximum.

National Income during the Inter-War Period, 1919-38.—The national income, measured in actual dollars, showed marked fluctuation during the period from the First World War to the Second World War. Mainly reflecting currency inflation, the national income rose from $4,087,000,000 in 1919 to $4,614,000,000 in 1920. The drop to $3,735,000,000 in 1921 marked the pronounced setback of that period. The subsequent advance in economic activity continued for eight years, culminating in 1929. The maximum income of the inter-war years was then reached, prosperity being practically general in the thirty groups regarded as constituting the national economy.

The groups outstanding as sources of income were agriculture and manufactures, n.e.s. After eliminating the duplication with the primary industries, manufactures took second place in the inter-war period. Agriculture enjoyed prosperity during the first decade and retained the foremost place in the period as a whole, despite the reversal of later years. The contribution of agriculture was no less than 15·9 p.c. of the total national income produced as compared with a percentage of 15·1 for manufactures, n.e.s.

The relative importance of the income of the various components is a significant phase of any study of the national income. The commodity-producing industries contributed to the national total a yearly average of $1,972,000,000 during the twenty years from 1919 to 1938. Income to the amount of $954,000,000 originated in the transportation and trade divisions. Services, including finance and government, produced an average income of $1,316,000,000 per year.

As income payments to individuals in the form of salaries and wages, dividends, interest, etc., constitute the principal flow of money, the importance of these payments to the economy is readily realized. The total flow of income payments to consumers amounted to an average of about $4,000,000,000 per year during the inter-war period. The compensation of employees, including pensions and relief, accounted for nearly 62 p.c. of the total distribution, while less than 14 p.c. was paid in the form of dividends, interest and rents. The share of the working proprietors averaged nearly 25 p.c.

CHAPTER III

Agriculture

The Effects of the War on Canadian Agriculture

Changes During the First War Year.—Any appraisal of Canadian agriculture at the present time must necessarily give first consideration to the effects of the War as they have already been felt and as they are likely to influence developments in the coming months. Soon after the outbreak of hostilities it became apparent that there was little likelihood of an immediate and extensive demand for Canadian farm products. Indeed the more pressing problem was one of finding outlets for surplus products rather than encouraging increased production. The organization referred to in the Introduction (p. xxv) was established to enable the situation to be dealt with effectively.

In September, 1939, there existed in Canada stocks of wheat sufficient to meet all probable demands in the export market for at least two years. As a result, and taking into account the large stocks of wheat available in the United States and the Argentine, the Canadian Government in the spring of 1941 passed legislation providing for the payment of certain bonuses to wheat growers in Western Canada for the diversion of lands previously devoted to wheat to the production of coarse grains and grasses or to summerfallow. This policy was designed primarily to bring about a reduction in the stocks of Canadian wheat but had, as a secondary objective, the increasing of the production of live stock and live-stock products in the Prairie Provinces.

Since Canada had never had large quantities of beef or cattle for export, and changes in cattle production are necessarily slow, the main call for increased production was made in the case of hogs. The number of hogs in Canada had been increasing before the outbreak of war and, with the increased demand from the United Kingdom, production was stepped-up rapidly. During the first year of the War this increase was common to all provinces, but in the second year most of the additional increase took place in the Prairie Provinces.

Another commodity required in increased volume by the United Kingdom was cheese. Production of this product centred largely in Ontario and Quebec and these provinces have succeeded in stepping-up production to a considerable extent. Among the products of lesser national importance, the production of fibre flax and vegetable seeds have been increased substantially because of greater British demand for the former and the curtailment of normal imports of the latter. Certain adjustments have also been necessary in the case of apples and tobacco because during the first year of the War, and to a lesser extent during the second year, the United Kingdom demand for these products was sharply curtailed. Since it is impracticable to reduce apple production in a short period of time, the Dominion Government provided assistance to producers in planning the marketing of their product. In the case of tobacco the producers' own organization brought about a voluntary reduction of acreage, and adverse weather conditions further reduced production in 1940.

Ploughing.
Courtesy, Farmers' Magazine

Changes During the Second War Year.—During the second war year, the situation began to change with respect to a number of commodities. Elimination of continental sources of supply was eventually reflected in an increased demand for certain products from Canada. Substantial increases in cheese shipments were provided for in agreements with Britain, and the extent of the market for evaporated milk was limited only by Canada's capacity to furnish this product without interfering with cheese shipments. Canada shipped to Great Britain in the 1940-41 season 103,000,000 lb. of cheddar cheese and in the 1941-42 season will probably exceed the contract for 112,000,000 lb. To make this possible in the face of poor pasture conditions in the summer of 1941 in Ontario and Quebec, where the bulk of this cheese is produced, the Government prevented Ontario and Quebec cheddar cheese from going into domestic channels, while cheese production was stimulated both by Dominion subsidies and provincial bonuses. In 1941 Canada shipped 650,000 cases of evaporated milk to Britain. The setting of a controlled price for butter in Britain at a figure below the domestic price in Canada effectively stopped exports of butter thereto.

During 1940, the trade shipped to Britain ten times the average peace-time quantity of eggs. Since March, 1941, the Special Products Board has done the exporting, shipping 230,000, 30-dozen cases during the spring of 1941, and undertaking to ship 1,000,000 cases during the season beginning September, 1941, and ending May, 1942. This took all exportable eggs in cold storage during the autumn and will call for great quantities of fresh eggs in the spring of 1942. Provision for the quantities that will be required necessitated a stepping-up of production and campaigns with that end in view have been undertaken throughout Canada.

Among the more recent changes in the situation has been the reopening of the British market for Canadian fresh apples. Contracts involving the equivalent of 510,000 barrels from the 1941 crop have brightened appreciably the outlook of Canadian apple growers. Substantial tonnages of sulphured fruits, dried apples, and canned tomatoes and honey are other products that have been shipped or will be forwarded during the coming months.

Of all agricultural products, none has been more profoundly affected by the War than bacon. The first agreement negotiated with the British Government called for delivery of 5,600,000 lb. weekly. A second agreement covering the period from Nov. 1, 1940, to Oct. 31, 1941, involved a total delivery of 425,600,000 lb. Later, Canada was asked to complete the shipment of this quantity in advance of the agreed date and three weeks before the end of the contract year the full quantity had been shipped. While this contract represented by far the largest amount of bacon ever exported from Canada, it was obtained without undue strain on the hog-raising industry. True, it was necessary to place some restrictions on domestic pork consumption and to limit exports to non-Empire countries, but these actions were designed to offset the growing demand both in Canada and in the United States arising from increasing employment and purchasing power. These measures were coupled with successive increases in the contract price from $16.10 to $19.60 per cwt.

For the present contract period, which runs to Oct. 31, 1942, Canada has undertaken to ship the tremendous total of 600,000,000 lb. of pork products to Britain. At least 75 p.c. of this and as much more as possible is to be in the form of 'wiltshire' sides. This will require the product of five and a quarter million hogs, a considerably larger quantity than was marketed in Canada in any year previous to the outbreak of the present war. In order to fulfil this contract, some measure

of control over the channels of distribution may be required but the undertaking is believed to be well within the capabilities of Canadian hog raisers, supported by the co-operation of consumers in this country. The new contract calls for a price of $19.90 per cwt. for 'A' grade bacon at Canadian seaboard.

As a direct outgrowth of the increased production of hogs, dairy products and eggs for shipment to Britain and to meet growing home demand, shortages of feed supplies have occurred in Eastern Canada. During the 1940-41 season, assistance was offered by the Dominion Government by way of freight payments to encourage the movement of western grain to the East. With the situation becoming more acute in the 1941-42 season, when adverse weather conditions contributed to the feed deficits, the Government found it necessary to go still further in the direction of stimulating the movement of grain from the Prairie Provinces and is now assuming the whole freight-cost of shipments of feed grains and mill-feeds from the Head of the Lakes to eastern points and from the Calgary-Edmonton freight zone to British Columbia. This is expected to encourage a substantial movement of these commodities.

Coupled with the freight-assistance policy, control of the export of mill-feeds became necessary in order to conserve supplies for Canadian live-stock feeders. Export on a quota system was introduced during the summer of 1941 to be followed later by a total embargo on mill-feeds, an exception being made in the case of mill-feeds derived from the milling of flour for sale and export to Newfoundland and non-sterling countries. Subsequently all feeds and feed ingredients were brought under export control.

As a means of assuring adequate supplies of fertilizers, seeds, pesticides, and other materials needed in agricultural production, existing stocks have been conserved and new sources of supply have been developed.

A Tractor-Drawn Pulling Machine Laying Flax in Symmetrical Rows.—The War has closed several sources of flax and in turn has stimulated production in the Dominion. Canadian fibre flax is now going across the sea to Irish mills for manufacture. Its growth in Canada offers decided possibilities and may eventually lead to the erection of mills and to the establishment of an all-Canadian linen industry.

Courtesy, Canadian Industries Limited

Summary.—The effects of the first two years of war on Canadian agriculture have been marked, but at the same time the change has been gradual and, with the exception of wheat growing, the Government has not asked farmers to change materially their pre-war practices. The effects have been gradual because at the outbreak of war the greatest emphasis was placed on the stepping-up of industrial production to meet war-time demands for tanks, aeroplanes and other implements of war. At that time agricultural production, not only in Canada but in all surplus-producing countries, was at a high level and supplies of agricultural products were, in many cases, causing marketing difficulties.

In so far as the Canadian market for agricultural products is concerned, the increased business activity and employment resulting from the War has meant a sharply increased demand for agricultural products, particularly meats, dairy products, poultry products, and fruits and vegetables. This, coupled with the specific demands of the United Kingdom, has resulted in improved prices and a general increase in production. One of the difficulties now confronting Canadian agriculture is the increasing shortage of man-power and, although farmers are offsetting this difficulty to some extent by a greater use of mechanical power, it may be difficult for them to further increase the production of those commodities that require large amounts of hand labour in their production.

On the whole, therefore, the effects of the War on Canadian agriculture may be summarized by saying that in Eastern Canada the type of agriculture has not been changed but emphasis has been placed on the production of those products that were normally produced in that section of the country. In Western Canada, on the other hand, the War has brought about a considerable shift from the specialized production of wheat to a more general type of agriculture including hogs and dairy and poultry products.

Preparing Bacon for Britain.—Hog carcasses in process of trimming before being graded.

Courtesy, Country Guide and Nor'west Farmer, *and Swift Canadian Co. Ltd.*

War has brought many problems to Canadian agriculture but it has also brought wonderful opportunities. Markets that were formerly highly competitive are now being supplied almost exclusively by Canadian produce. Despite the tremendous increases in the quantities of Canadian foods now reaching Britain there has been no letting down of the quality standards. Indeed the reverse is the case

A "Round-Up" in Western Canada.
Courtesy, A. C. Taylor & Co., Kamloops, B.C.

and the quality of the produce going forward was never better than it is to-day, notwithstanding all the difficulties involved. Thus Canada has the opportunity on a scale never before possible of familiarizing British consumers with her products and convincing them of her ability to supply their needs in peace-time as well as in war-time.

Values of Agricultural Capital and Production

There was a minor decline in the value of agricultural capital reported in 1940. Declines in the value of land and buildings and of implements and machinery were partially offset by an increase in the value of live stock.

Current Value of Agricultural Capital, by Provinces, 1940

Province		Lands and Buildings	Implements and Machinery	Live Stock	Total
		$'000	$'000	$'000	$'000
Prince Edward Island		40,396	5,835	7,380	53,611
Nova Scotia		82,614	7,520	15,566	105,700
New Brunswick		71,134	9,273	16,748	97,155
Quebec		709,786	67,605	131,355	908,746
Ontario		1,072,847	115,101	221,661	1,409,609
Manitoba		212,356	46,752	61,210	320,318
Saskatchewan		629,838	112,615	105,392	847,845
Alberta		413,602	87,337	112,364	613,303
British Columbia		88,755	10,082	26,591	125,428
Totals	**1940**	**3,321,328**	**462,120**	**698,267**	**4,481,715**
	1939	**3,371,018**	**469,287**	**656,363**	**4,496,668**
	1938	**3,271,970**	**474,990**	**594,132**	**4,341,092**
	1937	**3,634,981**	**478,454**	**607,316**	**4,720,751**

The gross value of agricultural production includes the value of all crops, live stock and animal products produced on farms in Canada. In 1940 the gross value of agricultural production was estimated at $1,235,714,000 which was 1 p.c. higher than in 1939.

Gross Value of Agricultural Production in Canada, 1936-40

Item	1936	1937	1938	1939	1940
	$'000	$'000	$'000	$'000	$'000
Field crops	612,300	556,222	550,069	685,839	651,228
Farm animals	130,979	140,989	136,846	170,837	194,913
Wool	1,861	2,049	1,565	1,827	2,645
Dairy products	198,672	215,623	226,155	218,462	240,940
Fruits and vegetables	44,015	41,816	57,095	56,794	57,358
Poultry products	53,244	51,766	53,747	55,483	61,816
Fur farming	6,532	6,802	6,476	5,794	5,504
Maple products	3,714	2,245	3,850	3,444	4,209
Tobacco	9,374	17,140	20,270	19,444	10,373
Flax fibre	298	332	519	1,249	2,008
Clover and grass seed	2,154	2,344	2,996	2,827	2,202
Honey and wax	2,823	2,164	3,057	2,616	2,518
Totals	**1,065,966**	**1,039,492**	**1,062,645**	**1,224,616**	**1,235,714**

Field Crops

Acreages.—During the past half century there has been almost a trebling in the area sown to field crops. The opening up of the Prairie Provinces and the stimulus to production induced by the War of 1914-18 were the principal factors responsible for this increase.

Wheat.—Prior to 1905 the amount of wheat produced was less than 100,000,000 bu. For six years it remained steadily over this figure until 231,000,000 bu. was reached in 1911. In only three of the next twenty years was wheat production less than 200,000,000 bu., viz., 1914, 1918 and 1919. At that time the abnormally high 1915 crop of 393,000,000 bu. set a record for a number of years until 1922, when nearly 400,000,000 bu. were produced. New high records were attained in 1923 (474,000,000 bu.), in 1927 (480,000,000 bu.), and in 1928 (567,000,000 bu.). Except for the years 1930 and 1932 when production exceeded 400,000,000 bu., the years from 1929 to 1937 were marked by unfavourable climatic conditions.

Production, Imports and Exports of Wheat for Canada, 1929-41

NOTE.—Wheat flour has been converted into bushels of wheat at the uniform average rate of 4½ bu. to the barrel of 196 lb. of flour.

Year	Production	Imports of Wheat and Flour[1]	Exports of Wheat and Flour[1]	Year	Production	Imports of Wheat and Flour[1]	Exports of Wheat and Flour[1]
	'000 bu.	bu.	bu.		'000 bu.	bu.	bu.
1929	304,520	1,374,726	186,267,210	1936	219,218	403,396	195,223,653
1930	420,672	244,221	258,693,887	1937	180,210	6,138,819	92,957,047
1931	321,325	216,328	207,029,555	1938	360,010	1,891,177	166,959,447
1932	443,061	173,014	264,304,327	1939	520,623	444,368	207,896,515
1933	281,892	413,165	194,779,875	1940	551,390	122,798	224,267,254
1934	275,849	896,674	165,751,305	1941	302,626[2]	[3]	[3]
1935	281,935	291,510	254,424,775				

[1] Imports and exports are for the years ended July 31, 1929 to 1941. [2] Subject to revision.
[3] Not available at time of going to press.

In 1941 there was a reduction of from 20 to 25 p.c. in the acreage seeded and unfavourable weather combined with this to result in the lowest output since 1937.

Other Grains.—These grains consist of oats, barley, rye, buckwheat, flaxseed, peas, mixed grain and corn. The first two have assumed importance among the field crops of Canada. The area under oat crop has expanded from 3,961,356 acres

A Trim Farm Scene in Prince Edward Island during the Hay-Making Season.—The chief crops of the Province are hay, potatoes and oats.

Courtesy, Department of Agriculture

in 1890 to 12,297,600 in 1940, when the production was estimated at 380,526,000 bu. Barley, with a production of 17,223,000 bu. in 1890, yielded a record total of 136,391,400 bu. in 1928, while the yield for 1940 was estimated at 104,256,000 bu. Rye production amounted to 1,341,000 bu. in 1890, increased to 32,373,400 bu. in 1922, and receded to 13,994,000 bu. in 1940.

Field Crops of Canada, 1940

Field Crop	Area	Total Yield[1]	Total Value	Field Crop	Area	Total Yield[1]	Total Value
	acres	bu.	$		acres	cwt.	$
Wheat	28,726,200	551,390,000	287,620,000				
Oats	12,297,600	380,526,000	106,771,000	Potatoes	545,000	42,300,000	35,394,000
Barley	4,341,500	104,256,000	33,350,000	Turnips, etc.	186,400	39,016,000	12,388,000
Rye	1,034,900	13,994,000	4,613,000				
Peas	81,500	1,355,000	2,652,000	Hay and		tons	
Beans	96,800	1,477,000	2,721,000	clover	8,811,200	14,070,000	121,617,000
Buckwheat	325,700	6,692,000	3,838,000	Alfalfa	1,031,700	2,588,000	21,352,000
Mixed grain	1,219,900	43,133,000	16,994,000	Fodder corn	496,200	4,155,000	12,235,000
Flaxseed	397,400	3,189,000	3,262,000	Grain hay	1,051,600	1,916,000	8,186,000
Corn for husking	186,000	6,956,000	3,826,000	Sugar beets	77,900	830,100	5,547,000

[1] Yields of the most important crops, according to second estimates for 1941, as published Nov. 12, 1941, are: wheat 302,626,000 bu.; oats 353,346,000 bu.; barley 117,619,000 bu.; mixed grains 41,219,000 bu.; potatoes 39,139,000 cwt.; turnips, mangolds, etc. 33,795,000 cwt.; hay and clover 13,079,000 tons.

The value of field crops varies as a result of changes in both production and prices. Prices have been subject to rather wide fluctuations during the past 25 years. During the latter part of the War of 1914-18 prices of grains rose to exceptionally high levels. There was a sharp decline during the first post-war

The Modern Method of Harvesting.

Courtesy, Canadian Business

depression but prices recovered substantially in the period 1924 to 1928. Following 1929 prices again fell to very low levels and with the exception of 1937 and 1938 have remained low since that time. The heavy carryovers of wheat in Canada and other countries have tended to hold down grain prices during the current war period and governmental support to farm prices has been necessary to protect producers. Grain production in the Prairie Provinces has also fluctuated widely in recent years with a succession of near-crop failures from 1933 to 1937. Larger crops were harvested in 1938, 1939 and 1940, but in 1941 reduced wheat acreage and unfavourable weather conditions resulted in a sharp reduction in output. The maximum value of field crops was reached in 1919 at $1,537,170,000. This value receded to $899,266,200 in 1923, but rose to $1,173,133,600 in 1927. In succeeding years reduced production and lower prices brought the total value down to from 400 to 700 million dollars and in 1940 it amounted to $682,366,000.

The Handling Facilities and Movement of Canadian Grain

Unlike the handling systems of most countries, Canadian grain is handled in bulk, rather than in bags, and is sold abroad by export grades, rather than by sample. The bulk handling of grain has been facilitated by the system of country and terminal elevators that has grown with the increase in wheat production. In 1900-01, there were already in operation 518 country elevators with a total capacity

oto, Caterpillar Tractor Co.

of 12,759,352 bu. By 1940-41 these had increased to 5,676 with a capacity of 201,328,250 bu., and temporary accommodation has been supplied during the past two years for 72,485,477 bu. to take care of the large carryover stocks held in Canada.

From these country elevators the grain is moved by rail through any one of a number of inspection centres, such as Winnipeg, Calgary, or Edmonton, to the terminal elevators located at Fort William-Port Arthur or on the Pacific Coast. The number of licensed elevators at the Head of the Lakes has grown from 5 in 1900-01 with a capacity of 5,570,000 bu. to 29 with a capacity of 92,832,210 bu. in 1940-41. In addition, temporary storage has been provided for an additional 50,000,000 bu. Pacific Coast terminal elevators are located at Vancouver, Victoria, New Westminster, and Prince Rupert and have a capacity of 22,892,610 bu. A route to overseas ports was developed through Churchill with the erection in 1931 of a terminal elevator having a capacity of 2,500,000 bu. The movement of grain through the Head of the Lakes has always been the heaviest. Total receipts of wheat, oats, barley, rye, and flaxseed at Fort William-Port Arthur in 1940-41 were 261,915,683 bu., compared with receipts at Pacific elevators of 9,175,004 bu. and at Churchill of 117,192 bu.

From the Head of the Lakes, grain is shipped by water to eastern elevators located on the Lower Lakes and along the St. Lawrence River. Lower Lake elevators supply grain for eastern consumption and for transhipment to the St. Lawrence. Grain also moves from the Head of the Lakes to United States lake ports for United States consumption, milling-in-bond, or shipment by canal or rail to Atlantic seaboard ports. In winter months, small amounts of grain are moved by rail from Georgian Bay and Lower Lake elevators to the ports of Saint John and West Saint John, N.B., and Halifax, N.S., which are open to navigation the year around. Within the past two years a few small ocean-going vessels have gone directly to the Head of the Lakes, and have cleared with grain cargoes for overseas.

Clearances of Canadian wheat in 1940-41 from Canadian and United States ports amounted to 173,559,157 bu. United States imports for consumption and milling-in-bond during 1940-41 amounted to 11,347,357 bu. The total export movement of Canadian wheat in 1940-41 amounted to 231,206,246 bu., including wheat flour expressed as wheat. Exports of oats and oat products in 1940-41 amounted to 11,239,131 bu. Barley exports totalled 2,097,380 bu., while rye exports amounted to 3,543,812 bu. Flaxseed exports amounted to 76,113 bu. while, on the other hand, flaxseed imports into Canada totalled 176,464 bu.

Courtesy, Country Guide and Nor'west Farmer

Live Stock

The live-stock industry of Canada provides the means by which surplus feed grain and fodder crops are converted into income in the form of cash and products consumed in farm households. Probably the most important branch of the industry is that of cattle raising. In the production of beef cattle, the ranges of southwestern Saskatchewan, southern Alberta, and parts of British Columbia provide the foundation for the industry. In these areas, large-scale ranching is carried on, with the cattle moving out to feeding areas in other parts of Western Canada, to Ontario, and to the United States. Total numbers of cattle on farms fell from 8,952,000 head in 1934 to 8,474,600 head in 1939. At June 1, 1941, there were 8,797,800 cattle on farms.

The production of bacon hogs is now an important phase of Canada's live-stock industry. The hog industry depends chiefly upon supplies of feed grains, and to a lesser extent upon a provision of supplemental feeds such as skim milk and buttermilk. The greatest concentration of the hog industry is, therefore, found in central and southwestern Ontario, throughout the central and northern parts of Manitoba, across the Park Belt of Saskatchewan, and in the north-central and central areas of Alberta. In late years the Prairie Provinces have become relatively more important as hog-producing regions. Hog production has been increasing since 1938 and at June 1, 1941, there were 5,994,000 hogs on farms compared with 5,882,000 at June 1, 1940. This 1941 figure is the highest yet recorded.

The raising of sheep for production of mutton and wool is carried on both under general farm live-stock raising and as a specialized business in the sheep-ranching areas of southwestern Saskatchewan, southern Alberta, and parts of British Columbia. In recent years the numbers of sheep on farms have remained fairly steady and at June 1, 1941, there were 3,550,500 compared with 3,452,000 in 1940.

The raising of horses for sale was at one time an important industry in the southern range areas of Saskatchewan and Alberta. With the increase in the use of mechanical power during recent years, the production of horses has declined considerably. At June 1, 1941, the number on farms was estimated at 2,881,400.

Farm Work Horses and Foals in Pasture.

Courtesy, Department of Agriculture

Farm Rehabilitation.—The reclamation of vast areas of land in the Canadian West has marked the relief program of the Dominion Government. The illustration shows a Saskatchewan irrigation project carried out under the Prairie Farm Rehabilitation Act during the depression years. The large area shown, situated at Val Marie, Sask., was formerly greasewood and sagebrush land, but is now producing a valuable crop of oats.

Courtesy, Department of Agriculture

Community Pastures in the Prairie Provinces.—Of the many phases of work in Western Canada carried out under the Prairie Farm Rehabilitation Act, none is more essential than the erection of community pastures. There are now more than 50 community pastures in the Prairie Farm Rehabilitation areas, which extend over 1,000,000 acres and require 2,200 miles of wire fencing to enclose them. The latest and largest community pasture to be constructed was officially opened recently near Val Marie, Sask. This pasture includes watering facilities comprising stock-watering dams, dugouts and developed springs which have been provided where hitherto no water has existed above ground and also a number of well-wooded "coulees" that will afford shelter alike against winter storms and summer heat. Most of the animals are wintered on the pasture, with the assistance of surplus feed grown on the strategically placed irrigation lands within the pasture. Each community pasture is a sanctuary for wild birds and animals.

Marketings.—Commercial marketings of cattle in 1940 amounted to 1,209,964 head, of which 812,405 head were sold through the stockyards, 317,556 head were sold direct to packing plants, and 80,003 head were sold direct for export. Total commercial marketings in 1939 were 1,183,000 cattle. In 1939, 45 p.c. of the cattle and 51 p.c. of the calves, were transported to stockyards by truck. Calf marketings were 795,000 head as compared with 748,000 head in 1938.

Hog marketings in 1940 amounted to 5,457,000, compared with 3,706,000 head in 1939. This sharp expansion in hog marketings has been in response to the increased demands of the United Kingdom for Canadian pork products. A further expansion occurred in 1941.

Total sheep and lamb marketings were reported at 772,000 head in 1940, and 753,000 in 1939. About one-half the sheep are sold through public stockyards.

The greater proportion of horses marketed are transferred from one farm to another and thus do not appear on the stockyard records. There has been a very considerable increase in recent years in the number of horses shipped eastward through the St. Boniface yards at Winnipeg.

Special Crops

Tobacco.—Commercial production is centred in Ontario and Quebec, with a few hundred acres of flue-cured tobacco in British Columbia. The major development in the industry has taken place during the years since 1926 and has been due almost entirely to the phenomenal increase in the production of flue-cured tobacco, particularly in Ontario. Total plantings of the flue-cured type showed an uninterrupted expansion from 7,570 acres with a production of 6,239,800 lb. in 1927 to 28,063 acres with production totalling 27,847,000 lb. in 1932. Following the sharp break in prices in 1931 and 1932, when the average price of flue-cured dropped from 32·0 cents in 1930 to 16·4 cents in 1932, a system of voluntary acreage control was introduced in Ontario in 1933 and has been in effect since that year. Marketing of the crop is now controlled by the Flue-Cured Marketing Association of Ontario and, under the stimulus of a minimum price fixed annually by the Association, cultivation of this crop has expanded rapidly. The 1940 crop of flue-cured totalled 39,144,000 lb. from 48,610 acres, as compared with 79,734,400 lb. from 69,840 acres in 1939.

The total commercial tobacco crop of 1940 was estimated at 61,136,100 lb. with a gross farm value of $10,469,600 as compared with 107,703,400 lb. valued at $19,443,800 in 1939. The 1940 crop was produced on 67,880 acres as compared with 92,300 acres in the previous year. The first estimate of the 1941 crop shows a total production of 74,875,700 lb., produced on 70,460 acres.

The home market for flue-cured leaf has shown the most rapid expansion in recent years. About 90 p.c. of raw leaf used in domestic manufacture in 1940 was grown locally, as compared with only 54 p.c. in 1930. The increased use of domestic leaf has coincided with a drop in imports of foreign leaf from 17,400,000 lb. in 1930 to 3,857,300 in 1940.

Exports in commercial quantities began in 1920, reached a peak of 13,900,000 lb. in 1933 and a record total of 32,210,000 lb. in 1939. The United Kingdom has always been the chief buyer, taking about 90 p.c. of the total leaf exports, which are largely flue-cured. Following the outbreak of hostilities in September, 1939, this market was virtually closed to tobacco with the result that an acute situation developed and exports during 1940 were restricted to 9,921,576 lb. The relatively small crop of 1940, together with an increased domestic demand, has reduced the unsold carryover from the 1939 crop, and marketing prospects for the 1941 crop are considered favourable. Arrangements have been completed whereby the United Kingdom Board of Trade will issue export permits for the import into the United Kingdom of 8,000,000 lb. of Canadian tobacco.

Other Crops.—Quebec leads in maple products. Total production in 1941 amounted to 2,276,400 gal. in terms of syrup, and the gross farm value of sugar and syrup produced in all Canada was $3,561,200 as compared with the 1940 crop of 3,099,000 gal. valued at $4,209,300.

Sugar-beet production is centred in southwestern Ontario and near Raymond, Alta. A new beetroot sugar factory was operating in 1940 at Fort Garry (Winnipeg), Man. In 1940, the output of refined beetroot sugar amounted to 213,602,511 lb. valued at $10,853,665 as compared with 169,320,343 lb. valued at $8,063,332 in 1939.

A Field of Daffodils on Vancouver Island.—Limitations on the importation of bulbs from Europe have stimulated their cultivation in Canada; British Columbia is particularly suited to this development.

Courtesy, B.C. Department of Agriculture

The production of honey is common to all provinces, with Ontario and the Prairie Provinces producing the bulk of the crop. The 1940 crop was estimated at 23,673,100 lb. as compared with 28,873,100 lb. in 1939. The 1940 crop of honey and wax was valued at $2,517,900.

The growing of fresh vegetables for market is an important occupation in many parts of Canada, particularly in suburban areas. Truck farms located in specially favoured regions provide raw materials for the vegetable-canning industry and cater to the fresh-vegetable market.

Other special crops of lesser importance are clover and grass seed, hops, and flax for fibre.

Dairying

The Cheese and Butter Industries.—In 1940, 1,174 creameries, 976 cheese factories, and 230 factories manufacturing both butter and cheese were operated in Canada. The output of these factories reached a total of 264,153,000 lb. of butter and 142,107,100 lb. of cheese, valued at $64,679,000 and $19,730,400, respectively. While the creamery output in 1940 was only slightly less than that produced in the previous year, it exceeded the 1937 production by 6·9 p.c. and revealed an increase of 23,200,000 lb., or 9·6 p.c. over that of 1935. Cheddar cheese production in 1940 represented an increase of 13·3 p.c., compared with the output of the preceding year, and was 8·8 p.c. above the 1937 production. Yet, in comparison with 1935 an increase of 41,700,000 lb. or 41·5 p.c. was indicated. During the first nine

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months of 1941, 233,700,000 lb. of butter and 118,700,000 lb. of cheese were produced, the former registering an increase of approximately 9 p.c. as compared with the January-September period of 1940, and the latter an increase of only 0·2 p.c.

The increase in cheese production in 1940 was in response to a greater demand on the part of the United Kingdom for this product and was made possible by some diversion of milk from creameries to cheese factories. During 1941 cheese production has remained approximately at the 1940 levels, while butter production has increased. The relative prices of butter and cheese have an important effect on the amount of milk going into the production of either one or the other product and in 1941 butter prices have been stronger than those of cheese in comparison with the prices of 1940. When import and price regulations were applied to Canadian cheese by the British Government, the Dairy Products Control Board was set up by the Canadian Government to govern the export movement of cheese and to make price regulations in the Dominion. The Order in Council appointing the Board also set the price of No. 1 Canadian cheese at 14 cents f.o.b. Montreal. After passing this Order on May 23, 1940, cheese prices conformed closely to the fixed basic price of 14 cents as compared with the June-September average of 12 cents in 1939. For the 1941 season, the basic price of cheese at Montreal was raised to 14·4 cents per pound and the Dominion Government increased this price to 15 cents and later to 16 cents per pound. In addition to this basic price, the Provincial Governments in Ontario and Quebec instituted a bonus payment of 2 cents per pound on cheese produced in these provinces. During the summer of 1940 butter prices fell to relatively low levels and during the period June to September averaged 22§ cents per pound at Montreal. Later in 1940 the price of butter rose sharply and has continued at relatively high levels throughout 1941, averaging from 6 to 10 cents per pound higher than during 1940.

The production of dairy butter has decreased approximately 1,308,000 lb. as compared with ten years ago. This product is consumed on farms or in rural towns and villages. The 1940 production of 99,188,000 lb. represented approximately 27·3 p.c. of the total butter output. Farm-made cheese, on the other hand, amounting to 1,016,300 lb. in 1940, constituted only about three-quarters of one per cent of the total cheese production.

Exports.—After the War of 1914-18 butter exports were relatively high, amounting in 1925 to 26,600,000 lb., or 16 p.c. of the annual production, but, with the development of the home market, exports declined, and at times they have been reduced to quite insignificant quantities. By 1936 exports were reduced to 5,100,000 lb., and during 1938 only 3,893,000 lb. were shipped from Canadian ports. In 1939 there was a definite improvement but with the outbreak of the War in Europe in September of that year, the overseas movement of butter was sharply reduced and exports which had amounted to 11,551,900 lb. during the first eight months of 1939 represented 93·2 p.c. of the total shipments for the year. From January to September, 1941, 1,065,100 lb. of butter were exported from the Dominion, compared with 930,300 lb. in the same period of the preceding year.

In contrast to butter, cheese is mainly marketed abroad. In Ontario, where a large proportion of this product is manufactured, primary sales are made through local cheese boards, and after being inspected by Dominion Government inspectors the cheese is shipped to Great Britain and other countries by dealers in the larger distributing centres. At the turn of the century exports approximated 200,000,000 lb., and for the year ended June 30, 1904, 234,000,000 lb. As production declined

Canadian Cheddar Cheese at the British Empire Dairy Show, Belleville, Ont.

Courtesy, Department of Agriculture and Canadian National Railways

Holstein Cattle on an Eastern Dairy Farm.

exports also dropped to lower levels, and in 1935 amounted to only 55,700,000 lb. The 1940 exports were 106,600,000 lb., 75·0 p.c. of the total make for that year. During the first nine months of 1941 exports amounted to 59,088,600 lb., a decrease of 24·3 p.c. as compared with the same period of 1940. The Canadian product commands a price preference in the British market that places it next in rank to the finest English cheddar.

Milk and Milk Products.—Milk and cream for fluid consumption are generally sold by producers to distributors; the demand for pasteurized products has tended to bring this about, although in many of the smaller centres producers still deliver these products direct to householders. In the larger centres of population the distributors usually own plants where milk and cream are pasteurized, and butter, cheese, and other products are manufactured from the surplus. With the growth of urban centres, more and more milk is being used in the fluid form, a fact that has significance in connection with the decline in the cheese industry. It is estimated that, in 1940, 3,609,000,000 pints of milk (including cream) were consumed in Canada, a per capita consumption of 0·87 pint daily. Concentrated milk is another branch of dairy manufacturing that has developed at the expense of cheese production. During the period 1933 to 1940 whole-milk products increased 143·9 p.c. while milk by-products advanced 88·6 p.c. In 1940, 23·8 p.c. of the total output of all concentrated milk products, amounting to approximately 197,000,000

lb., was shipped out of the country. Another important product in the miscellaneous group is ice cream; from 1933 to 1940 the total output for the Dominion increased by approximately 4,000,000 gal.

Production of Dairy Products in Canada, by Provinces, 1940

Province	Butter		Cheese		Miscellaneous Factory Products	Milk Otherwise Used	All Products Expressed as Milk
	Creamery	Dairy	Factory	Farmmade			
	lb.	lb.	lb.	lb.	'000 lb.	'000 lb.	'000 lb.
P.E.I.	1,995,400	1,574,000	684,000	300	786	46,829	138,837
N.S.	5,864,700	5,451,000	Nil	20,000	16,671	162,153	443,948
N.B.	3,924,500	5,713,000	627,800	5,000	5,245	145,377	383,323
Que.	73,557,200	11,500,000	33,867,300	200,000	35,782	1,497,082	3,905,608
Ont.	87,236,700	23,127,000	98,523,800	124,000	372,208	1,945,562	6,006,239
Man.	27,289,700	10,840,000	4,546,300	167,000	13,239	384,892	1,343,532
Sask.	28,306,800	23,404,000	401,500	200,000	8,640	617,005	1,842,933
Alta.	29,796,500	15,000,000	2,705,900	225,000	25,316	564,158	1,670,986
B.C.	6,181,500	2,579,000	750,500	75,000	66,007	267,337	547,672
Totals, 1940	**264,153,000**	**99,188,000**	**142,107,100**	**1,016,300**	**543,894**	**5,630,395**	**16,283,078**
1939	**267,612,546**	**103,722,000**	**125,475,359**	**1,046,300**	**459,511**	**5,576,989**	**16,146,482**

Poultry and Eggs

Poultry farming has expanded considerably in the past ten years. The specialized production of eggs and poultry has shown the most noticeable development, but poultry is also being given a more important place in general farming. Selective breeding and the improvement in the quality of eggs and poultry are matters that have received more attention in recent years.

The population of hens and chickens at June 1, 1940, was estimated at 60,201,000. Turkeys numbered approximately 2,508,000, geese 803,000, and ducks 631,000. During the year 1940, the production of eggs amounted to 236,106,000 doz., valued at $46,122,000 or 19·5 cents per dozen. The production per hen remained at 111, the same as in 1939. Exports of poultry in 1940 amounted to 2,760,800 lb. compared with 3,515,500 lb. in 1939. The shipments of eggs increased from 1,274,000 doz. in 1939 to 10,980,000 doz. in 1940. During the first nine months of 1941, 9,822,994 doz. of eggs were exported from the Dominion as compared with 7,971,000 doz. in the January to September period of 1940. Egg consumption is comparatively high, amounting in 1940 to 21·57 doz. per capita. The consumption of poultry in the same year was 20·10 lb. per capita.

Fruit Growing

The first records of attempts to establish cultivated fruit in Canada are to be found in the Census of 1698 when 1,584 trees were reported at Port Royal and 32 at Beaubassin in the region then known as Acadia. From this small beginning, the industry has developed until now fruit is being grown in all provinces although production is on a commercial scale only in Nova Scotia, New Brunswick, Quebec, Ontario, and British Columbia. The most extensive fruit-growing areas are the Annapolis Valley in Nova Scotia, southwestern Ontario, and the Okanagan Valley in British Columbia, while less well-known, but increasingly important, districts are the St. John Valley in New Brunswick and the Montreal and southern counties district in Quebec. The development of improved varieties with hardy characteristics has made fruit growing possible in the Prairie Provinces but production is confined chiefly to the backyard gardens. The value of the commercial fruit crops

Fruit Orchards, Penticton, B.C.—Penticton on Lake Okanagan is the centre of the British Columbia fruit-growing district.

Courtesy, Department of Agriculture

in 1940 was $16,023,500, made up as follows: apples, $8,814,200; strawberries, $1,937,100; peaches, $1,202,500; raspberries, $1,184,600; grapes, $1,013,800; pears, $721,400; cherries, $597,000; plums and prunes, $305,300; apricots, $148,000; and loganberries, $99,600.

Marketings.—With the closing of the British market to all fresh fruit from Canada, the total Canadian exports of apples has been reduced to the lowest point since 1919. During the crop year ended Mar. 31, 1941, the exports of apples amounted to 408,966 bbl. which is 69 p.c. below the 1,335,127 bbl. exported during the 1939-40 season, and 81 p.c. below the ten-year 1929-38 pre-war average of 2,143,000 bbl. The British market for fresh apples was re-opened during 1941 and the future export situation will be much brighter. Exports during the year were confined chiefly to the United States and South America, although some shipments were also made to Newfoundland, British West Indies and South Africa. Short crops of Delicious and Jonathan apples in the United States enabled British Columbia shippers to dispose of a much larger quantity of fruit to that country than usual.

The domestic market was not divided into zones as was the case during the 1939-40 marketing season. However, the Dominion Government again undertook to guarantee a specified return for certain quantities of apples of specified grades and sizes in both Nova Scotia and British Columbia. Further efforts were made to expand the apple-juice industry in all commercial producing areas. Although some advertising of Canadian fruit was undertaken by the Government, the program was not as extensive as it was during the previous season.

Provincial Assistance to Agriculture

Each of the nine provinces, under Sect. 95 of the B.N.A. Act, has its Department of Agriculture, through which is carried on educational and extension work to assist farmers. Agricultural colleges maintained by the provinces are: the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the Manitoba Agricultural College at Winnipeg. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Saskatchewan, Alberta, and British Columbia.

CHAPTER IV

Forest Resources

Since the outbreak of the present war in September, 1939, Canadian forests and forest industries have been called upon to supply the major part of the timber requirements of the United Kingdom and to replace increasingly supplies to other countries formerly secured from northern Europe. Domestic consumption of lumber for war purposes has also increased enormously; not only for the direct manufacture of munitions but for the construction of many thousands of wooden buildings and for the crating of war supplies of all kinds. In addition, the external trade in forest products has played a very significant role in providing the foreign exchange needed for the purchase of munitions in the United States.

Among the industries engaged in utilizing the natural resources of Canada, forestry ranks third, i.e., after agriculture and mining.

Canada has 781,000,000 acres of forested land comprising more than 35 p.c. of the total land area. By way of comparison, only about 16 p.c. of the total land area is considered to be of use for agriculture, and only 6 p.c. is now used for field crops or pasture. It is thought that perhaps 161,000,000 acres now forested may have agricultural potentialities, but the most productive use to which about 620,000,000 acres can be devoted is the growing of forests. Not all of this forested area is capable of producing wood for commercial purposes, about 288,000,000 acres being situated at high altitudes, on poorly drained muskegs, or on other unfavourable sites that preclude profitable timber growth or industrial utilization. These 'unproductive' forests, however, have important influences on the climate and on the control of water supplies; they provide habitats for wild life, wood for fuel and building material for use of local inhabitants, white and native.

About 493,000,000 acres are considered to be capable of producing continuous crops of timber of sizes suitable for domestic and industrial purposes, of which some 275,000,000 acres are accessible to commercial operations at the present stage of development of our transportation systems. Roughly one-half of the productive forest area now bears timber of merchantable size, while the remainder is occupied by young growth of various ages, kinds, and degrees of stocking. Practically all of this young growth was established by natural means.

The total stand of timber of merchantable size is estimated to be 313,000,000,000 cu. ft. of which 212,000,000,000 is considered accessible. Of the accessible timber about one-quarter (252,000,000,000 bd. ft.) is large enough for saw material and three-quarters (1,500,000,000 cords) is suitable for pulpwood, fuel-wood, posts, mining timber, etc. Much of this smaller material will attain saw-timber size if allowed to grow another 30 to 50 years, but there are some stands large enough for pulpwood which cannot be expected to produce sawlogs because of adverse site conditions.

During the ten years 1930-39, about 2,500,000,000 cu. ft. of standing timber was cut for use each year and about 400,000,000 cu. ft. was destroyed by fire. Another 700,000,000 cu. ft. was destroyed by insects, fungi, windfall, and other agencies, making a total annual depletion during the period of 3,600,000,000 cu. ft.

← **Operations in the Woods in British Columbia.**
Courtesy, Department of Trade and Commerce

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Forests, however, are capable of reproduction and growth. Replacement of annual depletion caused by use and wastage requires an average annual rate of growth over the whole productive forested area of 8 cu. ft. per acre; but most of the depletion takes place on the accessible portions of the forest and replacement on these areas requires an average annual growth of about 14 cu. ft. per acre. It is questionable if such a rate is being maintained but, if improved methods of forest management are introduced, the growth rate necessary to the maintenance of forest industries on the present scale could be not only achieved but exceeded. An essential prerequisite to the introduction of better management is the establishment of more efficient protection against the ravages of forest fires, injurious insects, and other enemies.

Over 130 different tree species grow to commercial size in Canada. Only 33 of these are coniferous but they constitute 75 p.c. of the standing timber and supply about 95 p.c. of the wood used in the manufacture of sawn lumber and wood-pulp.

Operations in the Woods

Differences in forest conditions throughout Canada give rise to differences in logging methods. Generally speaking, the climate in Eastern Canada is such that the cutting and hauling of logs can usually be carried on most economically during the autumn and winter months, so that the logging industry is largely seasonal. In British Columbia, on the other hand, the scarcity of drivable streams and the greater size of the logs give rise to methods of operation that are more or less independent of frost, snow, or freshet and are therefore carried on more uniformly throughout the year.

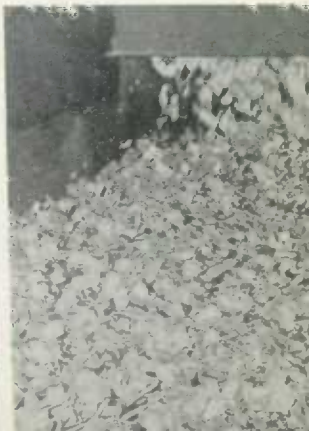
In Eastern Canada logging operations are usually carried on by the mill owners or licensees of timbered lands, often through the medium of contractors, subcontractors, and jobbers. A considerable quantity of lumber is sawn by custom sawmills or small mills purchasing logs from farmers. In British Columbia about one-half the logging is carried on by mill owners and the remainder by separate logging companies who cut and sell logs on the market. In many cases mill operators are not limit-holders but buy their supplies of raw material from logging concerns.

Values of the Products of Woods Operations, by Products, 1935-39

Products	1935	1936	1937	1938	1939
	$	$	$	$	$
Logs and bolts	34,077,938	44,827,957	58,004,070	52,759,660	55,685,197
Pulpwood	41,195,871	48,680,200	63,057,205	53,761,999	58,302,668
Firewood	31,864,500	32,167,410	32,457,629	32,740,566	33,058,240
Hewn railway ties	3,188,651	3,190,052	3,129,207	2,222,509	2,048,186
Poles	1,359,736	1,563,681	2,455,345	2,824,512	2,940,361
Round mining timber	997,357	1,102,255	1,262,658	1,297,993	1,461,507
Fence posts	976,402	1,008,178	992,610	978,679	1,111,883
Wood for distillation	274,797	274,077	309,892	298,110	289,230
Fence rails	266,253	273,282	262,160	264,480	267,437
Miscellaneous products	1,260,274	1,717,136	1,319,111	1,117,349	2,582,689
Totals	**115,461,779**	**134,804,228**	**163,249,887**	**148,265,857**	**157,747,398**

THE PULP AND PAPER INDUSTRY

1. Flume, carrying Pulpwood from the Woods to the Loading Docks.
2. The Delivery End of the Flume.
3. The 'Storage Basin', where Logs are Held before Entering the Mill.
4. A Typical Ontario Newsprint Mill.
5. Chipped Pulpwood, which, 'Digested' into Sulphite Pulp, gives Strength to Newsprint.



The Lumber Industry

Except in the Maritime Provinces, 90 p.c. of the forest land is still the property of the Crown, the lumbermen having been granted cutting rights only. This land is administered by the various provincial departments. Conifers usually form about 95 p.c. of the total cut of all kinds of wood, only 5 p.c. being deciduous-leaved trees or hardwoods. Douglas fir is the most important kind of lumber sawn, and is produced almost entirely in British Columbia. Spruce is sawn in every province and comes second, with hemlock, white pine, cedar, and balsam fir next in order of importance.

The industry includes products of: sawmills; shingle, tie, lath, shook, stave, heading and hoop mills; and mills for the cutting-up and barking of pulpwood. Sawn lumber produced in 1939 amounted to 3,976,882 M ft. valued at $78,331,839. Shingles numbered 3,469,411 squares at $9,048,876, sawn ties 4,482,007 at $2,321,469, and lath 163,714 M at $476,452. The gross value of production for the industry as a whole showed an increase of 7·3 p.c. from the total for 1938.

Production of Sawn Lumber and All Sawmill Products, 1939

Province	Sawn Lumber Production		Total Sawmill Products
	M ft. b.m.	$	$
Prince Edward Island	4,944	97,815	127,979
Nova Scotia	152,721	2,547,789	2,954,498
New Brunswick	210,919	4,643,119	5,626,273
Quebec	656,374	13,715,313	17,129,042
Ontario	481,527	12,320,233	16,011,798
Manitoba	60,748	1,118,391	1,206,727
Saskatchewan	37,974	697,743	775,507
Alberta	95,642	1,420,143	1,615,493
British Columbia	2,276,033	41,771,293	54,685,280
Totals	**3,976,882**	**78,331,839**	**100,132,597**

Markets for Canadian lumber in certain countries have been cut off by the War, but the great demands from United Kingdom and United States have accelerated exports. Canadian wood enjoys a preference in the British market and the value of Canada's exports of unmanufactured or partially manufactured wood to the United Kingdom has increased from $4,848,157 in the calendar year 1932 to $55,209,255 in 1940. Most of the increase in 1940 over the 1939 figure of $25,544,911 was accounted for by sawn lumber, the exports of planks and boards amounting to $40,221,372 in 1940 as compared with $25,598,314 in 1939.

The Pulp and Paper Industry

The pulp and paper industry in 1939 ranked first among Canadian manufacturing industries in capital, wage and salary distribution, and net value of production. It was second to the non-ferrous smelting and refining group with respect to gross production, and second to the sawmills in employment.

The manufacture of paper was a relatively unimportant industry in Canada until the last two decades of the past century when wood-pulp superseded rags as a raw material. Canada's extensive pulpwood resources and her dependable and widely distributed water powers have been largely responsible for the remarkable development of the industry.

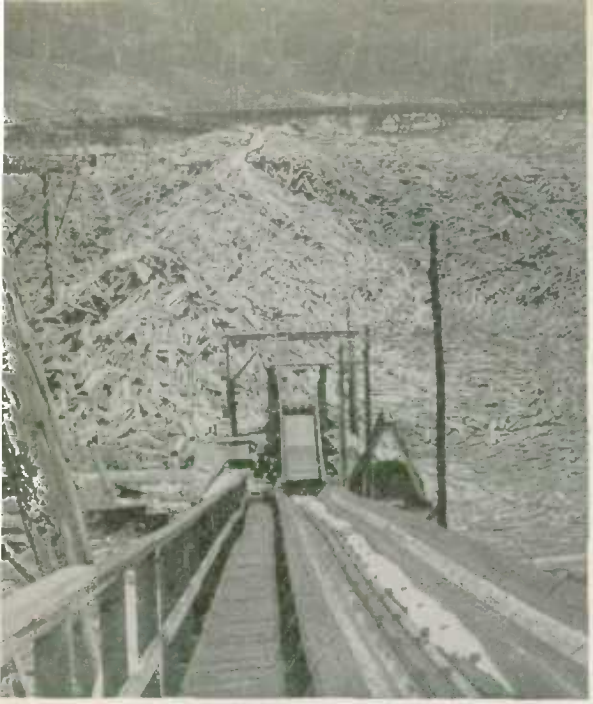
Winter Scene in a Forest in Eastern Canada.—Extensive logging operations are carried out during the winter season.

The pulp and paper industry has headed the lists in net value of production since 1920, and in wage and salary distribution since 1922, replacing the sawmills in both cases. It was the first in gross value of production from 1925 (when it replaced the flour mills) until 1935 (when it was overtaken by the non-ferrous metal group). In these comparisons only the manufacturing stages of the pulp and paper industry are considered, no allowance being made for the capital invested, employment furnished, payroll, or production of those operations in the woods that form such an essential part of the industry as a whole.

The gross value of output of the industry increased rapidly and steadily until the boom years following the War of 1914-18 and jumped to a peak of over $232,000,000 in 1920. This was followed, in 1921, by a drop that was general throughout the industrial field. From that year on there was a steady recovery resulting in a total for 1929 of $243,970,761. Figures for more recent years are:—

	Gross Production	Net Production		Gross Production	Net Production
1930	$215,674,246	$107,523,731	1936	$183,632,995	$ 85,739,406
1931	174,733,954	87,858,357	1937	226,244,711	106,002,017
1932	135,648,729	66,855,923	1938	183,897,503	89,034,186
1933	123,415,492	56,880,641	1939	208,152,295	103,123,660
1934	152,647,756	77,243,309	1940	298,034,843	158,230,575
1935	159,325,546	78,647,626			

There are three classes of mills in the industry. These, in 1940, comprised 27 making pulp only, 49 combined pulp and paper mills, and 27 making paper only. In 1940 the 76 mills making pulp produced 5,290,762 tons valued at $149,005,267, representing an increase of 27 p.c. in quantity and an increase of 53·4 p.c. in value from 1939; about 75 p.c. by quantity was made in combined mills and used by them in papermaking. About 4 p.c. was made for sale in Canada and 21 p.c. was made for export. Of the total pulp production in Canada in 1940, 63 p.c. was ground



Logs in the Holding Grounds at a Paper Mill.
Copyright, Star Newspaper Service

wood, 18 p.c. unbleached sulphite, 10 p.c. bleached sulphite, 7 p.c. soda, sulphate and other fibre, and the remaining 2 p.c. screenings, etc.

Newsprint made up 81 p.c. of the total paper production in 1940; paper boards 12 p.c.; wrapping paper 3 p.c.; book and writing paper 2 p.c.; and tissue and miscellaneous papers the remainder.

Many Canadian pulp and paper mills not only manufacture basic paper and paperboard stock but also convert this stock into more highly manufactured products such as napkins, towels, packaged toilet papers, coated and treated papers, boxes, envelopes, stationery, and other cut paper and boards. Figures covering this conversion are not included here.

Production of Newsprint and Other Paper in Canada, 1933-40

Year	Newsprint Paper		Total Paper	
	Quantity	Value	Quantity	Value
	tons	$	tons	$
1933	2,021,965	66,959,501	2,419,420	96,689,875
1934	2,604,973	86,811,460	3,069,516	120,892,225
1935	2,765,444	91,762,201	3,280,896	129,078,386
1936	3,225,386	105,214,533	3,807,329	146,431,934
1937	3,673,886	126,424,303	4,345,361	175,885,423
1938	2,668,913	107,051,202	3,249,358	151,650,065
1939	2,926,597	120,858,583	3,600,502	170,776,062
1940	3,503,801	158,447,311	4,319,414	225,836,809

The Canadian production of paper is more than five times that of 1917, in spite of the decreases in 1921, 1930, 1931, 1932, and 1938. Practically all the different kinds of paper used in Canada at the present time can be produced in Canadian mills.

Canada's newsprint production in 1940 was over three times that of the United States, a few years ago the world's chief producer.

The latest monthly figures of Canadian newsprint production are:—

1941—	tons	1941—	tons	1941—	tons
January	261,298	May	284,767	September	298,276
February	245,607	June	273,697	October	318,787
March	275,769	July	293,483	November	
April	279,996	August	293,054	December	

For 1940, exports of newsprint amounted to 3,242,789 tons valued at $151,360,196 and ranked first among the exports of the Dominion.

CHAPTER V

Fur Production

The fur trade of Canada which, in the early days, dominated all other pursuits and led to the exploration and the eventual settlement of the country, is still of immense importance. The advance of agricultural settlement, lumbering, and mining has driven fur-bearing animals farther and farther afield, and this expulsion from their former range, combined with the improved methods now used in the capture of the animals, has caused serious depletion in the numbers of the various kinds. To deal with this loss the various Provincial Governments, in co-operation with the Dominion authorities, have inaugurated a policy of conservation, and have passed laws under which provision is made for close seasons, for the licensing of trappers and traders, for the collection of royalties on pelts, and for the regulation of the methods to be employed in trapping the animals. The annual value of the raw-fur production of Canada shows no decline due to the fur-farming industry, which now supplies nearly all of the silver fox and about 40 p.c. of the mink pelts.

Trends in Production.—Total production comprises pelts taken by trappers and pelts sold from fur farms. It is impossible to make an exact division between the two classes, as statistics of fur farms are for the calendar year, but it is estimated that approximately 31 p.c. of the total value of raw-fur production in the season under review may be credited to farm pelts.

Ontario was first among the provinces in value of production, with a total of $3,229,446, while Alberta was second with $2,514,877, and Quebec third with $2,334,392. The percentage of the total value produced by each province was as follows: Ontario, 19·4; Alberta, 15·1; Quebec, 14·0; Manitoba, 11·3; Saskatchewan, 9·5; British Columbia, 7·4; Northwest Territories, 7·4; New Brunswick, 6·6; Prince Edward Island, 4·9; Nova Scotia, 2·7; and Yukon, 1·7.

Silver fox ($4,385,997) was first in order of value, with muskrat ($3,829,318) second, and mink $3,100,502) third. Practically the entire production of silver fox pelts and nearly half the production of mink pelts were from the fur farms.

Among the principal kinds of furs, average prices, in comparison with the previous season, were higher for beaver, ermine, fisher, cross and red fox and marten, and lower for silver and white fox, mink, lynx and otter.

Muskrat Skins on Stretchers and Meat being Smoked, Cumberland House Reserve, N.W.T.

Courtesy, Hudson's Bay Company

The number of pelts of all kinds produced in the season was 9,620,695, compared with 6,492,222 in the preceding season. The increase in total number was mainly accounted for by the increase in squirrel and muskrat pelts.

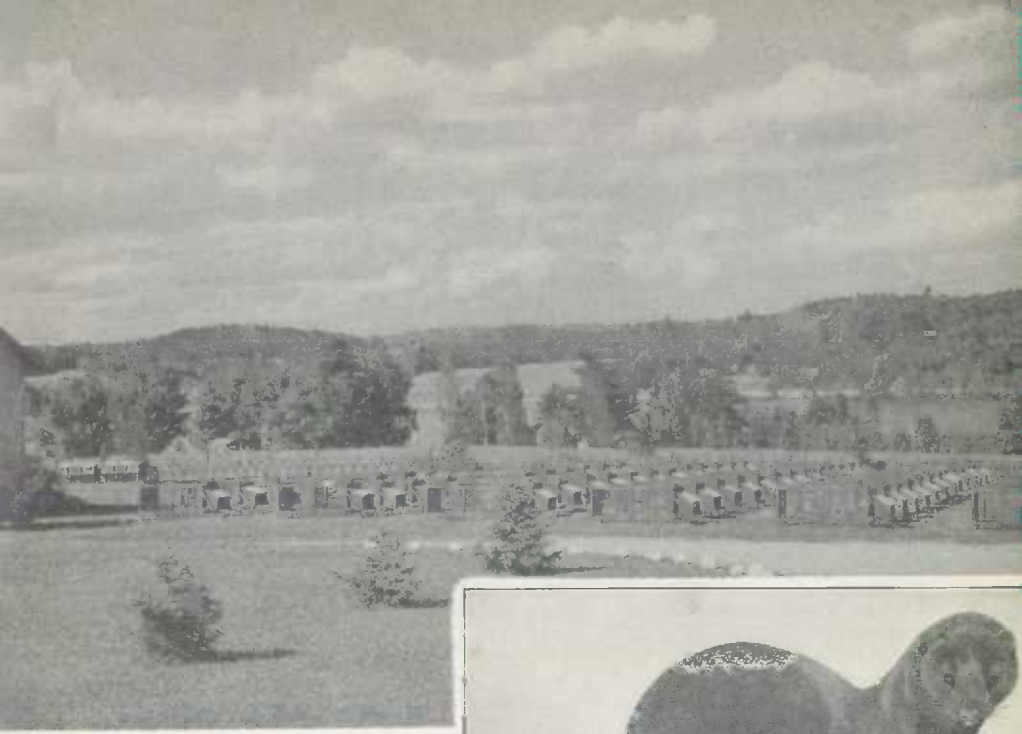
Numbers and Values of Pelts Taken, Seasons 1926-27 to 1939-40

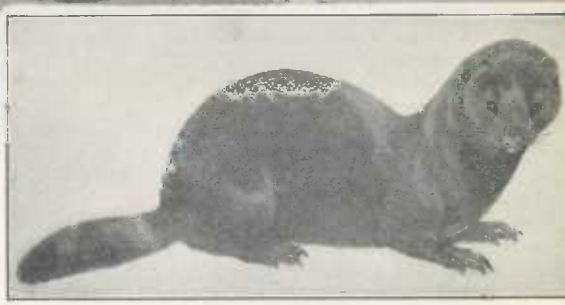
Season	Pelts	Total Value	Season	Pelts	Total Value
	No.	$		No.	$
1926–27	4,289,233	18,864,126	1933–34	6,076,197	12,349,328
1927–28	3,601,153	18,758,177	1934–35	4,926,413	12,843,341
1928–29	5,150,328	18,745,473	1935–36	14,596,713	15,464,883
1929–30	3,798,444	12,158,376	1936–37	6,237,640	17,526,365
1930–31	4,060,356	11,803,217	1937–38	4,745,927	13,196,354
1931–32	4,449,289	10,189,481	1938–39	6,492,222	14,286,937
1932–33	4,503,558	10,305,154	1939–40	9,620,695	16,668,348

The manufacture of fur goods (coats, capes, scarves, muffs, etc.) constitutes an important Canadian industry, giving employment in 1939 to 3,800 persons and producing goods valued at $18,279,866. There is also the fur dressing and dyeing industry, which operates on a custom basis. The number of skins treated in 1939 was 6,237,505, the chief items being muskrat and rabbit. The total amount received by the plants for the treatment of the furs was $1,681,660.

Fur Farming.—In the early days of the fur trade it was the practice in Canada for trappers to keep foxes caught out of season alive until the fur was prime, and from this custom arose the modern industry of fur farming. Silver fox was the first important commercial fur bearer successfully raised in captivity and is still of greatest importance. The pioneers of the fox-farming industry raised the foxes chiefly for the sake of the pelts, as high as $2,600 being received for a single pelt of exceptional quality; it was not until 1912 that there was any general sale of live foxes. With increased interest in fur farming came a large demand for foxes to be used as foundation stock in newly established ranches. Fabulous prices were obtainable for the live animals, sales of proved breeders in 1912 being recorded at from $18,000 to $35,000 per pair. The number of fur farms from this time forward rapidly increased and, as larger numbers of foxes became available for sale, prices naturally declined. The record year to date for number of foxes was 1937, when the total was 157,053, comprising 153,822 silver foxes and 3,231 other kinds. The demand for live foxes is not as great as in the earlier years when fur farming was in course of establishment, but there is an ever-present market for furs.

Second only to the silver fox in importance is the mink. This fur bearer is easily domesticated and thrives in captivity if care is exercised in the selection of environment and proper attention given to its requirements in the matter of diet. Interest in mink farming is steadily growing and the number of mink on the farms at the end of 1939 is given as 122,849, or 7 p.c. more than the number of silver foxes recorded at the same date. Mink farms are reported in all provinces, with Ontario and Manitoba of first importance with regard to number. The high prices obtainable for fisher and marten pelts have encouraged efforts to raise these animals in captivity, and although the work is still in an experimental stage a moderate amount of success for each kind may be said to have been attained. A recent addition to the Canadian fur-farming industry is the valuable chinchilla. The records for the year 1939 show 146 chinchillas with a value of $220,850.





An Up-to-Date and Ideally Situated Mink Farm in Quebec.

Courtesy, Gatineau Valley Mink Ranch and Moss Fur Farms

Silver-Black Foxes Raised at the Experimental Fur Farm, Summerside, P.E.I.

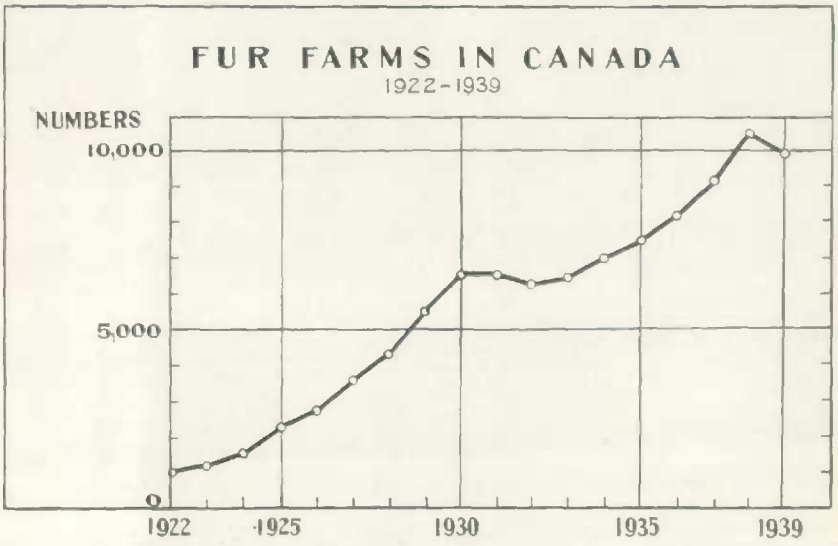
The Dominion Department of Agriculture conducts, at Summerside, P.E.I., an experimental fur farm for the study of matters affecting the health of fur-bearing animals, especially the silver fox, in captivity, and has, in addition, organized a service to assist in the marketing, both at home and abroad, of the pelts of Canadian fur bearers. Many of the Provincial Governments also have established branches that engage in experimental work and various other activities of value to the fur-farming industry.

Statistics of Fur Farming.—There were 9,899 fur farms in operation in Canada in 1939, and the value of the fur-farm property was $14,345,772. Compared with the preceding year this was a reduction of 555 in the number of farms and a decrease of $2,514,424 in the value of property. The decrease in the number of farms was confined to Quebec and the Maritime Provinces, but the decrease in value of property was general for all provinces and was due in part to the smaller number of silver foxes retained on the farms and in part to the lower values placed on fur-bearing animals.

The number of live fur-bearing animals sold from the farms during the year was 21,780, valued at $595,609, compared with 25,436, valued at $730,074 in 1938. Mink was the principal kind, with a total of 15,640, while silver fox followed with 5,046. The average price obtained for mink in 1939 was $22 compared with $24 in the preceding year, and the average for silver fox, $32 compared with $41.

Pelts sold from the farms numbered 418,318, with a value of $5,204,683. Total mink pelts numbered 236,091 and silver fox pelts 170,296, providing new high records for these animals. Average prices for both kinds were lower than in previous years.

The total fur-farm revenue in 1939 from the sales of live animals and pelts was $5,800,292; percentages by provinces were as follows: Ontario 20·2 p.c.; Quebec, 18·8 p.c.; Manitoba, 13·7 p.c.; Alberta, 12·1 p.c.; Prince Edward Island,



9·9 p.c.; New Brunswick, 8·4 p.c.; Saskatchewan, 7·1 p.c.; Nova Scotia, 6·3 p.c.; British Columbia, 3·4 p.c.; and Yukon, 0·1 p.c. Compared with the preceding year the total revenue showed a decrease of $682,524, or 11 p.c.

The number of animals retained on the farms at the end of the year was 253,418. Mink led in number with 122,849, while silver fox was second with 104,971. The total number of platinum and white-face foxes on the farms at the end of 1939 was 515, with a value of $83,200—an average value of $162 per fox.

A recent report issued by the Dominion Bureau of Statistics in co-operation with the Federal Department of Agriculture relates to the anticipated fox and mink pelt production of fur farms in the season 1941-42. The information is based on returns from fur farmers, collected in a sample census, which was taken by the following method: from the list of fur farmers every fifth name was selected and to each of these addresses was dispatched a form asking for the anticipated pelt production of the farm. About 1,800 fur farmers were circularized and replies were received from 96 p.c. The returns were then compiled and the statement thus obtained was multiplied by 5·16. The resulting data show the approximate numbers of animals to be pelted as: standard silver fox, 143,900; new type fox, 15,200; and mink, 259,300.

Export Trade in Furs.—For many years London and New York have been the chief markets for Canadian furs, and, since 1920, when its first auction sale was held, Montreal has also occupied a position as an international fur market. The total value of raw furs exported in the year ended June 30, 1940, was $13,175,686, but as export figures by countries of destination are not available for publication, due to war conditions, it cannot be stated what proportion of the total went to the United Kingdom and what to the United States. At the auction sales held in Montreal in the season 1939-40, the pelts sold numbered 1,088,377, while the value amounted to $4,448,087. Fur auction sales are held also at Winnipeg, Edmonton and Vancouver.

CHAPTER VI

Fisheries Production

Canada has perhaps the largest fishing grounds in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The Bay of Fundy, 8,000 square miles in extent, the Gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. The Pacific Coast of the Dominion measures 7,180 miles in length. Inland lakes contain more than half of the fresh water on the planet; Canada's share of the Great Lakes alone has an area of over 34,000 square miles.

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

The latter half of the nineteenth century saw the commencement of expansion in the commercial fishing industry of Canada. In 1844 the estimated value of the catch was only $125,000. By 1900 it had reached a total of $21,000,000 and the growth continued with little interruption until 1918, when it reached the high record of $60,000,000. Due to lower prices, the values in later years have been less.

The present war has greatly increased the demand for fish and in 1940 the value marketed for consumption in a fresh, canned, cured or otherwise prepared state, was $45,118,887, an amount greater than in any year since 1930. In addition to the fish and products used as food, there are manufactured in Canada considerable quantities of fish oil to be used medicinally (chiefly cod and halibut) and crude oils for other purposes; fish meal and fish fertilizer are also produced. The total quantity of fish of all kinds taken by Canadian fishermen in 1940 was 12,195,656 cwt., compared with 10,682,357 cwt. in the preceding year.

Fisheries Production, by Provinces, 1914, 1939 and 1940

Province or Territory	Values of Production			Percentages of Total Values		
	1914	1939	1940	1914	1939	1940
	$	$	$	p.c.	p.c.	p.c.
Prince Edward Island	1,261,666	950,412	714,870	4·1	2·4	1·6
Nova Scotia	7,730,191	8,753,548	9,843,456	24·7	21·8	21·8
New Brunswick	4,940,083	5,082,393	4,965,618	15·8	12·7	11·0
Quebec	1,924,430	2,010,953	2,002,053	6·2	5·0	4·4
Ontario	2,755,291	3,007,315	3,035,100	8·8	7·5	6·7
Manitoba	849,422	1,655,273	1,988,545	2·7	4·1	4·4
Saskatchewan	132,017	478,511	403,510	0·4	1·2	1·0
Alberta	86,720	430,724	450,574	0·3	1·1	1·0
British Columbia	11,515,086	17,698,989	21,710,167	36·8	44·2	48·1
Yukon	69,725	4,867	4,994	0·2	0·0	0·0
Totals	**31,264,631**	**40,072,985**	**45,118,887**	**100·0**	**100·0**	**100·0**

Maritime Fishing Schooners.

Courtesy, Prince Edward Island Travel Bureau

Fisheries Production, by Principal Kinds, 1939 and 1940

(Each over $1,000,000 in value, and arranged by value 1940.)

Kind		1939		1940	
		Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
		cwt.	$	cwt.	$
Salmon	cwt.	1,501,747	13,409,292	1,458,145	14,170,496
Herring	"	3,364,530	3,780,297	4,686,300	6,256,508
Cod	"	1,635,505	3,234,059	1,932,966	4,984,504
Lobsters	"	314,665	3,782,325	267,991	3,187,594
Whitefish	"	164,619	1,722,342	168,179	1,928,862
Sardines	bbl.	317,085	2,300,818	224,428	1,883,375
Halibut	cwt.	184,734	2,117,712	148,197	1,859,276
Haddock	"	385,155	1,357,064	355,574	1,443,729
Pickerel	"	120,509	867,288	105,800	1,011,031

Salmon Pack of British Columbia, by Species, 1936-40

(Standard cases of 48 lb.)

Species	1936	1937	1938	1939	1940
	cases	cases	cases	cases	cases
Sockeye	415,024	325,774	447,453	269,888	366,403
Spring, red	16,493	10,963	10,276	10,302	11,875
Spring, pink	2,527	1,788	2,322	2,848	2,887
Spring, white	10,834	3,420	2,933	2,947	4,096
Blueback	33,718	19,236	27,417	48,209	23,277
Steelhead	1,068	844	1,035	797	1,206
Cohoe	212,343	113,972	273,706	196,887	240,271
Pink	591,532	585,576	400,876	620,595	213,911
Chum	597,487	447,602	541,812	386,584	649,782
Totals	**1,881,026**	**1,509,175**	**1,707,830**	**1,539,057**	**1,513,708**

The salmon fishery of British Columbia gives to that province first place in respect to value of production, the position that in earlier times belonged to Nova Scotia on account of her cod fishery. The herring fishery (on both the Atlantic and Pacific Coasts) is of rising importance and is now second only to salmon in value of output. Canned herring is the chief product of this fishery, but herring meal and oil are also of importance. On the Atlantic Coast, the cod, lobster and sardine fisheries are of main importance, while among the inland fishes, whitefish occupies first place.

The fish-processing industry is connected entirely with the sea fisheries, the plants being scattered along the coasts in locations of easy accessibility to the fishermen in delivering their catches.

A Skeena River Salmon Catch being Unloaded at Prince Rupert, B.C.

Courtesy, Canadian National Railways

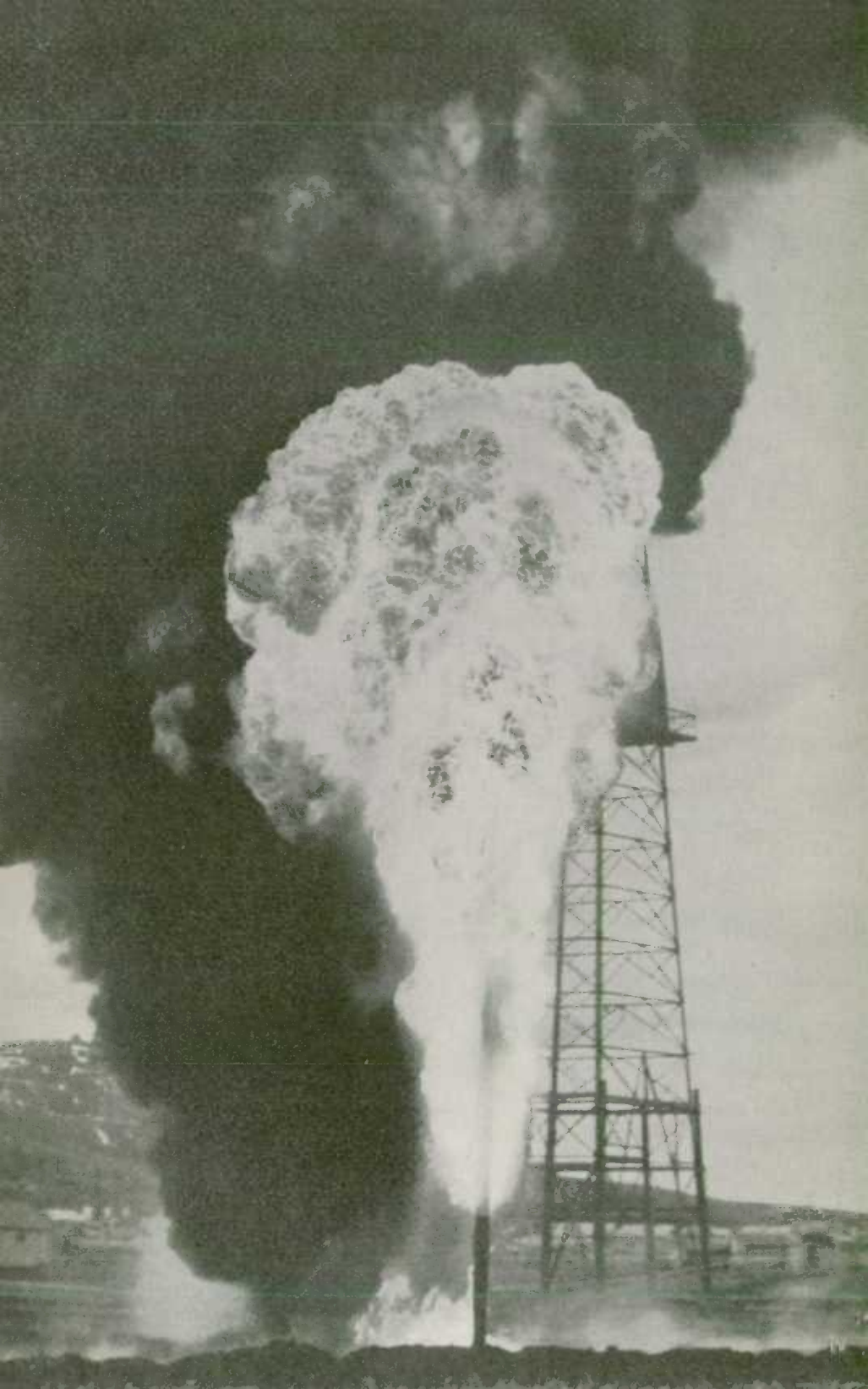
Fishing Boats at Anchor in South Ingonish Harbour, Cape Breton, N.S.
Courtesy, National Parks Bureau

Capital Invested and Employees Engaged in the Fisheries, 1938-40

Item	1938	1939	1940
Capital	$	$	$
Vessels, boats, nets traps, etc.	26,598,944	25,844,436	26,221,269
Fish-processing establishments	21,962,498	21,479,200	23,257,676
Totals, Capital	**48,561,442**	**47,323,636**	**49,478,945**
Employees	No.	No.	No.
On vessels and boats, and in fishing without boats	71,510	68,941	68,817
In fish-processing establishments	14,484	14,805	15,044
Totals, Employees	**85,994**	**83,746**	**83,861**

Export Trade in Fish.—Canada's export trade in fish and fishery products amounts to many millions of dollars annually, and since the commencement of the War the shipments have increased. In 1938 the total value was $27,543,680, in 1939 it was $29,641,232, and in 1940 it rose to $32,662,062. The most important fish exports are canned salmon ($8,226,315), fresh lobster ($2,016,561), canned sea herring ($1,645,430), fresh and frozen salmon ($1,507,111), dried codfish ($1,502,462), and fish meal ($1,273,041).

The chief markets for Canadian fish have always been the United Kingdom and the United States. In 1939 the value of exports to the former country represented 29 p.c., and to the latter 46 p.c. of the total exports. Owing to war conditions, the exports for 1940 by countries of destination cannot be published.



CHAPTER VII

Mines and Minerals

Development of the Mining Industry since the War of 1914-18.—Canada's mineral deposits constitute a very important factor in the economic and social development of the country. This has been especially reflected during recent years, and more particularly since the War of 1914-18. In 1914 Canada's mineral production was valued at $128,863,075, and in 1940 the output was valued at $529,825,035, the highest ever recorded; this of itself shows an enormous growth. There are, however, features of the mineral production of Canada that are of special significance at the present time. In 1914 most of the products of the mines had to be exported in either a crude or a semi-refined state. For instance, in 1914 this country produced only a small amount of refined lead, no refined copper, no refined zinc, and no refined nickel; whereas to-day the highest grades of these metals are produced in large quantities which is of inestimable assistance to the present war program. Aluminium is also being produced in increasing quantities from imported ores.

Progress in Canadian gold mines has been truly remarkable. In 1940 the output of gold reached an all-time high value of $204,479,083 as compared with $15,983,007 in 1914. Canadian gold mines, located in almost every province, form a very important part of the natural bulwark of defence. The gold is used for the purpose of purchasing war supplies from other countries, while the products of the great base-metal mines and smelters go into the manufacture of vital munitions, war equipment, and naval defence, both in Canada and in England. Reserves of steam coal are considerable, particularly in Nova Scotia, Alberta, and British Columbia. Production of crude petroleum from the Turner Valley district of Alberta has increased rapidly during recent years. A high bessemer grade iron-ore deposit is being developed in Ontario and the recent production of mercury in British Columbia represents the only large commercial output of this metal within the Empire.

Canada's position with regard to many of the industrial non-metallic minerals is excellent. The asbestos deposits of Quebec are among the finest of their kind in the world and the supply of fibre from these is ample for war requirements. Also, many deposits of high-grade mica and other essential war minerals are found in Ontario and Quebec and Canada has been called upon to make up part of Great Britain's deficiency of feldspar, caused by the cutting off of supplies from Scandinavia. Magnesitic-dolomite production in Quebec, used in the manufacture of a high type of refractory material, is increasing greatly as the iron and steel and non-ferrous metal smelting industries are required to enlarge their output. Canadian plants for the production of cement, brick, and other structural materials are developed to a high state of efficiency and are so situated that the demands of the country can be supplied readily.

Because of the excellent position of Canada with regard to the strategic metal situation at the outbreak of the present war, the companies producing these metals were able and willing to make contracts with the British Government to furnish large quantities at prices prevailing shortly before the beginning of hostilities. This is a tremendous contribution financially, since if Canada were not able to

← **Bringing in a New Well, Turner Valley, Alta.**

Courtesy, Country Guide and Nor'west Farmer

supply these metals, the United Kingdom would find it necessary to purchase them from neutral countries with a proportionate drain on exchange reserves.

Base metals are refined in the following places: lead and zinc at Trail, B.C.; zinc in Manitoba; copper, nickel, and cobalt in Ontario; and copper in Quebec. In addition, aluminium metal is made at Arvida and Shawinigan Falls, Que., and plants are being established in the industrial centres of the central provinces for the fabrication of these metals into various commodities. Canada is developing to the stage where ores are being worked up not only into refined metals but into finished products.

Prospecting fell to a low ebb during the War of 1914-18, but in 1921 the famous northwestern Quebec copper-gold areas were opened up with the discovery of the Noranda. This mine is not only one of Canada's principal copper producers but is also the third largest gold producer in the country.

The Prairie Provinces, long thought of as being valuable only as grain-growing areas, have also become prominent as a source of minerals. In 1915 the Flin Flon copper-gold-zinc mine, situated on the Manitoba-Saskatchewan boundary, was discovered. The ore was complex and difficult to treat and it was several years before this large deposit was brought to successful production but to-day a large mine, smelter, and zinc refinery add annually to Canada's wealth.

During the past few years several gold mines have come into production in the Northwest Territories and at Lake Athabaska in northern Saskatchewan. One of the most recent developments is in the Zeballos district, on the west coast of Vancouver Island. The veins in this latter area appear to be very rich and success for some of the properties was assured with a minimum of expenditure.

The discovery of pitchblende in 1936 by Gilbert Labine at Great Bear Lake in the Northwest Territories placed Canada on the map as one of the world's important sources of radium. The ore is brought to Port Hope, Ont., for the recovery of radium and uranium salts.

The Present Situation.—Among the countries of the world, Canada is to-day first in the production of nickel and platinum metals, third in gold and copper, and fourth in lead and zinc.

Canada is in a somewhat anomalous position with regard to coal. There are large supplies of bituminous coal in the Maritimes, on the prairies, and on the Pacific Coast, but in the Provinces of Quebec and Ontario, where the population is most dense, no coal is mined. Therefore coal must either be brought to these "acute fuel areas" from the United States or from Canadian mines with the assistance of the Dominion Government by means of subventions. Canada's anthracite requirements are supplied by the United States, Great Britain, and other European sources, and some has come from as far away as French Indo-China and Russia. Production of petroleum from the Turner Valley and other Alberta fields has risen from 1,312,368 bbl. in 1936 to 8,362,203 bbl. in 1940. Some production is also derived from the Stoney Creek field in New Brunswick and from southwestern Ontario. The New Brunswick gas supplies Moncton and Hillsborough; that of Ontario about 120,000 industrial and domestic users.

Canada produces a great variety of non-metallic minerals of economic value. The principal non-metallic is asbestos. Indeed, Canada leads the world in the output of this mineral. Approximately all of the output comes from the Eastern Townships of Quebec, though during the past year development work has been undertaken on a property in Ontario which should shortly be in production. The fibre of this mineral is of good quality and well adapted for spinning.

Next in importance is common salt. The greater part of the Canadian production of this mineral comes from wells in southwestern Ontario, although there is a salt mine at Malagash, Nova Scotia, and production from this property is increasing. The first production of commercial importance in Manitoba was recorded in 1932, and in Saskatchewan in 1933. Some shipments have also been made from deposits near McMurray in Alberta. Between 40 and 50 p.c. of the Canadian salt production is used in the form of brine in chemical industries for the manufacture of caustic soda, liquid chlorine, soda ash, and other chemicals.

Third in importance among the Canadian non-metallics (other than fuel) is gypsum, and output in 1940 was valued at $2,065,933. Many large deposits of gypsum occur throughout Canada, but production is chiefly from Hants, Inverness, and Victoria Counties, N.S.; Hillsborough, N.B.; Paris, Ont.; Gypsumville and Amaranth, Man.; and Falkland, B.C. Nearly 50 p.c. of Canada's production is exported in the crude form from Nova Scotia deposits, though a substantial trade has been built up in Canada through the manufacture of plaster of paris, gypsum wallboard, acoustical materials, and insulating products. Other important non-metallic minerals produced in Canada are listed in the table at p. 70.

Workmen Raising the Huge Drill from the Well-Hole. →

A Section of the Turner Valley Oil Field. ↓

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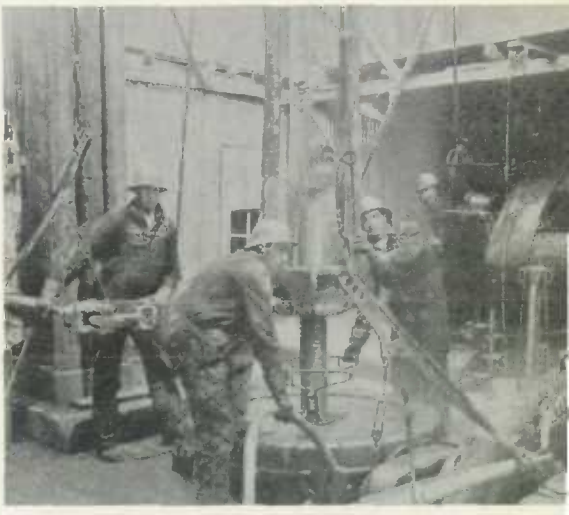
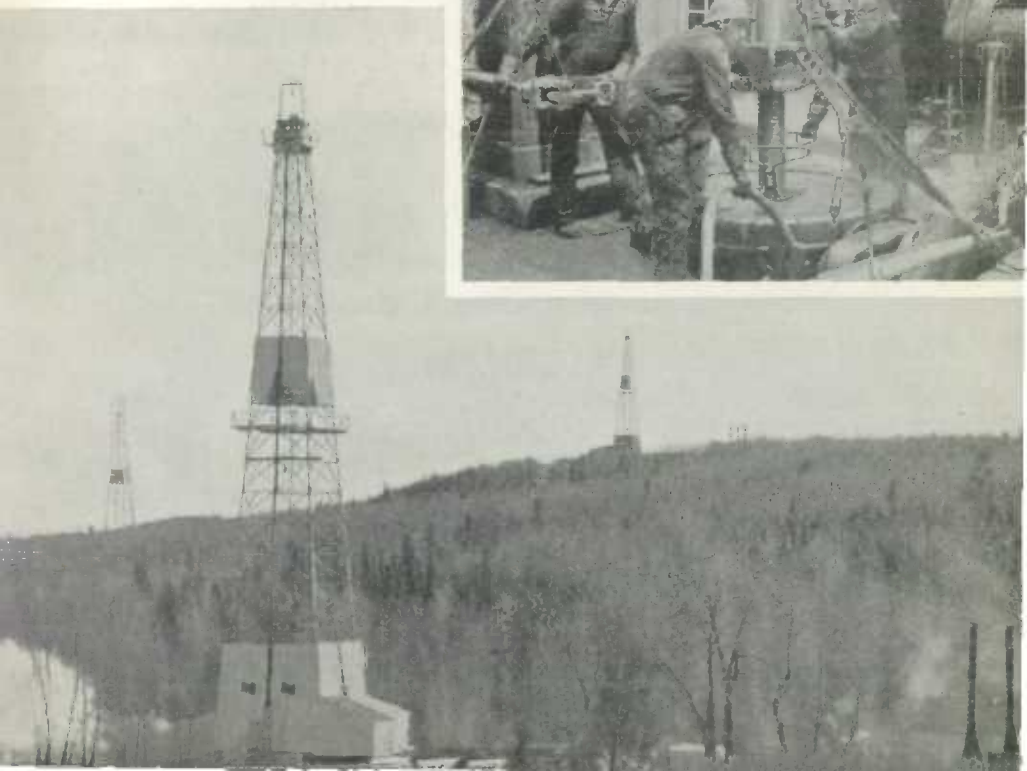




Canada has long been a producer of brick and tile, cement, lime, stone, and sand and gravel. Production in 1940 totalled more than $42,000,000. As only a small part of these items is exported, the value of output is an excellent barometer of conditions in the construction industry.

Production in 1940 Compared with 1939.—Mineral production in 1940 showed an increase of 11 p.c. over 1939 which reflects the almost general expansion in production and new development. The value of the 1940 output was the highest ever recorded.

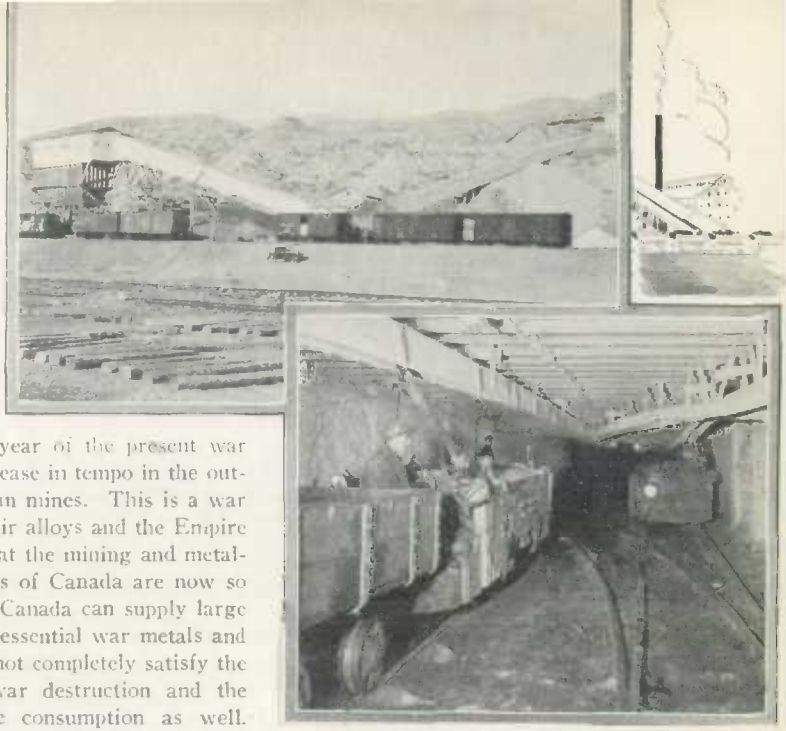
Mineral Production of Canada, by Provinces, 1938, 1939 and 1940

Province or Territory	1938		1939		1940	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	$		$		$	
Nova Scotia	26,253,645	5·9	30,746,200	6·5	33,318,587	6·3
New Brunswick	3,802,565	0·9	3,949,433	0·8	3,435,916	0·7
Quebec	68,965,594	15·6	77,335,998	16·3	86,313,491	16·3
Ontario	219,801,994	49·7	232,519,948	49·0	261,483,349	49·3
Manitoba	17,173,002	3·9	17,137,930	3·7	17,828,522	3·4
Saskatchewan	7,782,847	1·8	8,794,090	1·8	11,505,858	2·2
Alberta	28,966,272	6·6	30,691,617	6·5	35,092,337	6·6
British Columbia	64,549,130	14·6	65,216,745	13·7	74,134,485	14·0
Yukon	3,959,570	1·0	4,961,321	1·7	4,118,333	1·2
Northwest Territories[1]	568,618		3,248,777		2,594,157	
Totals[1]	441,823,237	100·0	474,602,059	100·0	529,825,035	100·0

[1] Production of radium-bearing ores not included; figures not available for publication.

The Pit of the New Helen Mine near Sault Ste. Marie, Ont.—This mine has recently been developed adjoining the site of the old Helen Mine which produced for many years. It taps a deposit of siderite of a grade that requires beneficiation to produce a satisfactory grade of ore. The Ontario Government has granted a bonus to the production of iron ore.

Courtesy, Ontario Department of Mines and Canadian Geographical Journal



The Plant of an Open-cut Alberta Coal Mine and an Underground Haulage-way in a Nova Scotia Mine.

Courtesy, Government of Alberta and Dominion Steel and Coal Corp., Sydney, N.S.

The second year of the present war witnessed an increase in tempo in the output from Canadian mines. This is a war of metals and their alloys and the Empire is fortunate in that the mining and metallurgical industries of Canada are now so well developed. Canada can supply large quantities of the essential war metals and minerals but cannot completely satisfy the great maw of war destruction and the needs of private consumption as well. Control is therefore necessary to ensure available material being placed in Canada or with friendly or allied countries where it will be the most effective.

On Canada's nickel mines rests almost completely the burden of supplying nickel for war purposes. During the past twenty years large sums have been spent on building up new peace-time uses. These will now have to be curtailed where possible to supply the armament industry. Copper and zinc, the essential metals in the manufacture of brass, are being produced in ever-increasing quantities. Though lead does not hold the strategic position of the other common metals, as curtailment of these metals for domestic uses ensues, lead is finding wider uses as a substitute and consumption is overtaking production.

The output of gold in 1940, at $204,479,083, was the greatest on record. Ontario mines contributed 61 p.c., Quebec 19 p.c. and British Columbia 12 p.c.

Beneficiated iron-ore output from the New Helen Mine in the Michipicoten district increased over 1939 and the Steep Rock iron-ore deposit, which is situated about 150 miles west of Fort William, Ont., was brought closer to the production stage. Crude oil output increased 11 p.c. over 1939, and during the first six months of 1941 production exceeded that of the same period of 1940 by 32 p.c. Oil and oil products have reached a very strategic stage necessitating close control in order that military requirements will be met and domestic transportation will not be disorganized. Coal production totalled 17,566,884 short tons as compared with 15,537,443 tons in the previous year.

Among the new developments in 1941 was the establishment, a short distance north of Ottawa, of a plant to produce brucite, an ore of magnesium. In the autumn of 1940 a large deposit of barytes was discovered in Nova Scotia; this has since been brought to the production stage with a mill at Walton on tide water. Ground barytes is used by oil-well drillers and a substantial market has been established in Trinidad.

Salt, gypsum, sodium sulphate, talc and soapstone were other non-metallic minerals for which output was increased compared with 1939; in the structural materials group, clay products, cement, lime, sand and gravel, and stone were produced in greater quantity than in the preceding year.

Mineral Production of Canada 1939 and 1940

Item	1939		1940	
	Quantity	Value	Quantity	Value
		$		$
METALLICS				
Gold ... fine oz.	5,094,379	184,115,951	5,311,145	204,479,083
Silver ... fine oz.	23,163,629	9,378,490	23,833,752	9,116,172
Other precious metals	–	9,422,211	–	7,761,108
Copper, nickel, lead, zinc	–	136,277,176	–	155,922,881
Antimony, bismuth, cadmium, chromite, cobalt, manganese, molybdenum, tungsten	–	2,502,915	–	2,796,522
Miscellaneous—arsenic, iron ore, mercury, radium, selenium, tellurium, titanium ore, uranium	–	1,809,380	–	2,427,246
TOTALS, METALLICS	–	343,506,123	–	382,503,012
NON-METALLICS				
Fuels				
Coal ... ton	15,537,443	48,315,224	17,566,884	54,676,993
Natural gas ... M cu. ft.	35,185,146	12,507,307	41,232,125	13,000,593
Peat ... ton	445	2,445	30	75
Petroleum, crude ... bbl.	7,826,301	9,846,352	8,590,978	11,160,213
TOTALS, FUELS	–	70,671,328	–	78,837,874
Other Non-Metallics				
Asbestos, fluorspar, graphite, magnesitic-dolomite, mica, sulphur	–	18,213,555	–	18,205,399
Barytes ... ton	–	3,639	338	4,819
Diatomite ... ton	301	10,388	248	7,957
Feldspar, nepheline syenite	–	252,457	–	305,472
Grindstones ... ton	304	15,278	341	14,543
Gypsum ... ton	1,421,934	1,935,127	1,448,788	2,065,933
Iron oxides ... ton	6,015	88,418	9,979	111,874
Magnesium sulphate ... ton	550	9,900	–	–
Mineral waters ... Imp. gal.	123,769	19,105	140,663	20,892
Phosphate ... ton	157	1,712	358	4,039
Quartz ... ton	1,582,935	1,100,214	1,858,302	1,203,527
Salt ... ton	424,500	2,486,632	464,714	2,823,269
Silica brick ... M	2,493	124,807	3,438	182,786
Sodium carbonate ... ton	300	2,400	220	1,760
Sodium sulphate ... ton	71,485	628,151	94,260	829,589
Talc and soapstone	–	170,066	–	229,639
TOTALS, OTHER NON-METALLICS	–	25,061,849	–	26,011,498
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products (brick, tile, sewer pipe, etc.)	–	5,151,236	–	6,344,547
Cement ... bbl.	5,731,264	8,511,211	7,559,648	11,775,345
Lime ... ton	552,209	4,003,514	716,730	5,194,555
Sand and gravel ... ton	31,294,341	11,241,102	31,375,415	11,759,245
Stone ... ton	5,443,522	6,455,696	7,447,665	7,398,959
TOTALS, CLAY PRODUCTS, ETC	–	35,362,759	–	42,472,651
Grand Totals	–	474,602,059	–	529,825,035

CHAPTER VIII

Water Powers

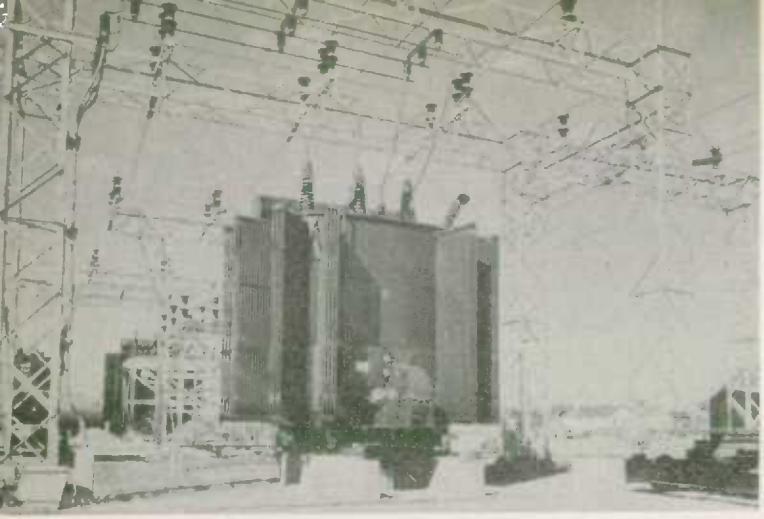
Canada is richly endowed with water-power resources, the development of which dates from the arrival of the early French settlers at the beginning of the seventeenth century. During the past forty years this development has proceeded at such a rapid rate as to profoundly affect the entire national economy, influencing the growth of population, transportation systems, home and external trade and national income. Water power is so general and widespread in its availability that more than 98 p.c. of all electricity generated for sale is distributed from hydro-electric stations and all but the most isolated hamlets enjoy the amenities of electric lighting, radio, cooking and domestic appliances.

Available and Developed Water Power, by Provinces, Jan. 1, 1942

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
	h.p.	h.p.	h.p.
Prince Edward Island	3,000	5,300	2,617
Nova Scotia	20,800	128,300	139,217
New Brunswick	68,600	169,100	133,347
Quebec	8,459,000	13,064,000	4,556,943
Ontario	5,330,000	6,940,000	2,617,495
Manitoba	3,309,000	5,344,500	420,925
Saskatchewan	542,000	1,082,000	90,835
Alberta	390,000	1,049,500	71,997
British Columbia	1,931,000	5,103,500	788,763
Yukon and Northwest Territories	294,000	731,000	22,899
Canada	**20,347,400**	**33,617,200**	**8,845,038**

Flooding Discharge through a 40-foot Sluice-Gate of an Ontario Power Development Dam.—Each gate has a capacity greater than the flow over the American fall at Niagara.

Courtesy, Hydro-Electric Power Commission of Ontario



A Large Transformer (capacity 25,000 kv-a.) Serving a Southern Ontario City.

Courtesy, Hydro-Electric Power Commission of Ontario

The most recent estimates indicate that Canada's water powers will provide for a commercial installation of 43,700,000 h.p. Installation as of Jan. 1, 1942, totalled 8,845,038 h.p., slightly less than 20·25 p.c. of the total possible installation.

Following the outbreak of war and the consequent development of a large-scale munitions industry, some readjustments in the use of power became necessary, additional units were installed in existing plants and new plants were rushed to completion. The water-power industry again demonstrated its versatility by meeting all the extraordinary demands upon it and at the same time continuing to provide the essential domestic, commercial and industrial services.

Provincial Distribution of Water Power.—The water powers of the *Maritime Provinces*, while small in comparison with the sites in the other provinces, are a valuable economic resource that is augmented by abundant local coal supplies. *Quebec* has the largest known resources of water power and the greatest development, her present installation is a little more than 51 p.c. of Canada's total. More than 90 p.c. of total installation is operated by central electric station organizations. *Ontario*, which, like Quebec, is without local coal supplies, is second in power resources and their development. Here the Hydro-Electric Commission operates plants aggregating more than 65 p.c. of the total installation of the Province, while an additional 21 p.c. is operated by other central station organizations. Of the *Prairie Provinces*, Manitoba has the greatest power resources and the greatest development, more than 72 p.c. of the total hydraulic development of the three provinces being installed on the Winnipeg River to serve the Winnipeg area and, over the transmission network of the Manitoba Power Commission, approximately 145 cities, towns, and villages in southern Manitoba. In the section of the Prairie Provinces containing least water power, there are large fuel resources. *British Columbia* ranks fourth in available power resources and her hydraulic development is exceeded in Quebec and Ontario only. The water powers of Yukon and the Northwest Territories are considerable, but present development is limited to mining uses.

Hydro-Electric Construction during 1941.—New water-power installations during 1941 totalled 254,600 h.p. This, together with 6,000 h.p. resulting from equipment replacement not previously reported, brings Canada's total hydraulic installation as of Jan. 1, 1942, to 8,845,038 h.p. Other undertakings under way should add more than 650,000 h.p. to this total by the middle of 1943.

The first hydro-electric development in the Northwest Territories came into operation in January, 1941, with the completion by the Consolidated Mining and Smelting Company of its 4,700-h.p. plant on the Yellowknife River to serve its own and other mines and the domestic needs of the settlement.

No new water-power developments were completed in the Prairie Provinces during 1941. Work on the Calgary Power Company's 23,000-h.p. plant on the Cascade River and on its appurtenant water storage in Lake Minnewanka was commenced in January, 1941, and it is expected that power will be available early in 1942. This plant will serve a large munitions industry and will augment the power supply from the Company's four generating stations on Bow River.

In Ontario, new installations during 1941 totalled 19,900 h.p., and much additional work is in progress. Because of the greatly increased industrial load at Sault Ste. Marie, the Great Lakes Power Company doubled the capacity of its Upper Falls plant on Montreal river by the addition of a 10,000-h.p. unit. A similar unit is being installed at Lower Falls on the same river.

The Hydro-Electric Power Company of Ontario has installed two units of 4,950 h.p. each in its plant at Big Eddy on Musquash River and is proceeding with its development of Barrett Chute on Madawaska River. Here 56,000 h.p. will be installed, power to be delivered in July, 1942.

The Commission has recently commenced construction of a second plant at DeCew Falls, drawing water from the Welland Canal. The installation, from which power is expected to be available in July, 1943, consists of a 65,000-h.p. unit.

Work on the Ogoki River diversion project is well advanced. By means of a main dam on the Ogoki River and a regulating dam at the summit between the areas drained by the Ogoki and Nipigon Rivers the flow of the Ogoki River will be diverted from the Hudson Bay drainage into the Great Lakes to provide additional power at Niagara Falls and in the St. Lawrence River.

As a result of special agreements between Canada and the United States, additional diversions of water for power generation at Niagara Falls amounting to 14,000 cubic feet per second have been made.

New hydraulic installation in Quebec during 1941 totalled 230,000 h.p. This was largely made up of additions and betterments to existing plants, the only new plant brought into operation being that of the Quebec Streams Commission on the Upper Ottawa River. Here 48,000 h.p. has been installed to augment the power supply of the northwestern Quebec mining areas.

The Aluminum Power Company added 15,000 h.p. to the capacity of its Chute-a-Caron plant by runner replacements. Two 65,000-h.p. units are also being installed in the plant, the first for operation in March, 1942, and the second shortly afterwards. These two units will be transferred later to the Company's new Shipshaw plant on the Saguenay River where 510,000 h.p. is being installed. Power delivery is expected to commence about February, 1943.

The Beauharnois Light, Heat and Power Company added three units of 53,000 h.p. to its station at Beauharnois on the St. Lawrence River, bringing its installation to 689,000 h.p., the greatest in any Canadian generating station.

The Shawinigan Water and Power Company by the replacement of a turbine runner increased the capacity of its La Gabelle station on the St. Maurice River by 6,000 h.p. to 172,000 h.p. Two thousand horse-power was added by a similar replacement in the Grand'Mere station on the same stream.

No new stations were brought into operation in the Maritime Provinces. The Avon River Power Company replaced the temporary generator of 3,500 kv.a. in its Hollow Bridge Station on Black River with one of 6,250 kv.a. The 3,500-kv.a. generator is being installed in the Company's new Lumsden plant at Hell's Gate on the same stream. This plant is expected to commence delivery of power in February, 1942.

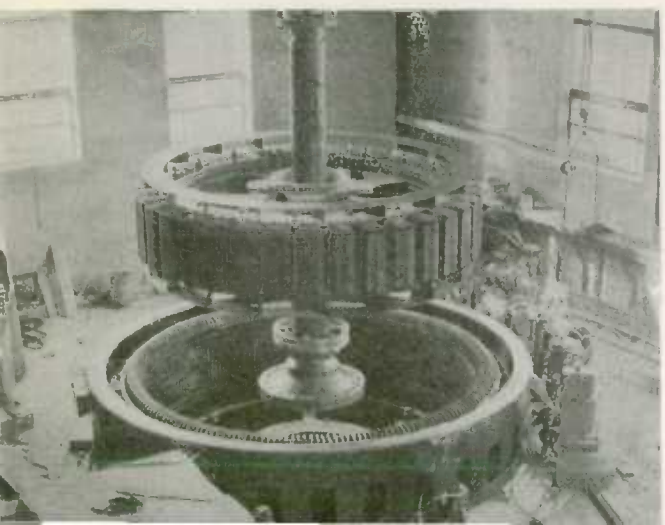
Central Electric Stations

Over 88·4 p.c. of all water power developed in Canada is developed by central electric stations and, although there are a large number of stations (298) that derive their power entirely from fuels and 39 hydraulic stations that also have thermal auxiliary equipment, 98 p.c. of all electricity generated for sale is produced by water power.

The production of electricity by central electric stations amounted to 5,500,000,000 kwh. in 1919, the first year for which such data are available. Six years later it was almost doubled, by 1928 it had more than trebled, and by 1930 it amounted to 18,000,000,000 kwh. With continued depression in manufacturing industries the output started to decline late in 1930 and continued into 1933, but from June, 1933, to the end of 1937 there was an almost continuous succession of increases each month after adjusting for normal seasonal variations. A slump in 1938 in the pulp and paper industry, which takes about 40 p.c. of the total power generated, caused a reduction in the output for that year. The output for September, 1941, at 2,866,647,000 kwh., was the largest in the history of the industry; an estimate for the year 1941 is 32,000,000,000 kwh., as compared with the output of 30,080,248,000 kwh. shown for 1940. Only one other country (Norway) has a greater output per capita and only three other countries have greater total outputs irrespective of size. One reason for this large use of electricity produced by central stations is the absence of coal in the central provinces and the large quantities of water power available within transmitting distances of the principal manufacturing centres. Low rates and reliable service have increased the domestic use for lighting, cooking, water heating and other household uses; the average per capita consumption has risen to 1,423 kwh. per annum, about twice that in the United States where living standards are very similar.

Assembling a 4,500 kv-a. Generator.

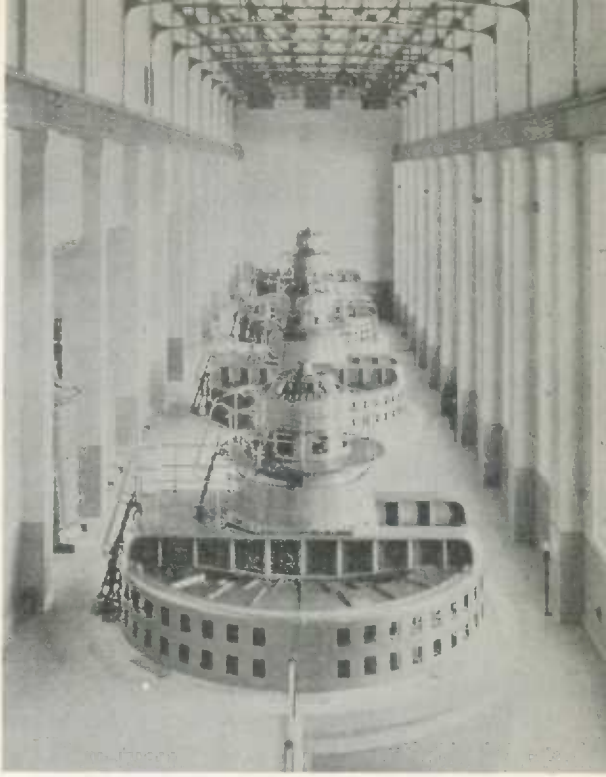
Courtesy, Hydro-Electric Power Commission of Ontario



Secondary power, used mainly in electric boilers in pulp and paper mills, increased from a very small quantity in 1924 to over 7,313,000,000 kwh. in 1937. With the increasing demand for firm power, this secondary power was reduced to 5,423,000,000 kwh. in 1940 and to 2,306,000,000 kwh. in the first nine months of 1941, but the consump-

tion of firm power, or total output less secondary power for electric boilers and exports to the United States, has also continued to increase and reached a new peak in September, 1941, of 2,412,334,000 kwh.

The rated capacity of electric motors in manufacturing industries in Canada in 1939 was 80·5 p.c. of the total capacity of all power equipment in these industries, the increase from 61·3 p.c. in 1923 being almost continuous. In the mining industries this conversion to electric drive has been even greater, growing from 57·3 p.c. in 1923 to 80·2 p.c. in 1939. In 1939 almost 83 p.c. of these electric motors in manufacturing industries and 88 p.c. in mining industries were driven by power produced in central stations. Mechanical power, particularly electric motors, has been increasing in manufacturing industries much more rapidly than the number of employees during the past decade.



Interior of the Slave Falls Generating Station, Winnipeg, Man.
Courtesy, Department of Mines and Resources

Average Monthly Output of Central Electric Stations, 1927-41

Year	From Water	From Fuel	Total	Year	From Water	From Fuel	Total
	'000 kwh.	'000 kwh.	'000 kwh.		'000 kwh.	'000 kwh.	'000 kwh.
1927	1,193,481	18,944	1,212,425	1935	1,917,958	32,410	1,950,368
1928	1,340,292	21,192	1,361,484	1936	2,078,739	37,452	2,116,191
1929	1,441,203	27,622	1,468,825	1937	2,256,779	41,882	2,298,661
1930	1,463,330	25,230	1,488,560	1938	2,130,006	37,728	2,167,734
1931	1,339,907	26,071	1,365,978	1939	2,321,815	40,811	2,362,626
1932	1,296,360	25,845	1,322,205	1940	2,460,466	46,222	2,506,688
1933	1,436,486	26,150	1,462,636	1941[1]	2,603,976	51,609	2,654,585
1934	1,733,810	29,484	1,763,294				

[1] Nine-month average.

Electricity, principally hydro-electric energy, is displacing coal and oil to heat furnaces, ovens and boilers, and is doing enormous quantities of work in electrolytic refining of metals, production of fertilizers, metal plating, and so forth.

Investments in central electric stations for 1939 amounted to $1,564,03,211, which was larger than for any manufacturing industry; revenues amounted to $151,880,969 and 1,623,672 domestic customers were served. These are approximately 60 p.c. of all families in Canada, both urban and rural.

CHAPTER IX

Manufactures

The present century has witnessed the chief forward movement in Canadian manufactures, mainly as the result of two great influences: first, the opening up of the West, which greatly increased the demand for manufactured goods of all kinds and especially construction materials; and secondly, the first World War, which left a permanent imprint upon the variety and efficiency of Canadian plants. By 1920, the gross value of Canadian manufactured products was no less than $3,693,000,000, the capital invested $2,915,000,000, and the number of employees 591,753. Hundreds of millions of capital had been attracted from outside (see Chapter XV) in achieving this striking result.

To-day, the manufacturing industries of Canada stand on the threshold of a new era in their development. The demands created by the present war, owing to Canada's strategic position as a source of food supply and armaments, has had far-reaching effects on the magnitude and diversification of Canadian manufacturing production. Fortunately, Canadian manufacturers are now well equipped to accomplish successfully the huge task that they are called upon to perform. The tremendous expansion in production so far achieved by the manufacturing industries of Canada is indicated by a 58 p.c. increase in employment since the War started. Employment in the iron and steel industries increased by 132 p.c., chemical industries 126 p.c., textiles 39 p.c., lumber and its products 34 p.c., food products 28 p.c., and pulp and paper 20 p.c.

Historical Summary of Statistics of Manufactures, 1870-1939

Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	$	No.	$	$	$	$
1870...	41,259	77,964,020	187,942	40,851,009	124,907,846	96,709,927	221,617,773
1880...	49,722	165,302,623	254,935	59,429,002	179,918,593	129,757,475	309,676,068
1890...	75,964	353,213,000	369,595	100,415,350	250,759,292	219,088,594	469,847,886
1900[2]...	14,650	446,916,487	339,173	113,249,350	266,527,858	214,525,517	481,053,375
1910[2]...	19,218	1,247,583,609	515,203	241,008,416	601,509,018	564,466,621	1,165,975,639
1920[2]...	22,157	2,914,518,693	591,753	711,080,430	2,083,579,571	1,609,168,808	3,692,748,379
1929[2]...	22,216	4,004,892,009	666,531	777,291,217	2,029,670,813	1,755,386,937	3,883,446,116
1933[3]...	23,780	3,279,259,838	468,658	436,247,824	967,788,928	919,671,181	1,954,075,785
1934[3]...	24,209	3,249,348,864	519,812	503,851,055	1,229,513,621	1,087,301,742	2,393,692,729
1935[3]...	24,034	3,216,403,127	556,664	559,467,777	1,419,146,217	1,153,485,104	2,653,911,209
1936[3]...	24,202	3,271,263,531	594,359	612,071,434	1,624,213,996	1,289,592,672	3,002,403,814
1937[3]...	24,834	3,465,227,831	660,451	721,727,037	2,006,926,787	1,508,924,867	3,625,459,500
1938[3]...	25,200	3,485,683,018	642,016	705,668,589	1,807,478,028	1,428,286,778	3,337,681,366
1939[3]...	24,805	3,647,024,449	658,114	737,811,153	1,836,159,375	1,531,051,901	3,474,783,528

[1] 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] Includes all establishments employing five hands or over. [3] Includes all establishments irrespective of the number of employees but excludes construction, and custom and repair work.

The rise in manufacturing production that commenced during the summer of 1933 continued with increasing force to the spring of 1938. As a result of this continuous rise, the gross value of products in 1937 was only 6·7 p.c. below that of 1929, employment 0·9 p.c. lower, and salaries and wages paid 7·1 p.c. below the 1929 level. The drop in the gross value of products, 1929-38, was due mainly

to a drop of 16·0 p.c. in the wholesale prices of manufactured products. Although the number of employees in 1937 was still below the 1929 level, the physical volume of goods produced was, however, the highest on record, exceeding by 7·4 p.c. the previous peak attained in 1929.

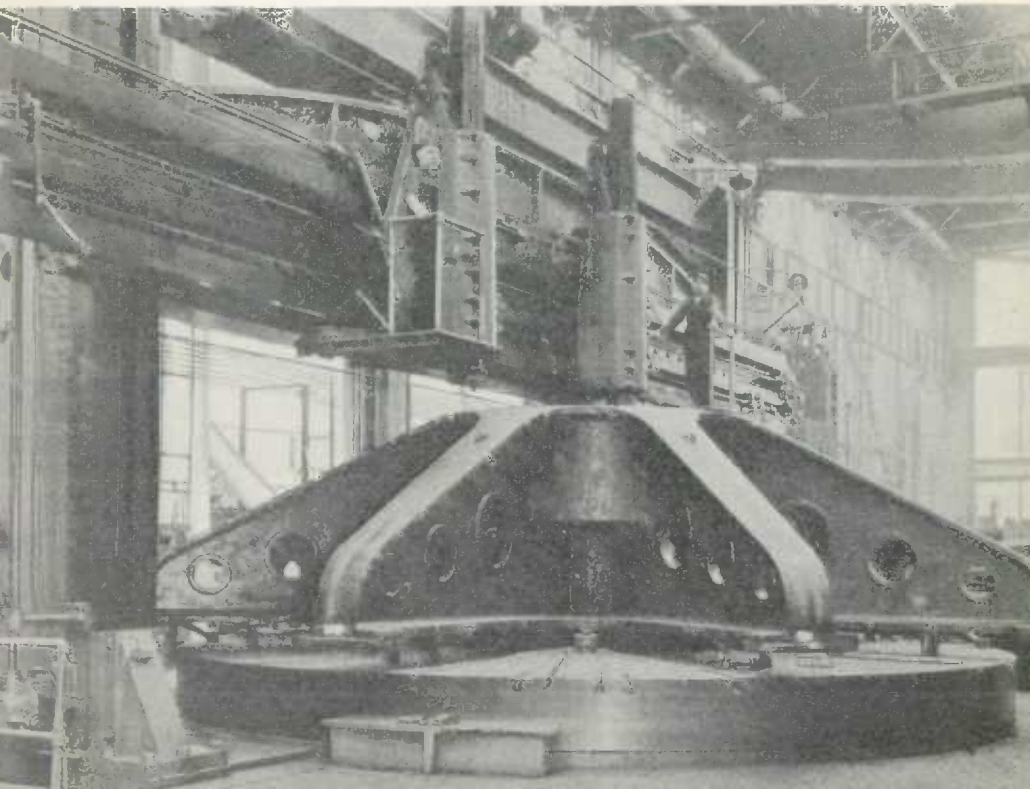
The declines in manufacturing production resulting from the minor recession of 1938 were in many cases made up by the expanded operations reported in 1939. This increased output was due only partly to the demands created by the present war, as in only a few branches of production was there an immediate expansion of production directly attributed to war needs. The impact of the War was first felt by the textile, food and chemical industries. For manufacturing as a whole there was an increase of 4·1 p.c. in the gross value of production, 2·5 p.c. in the number of employees, and 4·5 p.c. in the salaries and wages paid as compared with the previous year.

Industries, by Provinces and Purpose Groups

Among the manufacturing groups analysed on a purpose classification basis, and judged by gross value of production, the producers materials group, which includes manufacturers and building materials, ranked first in 1939 with 32·5 p.c. of the total value of manufactured products. The industries manufacturing food products came second with 22·6 p.c. of the total, followed by the industrial equip-

Machining of the Upper Bracket of a Large Water-Wheel Generator.—This operation is being done on one of the largest boring mills in Canada.

Courtesy, Canadian Westinghouse Co. Ltd.



ment group with 15·2 p.c., clothing industries 8·0 p.c., vehicles and vessels 7·9 p.c., drink and tobacco 4·7 p.c. In the paragraphs following the table a short review is given of some of the groups of industries that have felt the effects of the increased demands occasioned by the present war.

Census of Manufactures, by Provinces and Purpose Groups, 1939

Province or Group	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	$	No.	$	$	$	$
Province							
P.E.I.	222	2,682,900	1,088	617,945	2,239,117	1,243,979	3,543,681
N.S.	1,083	101,954,082	17,627	16,651,685	43,332,195	35,885,563	83,139,572
N.B.	803	91,171,323	14,501	13,659,162	35,617,614	27,041,195	66,058,151
Que.	8,373	1,182,538,441	220,321	223,757,767	536,823,039	470,385,279	1,045,757,585
Ont.	9,824	1,762,571,669	318,871	378,376,209	907,011,461	791,428,569	1,745,674,707
Man.	1,087	119,659,365	23,910	28,444,798	82,408,293	48,810,544	134,293,595
Sask.	737	37,654,095	6,475	7,346,127	38,782,135	20,283,273	60,650,589
Alta.	961	73,284,225	12,712	14,977,700	53,151,149	32,618,153	87,474,080
B.C.	1,710	274,969,502	42,554	53,881,994	136,655,872	103,263,292	247,948,600
Yukon & N.W.T.	5	538,847	55	97,766	138,500	92,054	242,968
Totals	**24,805**	**3,647,024,449**	**658,114**	**737,811,153**	**1,836,159,375**	**1,531,051,901**	**3,474,783,528**
Purpose Group							
Producers materials	7,095	1,580,602,852	201,849	229,381,185	559,816,486	503,748,897	1,130,510,177
Food	8,529	451,298,489	99,983	101,904,518	526,619,353	245,186,949	784,072,722
Industrial equipment	1,957	650,305,878	93,235	117,754,260	257,416,596	256,096,142	528,678,421
Vehicles and vessels	364	269,734,181	54,673	72,238,590	141,704,269	119,866,017	266,089,493
Clothing	2,178	187,495,826	97,220	83,762,588	146,201,614	127,339,537	275,567,762
Drink and tobacco	657	190,313,279	23,489	27,051,038	74,295,571	88,715,388	164,812,439
Books and stationery	2,452	143,293,147	41,804	56,466,921	47,916,777	94,544,925	144,288,052
House furnishings and equipment	767	93,773,837	27,647	28,417,336	40,528,394	46,587,242	88,800,804
Personal utilities	623	46,866,657	12,623	13,771,704	26,408,179	29,930,443	57,043,684
Miscellaneous	183	33,340,303	5,591	7,063,013	15,252,136	19,036,361	34,919,974

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

Food Industries

To supply the daily needs of the Canadian people for food is a huge task requiring the labour of many people and an organization that is world-wide in its ramifications. Some of the leading industries in this group with their gross values of production in 1939 were as follows: slaughtering and meat packing, $185,196,133; butter and cheese, $122,561,771; flour and feed mills, $101,776,429; bread and other bakery products, $76,040,651; fruit and vegetable preparations, $55,164,957; biscuits and confectionery, $51,301,152; sugar, $49,896,763; coffee, tea, and

spices, $29,684,410; fish curing and packing, $28,816,536; miscellaneous foods, $19,054,972; condensed milk, $13,251,024; and breakfast foods, $9,209,578.

Slaughtering and Meat Packing.—Slaughtering and meat packing is the leading industry of the food group. In 1939 its output was valued at $185,196,133; it furnished employment to 12,765 persons who were paid $17,109,682 in salaries and wages. About $128,000,000 was paid out by packers for live stock. Of the 150 establishments, 41 contributed 90 p.c. of the total output, while 7 of the largest plants had an average production of about $12,000,000. The same is true of employment. Forty-one plants reported 88 p.c. of the total number of persons employed, while 7 of the largest plants averaged 783 employees each. This industry contributes materially to the foreign trade of Canada. The exports in 1939 totalled $44,300,379, the principle item comprising "bacon and hams, shoulders and sides". Imports in 1939 were $17,576,444 and consisted chiefly of hides and skins, sausage casings, gelatine, wool and meat.

Photometers.—These machines measure the light output of lamps. This test is but one of 480 used to check the length of life, uniformity and efficiency of the bulbs.

Courtesy, Canadian General Electric Co. Ltd.

Dairy Products.—Manufacturing statistics of dairy production are given in the chapter on Agriculture at pp. 43-46.

Flour Milling.—The flour-milling industry with an output valued at $101,776,429 in 1939 is one of the leading industries of the group from the point of view of gross value of production. The War of 1914-18 gave a great impetus to this trade. The 303 flour mills, as distinguished from feed mills, many of them of the most modern type and highest efficiency, have a capacity far in excess of Canada's demands. Since 1928, this industry has been adversely affected by the difficulties that have beset the Canadian grain trade and the decline in the prices of grains. Exports of wheat flour declined from 10,737,266 bbl. in 1928 to 5,342,172 bbl. in 1939, but in spite of the decrease Canada continues to be one of the leading exporters of wheat flour.

The flour-milling industry has a tremendous capacity to produce whatever flour may be needed under present war conditions. In 1939, the maximum daily capacity of the mills was 101,454 bbl. per day of 24 hours, or an annual capacity of over 37,000,900 bbl. Even if the industry were to work at only 75 p.c. of its capacity, over 27,000,000 bbl. of flour could be produced. Such a production would allow for an export of about 17,000,000 bbl. per annum, an increase of 12,000,000 bbl. over the quantity exported in 1939.

Canned Foods.—The development in the production of canned foods in Canada has shown a remarkable expansion since the beginning of the twentieth century. In 1900 the total value did not exceed $8,250,000, but by 1930 it had increased to more than $55,000,000, or six and one-half times as much. In 1933 the value of production dropped to $33,000,000, and rose again to $69,500,000 in 1939. Fruits and vegetables of many kinds, retaining much of their original freshness and flavour, are to be had at all times of the year. Producers in the country are provided with an enormously extended market, and consumers in both city and country with cheap and wholesome food in great variety. The consumer also enjoys protection by the inspection services of the Department of Agriculture and the Department of Fisheries.

Quantity and Value of Principal Foods Canned in Canada, 1939

Product		Quantity	Value
			$
Fish	lb.	108,893,332	15,478,961
Fruits	case	3,547,542	7,769,005
Vegetables	"	7,615,449	14,526,671
Meats	lb.	7,887,228	1,743,227
Soups	case	3,510,319	9,259,222
Concentrated milk products	lb.	1,660,425	11,575,971
Other foods		–	9,113,941
Total		–	**69,466,998**

An Axminster Loom.—Thousands of strands, tediously arranged in frames to follow the pattern, revolve on a sprocket chain. Steel arms operating like typewriter keys plunge them at the proper time into the warp.

Courtesy Canadian Industries Limited

Textile Industries

The need for clothing and equipment for Canada's suddenly and greatly enlarged armed forces has thrown a heavy burden upon the textile industries; production facilities have shown themselves capable of co-operating efficiently in the war effort, to which many concerns are devoting their entire production.

The textile industries are, to a high degree, centralized in the Provinces of Quebec and Ontario. In 1939 the gross value of production was $392,657,759, employment was given to 121,022 persons, and $107,117,035 was paid out in salaries and wages. Of all females employed in the manufacturing industries, 43 p.c. were in the textile group.

Crude Rubber from the Bales being 'Masticated' before Further Processing.

Moulds in which Tires are given their 'Tread' and Vulcanized.

Canada's exports of rubber products amounted to nearly $16,000,000 in 1939, about one-half of which was accounted for by rubber tires. Since that time, the War has greatly stimulated the production of tires for the Allied armies.

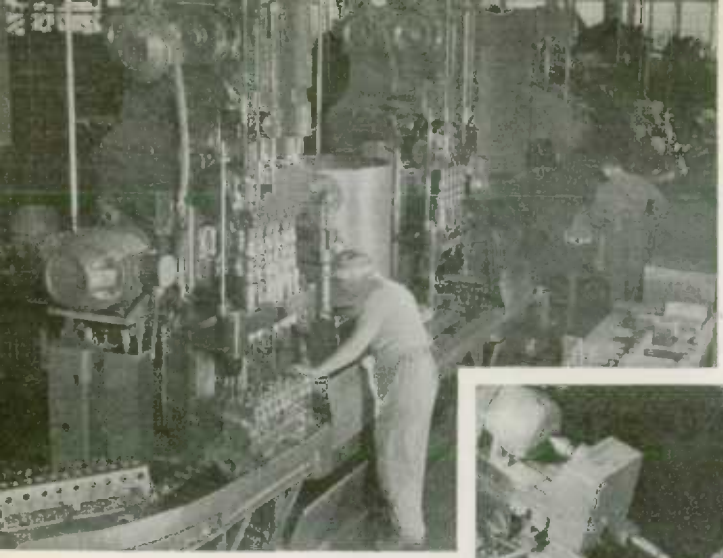
Courtesy, Dunlop Tire and Rubber Goods Co. Ltd.

The variety of individual industries contained within the textile group is representative of practically all of the stages of manufacturing necessary to convert the various raw materials into products ready for purchase by the public. Yarn is spun, and fabrics and goods are woven and knitted. Factory production of clothing is on such a considerable scale that in 1939 the men's factory clothing industry led the group with a gross value of production amounting to $70,807,930, and was followed closely by the cotton yarn and cloth industry. Some other leading industries, in the order named, were: women's clothing, hosiery and knitted goods, silk and artificial silk, and woollen cloth. The remarkable expansion of the silk and artificial silk industry during a comparatively short period of time, and which was continuous during the depression years, makes this an important member of the group, with a production valued at $25,440,527.

Iron and Steel Industries

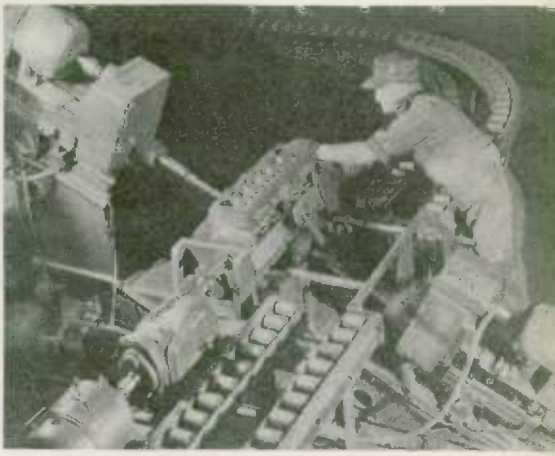
The iron and steel industries account annually for about 16 p.c. of all factory output in the Dominion and for about 19 p.c. of factory employment. In 1939 the gross output value for the 1,394 establishments in this group was $553,468,880 and the number of employees, 121,041.

Pig-iron production totalled 1,168,839 long tons in 1940, the greatest production on record and a gain of 55 p.c. over 1939. Only 4 companies operate iron-ore blast furnaces in Canada. These plants have a capacity of 1,500,000 tons per year.



Honing the Bores, Simultaneously, of a Six-Cylinder Automobile Block.

Special Angular Drill for Reaming Holes in Sides of the Cylinder Block.



Canada's large capacity for the manufacture of passenger automobiles for domestic use and export is now assigned largely to war production of trucks and armoured cars.

Courtesy, Chrysler Corporation of Canada, Ltd.

In 1940 alone the imports of iron ore totalled 2,159,131 long tons, of which about 67 p.c. was from the United States for use in Ontario and about 30 p.c. from Newfoundland for use in Nova Scotia; the remaining 3 p.c. came from Brazil and Sweden.

Some domestic ore (136,475 long tons) was used in Canada's iron furnaces in 1940, shipments having come from the sintering plant at the New Helen Mine. Development work continued at the iron-ore deposits at Steep Rock Lake but no commercial shipments were made during 1940.

Production of steel ingots and castings in 1940 totalled 2,012,294 tons including 1,944,313 tons of ingots and 67,981 tons of castings. Steel furnaces operated at about 85 p.c. of capacity to produce this record tonnage.

Rolled products such as billets, rails, bars, wire rods, plates, etc., are now made in 16 different mills, the value of output amounting to $85,907,967 in 1940. Tonnages of the main products shipped were as follows: hot rolled bars, 326,280; rails and fastenings, 212,386; plates and sheets, 281,616; blooms, billets and other semi-finished shapes, 193,445; structural shapes, 160,963; and wire rods, 117,192.

Among the secondary or fabricating groups, the automobile industry is most important, production of cars and trucks in 1940 amounting to 223,013 units valued at $174,735,961 at factory prices. Canadian-made cars are shipped to all parts of the world, exports in 1940 amounting to 84,192 in number and $54,306,062 in value.

The manufacture and maintenance of railway cars and locomotives ranked next to automobiles in output value and led all iron and steel industries in the number of persons employed. The 35 establishments in this group reported gross production in 1940 at $95,341,712 and the number of employees at 21,483.

Output values for other industries in this group were as follows in 1939: sheet metal products, $51,527,229; farm implements, $16,035,223; automobile parts, $38,711,807; machinery, $48,458,408; castings, $32,345,831; wire and wire goods, $25,063,379; shipbuilding, $11,234,967; boilers and platework, $2,799,806; heating and cooking apparatus, $15,351,663; hardware and tools, $22,995,424; aircraft, $12,638,470; and bridge and structural steel work, $15,840,592.

Leading Individual Industries

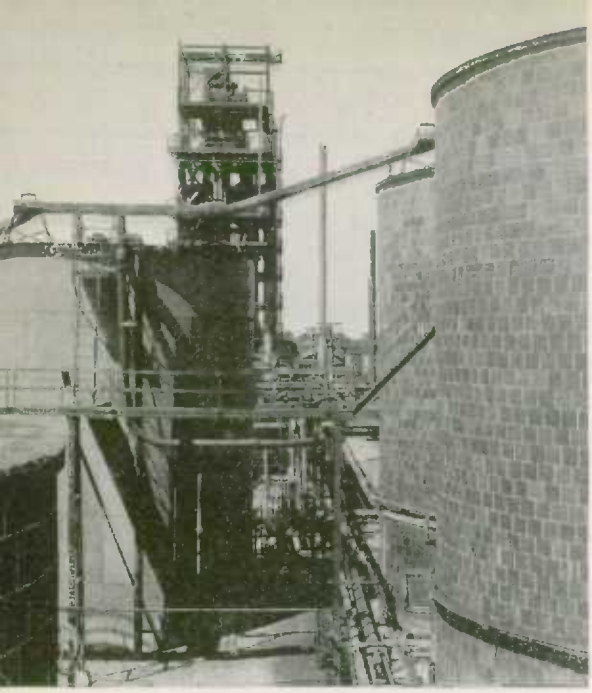
The industries based on mineral resources have taken their place among the leading manufactures of Canada along with the industries based upon forest and agricultural (including live-stock) resources.

The pulp and paper industry, although of comparatively recent development, had, by 1925, displaced flour milling as Canada's most important manufacturing industry in gross value of production and, in spite of recent vicissitudes, held that position up to 1935 when it was displaced by the non-ferrous metal smelting and refining industry. In capital, employment and salaries and wages paid and net value of production, however, pulp and paper is still the leading industry.

The incidence of the depression resulted in a rearrangement in the rank of many industries that has already proved temporary in some cases. The suspension of capital expenditures, a serious factor in the depression, greatly reduced the output of such important industries as sawmills, electrical equipment, automobiles, railway rolling-stock, primary iron and steel, machinery, etc. On the other hand, demand for goods for immediate consumption was more stable, especially in such

Munitions in the Making.—Tapping molten steel from the ladle into ingot forms in a large Canadian gun plant. The temperature never drops below 800° F. and reaches, in slow stages, 2,000° F.

Courtesy Department of Public Information



Special Treatment of Lubricating Oils.—Phenol plant, showing tower for separating phenol from oil.

Courtesy, Imperial Oil Limited

industries as petroleum products, bakeries, cotton yarn and cloth, printing and publishing, clothing, tobacco, beverages, etc. However, as previously stated, some return to the pre-depression order of importance is in evidence. Comparing the rankings for 1933 with those for 1939, it may be noted that automobiles came up from eleventh to fifth place, sawmills from fourteenth to eighth, electrical equipment from sixteenth to ninth; cotton yarn and cloth, and bread and other bakery products, which appeared in eighth and seventh places, respectively, in 1933, dropped back again to thirteenth and tenth.

Principal Statistics of Fifteen Leading Industries, 1939

Industry	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	$	No.	$	$	$
Non-ferrous metal smelting and refining	14	192,186,465	12,449	19,372,119	166,653,361	262,602,495
Pulp and paper	100	597,908,918	31,016	44,737,379	79,933,657	208,152,295
Slaughtering and meat packing	150	68,660,761	12,765	17,109,682	154,692,370	185,196,133
Butter and cheese	2,528	62,430,427	17,448	16,635,539	87,344,396	122,561,771
Automobiles	12	59,470,986	14,427	20,573,714	71,671,753	107,463,351
Petroleum products	53	66,381,189	4,766	7,890,247	74,465,600	104,578,517
Flour and feed mills	1,050	47,926,318	5,898	6,515,496	75,435,165	101,776,429
Sawmills	3,941	85,628,394	32,399	26,396,308	54,447,549	100,132,597
Electrical apparatus and supplies	190	102,245,833	20,261	25,711,092	39,331,766	89,060,568
Bread and other bakery products	3,115	49,162,475	23,121	22,337,808	34,391,725	76,040,651
Primary iron and steel	54	113,660,251	13,827	20,410,517	29,629,376	75,934,481
Clothing, men's, factory	375	40,791,892	22,426	20,068,061	39,991,597	70,807,930
Cotton yarn and cloth	36	81,272,668	19,723	16,733,206	35,527,356	70,385,460
Rubber goods (including footwear)	54	65,374,269	14,160	15,603,774	28,814,003	69,945,471
Printing and publishing	812	54,788,782	18,342	26,205,362	13,845,743	61,903,495
Totals, Fifteen Leading Industries	**12,484**	**1,687,889,628**	**263,028**	**306,300,304**	**986,175,417**	**1,706,541,644**
Grand Totals, All Industries	**24,805**	**3,647,024,449**	**658,114**	**737,811,153**	**1,836,159,375**	**3,474,783,528**
Percentages of Fifteen Leading Industries to all Industries	**50·33**	**46·28**	**39·97**	**41·51**	**53·71**	**49·11**

Manufactures in Leading Cities

The following table gives the principal manufacturing statistics for all cities with a gross production of over $20,000,000 in 1939.

Cities of Canada with a Manufacturing Production of Over Twenty Million Dollars in 1939

City	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	$	No.	$	$	$
Montreal	2,501	423,234,648	105,315	114,602,118	254,188,246	483,246,583
Toronto	2,885	447,009,768	98,702	122,553,435	240,532,281	482,532,331
Hamilton	461	206,584,330	31,512	39,563,423	70,829,034	152,746,340
Windsor	222	80,436,233	17,729	25,938,890	63,907,106	122,474,320
Vancouver	829	92,797,032	17,957	22,382,192	56,565,511	101,267,243
Winnipeg	648	73,255,368	17,571	20,717,273	44,873,043	81,024,272
Montreal East	10	44,708,586	1,887	2,688,885	48,229,644	63,289,783
London	243	38,674,632	9,941	11,576,846	20,696,829	45,385,185
Kitchener	153	37,094,776	9,680	10,199,119	22,123,176	43,950,376
Oshawa	44	24,450,659	5,824	7,290,409	25,277,381	37,273,645
Quebec	298	50,528,573	10,199	9,271,766	17,367,869	34,753,306
Calgary	191	26,651,733	4,225	5,718,341	19,651,198	32,659,913
Peterborough	74	20,019,146	5,132	5,607,145	16,460,327	30,776,537
Edmonton	179	20,611,030	4,455	5,566,986	19,893,319	29,871,108
Ottawa	200	33,238,918	7,103	8,776,183	12,063,936	28,582,935
New Toronto	22	27,517,068	3,045	4,658,241	13,437,997	27,886,476
Three Rivers	50	55,452,876	5,415	5,855,361	10,678,267	27,503,951
Sarnia	44	15,757,012	2,830	4,141,433	17,444,021	26,205,143
Brantford	110	35,622,374	6,549	6,945,428	12,351,993	25,708,393
Niagara Falls	62	32,534,185	3,624	4,696,548	9,330,799	25,605,308
St. Catharines	91	23,126,509	5,555	6,382,713	10,480,773	22,329,061
St. Boniface	47	11,320,187	1,585	2,156,805	16,902,397	21,625,521

Conditions During the Years 1936-1941

Perhaps the best all-round barometer of conditions is afforded by the indexes of employment maintained from month to month in the Dominion Bureau of Statistics. These are based on returns received from establishments having 15 hands or over and include the great majority of employees. The indexes are given below for the latest six years.

Indexes of Employment in Manufactures

(1926 = 100)

Month	1936	1937	1938	1939	1940	1941	Month	1936	1937	1938	1939	1940	1941
Jan. 1	96·8	102·4	108·6	104·3	118·2	142·5	July 1	104·7	119·0	111·8	111·3	130·3	172·5
Feb. 1	98·5	105·3	110·3	106·0	120·5	147·4	Aug. 1	104·9	118·1	110·0	112·8	134·4	176·9
Mar. 1	99·5	107·6	110·5	107·0	122·6	150·8	Sept. 1	105·9	121·2	113·8	115·3	138·4	181·5
Apr. 1	101·1	110·8	110·8	107·1	123·4	158·2	Oct. 1	109·0	121·7	112·5	119·7	143·8	174·0
May 1	102·7	113·8	110·6	108·4	125·7	162·3	Nov. 1	107·7	119·0	110·9	122·1	144·6	–
June 1	103·4	117·9	112·3	111·4	129·2	167·9	Dec. 1	107·0	116·3	110·1	122·2	144·7	–

CHAPTER X

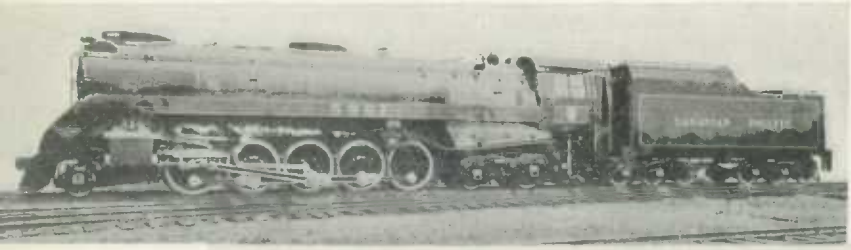
Transportation—Communications

Steam Railways.—Over half of the railway mileage in Canada is owned and operated by the Dominion and Provincial Governments and the remainder by incorporated companies. The mileage of railways publicly operated as at Dec. 31, 1940, was as follows: Dominion, 22,671 miles; provincial, 922 miles; municipal, 92 miles; total 23,685. The mileage operated by incorporated companies was 18,880, the principal private system being the Canadian Pacific Railway with 16,684 miles of line. The total of 42,565 miles with an estimated population of 11,422,000 gives Canada an average of 3·73 miles per 1,000 population, which is second only to Australia with an average of 4·04 miles, and is twice the average for the United States.

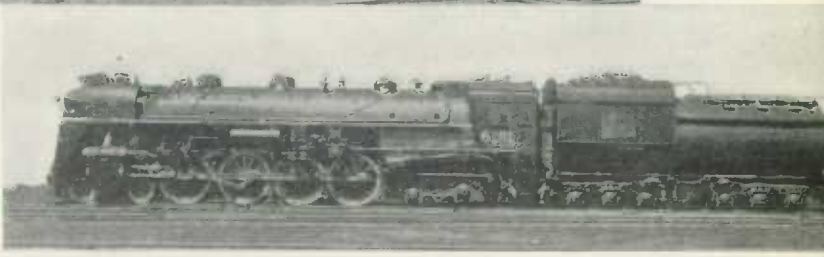
Freight traffic on the railways reached a peak of 118,652,969 tons in 1928, declined steadily to 1933 and increased somewhat for the next four years, dropped in 1938 and rose again to 97,947,541 tons in 1940. Passenger traffic has declined quite consistently since 1919 and in 1940 only 21,969,871 passengers were carried, which was only about half of the number carried ten years earlier.

Reduced traffic has lowered the revenues from a high of $534,106,045 in 1929 to $270,278,276 in 1933 and $429,142,659 in 1940. Without corresponding reductions in operation expenses, net incomes declined rapidly. Deficits of the Canadian National system increased and dividends of the Canadian Pacific were reduced or passed entirely.

The number of employees declined from a high point of 187,846 in 1929 with wages of $290,732,500 to 135,700 in 1940 with a total payroll of $214,505,163.



C.P.R. Locomotive 5921.—This streamlined, 5 pair 63-in. driving wheel engine, is oil burning.



C.N.R. Locomotive 6181 has 4 pairs of driving-wheels and is coal burning. Fifteen units of this model have recently been built in Montreal.

Specimens of the most modern and efficient locomotives placed in service by the C.P.R. and the C.N.R., respectively. C.P.R. Locomotive 5921 weighs, with tender, 728,000 lb., and is stated to be the most powerful locomotive doing duty in the British Empire. C.N.R. Locomotive 6181 is a type particularly suited for freight service, and weighs nearly 700,000 lb.

Courtesy, Canadian National Railways and Canadian Pacific Railway

Railway Statistics, by Months, 1939-41

Month	Railway Gross Operating Revennes			Total Revenue Car Loadings		
	1939	1940	1941	1939	1940	1941
	$ '000	$ '000	$ '000	No. '000	No. '000	No. '000
January	23,798	30,496	36,113	171	210	229
February	22,652	30,000	34,620	160	199	218
March	25,700	30,145	40,613	191	195	250
April	25,191	29,916	41,887	179	219	252
May	29,680	34,630	46,595	215	237	276
June	26,160	36,914	44,817	195	240	271
July	27,794	38,398	45,442	196	248	277
August	29,774	37,409	46,524	229	256	279
September	42,960	37,319	47,215	295	252	294
October	39,681	40,504	51,239	270	281	313
November	36,703	38,869	–	248	259	286
December	33,232	40,221	–	200	231	–

Electric Railways.—The total number of passengers carried on urban and interurban electric railways in 1939 was 632,533,000, of which 33 p.c. was carried by the Montreal system and 25 p.c. by the Toronto system.

The total investment for 1939 amounted to $198,482,000, gross earnings to $42,185,000, and miles of track to 1,592.

Roads and Highways.—Construction of roads suitable for motor traffic has been one of the principal items of provincial expenditures during the past twenty years. The Dominion Government has built roads in National Parks and has granted subsidies to the provinces, first in 1920 and again as an unemployment relief measure in 1930-39, but has not constructed any rural roads outside of Dominion lands.

The mileage at the end of 1939 was 114,254 miles of surfaced roads, and 383,453 miles of earth roads. Of the surfaced roads, 98,828 miles were gravel or crushed

A Clover-Leaf Intersection at Port Credit, Ont.
Courtesy, Travel and Publicity Bureau, Toronto

A Modern Vehicle for the Transport of Freight.
Courtesy, International Harvester Co. of Canada Ltd.

stone; 10,996 bituminous surfaces; 2,353 portland cement concrete and asphalt.

The expenditures for 1939 amounted to $91,845,805, including $56,076,206 for construction of roads, $6,494,499 for construction of bridges, $23,526,950 for maintenance of roads, $2,808,707 for maintenance of bridges, $6,536 for footpaths and sidewalks, and the remainder for administration and general expenses.

Motor-Vehicles.—The number of motor-vehicles registered in Canada has increased steadily and rapidly from 3,054 in 1908 to 276,893 in 1918, 1,439,245 in 1939, and to 1,500,829 in 1940—an average of one vehicle for each 7·6 persons, exceeded only by the United States (4), New Zealand (7) and Hawaii (7).

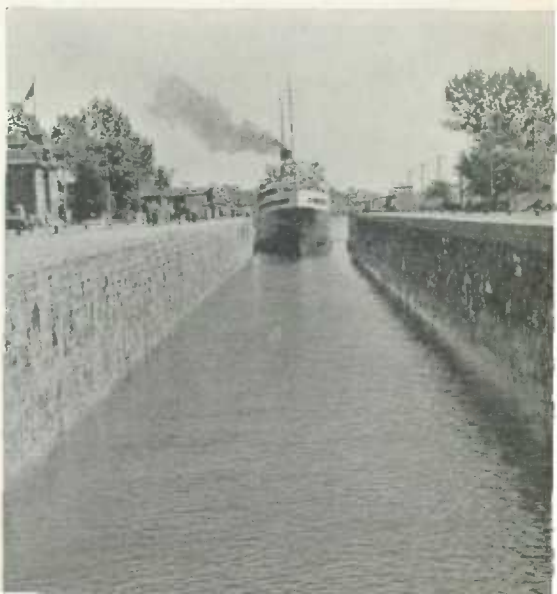
Motor-Vehicles Registered in Canada, in Recent Calendar Years

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]
1920....	1,418	12,450	11,121	41,562	177,561	38,257	60,325	38,015	28,000	408,790
1925....	2,947	22,745	18,863	97,418	342,174	50,884	77,940	54,538	56,427	724,048
1930....	7,376	43,029	34,699	178,548	562,506	78,850	127,193	101,119	98,938	1,232,489
1931....	7,744	43,758	33,627	177,485	562,216	75,210	107,830	94,642	97,932	1,200,668
1932....	6,982	41,013	28,041	165,730	531,597	70,840	91,275	86,781	91,042	1,113,533
1933....	6,940	40,648	26,867	160,012	520,353	68,590	84,944	86,041	88,554	1,083,178
1934....	7,206	41,932	29,094	165,526	542,245	70,430	91,461	89,369	92,021	1,129,532
1935....	8,231	43,952	31,227	170,644	564,076	70,660	94,792	93,870	98,411	1,176,116
1936....	7,632	46,179	33,402	181,628	590,226	74,940	102,270	97,468	106,079	1,240,124
1937....	8,011	50,048	36,780	197,917	623,918	80,860	105,064	100,434	116,341	1,319,702
1938....	7,992	51,214	37,110	205,463	669,088	88,219	109,014	107,191	119,220	1,394,853
1939....	8,040	53,008	38,116	213,148	682,891	88,864	119,018	113,702	122,087	1,439,245
1940....	8,070	57,873	39,000	225,152	703,872	90,932	126,970	120,514	128,044	1,500,829

[1] Includes Yukon.

Preliminary provincial data for 1940 show $29,300,720 collected from motor-vehicle registrations, drivers' permits, etc., and $56,179,173 from gasoline tax, a total of $85,479,893.

During 1940 there were 1,709 persons killed in motor-vehicle accidents which is the largest number yet recorded.



A Passenger Steamer entering the Canadian Lock at Sault Ste. Marie.—This lock has a length of 900 ft. and is the longest in the Dominion.

Courtesy, Canadian Geographical Journal *and Canadian Steamship Lines*

Grain Carriers Wintering in a Mooring Basin on the Great Lakes.

Copyright, The Milwaukee Journal
Courtesy, Canadian Geographical Journal

Canals.—There are six canal systems under the Department of Transport, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near Lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to Lake Huron, and (6) from the Atlantic Ocean to Bras d'Or Lakes in Cape Breton. These canals have opened to navigation from the Atlantic about 1,890 miles of waterways. Under the Department of Public Works or other authority are minor canals and locks that facilitate local navigation on disconnected waterways.

The Great Lakes and St. Lawrence River form one of the busiest waterways in the world. More traffic passes up and down the Detroit River than any other waterway and the traffic through the canals at Sault Ste. Marie in 1929 reached a peak of 92,616,898 tons, more than through the Panama and Suez Canals combined. The greater part of this traffic is iron ore from Lake Superior to United States ports on Lake Erie and return cargoes of coal, and grain downbound destined to St. Lawrence ports, Buffalo, Port Colborne, and other lower lake ports.

The maximum draught of vessels plying between the lakes is governed by channels in the Detroit and St. Mary's Rivers, and is limited to about 21 feet. Since 1932 when the New Welland Ship Canal, with 25 feet in the stretches between locks (the locks have 30 feet of water above the sills), was opened, larger upper-lake vessels have passed down as far as Prescott. The St. Lawrence canals have a depth of 14 feet (reduced in periods of low water) so that ocean vessels, except of small tonnage, cannot sail up into the lakes; a few such vessels have been engaged in the Great Lakes traffic for several years, bringing over cargoes from European ports. Traffic using the St. Lawrence canals reached a new high record in 1938 with 9,236,318 tons, which dropped to 7,479,617 tons in 1940. Traffic using the Welland Ship Canal has increased steadily, the total of 12,906,474 tons for 1940 being more than double the 1930 traffic and over five times the 1920 traffic.

Shipping.—Canadian shipping may be divided into three classes: (1) ocean or sea-going shipping; (2) inland or river and lake international shipping (exclusive of ferriage); and (3) coasting trade or coastwise shipping. Ocean shipping covers the sea-going vessels arriving or departing from Atlantic and Pacific Coast ports, including St. Lawrence River ports up to Montreal. Inland international shipping covers shipping between Canadian and United States ports on the Great

Lakes and international rivers. Coastwise shipping covers shipping between one Canadian port and another on the Atlantic Coast, on the Pacific Coast, and on the inland international lakes and rivers but not on isolated Canadian waterways, such as the Mackenzie River, Lake Winnipeg, Lake St. John, etc.

Sea-Going Vessels Entered and Cleared at Canadian Ports with Cargo and in Ballast, Fiscal Years 1929-40

Year	Totals Entered			Totals Cleared			Totals, Entered and Cleared		
	No.	Tons Register	Freight Tons[1]	No.	Tons Register	Freight Tons[1]	No.	Tons Register	Freight Tons[1]
		'000	'000		'000	'000		'000	'000
1929..	22,531	27,464	7,155	22,895	26,944	18,045	45,426	54,409	25,200
1930..	21,583	27,156	8,471	21,885	25,836	12,294	43,468	52,992	20,765
1931..	20,737	28,065	7,814	20,860	26,535	10,842	41,597	54,600	18,656
1932..	19,175	27,003	6,821	19,102	25,337	10,699	38,277	52,340	17,520
1933..	17,778	25,044	6,571	18,150	24,722	11,803	35,928	49,767	18,373
1934..	19,501	28,210	7,668	19,904	27,236	11,217	39,405	55,446	18,885
1935..	21,419	28,512	9,100	21,784	28,548	11,235	43,203	57,060	20,336
1936..	22,835	28,896	10,026	23,328	29,157	12,297	46,163	58,053	22,323
1937..	25,348	31,145	11,142	26,136	31,803	15,791	51,484	62,948	26,934
1938..	26,407	31,422	12,699	27,359	31,402	13,882	53,766	62,824	26,581
1939..	27,500	31,354	10,423	28,736	32,044	17,268	56,236	63,398	27,690
1940..	30,648	33,524	11,065	31,956	34,865	16,708	62,604	68,389	27,773

[1] Includes freight in both tons weight and tons measurement.

Air Navigation.—Among the outstanding events in aviation in Canada during 1941 were: the development of the British Commonwealth Air Training Plan to the point where it is sending a large and steady stream of pilots, observers, gunners and mechanics across the Atlantic; and the construction of a line of airports from Edmonton to Whitehorse, together with the necessary radio aids to navigation.

The first of these is taking the whole attention of the Canadian people, since it promises to be a major factor in winning the War. The airports so far constructed have been located in such a way that they may reasonably be expected to meet post-war requirements. It is felt that the airport and the aeroplane will

The S.S. *Lemoyne*, the Longest Bulk Freighter on the Great Lakes.—This vessel is 621 ft. in length and has a capacity of over 500,000 bu. of wheat.

Courtesy, Canada Steamship Lines

develop hand in hand after the War just as the motor-car and the highway did before it. The establishment of an intercontinental air service between North America and Asia, via the Yukon Territory and Alaska, has been coming appreciably nearer year by year. The construction of a line of airports from Edmonton to Whitehorse, connecting up with those in Alaska, brings this service almost into the realm of reality. It is safe to say that the main technical problems have been solved, and that the only remaining bar is the confused political situation in Asia.

Transatlantic ferry flights have been carried out with such regularity, both east and west, that only a little adjustment and modification will be required to transform this into a full-fledged transatlantic air-mail and passenger service. Canada, then, is rapidly developing from a land where domestic air routes were of primary importance, into a junction point of world air routes, connecting the major land surfaces of the globe.

Trans-Canada Airway System.—The Trans-Canada Airway System is now in operation all the way across the continent from Vancouver to Toronto, Montreal, Moncton and Halifax, and from Toronto to London and Windsor on the west and New York on the east.

Intermediate aerodromes lighted for night flying are established at approximately 100-mile intervals. Meteorological services provide weather maps four times daily, and district forecasts for the ensuing six hours. As part of the facilities of the Trans-Canada route and its feeders, there are now in operation 43 radio range stations at approximately 100-mile intervals, except in the mountain regions where closer spacing is necessary.

OPERATION OF TRANS-CANADA AIRWAY SERVICE

Montreal-Vancouver[1]	2 trips daily each way
Halifax-Montreal[2]	2 trips daily each way
Montreal-Toronto[3]	2 trips daily each way
Toronto-Windsor[4]	2 trips daily each way
Toronto-New York[5]	3 trips daily each way
Lethbridge-Edmonton	2 trips daily each way
Moncton-Charlottetown	2 trips daily each way

[1]One schedule connects with Halifax. [2]Both schedules continue through to Toronto. [3]One trip goes through to Windsor; two are transcontinental; two connect with Halifax, making a total of five trips daily. [4]This connects with trips from Montreal and Ottawa. [5]Connects with all transcontinental trips coming into and leaving Toronto.

Canadian Airways Limited operates a daily service on floats from Vancouver to Victoria as a continuation of the transcontinental service to Vancouver Island. A daily service is also operated by Prairie Airways from Regina to Moose Jaw, Saskatoon, Prince Albert, North Battleford and return, connecting with the through service of Trans-Canada Air Lines at Regina. In addition to these services, licences have been granted to 13 operators to carry out mail and passenger operations over 53 routes. These include many of the main centres of population, but also provide services to the more remote districts where mining activity is great, thus giving fast and reliable transportation by air to all parts of the Dominion.

Civil Aviation Statistics.—The mileage flown by aircraft increased from 185,000 in 1922 to 11,966,790 in 1940, when 159,781 passengers, 16,686,214 lb. of freight, and 2,737,122 lb. of mail were carried.

Telegraphs.—Six telegraph systems are operated in Canada, five in conjunction with the railways and one small system operated independently. The Western Union, a United States company, operates lines across Canadian territory;

The Trans-Canada Airlines provide fast and reliable transportation across the Dominion. *Top:* A T.C.A. 'plane winging in from the East at Vancouver, B.C., after a trip of 19 flying hours from Moncton, N.B.; *Centre:* Servicing one of the three new Lockheed Lodestars; *Lower Left:* Oxygen masks as used by passengers in flight over the Rocky Mountains; *Lower Right:* Typical of the architecture of municipal airports across the country is this T.C.A. airport depot at Regina, Sask.

the Canadian Marconi Company operates a wireless system; and three cable companies, in addition to the telegraph companies, operate cables from Canadian stations. In all 22 cables are operated between Canada and England, Azores, Australia, New Zealand, Newfoundland, St. Pierre and Miquelon, and Bermuda, and 2 cables between North Sydney and Canso, N.S.

These systems operate 373,147 miles of telegraph wire in Canada, 7,171 miles outside of Canada, and 32,799 nautical miles of submarine cable between Canada and other countries. Multiple circuits normally produce 603,275 miles of channels for telegraphic use. During 1940 a total of 12,732,082 telegrams and 1,657,148 cablegrams, excluding messages between foreign countries, were handled over these wires.

Telephones.—There were 3,212 telephone systems in Canada in 1939, operating 5,518,329 miles of wire and 1,397,272 telephones. The estimated number of conversations during the year was 2,774,350,000 or 1,986 per telephone. Almost half of the telephones are dial telephones and are operated by automatic switch boards, the increase in dial telephones during 1939 being 50,501 as against a decrease of 12,646 telephones connected with manually operated switchboards.

The telephone plays an important part in radio broadcasting, which has been brought to a standard of efficiency on this continent not approached anywhere else in the world. A radio hook-up or network is in reality a web of high-grade long-distance telephone lines linking together a given number of broadcasting stations. Each telephone company that undertakes to provide program facilities is responsible for supplying and maintaining high-quality long-distance circuits especially designed to carry programs. The ordinary long-distance circuit requires the use of devices and instruments to enable it to carry and maintain the tone quality of an orchestra, or even of a flute or violin. Almost any point that may be reached by telephone can be quickly prepared as the originating or pick-up point for a radio program by engineers equipped to make the necessary changes.

National Radio.—Having succeeded the Canadian Radio Broadcasting Commission on Nov. 2, 1936, the Canadian Broadcasting Corporation has now completed its fifth year as a public service broadcasting organization. Established on a basis similar to that of the British Broadcasting Corporation, the CBC has a Board of nine Governors, a General Manager, and an Assistant General Manager. The Corporation operates under the Canadian Broadcasting Act, 1936, which gives it regulatory powers over all broadcasting stations in Canada so far as programs are concerned.

The members of the Board of Governors are appointed for three years, in rotation, to act as "trustees of the national interest in broadcasting". They are responsible for the policies of the Corporation, and for guaranteeing to the public that broadcasting will be administered in a non-partisan and business-like manner. The CBC is responsible to Parliament through the Minister of National War Services. Members of the Board of Governors are unpaid.

Transmission Facilities.—Transmission facilities enabling CBC programs to be broadcast over a national network in all five Canadian time zones are maintained. This nation-wide network carries both sustaining programs of the Corporation and a limited number of commercial features. In addition to ten stations, including four 50,000-watt transmitters owned and operated by the CBC, the national network includes a large number of privately owned transmitters throughout the Dominion.

During the fiscal year ended Mar. 31, 1941, the CBC's total program production amounted to 12,130 hours, representing 36,419 programs. The average daily service throughout that year amounted to 33 hours and 13 minutes of unduplicated network programs over national, regional, French and various combined networks. Many broadcasts carried on the English network are acceptable to the French-speaking audience. In these cases, the French network joins the national for simultaneous broadcasting.

CBC and the War.—Although the CBC is continually striving to improve the number and quality of its entertainment features, such as musical, variety and symphony programs, the principal task of the Corporation during the war years is to keep Canadians fully and accurately informed with regard to the War in all its phases, at home and abroad, and to do what it can to link the war efforts more closely to the life of the individual Canadian in order to inspire his confidence, to strengthen his daily effort, and to stimulate his growing desire to play the fullest possible part in his country's struggle.

Radio Broadcasts.—Making the two 15-minute records that will be relayed by wire to New York and sent overseas by short wave. The BBC will record them again in England to be rebroadcast to Canadian troops.

Copyright, Ronny Jaques
Courtesy, New World Illustrated

During the past year, there has been a steady expansion of war-effort features, commentaries and special broadcasts on the one hand and, on the other, development of new entertainment ideas by the production staff. Special broadcasts during 1940-41 sponsored by the Dominion Department of Finance have included a number of programs featuring British and American stage and motion-picture stars who have been donating their services for the war effort.

In Great Britain, the CBC Overseas Unit, with the staff now increased to six, has played an ever-increasing part as a link between Canadians at home and overseas. A steady weekly flow of programs is continually transmitted between Canada and the Old Country, through the medium of short-wave relay or by recordings. In fact, during the past fiscal year, out of a total of 1,800 special war broadcasts, some 840 originated in Great Britain.

Broadcasting CBC News.—News broadcasting in Canada is governed by a broad regulation. The CBC News Service is available to all radio stations to which there are land lines. Local news is secured under arrangements between each station and its local newspapers. Broadcast of news from sources other than

H.R.H. the Duke of Kent Speaking over the CBC Network on the Occasion of the Opening of the Canadian National Exhibition, Aug. 22, 1941.

Courtesy, Canadian Broadcasting Corporation

the above is not permitted without written authorization from the Corporation. Private stations may release the CBC News Service only on a sustaining and strictly non-sponsored basis.

The CBC News Service maintains newsrooms at Halifax, Montreal (which provides news in both English and French), Winnipeg and Vancouver, with a central newsroom at Toronto. The Canadian Press and British United Press provide their full news services free of charge to the CBC. Their news is edited and rewritten in a style suitable for radio. The CBC also carries regular news bulletins and news features transmitted direct from Great Britain and picked up by the CBC short-wave receiving station, located near Ottawa.

Specialized talks and discussions by experienced commentators, expert students and international figures in both Great Britain and Canada are heard regularly over CBC networks. The Corporation is the point of contact between the Wartime Censorship Co-ordination Committee and radio stations and other organizations throughout Canada in disseminating the important information and instructions associated with broadcasting. The Corporation also works in close co-operation with the Director of Public Information.

Canadian Broadcasting Corporation Expenditures, Fiscal Years 1938-41

Item	1938		1939		1940		1941	
	$	p.c.	$	p.c.	$	p.c.	$	p.c.
Programs	1,060,184	47·38	1,393,018	46·95	1,540,658	43·89	1,721,756	43·83
Station network	477,902	21·36	571,496	19·26	674,184	19·22	725,970	18·48
Leases of time on private stations	58,494	2·61	16,810	0·57	11,125	0·31	Nil	–
Engineering	303,968	13·58	481,123	16·22	610,482	17·39	746,154	19·00
Administration	146,686	6·56	139,827	4·71	162,940	4·63	179,120	4·56
Press and information	28,236	1·26	67,087	2·26	63,540	1·80	60,669	1·54
Interest on loans	Nil	–	16,907	0·57	23,837	0·67	32,071	0·82
Commercial	55,426	2·48	77,909	2·63	108,120	3·09	97,805	2·49
Depreciation	106,846	4·77	202,814	6·83	316,274	9·00	364,580	9·28
Totals	**2,237,742**	**100·00**	**2,966,991**	**100·00**	**3,511,160**	**100·00**	**3,928,125**	**100·00**

The Post Office.—The number of post offices has increased from about 3,470 in 1867 to over 12,000 in 1941, with a total revenue in 1940-41 of approximately $48,143,409. The Post Office Department, in the fiscal year 1940-41 issued money

orders to the amount of $168,548,851 payable in Canada and $5,016,698 payable in other countries, a combined net increase over the previous year of $17,225,010. In addition, postal notes to the value of $14,770,339 were issued in 1940-41.

During the War of 1914-18, there was a general increase in postage rates, but these were gradually reduced again between 1926 and 1930. They were increased once more on July 1, 1931, and since that date the letter rate of postage for Canada, Great Britain, the British Empire, France, the United States and all other places in North and South America, has remained at 3 cents for the first ounce and 2 cents for each additional ounce.

Official air-mail service was inaugurated in October, 1927. Since that time great advances have been made, both in the number of services and in the volume of mail conveyed, as shown by the following statistics:—

	Miles Flown No.	Mail Carried lb.		Miles Flown No.	Mail Carried lb.
1931-32	1,229,021	443,501	1938-39	3,711,948	1,822,344
1935-36	852,108	1,189,982	1939-40	5,769,257	2,351,172
1936-37	977,864	1,200,831	1940-41	8,330,121	2,842,367
1937-38	1,474,041	1,367,972			

The institution of air-mail service to remote and otherwise inaccessible areas, too numerous to itemize, has been of the greatest importance in developing the natural resources of Canada. For example, mails from Vancouver now reach White Horse within 24 hours and those from Edmonton reach Aklavik on the Arctic Ocean within a week, a small part of the time required for surface transport. The gold-mining industry, in particular, has been greatly assisted by the efficiency of the postal service rendered by air. During the winter season Pelee Island in Lake

Modern Belt Distributor for Sorting Mail.—Parcels are being sorted and sent by separation belts to different sorting divisions.

Courtesy, Canadian Government Motion Picture Bureau

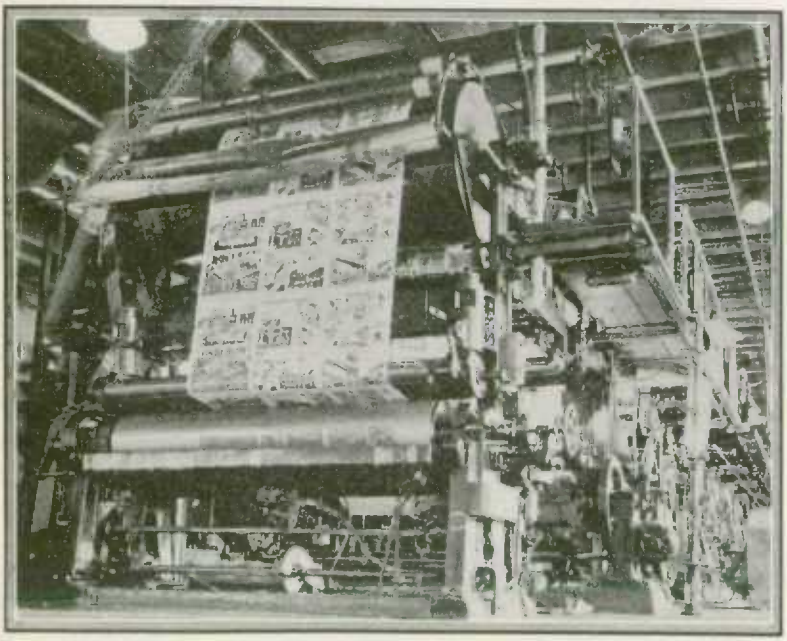
Erie, remote settlements on the north shore of the Gulf of St. Lawrence, Anticosti Island, the Magdalen Islands, and Telegraph Creek in northern British Columbia, which formerly relied on dog teams or were entirely isolated from civilization, are now given regular air-mail service.

While the great majority of Canadian air-mail services are to remote areas, there are several interurban and international services that effect considerable time-saving between important mailing centres in Canada and the United States. This year has witnessed an intensification of regular air-mail service over the Trans-Canada Airway, and this system, with its feeder lines, has given a direct service to most of Canada's leading cities. A letter mailed at the close of the business day in Montreal reaches an address in Vancouver the following afternoon.

The Press.—The following table shows that the tendency of both daily and weekly newspapers has been to decrease in numbers. This is true, not only for the five years covered, but for a much longer period. However, when circulation figures are analysed in connection with the number of publications, it is seen that the total circulations of the daily press have not decreased while all weekly papers have shown definite increases, leading to the conclusion that the decrease in numbers has been the result of amalgamations rather than the absolute disappearance of certain papers. The circulation of all dailies in 1940 was 2,341,000 copies and that of weeklies 4,746,000 copies, as compared with 2,196,000 and 4,234,000, respectively, in 1938 and 2,218,800 and 4,686,000, respectively, in 1939.

Publications in Canada, by Frequency of Issue, 1936-40

Year	Daily	Tri-Weekly	Semi-Weekly	Weekly	Bi-Weekly and Semi-Monthly	Monthly	Bi-Monthly and Quarterly	Miscellaneous	Total
1936....	115	9	24	996	56	450	77	52	1,779
1937....	114	9	25	1,000	56	450	73	60	1,787
1938....	112	9	26	995	61	463	79	59	1,804
1939....	113	8	23	998	71	459	86	66	1,824
1940....	110	6	22	973	67	457	81	73	1,789



Seven-Unit Colour Rotogravure Press in the Plant of a Canadian Newspaper.—Capacity per hour at full speed is 10,000 sections consisting of 12 pages of brown monotone and 4 pages of four-colour rotogravure.

Courtesy, The Toronto Star

CHAPTER XI

Labour—Employment—Unemployment Insurance—War Training—Pensions

Labour Legislation in Canada

The Dominion and Provincial Fields.—In Canada most labour laws have been enacted by the provinces as they relate to civil rights or to local works and undertakings, subjects which, with the exception of certain specified works, railways, shipping, telegraphs and other works extending beyond the boundary of a province, are, under the British North America Act, reserved to the provinces. In all provinces, except Prince Edward Island in which there is little industrial employment, there are laws for the regulation and inspection of mines, factories, shops and other workplaces and dealing with wages, hours of work, the employment of women and children and workmen's compensation. In some provinces laws have been enacted to protect the right of association, to require employers to bargain with the representatives of employees or with trade union officers and to prohibit any strike or lockout until after inquiry.

The Dominion regulates working conditions of its own employees, provides compensation for them in case of accident or certain diseases arising out of their employment and requires observance of specified wage and hour conditions in the execution of Dominion public works and of contracts for supplies. There are federal laws relating to employment on railways and in the mercantile marine and, under its power over criminal law, Parliament enacted legislation freeing trade unions from liability to prosecution as conspiracies, permitting peaceful picketing, and prohibiting employment on Sunday except under certain conditions. By virtue of an amendment to the British North America Act, Parliament enacted, in 1940, a statute providing for a national system of unemployment insurance and of employment offices (see p. 108). Previously, the Dominion and the provinces had co-operated to enable provincial systems of employment offices to be linked together for interprovincial clearance of labour and publication of information.

The Dominion and the provinces have also co-operated to enable the former to deal with certain classes of labour disputes under a Dominion Statute, the Industrial Disputes Investigation Act. This Act prohibits a strike or lockout, pending investigation of the dispute by a tripartite board, in mining, transport, and certain public utilities within Dominion jurisdiction or in any such industries within provincial jurisdiction if legislation of the province in question has made the Act applicable. In all provinces, except Prince Edward Island and British Columbia, there is legislation to this effect.

In 1900 a Dominion Department of Labour was established under the Conciliation Act to aid in improving labour conditions and settling disputes through mediation and the dissemination of information. The Minister of Labour is charged with the carrying out of the Fair Wage Policy for Government contracts, the Industrial Disputes Investigation Act, Government Annuities Act, Combines Investigation Act, Youth Training Act, and Unemployment Insurance Act. Infor-

mation on the operation of these Statutes is given in the annual reports of the Department and of the Unemployment Insurance Commission and also in the *Labour Gazette* which is issued monthly.

Departments of Labour in all provinces, except Alberta, Saskatchewan and Prince Edward Island, administer most provincial labour laws, but in the four western provinces the Workmen's Compensation Boards are independent and in New Brunswick the Board, which is under the Provincial Secretary, enforces the Factory Act. In Alberta the Department of Trade and Industry, through the Board of Industrial Relations, deals with wages and hours legislation and the Department of Public Works with factory inspection. The Saskatchewan Bureau of Labour and Public Welfare is in charge of the Minister of Municipal Affairs. In all provinces laws for the protection of miners are administered by the respective Departments of Mines.

War Regulations.—To deal with problems arising out of the War, a number of Orders in Council have been made under the War Measures Act. A declaration of principles for the conduct of labour and industry in war-time was embodied in an Order in Council. The Industrial Disputes Investigation Act was extended to war industries and an Industrial Disputes Inquiry Commission appointed to deal speedily with disputes in such industries and compose them if possible without recourse to the appointment of a board of conciliation and investigation (see p. 103). Other orders embody a war-time wages policy (p. 101), forbid enticement of employees from war industries and provide for reinstatement in their former jobs of men enlisting in the Forces. The Government Employees' Compensation

Labour in War Industries.—Canadian labour is taking over the manufacture of parachutes—silk cloth is shaped and carefully attached to airman's harness.

Courtesy, Canadian Business

Act has been extended to cover trainees under the War Emergency Training Program and compensation has also been provided for persons employed on ships of Canadian registry or licence and Canadian salt-water fishermen for disability or death due to enemy action or to counter-action.

The need for professional engineers and other technically trained men in war industries led to the establishment in the Department of a Bureau of Technical Personnel which arranges for the transfer of such workers from non-essential work.

Wages and Hours of Labour

In building and construction wages for the skilled trades in cities are from 60 cents per hour to $1.10 or more and from 35 cents to 50 cents for labourers. On steam railways, shop mechanics are paid from 72 to 79 cents per hour and sectionmen 38 to 43 cents. On steamships, deckhands are paid $40 to $50 per month with board and lodging on the east coast, $50 to $75 on the west coast and $60 to $65 on the Great Lakes. Wages for truck drivers are from $17.50 to $27 per week. In the principal coal mines, wages for miners are from $6 to $8 per day and labourers from $3.00 to $5.00; in metal mines, rates for mechanics and miners are $5 to $6.50 and labourers $4 to $4.50. In manufacturing, wages for skilled metal trades are from 50 cents to $1 per hour, for printing trades from $25 to $45 per week, clothing factory cutters $35 to $45 per week and newsprint paper makers $1 to $1.75 per hour. Semi-skilled male workers are paid generally 40 to 50 cents per hour and female workers 25 to 40 cents. Farm labourers generally are paid $20 to $45 per month with board and lodging.

Hours of labour in manufacturing are in general 48 to 54 per week in textile factories, 40 to 50 in clothing factories, 48 in the pulp and paper industry, 44 to 55 in paper goods, 47 to 55 in woodworking, 44 to 55 in metal manufacturing, 40 to 55 in the boot and shoe and rubber industries. The 8-hour day prevails in building trades in cities, on steam railways and in mining.

During the War there has been a tendency to extend hours of work with considerable overtime. The policy of adjusting wages by paying bonuses according to changes in the cost of living has been extended during 1941 in accordance with Dominion Government policy under certain Orders in Council (see p. 104). Many employers not affected by these Orders have been paying bonuses under their own arrangements.

Organized Labour in Canada

Labour organizations in Canada are divided into two groups: (1) local branches of international organizations, the membership of which is chiefly in the United States of America and Canada, and (2) unions that are purely Canadian.

At the close of 1940 there were in Canada 3,268 local branch unions of all classes, a decrease of 22 as compared with the number recorded in 1939, with a combined reported membership of 365,544, a gain of 6,577.

In the international group there were at the end of the year 95 organizations, the same number as recorded in 1939, having 2,078 local branches in the Dominion, a decrease of 13, with a combined membership of 226,969, a gain of 10,308.

The Canadian central organizations, including the National Catholic unions, which numbered 31, 2 more than in 1939, had 1,102 branches, a loss of 18, with a combined membership of 117,548, a decrease of 5,338.

There were 88 independent units, an increase of 3; the membership reported by 78 units was 21,027 as compared with 19,420 reported by 74 units in 1939.

Trade Union Branches by Provinces.—Ontario had the largest number of local branch unions, with 1,176 out of a total of 3,268. Quebec was second with 698; British Columbia was third with 365; and Alberta was fourth with 273. The remaining five provinces ranked as follows: Manitoba, 211; Saskatchewan, 185; Nova Scotia, 182; New Brunswick, 167; and Prince Edward Island, 11.

Reported Trade Union Membership in Canadian Cities.—There were 33 cities in Canada with not less than 20 trade union branches in all classes, 2 more than the number recorded in 1939. The 1,874 branches located in these cities represented 57 p.c. of the local branches of all classes operating in the Dominion. The 1,874 branch unions contained approximately 67 p.c. of the entire trade union membership, and the 1,685 reporting branches in these cities represented 59 p.c. of all the reporting branches in Canada.

Industrial Disputes

During the first 11 months (January to November) of 1941 there were in Canada 204 strikes and lockouts, which involved 80,736 workers and caused a time loss of 375,867 man-working days. During the 12 months of 1940 there were 168 disputes, involving 60,619 workers and causing time loss of 266,318 man-working days, while in 1939 there were 122 disputes, involving 41,038 workers and causing time loss of 224,588 man-working days. The minimum time loss since the inception of the record in 1901 was in 1930, when 91,997 working days were lost in 67 disputes, involving 13,768 workers. The maximum loss occurred in 1919, when 336 disputes involved 148,915 workers and caused a time loss of 3,400,942 man-working days.

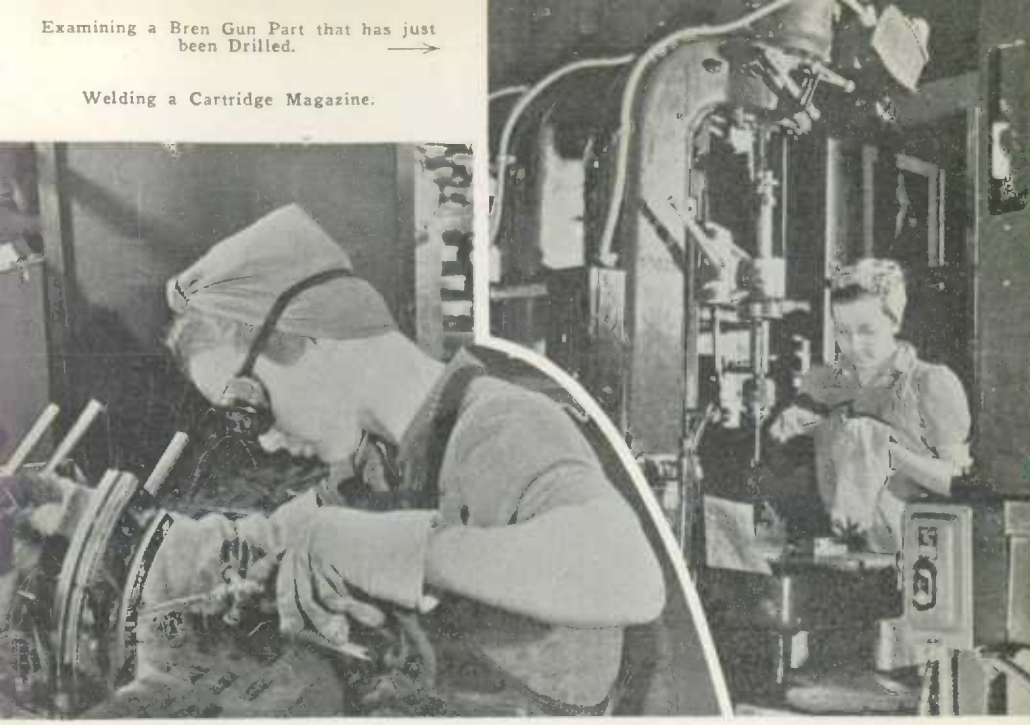
Industrial Disputes Investigation Act.—Shortly after the outbreak of hostilities in 1939 the scope of the Industrial Disputes Investigation Act was extended to cover disputes between employers and employees engaged in war work. This was defined as including the construction, execution, production, repairing, manufacture, transportation, storage or delivery of munitions of war or supplies, and also the construction, remodelling, repair or demolition of defence projects.

A subsequent statement of the Government's war-time labour policy outlined certain principles for the avoidance of industrial unrest during the War. Coupled with this statement was the declaration that there should be no interruption in productive or distributive operations on account of strikes or lockouts. It was pointed out that where any difference arose that could not be settled by negotiation between the parties, assistance in effecting a settlement should be sought from the Government conciliation services, and failing settlement of the difference in this manner, the difficulties should be dealt with in accordance with the provisions of the Industrial Disputes Investigation Act, as extended to apply specifically to all war work.

The extension of the scope of the Industrial Disputes Investigation Act to war work has resulted in a marked expansion of proceedings under the Statute.

Examining a Bren Gun Part that has just been Drilled. ⟶

Welding a Cartridge Magazine.



The Women of Canada are playing an Important Part in keeping the Dominion ahead of a Shortage of Labour. Canadian Girls have taken on many Jobs usually Reserved Exclusively for Men.

Courtesy, Department of Public Information

According to preliminary figures, proceedings during the first two years of the present war were almost equal in volume to those of the previous ten years. In the pre-war period 1929-38 the Department of Labour received 215 applications for the establishment of Boards of Conciliation and 92 boards were established. From Sept. 1, 1939, to Aug. 31, 1941, inclusive, 197 applications were received and 87 boards established. During this latter period, as a result of board procedure, cessation of work was averted or ended in all but 11 cases. From the enactment of the Statute in 1907 to Aug. 31, 1941, a total of 1,141 applications had been received, 669 boards established and strikes or lockouts averted or ended in all but 50 cases.

In June, 1941, provision was made by Order in Council that any dispute coming within the scope of the Industrial Disputes Investigation Act might be referred for preliminary investigation to an Industrial Disputes Inquiry Commission consisting of one or more members appointed by the Minister of Labour. If the Commission's preliminary investigation should not result in a satisfactory adjustment of the dispute, it was provided that the Commission advise the Minister on the matters at issue and whether the circumstances warranted the establishment of a Board of Conciliation and Investigation. This procedure was adopted as a result of the aforementioned marked increase in the number of applications for the establishment of boards, many of such applications having reference to disputes of a nature *prima facie* not to warrant recourse to board procedure.

Another recent Order in Council requires that employees contemplating strike action following receipt of the recommendations of a Board of Conciliation and

Investigation notify the Minister of Labour, who may direct that a strike vote under the supervision of the Department of Labour be taken among the employees concerned.

As an integral part of the economic control in the national war effort, a war-time wages policy has been prescribed for industries covered by the Industrial Disputes Investigation Act and recommended for all other industries. This policy provides that, except in certain special circumstances, the highest wage rates established between 1926 and 1940 are to be regarded as fair and reasonable; they may be restored, if necessary, and maintained but not increased. At the same time, in order to safeguard workers against increases in the cost of basic necessities, such wage rates may be supplemented by war-time cost-of-living bonuses (see also p. 101).

Employment and Unemployment

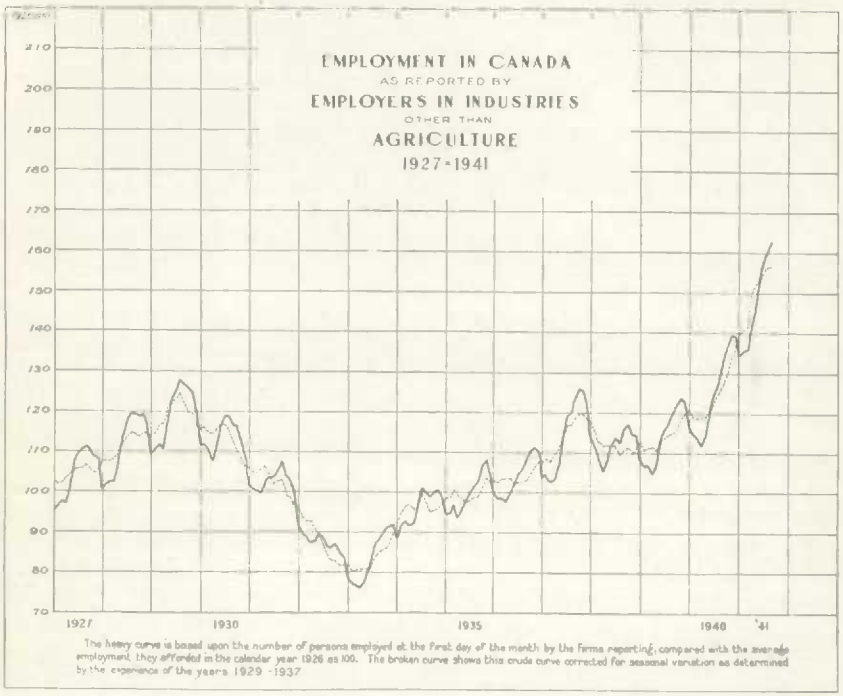
The Employment Service of Canada.—In the first eight months of 1941, employment offices received 568,982 applications for employment, were notified of 362,383 vacancies, and effected 334,094 placements. During the same period in 1940, there were 563,861 applications for work, 301,996 vacancies, and 278,590 placements.

Placements during the first eight months of 1941 were nearly 20 p.c. higher than during the corresponding period of 1940, the most important gains being in services, manufacturing, logging, transportation and trade, while the only declines of importance were in construction and maintenance, and farming. The continuous expansion of war activities is reflected in a gain of over 110 p.c. in placements, in the manufacturing industries and a large increase in services, due, principally, to civilian placements in military camps.

At Aug. 1, 1941, the Unemployment Insurance Commission, by arrangement with the Governments of the Provinces, assumed control of the Provincial Employment Services. As the Local Employment and Claims Offices of the Commission are established the placement work hitherto carried out by the provincial offices will, in the main, be absorbed by the Commission's local offices.

Employment 1940 and 1941.—The current records maintained in the Dominion Bureau of Statistics show impressive increases in industrial employment during 1940 and 1941; this was partly due to expansion directly associated with war-time production, but also reflected an increased demand for civilian goods resulting from the growth of purchasing power in the hands of consumers. The number of persons on the staffs of establishments employing 15 persons and over rose to successive new all-time high levels from the early part of 1941; the movement was uninterruptedly favourable from the opening of the year until Oct. 1, the latest date for which data are available. Based on the 1926 average as 100, the index was 165·8 or 21·7 p.c. higher than that of 136·2 reported at Oct. 1, 1940, the previous maximum for that date. The number of employees on the payrolls of the 12,700 establishments co-operating at the beginning of October was 1,657,326; at the same date in 1940, the 12,300 firms furnishing data had employed 1,335,705 persons. The average index for the first ten months of 1940 was 121·2, as compared with 149·1 in 1941. These are the highest averages on record.

Employment by Cities.—Industrial activity in the eight cities for which statistics are segregated rose during 1941 to unprecedentedly high levels, there being almost continuous gains in these centres from the first of the year.



Employment by Economic Areas.—The situation in each of the provinces showed considerable improvement in 1941, the indexes rising to new all-time highs as the year advanced.

Index Numbers of Employment as Reported by Employers, by Economic Areas

NOTE.—These indexes are calculated upon the average for the calendar year 1926 as 100. Indexes are given for 1929, the year of maximum activity in the period preceding the present war, for 1933 when employment generally was at the minimum, and annually from 1936.

Year	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
1929—Averages.....	114·8	113·4	123·1	126·3	111·5	119·0
1933—Averages.....	85·3	82·0	84·2	86·2	78·0	83·4
1936—Averages.....	109·4	100·7	106·7	99·3	101·1	103·7
1937—Averages.....	121·0	115·4	118·3	99·3	106·8	114·1
1938—Averages.....	111·5	117·0	113·7	100·0	104·2	111·8
1939—Averages.....	110·5	120·8	114·3	103·2	107·5	113·9
1940—Averages.....	122·2	127·9	129·2	109·0	113·3	124·2
Averages, 10 mos.—						
1940.....	119·9	123·7	126·6	106·9	111·0	121·2
1941.....	149·2	153·7	157·4	124·7	133·3	149·1

Employment by Industries.—The improvement in 1941 in manufacturing was particularly noteworthy, the number of employees increasing month by month from the opening of 1941 until Oct. 1, the latest date for which information is available at the time of writing. The index then stood at 185·0 or 28·7 p.c. higher

36343—10

than at the same date in 1940, previously the maximum. The expansion in the production of heavy goods was especially important, but employment in the manufacture of non-durable goods also showed substantial gains. Most of the non-manufacturing industries also reported a high level of activity during 1941, when employment, though at a level lower than that in manufacturing, was nevertheless in unusually great volume.

Index Numbers of Employment as Reported by Employers, by Industries

See headnote to table at p. 105

Year	Manufacturing	Logging	Mining	Communications	Transportation	Construction and Maintenance	Service	Trade	All Industries
1929—Averages.....	117·1	125·8	120·1	120·6	109·7	129·7	130·3	126·2	119·0
1933—Averages.....	80·9	66·5	97·5	83·9	79·0	74·6	106·7	112·1	83·4
1936—Averages.....	103·4	138·7	136·5	81·0	84·1	88·2	124·5	127·4	103·7
1937—Averages.....	114·4	189·3	153·2	85·4	85·2	99·5	130·2	132·1	114·1
1938—Averages.....	111·0	142·8	155·9	85·0	84·4	105·4	135·2	132·6	111·8
1939—Averages.....	112·3	119·1	163·8	84·4	85·6	113·0	137·4	136·6	113·9
1940—Averages.....	131·3	166·9	168·4	87·2	89·7	90·7	143·2	142·9	124·2
Averages, 10 mos.—									
1940.....	128·7	144·0	167·4	86·6	89·0	86·2	142·1	141·2	121·2
1941.....	164·5	178·3	175·0	95·8	98·0	122·8	166·7	154·8	149·1

Statistics of Payrolls.—As from the end of March, complementary statistics showing the earnings of those in employment have been collected in the Dominion Bureau of Statistics. The amount disbursed in earnings for the last week in September to those employed at Oct. 1 by the co-operating firms was $43,694,382. The persons receiving this sum numbered 1,657,326 and the per capita average was $26·36. These figures are preliminary. Further explanation regarding the statistics of earnings and the method of preparing them may be obtained by application to the Dominion Bureau of Statistics.

Shells Receiving the Attention of an Experienced Craftsman.

Courtesy, Department of Public Information

Persons Employed at Oct. 1, 1941, by 12,720 Co-operating Establishments, with Aggregate Earnings of these Employees in the Last Week of September, and the Average Per Capita Earnings in the Last Weeks of March to September.

Province, City and Industry	Employees at Oct. 1	Aggregate Earnings in Last Week of September	Average Per Capita Earnings in Last Week of—						
			Mar.	Apr.	May	June	July	Aug.	Sept.
Provinces									
Maritime Provinces	131,210	3,007,679	23·46	21·46	21·28	21·38	22·18	22·68	22·92
Prince Edward Island	*2,351*	*49,938*	*19·51*	*19·91*	*21·51*	*21·34*	*20·81*	*21·76*	*21·24*
Nova Scotia	*78,564*	*1,825,347*	*24·10*	*20·93*	*21·80*	*21·53*	*22·51*	*23·13*	*23·23*
New Brunswick	*50,295*	*1,132,394*	*22·37*	*22·42*	*20·47*	*21·13*	*21·73*	*22·02*	*22·52*
Quebec	506,876	12,463,503	24·66	23·44	23·43	23·69	23·89	24·37	24·59
Ontario	699,476	19,420,456	26·88	26·71	26·86	27·04	27·15	27·33	27·76
Prairie Provinces	181,764	4,932,377	25·67	25·33	26·20	25·97	26·57	26·65	27·14
Manitoba	*84,699*	*2,296,664*	*26·20*	*25·70*	*26·52*	*26·31*	*27·14*	*26·69*	*27·12*
Saskatchewan	*35,634*	*919,558*	*25·02*	*24·45*	*25·27*	*24·63*	*25·19*	*25·64*	*25·81*
Alberta	*61,431*	*1,716,155*	*25·28*	*25·33*	*26·32*	*26·33*	*26·61*	*27·18*	*27·94*
British Columbia	138,000	3,870,367	27·06	26·63	27·03	27·28	27·49	27·70	28·05
Canada	**1,657,326**	**43,694,382**	**25·69**	**25·21**	**25·35**	**25·49**	**25·74**	**26·03**	**26·36**
Cities									
Montreal	235,901	6,070,391	24·78	24·71	24·62	24·73	25·07	25·45	25·73
Quebec City	25,495	559,481	21·57	20·66	20·74	20·54	20·77	21·53	21·94
Toronto	209,574	5,812,704	26·49	26·60	26·49	26·91	26·75	26·80	27·74
Ottawa	21,222	519,747	23·60	23·54	23·10	23·52	23·47	23·41	24·49
Hamilton	56,605	1,664,595	27·47	27·49	27·48	27·68	27·74	28·32	29·41
Windsor	33,038	1,153,340	35·81	37·45	37·57	38·22	37·83	35·67	34·91
Winnipeg	54,420	1,363,106	24·82	24·90	25·21	24·26	26·33	24·98	25·05
Vancouver	56,394	1,519,580	25·48	25·42	25·65	25·65	26·56	26·93	26·95
Industries									
Manufacturing	962,317	25,784,186	25·91	25·82	25·68	25·81	26·05	26·22	26·79
Durable goods	*467,715*	*13,784,491*	–	–	–	*28·15*	*28·48*	*28·66*	*29·47*
Non-durable goods	*475,303*	*11,375,379*	–	–	–	*23·21*	*23·38*	*23·57*	*23·93*
Electric light and power	*19,299*	*624,316*	–	–	–	*31·52*	*31·32*	*31·16*	*32·35*
Logging	51,621	973,083	18·26	20·26	18·83	19·39	19·89	19·27	18·85
Mining	85,713	2,833,549	31·06	29·48	30·97	31·55	31·49	32·98	33·06
Communications	27,117	742,221	26·97	26·81	27·09	26·58	26·50	26·43	27·37
Transportation	131,292	4,308,748	32·30	–	31·63	31·90	32·63	32·78	32·82
Construction and maintenance	195,244	4,616,766	23·61	22·34	22·57	22·28	22·71	23·27	23·65
Services	39,151	641,992	15·58	15·98	15·98	15·86	15·64	15·96	16·40
Trade	164,871	3,793,837	22·40	22·41	22·68	23·06	23·00	23·25	23·01
Totals	**1,657,326**	**43,694,382**	**25·69**	**25·21**	**25·35**	**25·49**	**25·74**	**26·03**	**26·36**

Unemployment in Trade Unions.—Monthly statistics are tabulated in the Department of Labour from reports furnished by trade unions showing the unemployment existing among their members. In the first eight months of 1941, 2,040 organizations reported an average membership of 288,632, of whom 14,369 were on an average unemployed: this was a percentage of unemployment of 5·0 compared with 8·8, 13·4 and 13·0 in the first eight months of 1940, 1939, and 1938, respectively. The percentage of unemployment decreased in each month of 1941 from the corresponding month of 1940 and on Aug. 31 had reached 2·4, the lowest point in any year since September, 1928, when the percentage was 2·2.

The highest figure recorded was 25·5 p.c. in January, 1933, and the lowest was 0·4 p.c. in June, 1918, as compared with 2 p.c. in December, 1916, and 7·9 p.c. in December, 1915, when the record was begun.

Unemployment Insurance

The Unemployment Insurance Act became law on Aug. 7, 1940. On Oct. 16, 1940, the Dominion Government appointed an Unemployment Insurance Commission which has the responsibility of administering the Act. There are three Commissioners—one appointed after consulting employers, one after consulting employees, and a neutral chairman.

For the purpose of administration, five divisions have been set up in Canada, corresponding to the Pacific, Prairie, Ontario, Quebec, and Maritime regions. A Regional Superintendent in each main division, who is responsible to the Executive Director, supervises the local offices of the Commission within the region, deals with labour transference, and directs the registration for employment and the payment of insurance benefits. The Regional Offices in Vancouver, Winnipeg, Toronto, Montreal and Moncton act as clearing houses for the Employment and Claims offices which are the local units through which the employment service and the unemployment insurance plan are operated. There will be over 90 full-time Employment and Claims offices in principal cities across the country and many more part-time offices in smaller communities and out-lying districts.

Over 245 former employees of the provincial employment services have been transferred by the Civil Service Commission to the new offices of the Unemployment Insurance Commission. A number of training schools at Head Office and regional centres have been used to instruct key members of the staff in placement work, and in the administration of unemployment insurance.

In June, 1941, all Canadian employers who employed insurable persons were required to register with the Commission. Through 44 depots across Canada, the Inspectors of Insurance Revenue handled the registration of insurable workers and their employers, and filled requisitions for the insurance books in which contributions are recorded by means of stamps or meter impressions. Early in October, 1941, some 140,000 employers had registered, and 2,700,000 insurance books had been requisitioned.

On July 1, contributions to the insurance fund by employed persons and their employers commenced. Contributions are graded in eight categories according to earnings, the amount of weekly benefits being a multiple of the contributions made by the employed person, and the duration of payments being a ratio of the number of contributions. The Dominion Government adds an amount equal to 20 p.c. of total employer-employee contributions and, in addition, defrays the cost of administration.

The Insurance Fund is deposited with the Bank of Canada and reserves are invested on the authorization of an Investment Committee composed of three members. The Insurance Fund had a total of over $9,250,000 early in October. This amount included contributions for July and August and part of September. It is estimated that returns will approximate $4,000,000 a month when registration of employees has been completed.

A National Unemployment Insurance Advisory Committee, set up under the Act, is required to present to the Governor in Council and to Parliament an annual report on the financial condition of the Insurance Fund, containing any necessary recommendations regarding the financial clauses of the Act. This Committee is also required to consider questions relating to the operation and scope of the Act which may be referred to it by the Unemployment Insurance Commission from time to time.

A National Employment Committee, representing labour, industry, veterans, women's organizations and other interested groups, has also been set up under the Act. This Committee is to advise and assist the Commission in carrying out the purposes of the Employment Service.

Youth Training and War Emergency Training

Under authority of the Youth Training Act, 1939, the Youth Training Program is being continued during 1941-42 in co-operation with the provinces. Since the outbreak of war, however, youth-training projects have been greatly restricted, emphasis being placed on the training of skilled or semi-skilled workers for industries engaged on war work and the armed forces under the War Emergency Training Program.

The War Emergency Training Program is being carried on with the co-operation of the provinces under special schedules containing regulations governing the project that have been added to the Youth Training Agreements. Authority for these special schedules was obtained by Order in Council which invoked the War Measures Act for the purpose of overcoming those restrictions of the Youth Training Act and Agreements that require participants to be unemployed and between the ages of 16 and 30. The total cost of the War Emergency Training Program is being assumed by the Dominion with funds from the War Appropriation with the exception of administration expenses, which are paid by the provinces, and expenditures for any additional machine equipment necessary, 50 p.c. of which are borne by the Dominion and 50 p.c. by the province concerned. The local school boards have made available the vocational shops of the technical schools during the time they are not required for the regular day classes and many of these schools are now operating 24 hours a day.

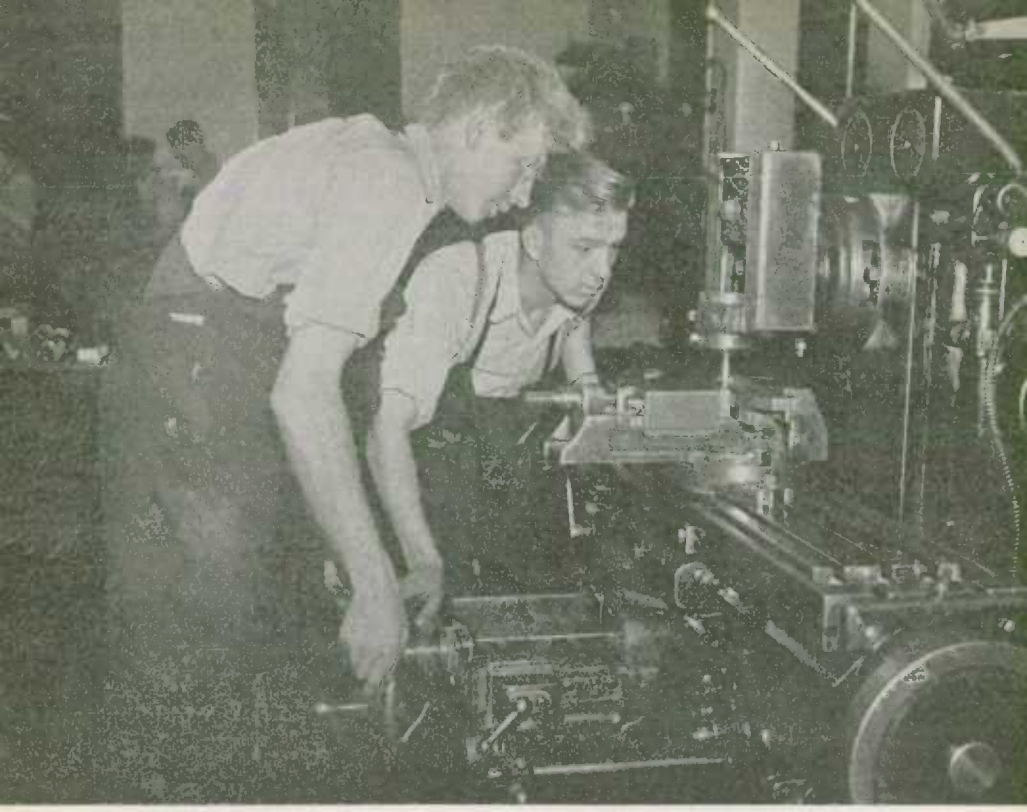
Training under the Program is being carried on in approximately 100 centres throughout the Dominion. For the most part the regular vocational shops of the technical schools and special training centres established under the Youth Training Program are being utilized. From Jan. 1, 1941, to Aug. 31, 1941, approximately 24,000 persons have been enrolled in industrial classes, chiefly in the following trades: machine shop, bench fitting, welding and sheet metal. During the same period over 11,700 have graduated and have been placed in employment.

Where there is a surplus of applicants, preference is given in the selection of trainees for industrial classes in the following order: (*a*) veterans of the War of 1914-18 and discharged soldiers from the present war; (*b*) men over 40 years of age and those rejected for military service in the present war.

Men within the age group liable for compulsory military service are not accepted in industrial classes unless they have been rejected for such service.

During the period of training, which lasts generally for three months, subsistance allowances are paid to trainees where necessary. Heads of families may receive up to $12 per week, and single trainees living away from their homes up to $7 per week. No allowance is paid to single trainees living at home unless there is financial need or the trainee has given up wage-earning employment to attend a class. In such cases weekly allowances up to a maximum of $3 may be paid.

Under the War Emergency Training Program, classes are also being conducted for the pre-enlistment training of ground crew for the R.C.A.F. The trades for which instruction is given are: aero-engine mechanics, airframe

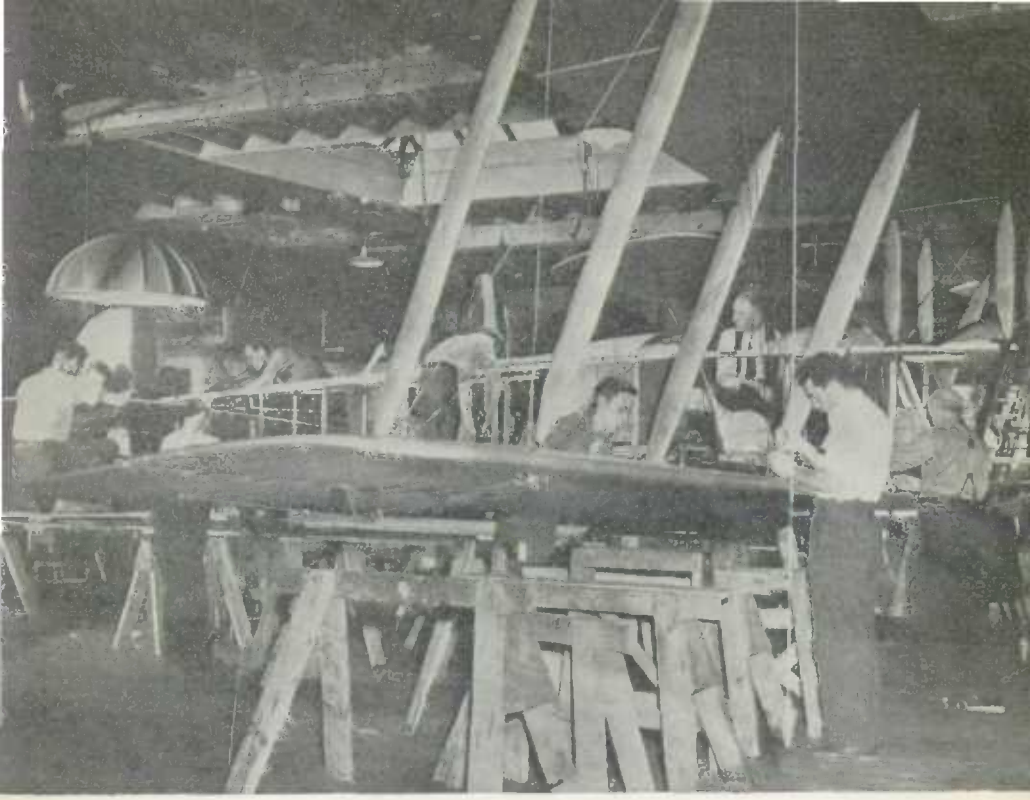


Training Machine Shop Workers for Employment in War Industry.

Courtesy, Department of Labour

mechanics, wireless operators (ground), and radio mechanics. Men enrolled in these classes must be between the ages of 18 and 33, and are required to pass a medical examination carried out by the R.C.A.F. prior to enrolment. Each trainee is required to sign a declaration that he will enlist with the R.C.A.F. on completion of the course. The courses for aero-engine mechanics, airframe mechanics and wireless operators (ground), are of 18 weeks duration, and that for radio mechanics 24 weeks. During the training period weekly allowances may be paid to trainees in R.C.A.F. classes as follows: heads of families up to $12, single trainees living away from their homes up to $9, and single trainees living at home up to $7. From Jan. 1 to Aug. 31, 1941, 7,565 men have been enrolled in pre-enlistment classes for the R.C.A.F., while during the same period about 4,000 have completed their courses.

Classes are also being conducted under the War Emergency Training Program to train enlisted men as tradesmen for the Army and Navy. These men who are already enlisted and on pay and allowances are referred to the training centres operating under the War Emergency Training Program by the respective services for instruction. From Jan. 1 to Aug. 31, 1941, 9,981 enlisted men have been in training in War Emergency Training Classes.



Training Workers for Employment in Aircraft Industry.

Courtesy, Department of Labour

Old Age Pensions and Pensions for Blind Persons

The Old Age Pensions Act, 1927.—The Act provides for a Dominion-Provincial system of non-contributory old age pensions in such provinces as have enacted and given effect to special legislation for this purpose. The provinces are charged with the payment of pensions, the Dominion reimbursing each province, quarterly, to the extent of 75 p.c.* of the net cost of its payments on account of old age pensions. All the provinces are now operating under such agreements. Old age pensions are also payable in the Northwest Territories. Authority was given in 1927 to the Gold Commissioner of the Yukon to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act, but no scheme has as yet been formulated.

Pensions for Blind Persons.—By an amendment to the Old Age Pensions Act, assented to Mar. 31, 1937, provision is made for the payment of pensions, under certain conditions, to blind persons who have attained the age of forty years. The maximum pension payable to blind persons is $240 a year which is subject to reduction by the amount of the pensioner's income in excess of $200

*The proportion to be paid by the Dominion as set forth in the Act of 1927 was 50 p.c., but this was increased at the 1931 session of Parliament to 75 p.c., which increase was made effective from Nov. 1, 1931.

a year in the case of an applicant who is unmarried or is a widower or a widow without a child or children, and by the amount of income in excess of $400 a year in the case of an applicant who is married or a widower or widow with a child or children. The Act provides for a reduced pension to a blind person who marries another blind person subsequent to the date on which the Act came into force.

Pensions for blind persons are administered by the provincial authorities under agreements made by the Lieutenant-Governors of the provinces with the Governor in Council. The Dominion Government assumes responsibility for 75 p.c. of the net sum paid out by the provinces for pensions to blind persons.

Summary of Old Age Pensions and Pensions for the Blind, 1928-41

NOTE.—The effective dates of commencement of Old Age Pensions and Pensions for Blind Persons in the various provinces were, respectively, as follows: P.E.I.—July 1, 1933, Dec. 1, 1937; N.S.—Mar. 1, 1934, Oct. 1, 1937; N.B.—July 1, 1936, Sept. 1, 1937; Que.—Aug. 1, 1936, Oct. 1, 1937; Ont.—Nov. 1, 1929, Sept. 1, 1937; Man.—Sept. 1, 1928, Sept. 1, 1937; Sask.—May 1, 1928, Nov. 15, 1937; Alta.—Aug. 1, 1929, Mar. 7, 1938; B.C.—Sept. 1, 1927, Dec. 1, 1937; Northwest Territories, Jan. 25, 1929, Mar. 30, 1938.

Year ended Mar. 31—	Old Age Pensions		Pensions for the Blind	
	Pensioners	Dominion[1] Government Contribution	Pensioners	Dominion Government Contribution
	No.	$	No.	$
1928	2,712	131,452	–	–
1929	10,588	832,687	–	–
1930	42,553	1,537,174	–	–
1931	57,930	5,658,143	–	–
1932	67,006	10,032,410	–	–
1933	71,705	11,512,543	–	–
1934	86,873	12,313,595	–	–
1935	101,051	14,942,459	–	–
1936	108,415	16,764,484	–	–
1937	146,524	21,149,352	–	–
1938	175,673	28,524,587	1,946[2]	128,418[2]
1939	181,514	28,283,284	4,512	760,354
1940	186,035	29,080,631	5,404	895,923
1941	185,946	28,901,933	5,913	1,009,767
Totals, Government Contribution from Inception of Act	–	**209,664,732**	–	**2,794,463**

[1] See footnote * to p. 111. [2] First year for complete statistics, see headnote.

Old Age Pensions and Pensions for the Blind, by Provinces as at Mar. 31, 1941

Province or Territory	Old Age Pensions		Pensions for the Blind	
	Pensioners	Average Monthly Pension	Pensioners	Average Monthly Pension
	No.	$	No.	$
Prince Edward Island	1,987	11·32	116	13·87
Nova Scotia	14,454	14·92	610	19·20
New Brunswick	11,747	14·65	704	19·64
Quebec	48,000	15·66	1,947	19·50
Ontario	59,224	18·56	1,448	19·65
Manitoba	12,727	18·70	307	19·63
Saskatchewan	13,111	16·93	283	19·92
Alberta	10,746	18·56	197	19·51
British Columbia	13,942	19·12	301	19·64
Northwest Territories	8	20·00	–	–
Totals	**185,946**	–	**5,913**	–

tions, repairs, maintenance, etc. With regard to type of construction engineering contracts (such as for streets, highways, harbour and river work, etc.) accounted for 43 p.c. as compared with 45 p.c. in 1939. Buildings accounted for 54 p.c. compared with 43 p.c. in 1939.

Statistics of the Construction Industry, 1940, with Totals for 1936-39

Province or Group	Persons Employed	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed
	No.	$	$	$
Totals, 1936	**142,346**	**112,846,384**	**122,189,238**	**258,040,400**
Totals, 1937	**151,652**	**150,637,291**	**175,844,435**	**351,874,114**
Totals, 1938	**147,191**	**147,405,398**	**176,562,208**	**353,223,285**
Totals, 1939	**148,414**	**153,442,443**	**189,497,342**	**373,203,680**
Province, 1940				
Prince Edward Island	1,070	1,230,212	2,269,190	4,147,583
Nova Scotia	8,855	11,284,681	15,589,741	28,637,404
New Brunswick	5,242	4,835,938	6,825,426	13,002,828
Quebec	47,041	55,241,020	66,877,923	127,438,996
Ontario	58,205	70,967 116	113,645,562	192,304,380
Manitoba	6,423	8,027,422	14,319,806	25,232,785
Saskatchewan	4,693	5,668,490	12,173,867	21,243,412
Alberta	7,252	8,640,213	15,903,730	27,350,018
British Columbia	11,049	14,334,406	19,623,541	34,765,372
Totals, 1940	**149,830**	**180,229,498**	**267,228,786**	**474,122,778**
Group, 1940				
Contractors, builders, etc.	103,898	131,247,964	227 378,273	379,654,887
Municipalities	11,208	12,023,830	6,613,314	19,618,187
Harbour Commissions	728	806,203	294,427	1,263,090
Provincial Govt. Depts.	21,376	18,001,253	13,394,980	35,860,979
Dominion Govt. Depts.	12,619	18,150,248	19,547,792	37,725,635

Railways.—The expenditures of railways on maintenance of way, and structures and equipment are not included in the census figures of the construction industries given above and are therefore summarized here. For steam railways expenditures for these purposes in 1940 amounted to $146,603,205 as against $128,618,702 in 1939 and $194,000,000 in 1929. For electric railways the total for 1939 was $5,973,288 as against $5,916,564 in 1938 and $9,000,000 in 1929 (1940 figures were not available at time of going to press). Expenditures of steam railways for additions and betterments were $73,072,167 in 1940 compared with $3,398,311 in 1939, whereas in the years 1928-31 they averaged $30,000,000 per year.

Volume of Construction, 1941.—The recovery in construction, on the whole, has not paralleled that indicated in many other industries, although substantial improvement has been reported recently. According to the records of the construction contracts awarded, as maintained by MacLean Building Reports, Limited, the value rose from $162,588,000 in 1936 to $224,056,700 in 1937, but dropped to $187,277,900 in 1938 and $187,178,500 in 1939 and rose to $346,009,800 in 1940.

The Dominion Bureau of Statistics collects monthly statistics showing the anticipated cost of the building represented by the permits taken out in 58 cities, the record going back to 1920. The value of such work was $80,274,350 in 1940, as compared with $60,272,379 in 1939, an increase of 33 p.c. During the first 10 months of 1941, the value of such permits was $85,893,750. This was about 30 p.c. higher than the figure for the months January to October, 1940, and exceeded the total for the first 10 months in any other year since 1931.

BRIDGE CONSTRUCTION

The construction of the Rainbow Bridge across the Niagara River and gorge, opened on Nov. 1, 1941, marks a new page of achievement in the annals of bridge building, involving as it did a high degree of engineering ingenuity and dexterous workmanship. Reading from left to right and downwards, the illustration shows: (1) The concrete approaches, which carry superstructure around which cables to support the arch were 'bent'. (2) A 63-ton grillage being lowered into the gorge to start the arch of the bridge. (3) The Canadian and American sections of the arch reaching towards each other, showing the temporary supporting cables. (4) Steel ribs, cables and cross members interlaced, with the mesh of the safety net below. (5) Setting the beams in place. (6) The bridge nearing completion.

Courtesy, Niagara Falls Bridge Commission

interest, principal and taxes are payable in equal monthly instalments which amortize the loan over a period of twenty years, or arrangement may be made for amortization over a shorter period.

Part II of the Act lapsed on Mar. 30, 1940. It provided for the granting of loans at a low rate of interest to local housing authorities for low-rent housing developments. In December, 1939, Part III of the Act, which provides for payment by the Minister of Finance of a large share of the municipal taxes, in respect of new low-cost dwellings, for a period of three years, was restricted to apply only to houses commenced prior to May 31, 1940.

To Sept. 30, 1941, loans made under the Dominion Housing Act and Part I of the National Housing Act amounted to $78,282,882. Loans numbered 18,424, providing a total of 23,544 family units.

The Home Improvement Loans Guarantee Act, 1937.—Under authority of this Act, the Dominion Government was enabled to stimulate a nation-wide interest in home renovation during depression years. The Dominion Government guaranteed against default 15 p.c. of such loans, to an aggregate amount of $50,000,000. By October, 1940, the amount of loans brought under the guarantee approximated this total, and further loans were not provided for. Losses to the Government through implementing the guarantee have been negligible in comparison with the total loans granted by the lending institutions.

The Municipal Improvements Assistance Act, 1938.—The sum of $30,000,000 was made available under this legislation for the purpose of providing funds to municipalities at a low rate of interest to assist in constructing or making extensions or improvements to, or renewals of, self-liquidating projects for which there was an urgent need. Notice has been given the provinces that due to war-time circumstances no new applications for loans will be considered. In the aggregate some $7,800,000 has been loaned to Canadian municipalities since the passage of the Act.

General Statistics of Construction

Annual Census of the Construction Industries.—A census of construction was first made by the Dominion Bureau of Statistics for 1934 but the basis of compilation was not standardized until 1935 so that, with the compilation of the 1936 figures, data are now available on a comparable basis for the years shown in the table on p. 116. It should be pointed out that no relationship exists between these figures and those of values of contracts awarded as shown on p. 117. In the latter case all values are included since awards are made irrespective of whether the contract is completed or even begun in that year, whereas the industrial statistics show only the work performed in the years specified.

Since September, 1939, war construction has shown rapid expansion. The increase has been most marked in industrial, military and air services construction. Large war contracts let in the latter part of 1939 would not, ordinarily, be under way before 1940. Undoubtedly the vast amount of Government construction going on across Canada, apart from the indirect stimulus to private construction that rising costs encourage, will mean wide activity for this industry which has suffered severely throughout the depression and whose recovery has lagged behind other branches of industry.

Of the 1940 total value of work performed 69 p.c. was represented by entirely new construction, the same percentage as in 1939. The remainder was for altera-

CHAPTER XII

Construction

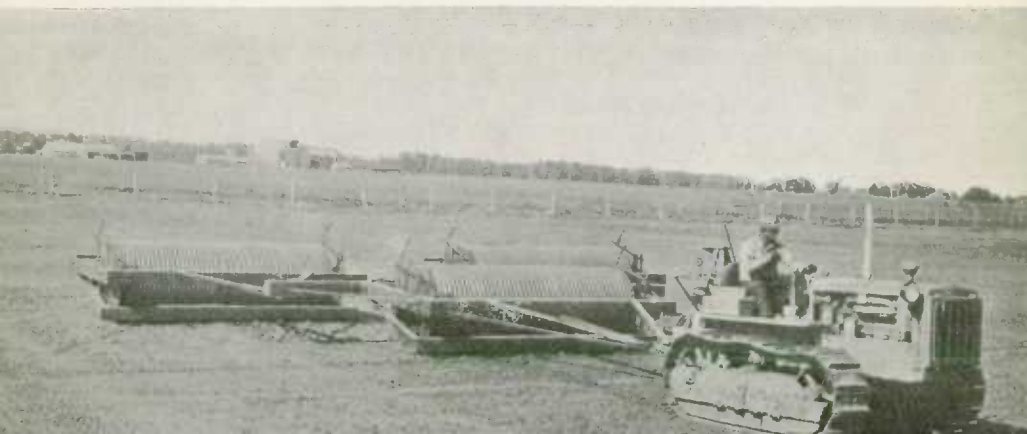
Government Peace-Time Measures as Adapted to War-Time Conditions

Peace-time measures of the Dominion Government designed to improve housing conditions and to stimulate the building industry during the depression years preceding the War have been fitted into the requirements of war-time where possible or discontinued where they have served their purpose or where they represented a drain on the financial, material or labour resources of the country.

The National Housing Act, 1938.—The most important of these measures is the National Housing Act, 1938, which succeeded the Dominion Housing Act, 1935. The National Housing Act has three Parts. Under Part I the Minister of Finance is authorized to make advances up to $20,000,000 (less approximately $5,500,000 already advanced under the Dominion Housing Act) for the construction of dwelling places. Although originally unrestricted in amount, as a war-time measure to conserve labour and material resources, loans under Part I have been restricted to a maximum of $4,000 and are given only for the construction of single-family houses. All loans are made through approved lending institutions who share in advancing the funds along with the Government, the security being in the form of a first mortgage running jointly to the approved lending institution and the Government. The interest paid by the borrower is 5 p.c., a rate made possible by the fact that the Government advances one-quarter of the total mortgage money on an interest basis of 3 p.c. The loans, which are made for a period of ten years subject to renewal for a further period, usually for another ten years, may be for an amount not exceeding 80 p.c. of the lending value of the property, or 90 p.c. where the lending value does not exceed $2,500 and the house is being built for an owner-occupant. In these cases the borrower provides the remaining 20 p.c. or 10 p.c., respectively. Provision is also made for loans of amounts as low as 50 p.c. of the lending value under some circumstances, in which case the borrower's equity would be correspondingly larger. A commendable feature of the plan is that

Compressing the Surface of an Airport.—The construction of modern airports across Canada is an important side of the war effort on the "home front".

Courtesy, Imperial Oil Co. Limited



The population of the 58 centres mentioned constituted about 36 p.c. of the total population; during the year 1940, their building authorizations amounted to 23·2 p.c. of the total value of the construction contracts awarded throughout Canada and in the first 10 months of 1941 the proportion was 24·4.

Construction Contracts Awarded in Canada, January to October, 1940 and 1941

(MacLean Building Reports, Limited)

Type of Construction	1940		1941	
	No.	Value	No.	Value
		$		$
Apartments	314	6,430,300	350	5,843,600
Residences	17,388	49,342,500	25,849	75,864,400
Totals, Residential	*17,702*	*55,772,800*	*26,199*	*81,708,000*
Churches	207	2,346,300	170	2,609,800
Public garages	602	2,219,600	434	2,777,600
Hospitals	82	7,412,400	105	5,583,700
Hotels and clubs	267	3,541,100	302	1,974,300
Office buildings	340	4,525,300	383	4,728,300
Public buildings	461	50,470,100	588	45,450,700
Schools	208	5,879,600	204	5,511,300
Stores	1,676	6,798,300	1,679	8,717,500
Theatres	63	913,500	89	2,072,700
Warehouses	1,487	7,505,000	1,236	10,857,900
Totals, Business	*5,393*	*91,611,200*	*5,190*	*90,283,800*
Totals, Industrial	*846*	*78,720,500*	*1,372*	*77,385,900*
Bridges	85	2,494,300	97	3,531,400
Dams and wharves	54	3,541,200	84	11,836,800
Sewers and watermains	184	2,826,500	298	3,946,400
Roads and streets	461	26,377,000	603	23,602,500
General engineering	27	12,766,100	46	59,703,100
Totals, Engineering	*811*	*48,005,100*	*1,128*	*102,620,200*
Grand Totals	**24,752**	**274,109,600**	**33,889**	**351,997,900**

Employment in Construction.—Employment in the construction industries as a whole was brisker in 1941 than in any earlier year since 1929. The improvement took place mainly in the building division. The construction and maintenance departments of the railways, however, also afforded more employment, the increase resulting from a greater volume of traffic on the various lines. On the other hand, work on the highways declined in 1941 as compared with earlier years, due to the present need to conserve labour and supplies by postponing all but essential work.

Clearing a Foundation.—Preparatory to the erection of a large industrial plant, drillers and dynamiters bite deep into the rock formation.

Courtesy, Canadian Industries Limited

CHAPTER XIII

External Trade*

Statistics presented in the various sections of this Handbook show that the operations of Canadian industry and agriculture have expanded from small beginnings to a point where, to-day, in peace or in war, they make Canada a leading factor in the world economy. External trade has advanced with the growth of industry and agriculture. Empire and foreign commerce provide the consumer, the manufacturer, and farmer with materials and equipment that are lacking or not available in adequate supply within the Dominion, and an outlet for production where, through wealth of natural resources or the extensive development of industrial plants, capacity exceeds Canadian consumption.

Canadian imports in 1940 were 44·0 p.c. above 1939 and higher than any year since 1929. Domestic exports represented an increase of 27·5 p.c. over 1939, and an increase of 2·3 p.c. over 1929.

Summary of Total Imports and Exports of Canada

Calendar Year	Total Imports	Exports[1]			Excess: Imports − Exports +
		Canadian Produce	Foreign Produce	Total	
	$	$	$	$	$
1919	941,013,613	1,235,958,483	53,834,766	1,289,793,249	+348,779,636
1920	1,336,921,021	1,268,014,533	30,147,672	1,298,162,205	− 38,758,816
1921	799,478,483	800,149,296	13,994,461	814,143,757	+ 14,665,274
1922	762,409,309	880,408,645	13,815,268	894,223,913	+131,814,604
1923	903,030,515	1,002,401,467	13,584,849	1,015,986,316	+112,955,801
1924	808,144,573	1,029,699,449	12,553,718	1,042,253,167	+234,108,594
1925	890,193,348	1,239,554,207	12,111,941	1,251,666,148	+361,472,800
1926	1,008,341,911	1,261,241,525	15,357,292	1,276,598,817	+268,256,906
1927	1,087,117,930	1,210,596,998	20,445,231	1,231,042,229	+143,924,299
1928	1,222,317,916	1,339,409,562	24,378,794	1,363,788,356	+141,470,440
1929	1,298,992,692	1,152,416,330	25,926,117	1,178,342,447	−120,650,245
1930	1,008,479,479	863,683,761	19,463,987	883,147,748	−125,331,731
1931	628,098,386	587,653,440	11,907,020	599,560,460	− 28,537,926
1932	452,614,257	489,883,112	8,030,485	497,913,597	+ 45,299,340
1933	401,214,311	529,449,529	6,034,260	535,483,789	+134,269,478
1934	513,469,497	649,314,236	6,991,992	656,306,228	+142,836,731
1935	550,314,551	724,977,459	12,958,420	737,935,879	+187,621,328
1936	635,190,844	937,824,933	12,684,319	950,509,252	+315,318,408
1937	808,896,325	997,366,918	14,754,862	1,012,121,780	+203,225,455
1938	677,451,354	837,583,917	11,100,216	848,684,133	+171,232,779
1939	751,055,534	924,926,104	10,995,609	935,921,713	+184,866,179
1940	1,081,950,719	1,178,954,420	14,263,172	1,193,217,592	+111,266,873

[1] Excluding gold.

The rise in the declared value of imports in 1940 was due to an increase in price as well as in physical volume. Using a base of 1935-39=100, all main groups, with the exception of animals and products, and wood and paper, showed marked increases in volume over 1939, the total increase being 35·8 p.c. All groups, except iron and non-ferrous metals, showed increases in average values, with a total

* In statistics of imports in this chapter, excise duty, which had been included in the value of distilled spirits (chiefly whisky) imported into Canada from countries entitled to the British Preferential Tariff since the fiscal year 1920-21, is excluded as from Apr. 1, 1935. Such imports from the United Kingdom, which constitute the major part of this item, were valued at $4,058,634 in the calendar year 1940.

increase of 8·3 p.c. In exports the physical volume increased 13·9 p.c. over the 1939 average, with agricultural and vegetable products the only group recording a decrease. Prices were higher by 12·6 p.c. with a slight reduction in non-metallic minerals.

Gross revenue collected on imports advanced from $103,366,000 in 1939 to $139,194,000 in 1940. This increase of 34·7 p.c. was somewhat less than the rise in the value of imports, due to the fact that, in 1940, 46·1 p.c. of imports were free of duty as against 43·1 p.c. in 1939.

Canada's Trade by Countries and Commodities.—The effects of the first full year under war conditions are reflected in Canada's external trade during 1940. Large sections of the world have been closed to international trade and the predominance of the United States and the United Kingdom in Canada's trade has been increased.

The United States maintained first place among the countries supplying commodities to Canada in 1940, the imports from that country reaching a total of $744,231,000. The United Kingdom was second with a value of $161,216,000, while the imports from all British Empire countries increased from $188,900,000 in 1939 to $267,383,000 in 1940. After the United States and the United Kingdom, the British Straits Settlements ($27,076,000), Australia ($16,571,000), and British India ($16,042,000) led the countries from which Canadian imports were received.

In Canadian exports, excluding gold, the United Kingdom in 1940 regained first place with a total of $508,096,000, the highest since 1919 and an increase of 55 p.c. over 1939. The United States was second with purchases amounting to $442,984,000. British South Africa ($37,874,000), Australia ($33,860,000) and Newfoundland ($12,640,000) were next on the list of countries taking Canada's exports. Exports to all British Empire countries were valued at $655,957,000.

War materials, such as aluminium, copper, lead, nickel, zinc and asbestos, have been omitted from the table of exports.

The numbering of the commodities in order of value has been discontinued since it would be difficult to compare the order with that of previous years owing to the deletion of war materials and the addition of new groupings of commodities.

Canadian Ploughs being Used in England's War Effort to Break up the Sussex Downs.

Courtesy, Department of Trade and Commerce

Imports of Twenty-Five Leading Commodities, Calendar Year 1940 Compared with 1939

Rank 1939	Rank 1940	Commodity (in order of value, 1940)	Total Imports, 1940 Quantity	Total Imports, 1940 Value	Increase or Decrease 1940 Compared with 1939 Quantity	Increase or Decrease 1940 Compared with 1939 Value
				$		$
1	1	Machinery, except farm	–	71,496,542	–	+28,665,804
2	2	Coal..... ton	17,426,734	49,630,132	+ 2,428,089	+ 8,051,447
3	3	Petroleum, crude... gal.	1,491,929,019	48,373,401	+193,561,458	+ 8,696,207
4	4	Automobile parts.....	–	47,580,369	–	+22,272,017
5	5	Plates and sheets, iron.....cwt.	11,478,329	40,979,419	+ 4,199,453	+14,890,915
6	6	Farm implements and machinery.....	–	30,673,217	–	+ 9,755,730
7	7	Sugar for refining...cwt.	10,728,450	25,757,951	+ 304,920	+ 5,158,269
8	8	Cotton, raw..... lb.	216,626,942	25,057,813	+ 57,094,585	+ 8,632,531
13	9	Rubber, crude..... "	117,785,359	24,000,133	+44,934,990	+12,183,053
12	10	Electrical apparatus....	–	21,250,135	–	+ 7,498,302
10	11	Fruits, fresh.....	–	17,617,463	–	+ 2,233,518
11	12	Books and printed matter.....	–	16,655,462	–	+ 1,503,275
9	13	Automobiles..... No.	17,019	15,438,482	– 1,265	– 235,288
21	14	Engines and boilers.....	–	12,385,134	–	+ 4,781,635
18	15	Clay and products.....	–	11,125,118	–	+ 3,190,488
14	16	Tea..... lb.	42,682,730	10,805,144	– 710,877	+ 714,337
19	17	Glass and glassware.....	–	10,140,591	–	+ 2,225,478
15	18	Oils, vegetable.....	–	10,049,902	–	+ 635,301
22	19	Furs.....	–	8,885,540	–	+ 1,752,488
16	20	Paper.....	–	8,858,180	–	+ 204,193
20	21	Stone and products.....	–	7,584,272	–	– 28,201
24	22	Silk, raw..... lb.	2,392,833	7,521,009	+ 88,215	+ 1,180,284
25	23	Dyeing and tanning materials..... "	50,437,302	7,265,081	+ 5,205,731	+ 1,008,009
17	24	Gasoline..... gal.	105,586,068	7,010,249	– 3,435,109	– 988,087
23	25	Alcoholic beverages.....	–	6,030,721	–	– 509,248

Domestic Exports of Twenty-Five Leading Commodities, Calendar Year 1940 Compared with 1939

Commodity (in order of value, 1940)	Total Domestic Exports, 1940 Quantity	Total Domestic Exports, 1940 Value	Increase or Decrease 1940 Compared with 1939 Quantity	Increase or Decrease 1940 Compared with 1939 Value
		$		$
Newsprint paper..... cwt.	64,855,787	151,360,196	+ 11,681,334	+ 35,672,908
Wheat..... bu.	139,169,671	119,530,365	– 23,734,915	+ 10,479,823
Planks and boards..... M ft.	2,451,623	67,736,934	+ 338,463	+ 18,907,468
Meats.....	–	63,289,240	–	+ 25,843,904
Wood-pulp..... cwt.	21,370,348	60,930,149	+ 7,260,040	+ 29,929,547
Automobiles..... No.	84,192	54,306,062	+ 25,689	+ 31,755,051
Fish..... cwt.	3,237,076	29,843,173	– 59,552	+ 2,101,153
Wheat flour..... bbl.	6,970,902	26,351,695	+ 1,628,730	+ 9,973,394
Cheese..... cwt.	1,066,311	15,723,486	+ 156,863	+ 3,474,836
Furs, raw.....	–	15,617,244	–	+ 1,487,056
Machinery, except farm.....	–	13,457,598	–	+ 2,584,473
Rubber and manufactures of.....	–	12,950,485	–	– 2,816,859
Pulpwood..... cord	1,404,452	12,521,880	+ 12,141	+ 620,400
Cattle..... No.	233,781	12,442,420	– 59,644	– 2,910,701
Stone and its products.....	–	10,645,731	–	+ 3,726,786
Grain, other than wheat.....	–	10,097,272	–	– 5,352,112
Bran, meal and other milled products, n.o.p.....	–	10,019,317	–	+ 1,430,976
Farm implements and machinery..	–	9,537,256	–	+ 2,562,572
Cotton and its products.....	–	9,371,636	–	+ 5,836,014
Whisky and other distilled beverages.....pf. gal.	3,660,247	9,106,157	+ 2,182,246	+ 1,180,640
Pulpboard, wallboard and paper board..... cwt.	2,471,597	8,791,893	+ 1,047,084	+ 4,513,768
Fertilizers..... "	6,347,439	8,584,098	– 930,032	– 595,050
Leather and manufactures of.....	–	8,000,236	–	– 103,520
Shingles, wood..... sq.	2,810,785	7,606,118	– 124,564	– 618,638
Silver ore and bullion..... oz.	19,246,058	7,165,504	– 1,784,522	– 1,359,669

Fur Coats for Export to the Canadian Market, Displayed at the Headquarters of the Hudson's Bay Company, London, England.—Canada is particularly rich in valuable fur-producing animals, but British furriers are the best in the world.

Courtesy, Department of Trade and Commerce

Summary of Trade with British Empire and Foreign Countries

Calendar Year	Canada's Trade with—					
	United Kingdom	United States	Other British Empire	Other Foreign Countries	Total, British Empire	Total, Foreign Countries
	$	$	$	$	$	$
Imports—						
1928	190,756,736	825,651,549	63,401,247	142,508,384	254,157,983	968,159,933
1929	194,777,650	893,585,482	62,321,200	148,308,360	257,098,850	1,041,893,842
1930	162,632,466	653,676,496	65,219,110	126,951,407	227,851,576	780,627,903
1931	109,468,081	393,775,289	42,531,841	82,323,175	151,999,922	476,098,464
1932	93,508,143	263,549,346	34,549,472	61,007,296	128,057,615	324,556,642
1933	97,878,232	217,291,498	34,806,405	51,238,176	132,684,637	268,529,674
1934	113,415,984	293,779,813	43,650,726	62,622,974	157,066,710	356,402,787
1935	116,670,227	312,416,604	57,218,583	64,009,137	173,888,810	376,425,741
1936	122,971,264	369,141,513	66,347,757	76,730,310	189,319,021	445,871,823
1937	147,291,551	490,504,978	89,304,287	81,795,509	236,595,838	572,300,487
1938	119,292,430	424,730,567	66,806,174	66,622,183	186,098,604	491,352,750
1939	114,007,409	496,898,466	74,892,867	65,256,792	188,900,276	562,155,258
1940	161,216,352	744,231,156	106,166,783	70,336,428	267,383,135	814,567,584
Exports (Domestic)— [1]						
1928	446,128,667	481,531,086	99,197,726	312,331,836	545,326,393	793,862,922
1929	290,294,564	492,685,606	105,006,494	264,429,666	395,301,058	757,115,272
1930	235,213,959	373,424,236	81,128,537	173,882,933	316,342,496	547,307,169
1931	170,597,455	240,196,849	49,183,951	127,675,185	219,781,406	367,872,034
1932	178,171,680	158,705,050	38,985,273	114,021,109	217,156,953	272,726,159
1933	210,697,224	168,242,840	44,483,457	106,026,008	255,180,681	274,268,848
1934	270,491,857	218,597,071	64,926,281	95,299,027	335,418,138	313,896,098
1935	303,500,846	261,685,372	74,143,267	85,647,974	377,644,113	347,333,346
1936	395,351,950	333,916,949	84,294,078	124,261,956	479,646,028	458,178,905
1937	402,062,094	360,012,143	104,159,107	131,133,574	506,221,201	491,145,717
1938	339,688,685	270,461,189	103,213,752	124,220,291	442,902,437	394,681,480
1939	328,099,242	380,392,047	102,707,304	113,727,511	430,806,546	494,119,558
1940	508,095,949	442,984,157	147,861,190	80,013,124	655,957,139	522,997,281

[1] Excluding gold.

Review of Canada's Trade, by Months.—Both imports and exports recorded increases in each month of 1941 over the corresponding month of 1940, the only exception being January when exports showed a slight decrease. The totals for the period January to October, 1941, were $1,189,000,000 in imports and $1,308,000,000 in exports, both exceeding the totals for the full twelve months of 1940.

Imports and exports of gold are subject to influences that do not apply to trade in other commodities. It was considered advisable to exclude, as from September, 1939, the gross figure of gold imports and exports from the ordinary trade reports. This is in line with procedure adopted in other countries. However, the figure for net non-monetary gold exports will continue to be published as a footnote to the regular trade statistics. All export statistics for the earlier years shown have been revised so as to be comparable with current figures.

Imports and Domestic Exports, by Months, 1938-41

Month	Imports				Domestic Exports[1]			
	1938	1939	1940	1941	1938	1939	1940	1941
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
January	49,720	43,743	71,104	98,382	70,300	70,083	90,100	86,921
February	46,952	40,380	71,042	89,632	59,619	57,572	71,079	99,596
March	65,056	58,381	76,734	107,982	73,329	69,270	82,719	101,919
April	48,895	41,908	85,980	106,268	50,860	50,311	83,565	116,933
May	67,123	72,958	100,537	128,096	66,998	79,932	109,853	161,639
June	58,947	63,709	90,705	114,924	65,944	76,367	110,823	145,359
July	55,823	57,980	89,496	127,707	66,181	75,753	100,782	169,685
August	57,026	62,708	96,836	137,913	69,111	75,560	110,548	147,939
September	56,412	73,564	86,287	136,991	72,206	81,461	101,440	139,976
October	63,909	79,053	108,645	140,819	88,169	90,433	102,972	138,129
November	63,304	84,561	102,284	134,190	85,979	97,163	117,452	162,435
December	44,286	72,109	102,302	–	68,888	101,022	97,621	–

[1] Excluding gold.

World Trade During 1940.—The circumstance of world war has affected international trade to so great an extent that the factors which operate in peace-time have largely lost their significance. Most of a highly industrial continent has been excluded from the world's trading area since the autumn of 1939. The table on p. 123, made up from League of Nations sources, shows the changes between 1939 and 1940 in the countries for which statistics are available, and reveals some increase on the whole. Of the 33 countries, 22 show increases in imports and 20 show increases in exports. The largest declines are among the neutral countries near the scene of hostilities—Finland, Turkey and Sweden showing the greatest, though Yugoslavia rose considerably. Empire countries and the United States show the greatest increases. Some South American

Interior of a Box Factory at Talara, Peru, which Uses Canadian Box Shooks for Making Kerosene and Gasoline Cases.

Courtesy, Department of Trade and Commerce

Army Trucks on Canadian-Made Chassis at a Railway Siding in India.

Courtesy, Department of Trade and Commerce

countries—Uruguay, Argentina, Chile and Peru—gained, while others—Venezuela, Colombia, etc.—lost. Generally, no figures were published for enemy and conquered countries for 1940. Norway, however, which showed a decline of 29 p.c. in imports and of 22 p.c. in exports, was probably typical of most sections of continental Europe.

Imports and Domestic Exports of Thirty-Three Countries with Percentage Increase or Decrease 1940 Compared with 1939

Country	Net Imports		Domestic Exports		Percentage Increase or Decrease 1940 Compared with 1939	
	1939	1940	1939	1940	Imports	Exports
	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000
Argentina	429	491	505	533	+14·4	+ 5·5
Australia	353	447	444	526	+26·6	+18·5
Brazil	314	331	354	330	+ 5·4	− 6·8
British India	536	507	628	694	− 5·4	+10·5
British Straits Settlements	334	427	395	582	+27·8	+47·3
Bulgaria	64	92	75	92	+43·7	+22·7
Canada	**751**	**1,082**	**925**	**1,179**	**+44·1**	**+27·4**
Chile	22	28	34	38	+27·2	+11·7
China	490	681	126	130	+39·0	+ 3·2
Colombia	108	93	104	104	−13·9	0·0
Cuba	106	107	148	126	+ 0·9	−14·9
Denmark	369	291	334	322	−21·1	− 3·6
Ecuador	10	12	10	10	+20·0	0·0
Egypt	157	132	155	268	−15·9	+72·9
Finland	156	105	160	60	−32·7	−62·5
Greece	103	90	78	84	−12·7	+ 7·1
Hong Kong	169	190	153	156	+12·4	+ 2·0
Hungary	143	188	178	158	+31·5	−11·2
Japan	784	955	962	1,024	+21·8	+ 6·4
Mexico	126	136	192	196	+ 7·9	+ 2·1
New Zealand	181	162	212	244	−10·5	+15·1
Norway	330	235	196	152	−28·8	−22·5
Peru	50	59	74	74	+18·0	0·0
Portugal	86	104	55	66	+20·9	+20·1
Sweden	622	523	469	349	−15·9	−25·6
Switzerland	443	462	304	328	+ 4·3	+ 7·9
Turkey	96	55	103	88	−42·7	−14·6
Union of South Africa	404	432	139	155	+ 6·9	+11·5
United Kingdom	3,880	4,765	2,027	1,853	+22·8	− 8·5
United States	2,371	2,794	3,253	4,326	+17·8	+33·0
Uruguay	42	64	53	79	+26·2	+23·4
Venezuela	107	98	312	275	− 8·4	−11·9
Yugoslavia	111	148	130	164	+33·3	+26·2
Totals	**14,247**	**16,286**	**13,287**	**14,765**	**+14·3**	**+11·1**

The Commercial Intelligence Service

The Commercial Intelligence Service, maintained by the Department of Trade and Commerce, is designed to further the interests of Canadian trade in other parts of the Empire and in foreign countries. To this end there are established throughout the world offices administered by Trade Commissioners. These Trade Commissioners make periodical reports upon trade and financial conditions, variations in markets, and the current demand or opportunities for Canadian products. They also secure and forward to the Department at Ottawa inquiries for Canadian goods and, in general, promote the development of overseas markets.

Organization at Ottawa.—The headquarters staff at Ottawa is presided over by a Director, who administers the work assigned to the various Trade Commissioners and is assisted by the following divisions: Directories—Exporters Directory, listing Canadian exporters, with their agents abroad, commodities handled, etc., and Foreign Importers Directory; Editorial; Commodity Records—where information regarding markets for Canadian export commodities is indexed; Agricultural Products; Metals and Chemical Products; Forest Products; and Miscellaneous Manufactures.

Organization Abroad.—There are thirty-one Canadian Trade Commissioners or commercial diplomatic officers conveniently located abroad. In some countries or territories, such as the United Kingdom, Australia, British West Indies, South Africa, and the United States, there is more than one commercial officer; in other cases an officer covers adjacent countries. Besides the five mentioned above, countries in which officers are located are as follows: Argentina, Brazil, British Malaya, China, Cuba, Egypt, Hong Kong, India and Ceylon, Eire and Northern Ireland, Mexico, New Zealand, Panama and Peru.

Under an arrangement made by the Minister of Trade and Commerce with the British Foreign Office, Canadians interested in trade matters may secure information and advice from British commercial diplomatic officers and British consuls in all countries in which Canada is not represented by her own Commercial Intelligence Service.

Commercial Intelligence Journal.—The Commercial Intelligence Journal, containing the reports of the Trade Commissioners and other pertinent material relating to export trade, is published weekly by the Department of Trade and Commerce in both English and French editions. The subscription price for either edition is $1 per annum in Canada and $3.50 outside of the Dominion. Special reports dealing with various phases of Canada's export trade are also issued from time to time, as supplements to the Commercial Intelligence Journal.

Asbestos Gloves made for Export from Canadian Raw Materials.

Courtesy, Department of Trade and Commerce

Non-Commodity Items of Foreign Exchange

A nation's commodity trade alone cannot be taken as a complete index of its prosperity, for there are many other exchanges besides those of goods, all of which must be taken into account in order to find out the basic state of affairs in regard to total international transactions.

The Tourist Trade.—In recent years the tourist trade has become an important source of revenue in certain sections of the Dominion, materially affecting the balance of trade. Tourist expenditures are, in part, the return that Canada derives from her picturesque scenery, fish and game, winter sports, etc. It is impossible to obtain a direct record of expenditures of this kind. Moreover, even a rough estimate of the total is extremely difficult to make, as visitors to Canada are of all classes, engaging in widely different activities or forms of recreation, remaining for varying periods, with expenditures undoubtedly ranging from very small to very large amounts.

Estimates of tourist expenditures in Canada during 1940 are based on a much greater volume of information than in previous years; in 1939 the expenditure sample for motor tourists constituted a fraction of 1 p.c. of the numbers, while in 1940 the sample was over 80 p.c. for Canadian motorists and over 50 p.c. for some groups of United States motor tourists. Additional information obtained this year indicates that previous estimates of the receipts and expenditures on account of tourist trade were too high by perhaps $80,000,000 to $90,000,000.

Expenditures of Foreign Travellers in Canada and Canadian Travellers Abroad, 1939 and 1940

Class of Traveller	1939[1]			1940		
	Foreign Expenditures in Canada	Canadian Expenditures Abroad	Excess of Foreign Expenditures in Canada	Foreign Expenditures in Canada	Canadian Expenditures Abroad	Excess of Foreign Expenditures in Canada
	$'000	$'000	$'000	$'000	$'000	$'000
Travellers from and to overseas countries	12,000	14,000	−2,000	6,500	3,200	3,300
Travellers from and to the United States—						
Automobile	[2]	[2]	–	62,500	10,300	52,200
Rail	[2]	[2]	–	38,500	20,000	18,500
Boat	[2]	[2]	–	6,000	1,200	4,800
Bus (exclusive of local bus)	[2]	[2]	–	6,800 [3]	3,300 [3]	3,500
Aeroplane	[2]	[2]	–	1,300 [3]	600 [3]	700
Other (pedestrians, local bus, etc.)	[2]	[2]	–	6,250 [3]	4,500 [3]	1,750
Totals, United States	152,000	72,000	80,000	121,350	39,900	81,450
Totals, All Countries	**164,000**	**86,000**	**78,000**	**127,850**	**43,100**	**84,750**

[1] Estimated mainly by applying 1940 expenditure samples to 1939 count. [2] Detailed estimates for these classes in 1939 have not been published. [3] Expenditures of travellers by bus and aeroplane cover the period, April—December, 1940, only. During the first three months of the year, bus and aeroplane passengers were included under "Other Travellers".

Due to United States passport regulations and to unfavourable weather conditions in the early part of the summer, there was a decline in the number of tourists entering Canada in 1940 as compared with 1939—13,592,429 as against 16,578,119.

Gaspe, Que.

Courtesy, Canadian National Railways

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

The Canadian Balance of International Payments.—There are other important exchanges of services as well as numerous movements of capital between Canada and other countries. In order to summarize all of the nation's commercial and financial transactions with other countries and to reveal their general significance, a statement called the balance of international payments is drawn up. A statement of this kind segregates all of the current exchanges of merchandise, gold, and services from operations on capital account, those which, for example, usually directly affect Canada's foreign assets and liabilities.

By doing this it is possible to observe the various sources of external income and disbursements and their relationships. When current income exceeds current disbursements, as has been the experience of Canada for a period of years, this is indirect evidence that the movement of capital is outward on balance. The direct study of capital movements shown in the capital account of the statement confirms

these indirect estimates and reveals the general character of the movements. By making an analysis of capital movements it is possible to appraise their general consequences. Such an analysis discloses, for instance, whether the nation is increasing or reducing its foreign obligations. It makes it possible to judge the character of the changes, such as whether their effects are of a relatively permanent or temporary nature.

The statements shown in the table on p. 129 reveal that the underlying strength of Canada's balance of payments with the rest of the world as a whole was even greater in 1940 than before the War. Her net surplus on current account transactions with all other countries was $176,000,000 in 1940 compared with $137,000,000 in 1939.

As was to be expected, many of the component items were profoundly influenced by the War. Outstanding, of course, was the enormous increase in Canada's exports to the United Kingdom, and the even greater rise in imports from the United States. The latter was due to requirements for the Dominion's own war program, to the substantial United States content in terms of materials and new capital equipment of British war purchases in Canada, and to the increased domestic demand for consumption goods from the United States caused by sharply rising national income.

Financial developments arising from the War have made it necessary to consider Canada's total balance of payments position in terms of two separate divisions, viz., transactions with the sterling area, and transactions with the rest of the world with which Canada's dealings are on a U. S. dollar basis. In more normal periods, Canada has had a deficiency in current transactions with the United States, which has been covered by her considerably larger surplus with sterling countries. The War has greatly increased both the sterling surplus and the deficiency of United States dollars, while at the same time it has interfered with the normal process of offsetting one against the other, since, because of the United Kingdom's exchange position, sterling is no longer freely convertible into United States dollars. Consequently, the table shows separate statements for Empire (i.e., sterling area) and non-Empire (i.e., U.S. dollar area) countries as well as for the United Kingdom and the United States. Such regional statements, however, are subject to a wider margin of error than the general statement of the balance of international payments.

Current Account Transactions.—The credit balance in the current account with Empire countries rose from $163,000,000 in 1939 to $423,000,000 in 1940. Balances of credits with both the United Kingdom and other Empire countries increased. The increase was accounted for chiefly by the rise in exports to Empire countries from $436,000,000 in 1939 to $708,000,000 in 1940. Other appreciable changes in the current account with the Empire were in net payments of interest and dividends which declined because of the repatriation of securities formerly held in the United Kingdom and in the freight item which shows substantial credits on balance in 1940.

The current account with non-Empire countries showed a rise in net debits from $26,000,000 in 1939 to $247,000,000 in 1940. A sharp rise in net debits with the United States accompanied by a decline in net credits with other foreign countries brought about this result. Imports from non-Empire countries increased from $536,000,000 to $785,000,000, while exports rose only from $470,000,000 to $504,000,000. Net exports of non-monetary gold to the United States rose mainly because of the premium on United States dollars. Net receipts from the tourist trade were about the same in both years. Although there was a sharp drop in

Imported Raw Sulphur being Trucked into a Plant at Hamilton, Ont.—Here it will be burned and its fumes or gases converted into sulphuric acid, the most powerful of all commercial acids.

Courtesy, Department of Trade and Commerce

receipts from United States tourists, this was offset by the lower expenditures of Canadians visiting the United States due to governmental restrictions on pleasure travel in that country in the latter half of 1940. A small increase in net interest and dividend payments was mainly accounted for by the premium on payments of U.S. dollar bond interest. Freight payments to the United States were naturally heavier because of increased imports.

Capital Account Transactions.—The composition of the capital account in 1939 differs from 1940 mainly because of capital transactions preceding the War.

Net debits on capital account with Empire countries in 1939 amounted to $83,000,000. To a considerable extent this was a reflection of official repatriation operations. There were, however, also private retirements of Canadian securities held in the United Kingdom, purchases of outstanding securities, etc.

The capital account with non-Empire countries in 1939 showed net debits of $73,000,000. There were net credits from sales of outstanding securities and from sales of new issues of Canadian securities in the United States, which exceeded retirements of Canadian securities held in that country. Net credits from these security transactions were, however, more than offset by debits connected with the operations of international direct investments and insurance companies, changes in short-term balances and certain accounting adjustments to entries elsewhere in the statement.

Gross capital receipts by Canada from Empire countries in 1940 totalled $116,000,000. This amount was made up chiefly of capital expenditures by the United Kingdom on war plants in Canada, but also included capital receipts by Canada in respect of securities, mortgages, real estate, estates and trusts, insurance transactions, etc.

Apart from $248,000,000 paid for gold which was bought from Great Britain in part settlement of her deficiency with Canada, and which was used in turn to settle part of Canada's deficiency in the United States, Canada's gross capital payments in 1940 to Empire countries totalled $334,000,000 and to non-Empire countries $167,000,000.

Capital payments by Canada to non-Empire countries in 1940 were, of course, subject to the restrictions imposed by foreign exchange control. In general, payments were allowed only in the case of maturing contractual commitments, although certain other special types of capital transfer were permitted in minor amounts. Such payments were, therefore, unusually low, amounting to $141,000,000. This included redemptions of securities, mortgages and other types of obligations, and

the estimated reduction of non-Empire balances held in Canada, as well as capital payments in connection with real estate, estates and trusts, insurance transactions, etc.

Estimated Canadian Balance of International Payments, 1939 and 1940

(Millions of Canadian dollars)

Item	1939[1]			1940[2]		
	Credits	Debits	Net	Credits	Debits	Net
I. Canada and All Countries—						
Current Account—						
Merchandise trade—after adjustment	906	713	+193	1,212	1,046	+166
Net exports of non-monetary gold	184	–	+184	203	–	+203
Tourist expenditures	164	86	+ 78	128	43	+ 85
Interest and dividends	57	311	−254	52	306	−254
Freight and shipping	87	119	− 32	138	132	+ 6
All other current transactions	36	68	− 32	113	143	− 30
Totals—Current Account	1,434	1,297	+137	1,846	1,670	+176
Special gold transactions[3]	–	–	–	248	248	–
Capital movements	495	651	−156	283	475	−192
Balancing item[4]	–	–	+ 19	–	–	+ 16
II. Canada and Empire Countries—						
Current Account—						
Merchandise trade—after adjustment	436	177	+259	708	261	+447
Tourist expenditures	9	13	− 4	6	3	+ 3
Interest and dividends	5	81	− 76	3	72	− 69
Freight and shipping	31	39	− 8	76	36	+ 40
All other current transactions	6	14	− 8	63	61	+ 2
Totals—Current Account—						
United Kingdom	371	245	+126	670	323	+347
Other Empire Countries	116	79	+ 37	186	110	+ 76
All Empire Countries	487	324	+163	856	433	+423
Capital credits	97	–	+ 97	116	–	+116
Sub-total	584	324	+260	972	433	+539
Special gold transactions[3]	–	–	–	–	248	−248
Capital debits	–	180	−180	–	334	−334
Balancing item[4]	–	–	− 80	–	–	+ 43
III. Canada and Non-Empire Countries—						
Current Account—						
Merchandise trade—after adjustment	470	536	− 66	504	785	−281
Net exports of non-monetary gold	184	–	+184	203	–	+203
Tourist expenditures	155	73	+ 82	122	40	+ 82
Interest and dividends	52	230	−179	49	234	−185
Freight and shipping	56	80	− 24	62	96	− 34
All other current transactions	30	54	− 24	50	82	− 32
Totals—Current Account—						
United States	775	864	− 89	869	1,138	−269
Other Foreign Countries	172	109	+ 63	121	99	+ 22
All Non-Empire Countries	947	973	− 26	990	1,237	−247
Capital debits	–	534	−534	–	141	−141
Sub-total	947	1,507	−560	990	1,378	−388
Special gold transactions[3]	–	–	–	248	–	+248
Capital credits	461	–	+461	167	–	+167
Balancing item[4]	–	–	+ 99	–	–	− 27

[1] Revised figures.

[2] Preliminary.

[3] This represents gold received from the United Kingdom in part settlement of her deficiency with Canada, and used in turn to settle part of Canada's deficiency with the United States.

[4] This balancing item reflects possible errors and the omission of certain factors that cannot be measured statistically, such as changes in the timing of payments for goods and services, and, before the War, the conversion of surplus sterling into other currencies.

CHAPTER XIV

Internal Trade—Prices—Cost of Living

Internal Trade

Internal trade is of primary importance. The task of providing goods and services for home consumption by 11,422,000 (1940 estimate) people requires a greater expenditure of economic activity than that required for the prosecution of external trade, even though Canada ranked fifth among trading countries of the world, according to the latest pre-war figures (1938). Internal trade includes the transportation and distribution of goods within the country through the medium of railways, steamships, warehouses, wholesale and retail stores, and other agencies. It also includes all services such as those carried on by doctors, theatres, hospitals, schools, banks, insurance companies, and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income.

Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless, some idea of its extent may be gathered from the fact that in the latest year for which figures have been published (1940), the national income arising from productive operations in Canada was estimated at $4,784,000,000, while the value of exports of Canadian produce (excluding gold) was $1,179,000,000 in that year.

Combinations in Unlawful Restraint of Trade

The Combines Investigation Act (R.S.C. 1927, c. 26) provides for the investigation and prevention of trade combinations, monopolies, trusts and mergers formed or operated against the public interest through agreements affecting the supply or price of any class of goods in unlawful restraint of trade. Such organizations

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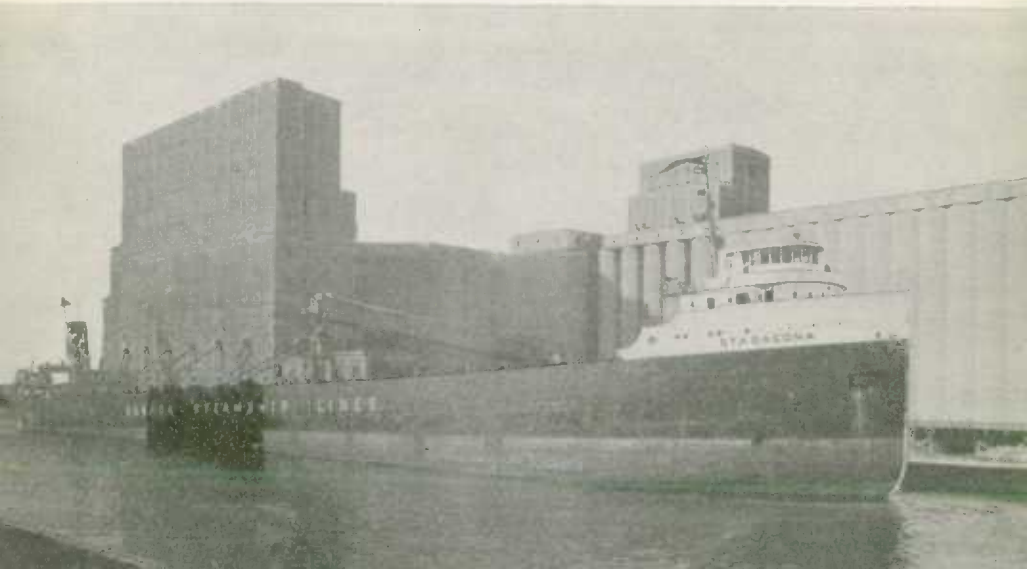
Loading Wheat at a Terminal Elevator at the Head of the Lakes.

Courtesy, Canada Steamship Lines



Bananas in Process of Ripening.—Bananas are imported green and must be carefully ripened before being marketed. This ripening room is equipped with an electrically regulated system of temperature control.

Courtesy, Canadian General Electric Co. Ltd.

are described by the law as 'combines'. Participation in the formation or operation of a combine is an indictable offence. Methods of unlawfully lessening competition and controlling trade include arrangements among competitors or others to enhance prices, to fix common selling prices or resale prices, and to unduly limit production or facilities for manufacturing or distribution. Provisions with respect to similar offences are contained in the Criminal Code of Canada.

Investigations of alleged combines are conducted under the direction of a Combines Investigation Commissioner reporting to the Minister of Labour. Proceedings under this Statute by way of investigation, negotiation and, in circumstances where deemed warranted, by prosecution, have been instrumental in checking undue private trade restrictions and in reducing excessive prices arising from monopolistic restrictions and agreements. Recent cases have included alleged combines of wholesalers of fruit and vegetables in Western Canada, manufacturers of corrugated and fibre-board boxes, and manufacturers and wholesalers of tobacco products. Court actions in 1940 and 1941 included a trial relating to western fruit and vegetable distribution which resulted in acquittal of the accused. In prosecutions of parties to alleged combines in the tobacco and corrugated paperbox industries, now before the courts of appeal, fines totalling $221,500 and $161,500, respectively, were imposed on the companies and individuals convicted.

Wholesale Trade

Notwithstanding the development during recent years of the modern chain store with its own warehousing facilities, the wholesale merchant still plays an important part in the distribution of goods in Canada. There were more than 13,000 wholesale trading establishments in 1930 with annual sales exceeding $3,300,000,000. Only about one-third of the firms and sales represented wholesale merchants buying from manufacturers and selling to the retail trade. The remainder represented agents or brokers, manufacturers' sales branches, the bulk tank stations of the wholesale distributors of petroleum products and some other types included in the wholesale trade when considered in its broader aspect.

Complete statistics covering the activities of wholesalers during recent years are not available, but results of annual and monthly surveys based on a sampling plan serve to give some indication of the trend in sales. Conforming with the trend in other spheres of economic activity, sales of wholesale merchants declined between 1930 and 1933, the dollar volume of business transacted in the latter

year standing 34 p.c. below the 1930 figure. Apart from a slight reversal in 1938, the trend since 1933 has been upward, sales for 1939 reaching the 1930 level. Sales in 1940 gained 11 p.c. over 1939. This upward movement continued in 1941 with sales for the first eight months standing 18 p.c. above the corresponding period of 1940. All kinds of business for which data are available registered gains in this comparison, but increases for automotive equipment, hardware, clothing and dry goods exceeded those for other trades.

Retail Trade

The final stage in the distribution of consumer goods is effected through a great number of retail stores ranging in size from small shops with meagre daily takings to large enterprises whose annual sales are reckoned in millions of dollars. The 1931 Census of Merchandising and Service Establishments showed that there were 125,000 retail stores in Canada in 1930, with annual sales amounting to $2,756,000,000.

Conforming with the trend in general business conditions, retail trading declined during the period following the census year until in 1933 the dollar value of retail sales was 35 p.c. below the 1930 level. A gradual improvement that commenced in the latter part of 1933 continued until 1937. Sales in 1938 and 1939 varied but little from the 1937 level, while a 12 p.c. increase between 1939 and 1940 brought sales for the latter year almost on a par with the 1930 figures.

Chain Stores.—The annual survey of chain stores made in connection with the Census of Merchandising shows that chain stores (other than department store chains) did approximately 19 p.c. of the total retail business in 1940. In earlier years the ratio of chain to total sales varied from 17 to 19 p.c.

Summary Statistics of Chain Stores, 1931-40

Calendar Year	Chains	Chain Stores	Chain Sales	
			Amount	P.C. of Total Sales
	No.	No.	$	
1931	506	8,557	434,199,700	18·7
1932	486	8,398	360,806,200	18·8
1933	461	8,230	328,902,600	18·5
1934	445	8,210	347,186,100	17·9
1935	445	8,024	364,589,800	17·9
1936	457	8,124	394,935,000	17·9
1937	447	7,815	414,133,300	16·9
1938	457	7,692	414,448,300	17·2
1939	446	7,595	432,026,100	17·7
1940	451	7,522	508,553,900	18·6

Current Trends

The marked upward trend in retail trade that took place during the latter part of 1939 and all of 1940 continued into the early months of 1941. Following the month of April, a definite levelling-off occurred as a larger proportion of the increased income resulting from heightened industrial activity was diverted to finance the War. Nevertheless, retail sales were maintained at a high level in 1941, customers spending 16 p.c. more money in retail stores during the first eight months of the year than in the corresponding period of 1940 and 31 p.c. more than during the first eight months of 1939.

The Shoe Department of a Modern Departmental Store.

Courtesy, Hudson's Bay Company

The retail clothing trades transacted approximately 20 p.c. more dollar business during the first eight months of 1941 than 1940 and 40 p.c. more than in the corresponding period of 1939. Retail clothing prices, as measured by the Bureau's price index for this group of commodities, averaged 7 p.c. higher during the first eight months of 1941 than during the corresponding period of the preceding year and were 15 p.c. higher than the average for the first eight months of 1939. While the indexes of retail prices and retail sales are not exactly comparable they are sufficiently so to give some indication of the extent to which the gain in dollar sales represents an increase in the quantity of goods sold. Food store sales averaged 13 p.c. higher during the first eight months of 1941 over the corresponding period of the preceding year and were 26 p.c. higher than during the first eight months of 1939. Food prices averaged 7 p.c. higher in 1941 than in 1940 and were 14 p.c. above the level of the first eight months of 1939.

The War Exchange Conservation Act introduced in Parliament in December, 1940, provided for a 25 p.c. excise tax on the manufacturer's price on radios, phonographs, electric stoves, washing machines and other household appliances. Stores specializing in the sale of these commodities reported 17 p.c. more dollar business in the first eight months of 1941 than in the corresponding period of the preceding year, an increase that, when compared with the increase in the retail price, indicates but slight change in the quantity of these goods sold.

There were 101,789 new passenger cars sold in Canada for $114,928,800 in 1940 compared with 90,054 which retailed for $97,131,128 in 1939. Cumulative figures for the first eight months of 1941 showed a decline of 11 p.c. in the number of new passenger motors sold compared with the corresponding period of 1940.

Retail Services

In addition to the 125,000 retail stores reported in the 1930 Census, there were 42,000 retail service establishments with total receipts of $249,000,000, which provided employment for 109,000 persons. The provision of amusement and personal services form a large proportion of the service groups. Repair shops of many kinds and motor transportation were also included in this category. Gross receipts of firms or persons holding public carriers licences for motor-vehicles totalled approximately $16,000,000 in 1930.

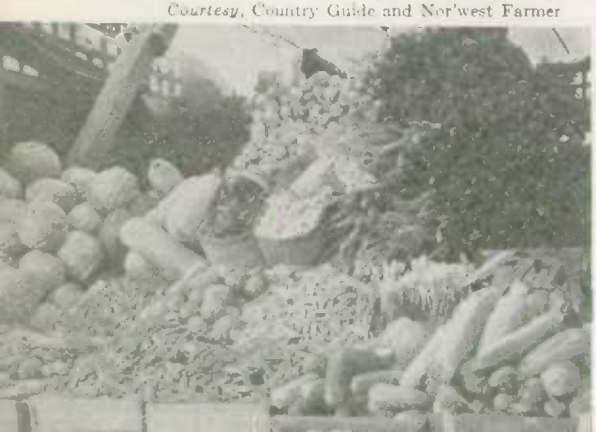
Motion Picture Theatres.—Attendance at motion picture theatres increased 8·9 p.c. from 138,497,043 paid admissions in 1939 to 150,811,667 in 1940. Box office receipts (exclusive of amusement taxes) were $37,589,216 for 1940, an increase of 10·5 p.c. over the preceding year. Per capita expenditure at motion picture houses was $3·29 in 1940 and $3·03 in 1939.

Co-operative Associations

In Canada the expansion of co-operative activity has taken place most rapidly and to the greatest degree in the marketing of farm products. In 1940 a total of 601 farmers' co-operative marketing associations with 3,065 places of business reported to the Marketing Service, Economics Division of the Department of Agriculture. Membership totalled 394,102 with sales of farm products and supplies amounting to $219,045,896 during the year. It is estimated that all marketing co-operatives handled approximately 26 p.c. of the main farm products entering commercial channels of trade. In addition 550 farmers' co-operative purchasing associations with 56,351 members reported total business transacted of $17,276,570. The purchasing organizations have been formed principally in the rural areas of Western Canada for the purpose of buying supplies, usually bulk commodities, such as gasoline, tractor fuel, coal, wood and binder twine. Some are operating stores carrying a full line of general merchandise.

Available statistics on consumers' societies in Canadian cities and towns while incomplete, indicate a total membership of approximately 15,000 persons who buy co-operatively 4 to 5 million dollars worth of consumer's goods annually. Many of the retail societies and the marketing associations are affiliated with the Co-operative Union of Canada. The Union functions in an advisory and educational capacity for its affiliates and has had a guiding influence on the Canadian co-operative movement.

A Market Gardener's Display of Fine Vegetables.
Courtesy, Country Guide and Nor'west Farmer



Credit unions are active in all provinces of Canada. Approximately 1,100 were chartered in Canada at Dec. 31, 1940, with a membership close to 200,000. More than $100,000,000 has been loaned to the members of the various credit unions in Canada during their period of operation. Loans in the year 1939 totalled $9,000,000.

A mutual fire insurance company was formed in Ontario as early as 1836 and several, still functioning as farmers' mutuals, were organized between 1850 and 1860. To-day there are about 350 such companies in Canada with net assets of over $5,000,000 and insurance at risk amounting to over $1,000,000,000. These have a long history of successful operation.

Approximately 71,000 or 5 p.c. of the telephones in Canada are operated by rural co-operative companies in which there is a total investment of $19,441,661.

Societies have been formed by fishermen on both coasts for the purpose of canning and marketing fish and buying gear on the co-operative plan. During 1939, 30 fishermen's co-operative societies in Nova Scotia, Quebec and British Columbia with a membership of 3,262 did a business amounting to $1,255,653.

Co-operative housing and co-operative hospitalization and medical schemes are other forms of newer co-operative ventures that are operating successfully in various parts of Canada.

Wholesale Prices

After a mild reaction in the summer months of 1940, wholesale price levels again turned upward, but the net advance of 3·1 p.c. during the year was much less than the increase registered in the last four months of 1939. During the first quarter of 1940 the composite index for 567 commodity prices moved up to a peak of 83·2 in March from 81·7 in December, 1939. In the ensuing three months a general price recession lowered the index to 81·6 for June, which proved to be the turning point for the year. Summer price declines coincided with the German invasion of the Lowlands and culminated with the collapse of France late in June. Price quotations of grains showed the most serious losses at this time, and on May 18 the Canadian Wheat Board established minimum quotations for wheat futures.

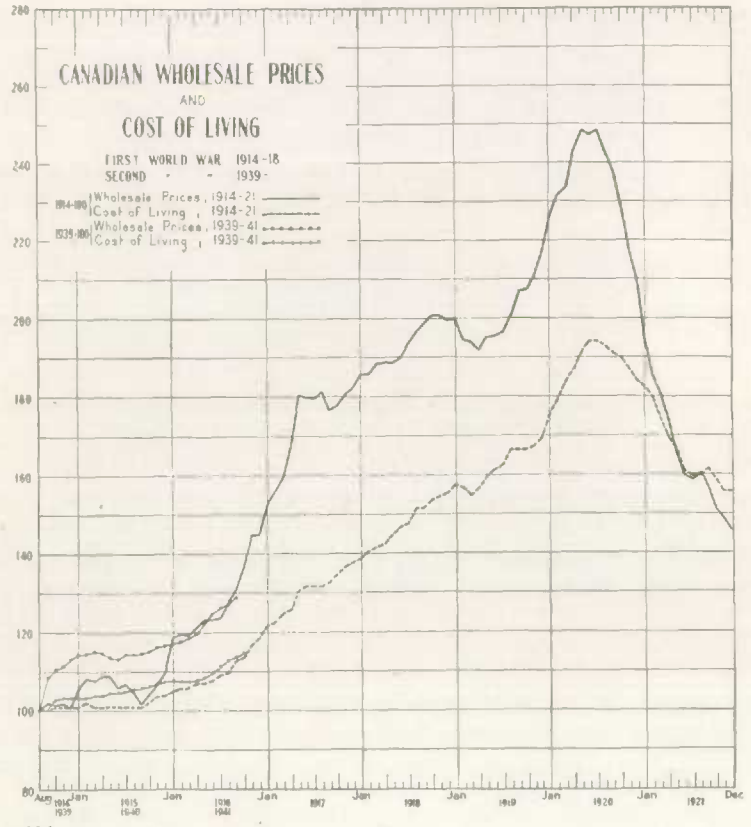
A second advance in prices commenced in July, reflecting an upturn in basic commodities, new taxation of imports for non-war purposes, and an acceleration of national defence activity. During its spring session the Dominion Government placed a 10 p.c. tax on all import items from non-Empire countries except those for war purposes, while at the same time a processing tax of 15 cents per bushel was placed on wheat milled for domestic consumption. In addition, an 11 p.c. exchange premium had obtained on all import settlements in terms of New York funds or related currencies since September, 1939.

The rise carried through into 1941 and by September the index reached 93·2, about 11 p.c. above December, 1940, levels. Gains ranged from less than 1 p.c. for non-ferrous metals to almost 20 p.c. for animals and their products. Fibres and their products advanced 14 p.c. between December, 1940, and September, 1941; chemicals rose about 12 p.c. and vegetables an equal amount, although the processing tax on wheat was removed on Aug. 1. Wood products and non-metallics each rose approximately 8 p.c. and iron and steel 5 p.c. during this period. Led by 18 p.c. rises in prices of lumber and paint, the index number of building materials advanced from 98·0 in December, 1940, to 111·3 in September, 1941. Miscellaneous building materials at 102·7 were approximately 8 p.c. above the December, 1940, figure.

Index Numbers of General Wholesale Prices and Wholesale Prices of Industrial Materials, August, 1939, and January, 1940–September, 1941

(1926 = 100)

Year and Month	Index Numbers of—		Year and Month	Index Numbers of—	
	General Wholesale Prices	Industrial Materials Prices		General Wholesale Prices	Industrial Materials Prices
1939			**1940**—*continued*		
August	72·3	65·3	November	84·0	79·8
1940			December	84·2	79·1
January	82·6	80·2	**1941**		
February	82·8	79·5	January	84·6	80·1
March	83·2	79·7	February	85·2	81·2
April	83·1	79·4	March	85·9	82·3
May	82·2	78·6	April	86·6	83·4
June	81·7	77·9	May	88·5	86·5
July	82·6	78·7	June	90·0	88·0
August	82·6	78·1	July	91·1	89·3
September	83·0	78·2	August	91·8	90·8
October	83·3	78·8	September	93·2	91·5



Cost of Living

According to the Bureau's new cost-of-living index on the base 1935-39 = 100, living costs advanced 4·0 p.c. during 1940. The index of 108·0 for December, 1940, compared with 103·8 and 100·8 for December and August, 1939, respectively. While all constituent groups contributed to the 1940 increase, the greatest advance was noted for the clothing group which rose 9·9 p.c. to an index level of 113·5; home furnishings mounted 6·3 p.c. to 110·7. Living costs continued upward in 1941 and by September the cost-of-living index reached 114·7 or 13·8 p.c. above August, 1939, level. Advances were common to all groups, but the greatest rise occurred in foods which moved up 13 p.c. between December, 1940, and the following September. Gains in the other groups during this period ranged from 1·9 p.c. for rent to 4·6 p.c. for home furnishings.

Index Numbers of Living Costs in Canada, 1935-40, and by Months, 1941

(Av. 1935-39 = 100)

Year and Month	Food	Rent	Fuel and Light	Clothing	Home Furnishings	Sundries	Total
1935	94·6	94·0	100·9	97·6	95·4	98·7	96·2
1936	97·8	96·1	101·5	99·3	97·2	99·1	98·1
1937	103·2	99·7	98·9	101·4	101·5	100·1	101·2
1938	103·8	103·1	97·7	100·9	102·4	101·2	102·2
1939	100·6	103·8	101·2	100·7	101·4	101·4	101·5
1940	105·6	106·3	107·1	109·2	107·2	102·3	105·6
1941—							
January	109·7	107·7	108·6	113·7	110·8	103·1	108·3
February	108·8	107·7	108·7	114·1	111·5	103·1	108·2
March	109·0	107·7	108·9	114·2	111·6	102·9	108·2
April	110·1	107·7	108·9	114·3	111·7	102·9	108·6
May	109·7	109·7	109·2	114·5	111·8	105·1	109·4
June	112·5	109·7	110·2	114·9	112·1	105·6	110·5
July	116·6	109·7	110·5	115·1	113·0	105·6	111·9
August	121·3	109·7	110·5	115·7	114·3	106·1	113·7
September	123·3	109·7	110·9	117·4	115·8	106·4	114·7
October	123·2	111·2	112·1	119·6	117·3	106·5	115·5
November	125·4	111·2	112·7	120·0	117·9	106·7	116·3
December	–	–	–	–	–	–	–

36343—12

CHAPTER XV

Public Finance

Dominion Finance

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

At Confederation certain revenues, notably the customs and excise duties that had previously accrued to the treasuries of the provinces, were transferred to the Dominion and the public works, cash assets, and other property of the provinces, except lands, mines, minerals and royalties, became Dominion property. In its turn the Dominion assumed responsibility for the pre-existing debts of the provinces.

A Truckload of Fine Gold Bars.—The average value of each of these bars is $10,000.

Courtesy, The Canadian Banker

Having taken over their main sources of revenue, the Dominion undertook to pay annual subsidies to the provinces for the support of their governments and legislatures. With the growth of the Dominion the principle of subsidy payments has been extended to the newer provinces, and from time to time adjustments have been made in the general scheme of payments.

Dominion Finances, 1868-1941

Fiscal Year	Total Revenue	Per Capita Revenue[1]	Total Expenditure	Per Capita Expenditure[1]	Net Debt at End of Year	Net Debt Per Capita
	$	$	$	$	$	$
1868	13,687,928	3·90	14,071,689	4·01	75,757,135	21·58
1871	19,375,037	5·25	19,293,478	5·23	77,706,518	21·06
1881	29,635,298	6·85	33,796,643	7·82	155,395,780	35·93
1891	38,579,311	7·98	40,793,208	8·44	237,809,031	49·21
1901	52,516,333	9·78	57,982,866	10·80	268,480,004	49·99
1911	117,884,328	16·36	122,861,250	17·05	340,042,052	47·18
1921	436,292,184	49·65	528,302,513[2]	60·12	2,340,878,984	266·37
1926	382,893,009	40·51	355,186,423[2]	37·58	2,389,731,099	252·85
1931	357,720,435	34·48	441,568,413[2]	42·56	2,261,611,937	217·94
1932	334,508,081	31·84	448,742,316[2]	42·71	2,375,846,172	226·14
1933	311,735,286	29·19	532,369,940[2]	49·84	2,596,480,826	243·09
1934	324,660,590	30·00	458,157,905[2]	42·33	2,729,978,140	252·22
1935	361,973,763	33·10	478,106,581[2]	43·72	2,846,110,958	260·28
1936	372,595,996	33·79	532,585,555[2]	48·29	3,006,100,517	272·59
1937	454,153,747	40·84	532,005,432[2]	47·84	3,083,952,202	277·33
1938	516,692,749	46·10	534,408,117[2]	47·68	3,101,667,570	276·71
1939	502,171,354	44·37	553,063,098[2]	48·88	3,152,559,314	278·62
1940	562,093,459	49·21	680,793,792[2]	59·60	3,271,259,647	286·40
1941	872,169,645	76·36[3]	1,249,601,446[3]	109·40[3]	3,648,691,449	319·44[3]

[1] Per capita figures for census years are based upon census populations and for intervening years on official estimates. [2] Includes advances to railways and transfers from active to non-active assets. [3] 1940 estimate of population used since 1941 Census figures were not available at time of going to press.

The single item of railways and canals, which represented expenditure for productive purposes, accounted for almost the entire increase in the net direct debt from $76,000,000 in 1868 to $336,000,000 in 1914. This debt was held largely outside Canada. The next decade, which embraced the period of the War of 1914-18, witnessed the tremendous increase in the net direct debt from $336,000,000 to a maximum of $2,453,777,000 in 1923—an increase of over two billions of dollars not represented, in the main, by corresponding tangible assets, and upon which interest charges were relatively high. However, due to the rise in the national income and the intensive development of a bond market in Canada during the years of the War of 1914-18, almost all this increased debt was held within the country at the end of the War. In the prosperous years following 1923, the net direct debt fell steadily to $2,177,764,000 in 1930, but the years of depression and, more recently, the heavy expenditures for the present war, established new high levels of indebtedness.

The Financing of the Present War

The War Budgets.—In September, 1939, immediately following the outbreak of war, Parliament passed a Special War Budget, the main features of which were the introduction of an Excess Profits Tax, a 20 p.c. increase in both personal and corporate income taxes, higher rates of taxes and customs duties on liquors, tobaccos, wines, tea and coffee. The rate of sales tax was left unchanged at 8 p.c., but canned fish, salted or smoked meats and electricity and gas when used in domestic dwellings were removed from the exempt list.

36343—12½

In June, 1940, Parliament passed the second Budget of the war period which undoubtedly surpassed in severity any that the Canadian people had previously been called upon to meet. In this Budget emphasis was placed on direct taxation as a means of distributing the war burdens as far as possible according to ability to pay. The income tax, through lowering of the exemptions from $2,000 and $1,000 to $1,500 and $750 for married and single persons, respectively, was extended to include many new taxpayers, while the rates of tax were revised sharply upwards. (See also section headed Income Tax, p. 143). A new tax, known as the *National Defence Tax*, was also introduced. It took the form of a flat-rate tax, levied at a rate of 2 p.c. on total income where income exceeded $600 in the case of single persons and $1,200 in the case of married persons, and 3 p.c. in the case of single persons where income exceeded $1,200. An annual tax credit of $8 was provided for each dependant.

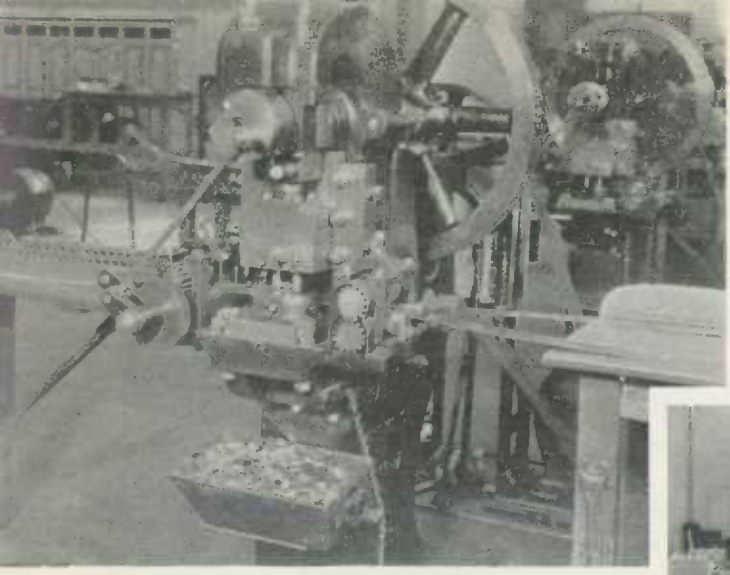
In this Budget the Excess Profits Tax Act was extensively revised. The amended Act provided a tax rate of 75 p.c. of excess profits (previously 50 p.c.) and a proviso that the minimum tax payable would be 12 p.c. of total profits in the taxation year. A Board of Referees, with power to make adjustments in certain cases, was provided for in the new Act.

Taxes on automobiles and smokers' supplies were again raised substantially, and new levies were imposed on radios, radio tubes, cameras and phonographs. Under the Customs Tariff rates on tobacco and tea were increased and other changes of a technical nature affecting products related to war production were made.

In December, 1940, a measure known as the War Exchange Conservation Act was passed by Parliament. Through the prohibition or curtailment of a long list of non-essential imports from non-sterling countries and reduction of the duty on certain imports under the British Preferential Tariff, this measure was designed to discourage the importation of goods from hard-currency countries and to stimulate trade with countries in the sterling area. Amendments to the Special War Revenue Act were passed at the same time providing for higher taxes on passenger automobiles, cameras, phonographs, radio sets and tubes, and for new taxes on electrical and gas appliances, including stoves, refrigerators, lighting fixtures, etc., and on coin- or disc-operated slot machines and vending machines.

The tremendous cost of Canada's part in the War was forcefully brought home in the most recent of the war budgets, that of April, 1941. In this Budget it was announced that Canada's financial commitments for the fiscal year ending Mar. 31, 1942, would total in excess of $2,700,000,000, an amount exceeding by far anything hitherto contemplated in the field of Dominion finance. This total was comprised of $1,300,000,000 to cover Canada's direct war expenditures, $900,000,000 to be provided Great Britain to enable her to purchase supplies and equipment in Canada and $468,000,000 to meet the normal operating costs of government. It was estimated that the existing system of taxation would leave a deficit of about $1,500,000,000. To partly close this gap, new and higher taxes were levied which were expected to yield the Treasury an additional $250,000,000 during the balance of the fiscal year.

As in the previous Budgets, main emphasis was placed on direct taxation. The rates of personal income tax were again raised sharply, while the previous rates of 2 p.c. and 3 p.c. under the National Defence Tax were increased to 5 p.c. and 7 p.c., respectively, with the starting point for single persons raised to $660



COINING CANADIAN CURRENCY

Royal Canadian Mint.—*Top:* Cutting blanks from long narrow strips of silver. *Right:* Silver bars being reduced in the rolling mill to the required thickness for coinage. *Bottom:* Coins being examined for defects.

Courtesy, Canadian Government Motion Picture Bureau

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and the tax credit for dependants to $20. An important change in the Income Tax Act provided that the tax on interest and dividends going abroad be increased from 5 p.c. to 15 p.c. The minimum rate of tax payable under the Excess Profits Tax Act was increased from 12 p.c. to 22 p.c. and at the same time several technical changes were made to improve the operation of the Act. With the introduction of a Succession Duties Act, the Dominion for the first time stepped into a field hitherto left exclusively to the provinces.

Sharp increases in rates and heavy new taxes were also introduced in the field of indirect taxation. Gasoline, hitherto taxed only by the provinces, was made subject to a levy of 3 cents per gallon. A new levy was imposed on admissions to motion-picture and other entertainments and on pari-mutuel bets on horse races, a tax of 10 p.c. on travel tickets was introduced, and the previous moderate tax on carbonic acid gas was replaced by a 25 p.c. tax on all bottled soft drinks.

No increase in the sales-tax rate was made, but building materials, a large and important group, were removed from the exempt list. Existing tax rates on a considerable list of items—sugar, automobiles and buses, beer, malt and wine, cosmetics, playing cards, cigarette lighters and long distance telephone calls—were subject to heavy increases. Certain changes of a minor character were also made under the War Exchange Conservation Act and the Customs Tariff. Under the latter further substantial concessions were made under the British Preferential Tariff to encourage imports from the Empire.

An important feature of this Budget was the offer made by the Dominion Government that if the provinces would agree to vacate the personal income and corporation tax fields for the duration of the War, the Dominion would in return reimburse each province either by guaranteeing payment of (*a*) an amount equal to the collections made by each province and its municipalities during the fiscal year ended nearest to Dec. 31, 1940, from the above taxes, or (*b*) an amount equal to the net debt service actually paid by the province during the fiscal year ended nearest to Dec. 31, 1940, less the revenue obtained from the provincial succession duties during that period. At the time of going to press it seemed fairly certain that all nine provinces would accept the Dominion's offer.

War Loans.—The First and Second War Loans of 1940 and the Victory Loan of 1941 were sold by the Government to the Canadian people to provide a part of the funds required to meet the deficit not covered by revenue from taxation. The First War Loan, dated Feb. 1, 1940, was sold in an amount of $250,000,000 ($200,000,000 for cash), while the Second War Loan, dated Oct. 1, 1940, was sold in an amount of $324,945,700 ($300,000,000 for cash). The 1941 Victory Loan, dated June 15, was by far the largest of the three issues, and was sold in a total amount of $836,820,250 ($730,376,250 for cash). A nation-wide organization was formed to assist the Government in the sale of the Victory Loan, and an intensive publicity campaign was carried on which reached into every home in Canada. The number of individual subscriptions to this loan totalled almost 970,000.

To provide a form of savings for those not able to purchase the larger bonds of the War Loans and the Victory Loan, the Government has sold War Savings Stamps and Certificates since May, 1940. The Stamps are sold in the denomination of 25 cents, and may be accumulated and turned in for the purchase of War Savings Certificates. The Certificates are issued at a cost to the purchaser of $4, $8, $20, $40 and $80, and if held for 7½ years are redeemable at $5, $10, $25, $50 or $100, and for lesser amounts if held for a shorter period. From May 27, 1940, to Sept. 30, 1941, Certificates having a face value of $89,373,997 were sold.

In June, 1940, the sale of Non-Interest-Bearing Certificates was also commenced. These Certificates are issued in the denomination of one dollar or over and mature June 15, 1945, subject to redemption at the option of the holder at any time after six months after the date of issue.

Revenues and Expenditures

In the fiscal year ended Mar. 31, 1941, both revenues and expenditures reached levels far in excess of any year in the history of the Dominion. Revenues increased by $310,000,000 to $872,000,000 or about 73 p.c. over the previous year, a rise to which both new and old sources made substantial contribution, as will be seen from the table on p. 143. The three major new sources—national defence tax,

excess profits tax and war exchange tax—alone accounted for over $113,000,000, while revenue from the income tax increased by $86,000,000, or by more than 64 p.c. Of total expenditures of nearly $1,250,000,000, disbursements on the War accounted for $752,000,000, or over 60 p.c. Ordinary expenditures, covering the normal operating costs of government, were reduced by about $8,000,000, despite an increase of $10,000,000 (to a total of $139,000,000) in interest on the public debt (the largest single item in this group) arising out of heavier borrowing due to the War. Expenditures designed to relieve unemployment and agricultural distress, shown in the table as "Other special expenditures", were cut by more than half, while expenditures on "Government owned enterprises", the largest single item of which is the deficit on the Canadian National Railways, showed an even greater reduction. The over-all deficit for the year amounted to $377,431,000, about three times that of the previous year.

Summary of Total Revenues and Expenditures, Fiscal Years 1937-41

Item	1937	1938	1939	1940	1941
	$'000	$'000	$'000	$'000	$'000
Revenues					
Customs Import Duties	83,771	93,456	78,751	104,301	130,757
Excise Duties	45,957	52,037	51,314	61,032	88,608
Income Tax	102,365	120,366	142,026	134,449	220,471
National Defence Tax	–	–	–	–	27,672
Excess Profits Tax	–	–	–	–	23,995
Sales Tax	112,832	138,055	122,139	137,446	179,701
War Exchange Tax	–	–	–	–	61,932
Other taxes	41,636	44,738	41,477	30,457	37,404
Totals, Revenues from Taxation	386,551	448,652	435,707	467,685	770,540
Non-tax revenues	58,478	61,646	62,310	73,931	89,215
Totals, Ordinary Revenues	445,029	510,298	498,017	541,616	859,755
Special receipts and other credits	9,125	6,395	4,154	20,477	12,415
Totals, Revenues	**454,154**	**516,693**	**502,171**	**562,093**	**872,170**
Expenditures					
Ordinary expenditures	387,112	414,891	413,032	398,323	390,629
Capital expenditures	3,491	4,430	5,424	7,030	3,358
War expenditures (special)	–	–	–	118,291	752,045
Other special expenditures[1]	78,004	68,535	71,895	89,113	42,869
Government-owned enterprises[2]	44,218	44,833	58,944	42,079	18,182
Other charges	19,180	1,719	3,768	25,958	42,518
Totals, Expenditures	**532,005**	**534,408**	**553,063**	**680,794**	**1,249,601**
Deficits	**77,851**	**17,715**	**50,892**	**118,701**	**377,431**

[1] Includes $43,948,000 grants-in-aid to provinces and relief projects and $24,586,000 special drought area relief in 1937-38; $25,000,000, $27,000,000 and $10,500,000 reserve against estimated loss on wheat guarantees for 1938-39, 1939-40 and 1940-41, respectively.

[2] Includes net income deficit of the Canadian National Railways incurred in the calendar years 1936 to 1940 as follows: $43,303,000, $42,346,000, $54,314,000, $40,096,000 and $16,965,000, taken into the accounts of the Dominion in the fiscal year after the close of the calendar year.

Income Tax.—The income tax was instituted in 1917, as a part of what is still known as war-tax revenue. It is a war tax in name only, for even before the outbreak of the present war it had become a permanent and important part of the taxation structure, and the chief source of raising ordinary revenue. It is, of course, destined to play a still more important role in the raising of revenue to meet the unprecedented expenditures now being made. In many respects, it is an ideal form of direct taxation; the incidence is admittedly fair and just and the machinery for the collection of this tax already exists.

In the fiscal year 1939-40 the income (individual and corporation) assessed for Dominion income tax totalled $1,546,122,334. The income tax actually collected in the fiscal year amounted to $123,326,934.

As an indication of the extent to which the income tax bears upon those in the higher income brackets, it may be pointed out that individuals in receipt of incomes of $4,000 or less numbered nearly 80 p.c. of the total, but were assessed for only slightly over 8 p.c. of the amount levied. In the case of corporations, those earning up to $10,000 constituted over 77 p.c. of the total number, but were assessed for less than 5 p.c. of the total tax; on the other hand, corporations with an income of $50,000 or over, amounting to 7·6 p.c. of the total number, were assessed for 84·6 p.c. of the tax levied.

Individual and Corporate Incomes and Income Tax Assessed, Fiscal Year 1939-40

Income Class	Taxpayers		Net Income Assessment		Tax Assessed	
	Number	P.C. of Total	Amount	P.C. of Total	Amount	P.C. of Total
Individuals			$'000		$'000	
Up to $2,000	124,132	42·35	167,354	16·73	1,285	2·50
$ 2,000 to $ 3,000	68,420	23·34	169,110	16·91	1,366	2·65
$ 3,000 to $ 4,000	39,700	13·54	136,478	13·64	1,584	3·08
$ 4,000 to $ 5,000	19,409	6·62	86,525	8·65	1,510	2·93
$ 5,000 to $ 6,000	11,563	3·95	63,576	6·36	1,604	3·12
$ 6,000 to $ 7,000	7,243	2·47	46,869	4·68	1,506	2·93
$ 7,000 to $ 8,000	4,924	1·68	36,692	3·67	1,431	2·78
$ 8,000 to $ 9,000	3,355	1·15	28,597	2·86	1,299	2·52
$ 9,000 to $10,000	2,534	0·86	24,268	2·43	1,244	2·42
$10,000 to $15,000	6,409	2·19	78,307	7·83	5,385	10·46
$15,000 to $20,000	2,408	0·82	41,493	4·15	4,215	8·19
$20,000 to $25,000	1,084	0·37	24,750	2·47	3,303	6·42
$25,000 to $30,000	582	0·20	16,506	1·65	2,619	5·09
$30,000 to $35,000	351	0·12	11,609	1·16	2,092	4·06
$35,000 to $40,000	240	0·08	9,141	0·91	1,833	3·56
$40,000 to $45,000	169	0·06	7,387	0·74	1,594	3·10
$45,000 to $50,000	91	0·03	4,384	0·44	996	1·93
$50,000 or over	483	0·17	47,244	4·72	16,607	32·26
Totals	**293,097**	**100·00**	**1,000,290**	**100·00**	**51,473**	**100·00**
Debit adjustments	–	–	–	–	919	–
Net Totals	**293,097**	–	–	–	**50,554**	–
Corporations						
Up to $2,000	9,201	52·22	5,354	0·98	810	1·02
$ 2,000 to $ 3,000	1,268	7·20	3,114	0·57	459	0·58
$ 3,000 to $ 4,000	844	4·79	2,940	0·54	437	0·55
$ 4,000 to $ 5,000	608	3·45	2,746	0·50	403	0·51
$ 5,000 to $ 6,000	495	2·81	2,711	0·50	406	0·51
$ 6,000 to $ 7,000	372	2·11	2,396	0·44	350	0·44
$ 7,000 to $ 8,000	305	1·73	2,295	0·43	335	0·42
$ 8,000 to $ 9,000	297	1·69	2,512	0·46	365	0·46
$ 9,000 to $10,000	230	1·31	2,168	0·40	311	0·39
$10,000 to $15,000	866	4·91	10,783	1·98	1,564	1·98
$15,000 to $20,000	582	3·30	10,125	1·85	1,433	1·81
$20,000 to $25,000	359	2·04	8,147	1·49	1,142	1·45
$25,000 to $30,000	276	1·57	7,547	1·38	1,070	1·35
$30,000 to $35,000	185	1·05	5,997	1·10	816	1·03
$35,000 to $40,000	171	0·97	6,446	1·19	875	1·11
$40,000 to $45,000	127	0·72	5,516	1·00	759	0·96
$45,000 to $50,000	89	0·50	4,419	0·81	620	0·78
$50,000 or over	1,335	7·58	460,380	84·34	66,972	84·60
Unclassified	8	0·05	236	0·04	39	0·05
Totals	**17,618**	**100·00**	**545,832**	**100·00**	**79,166**	**100·00**
Debit adjustments	–	–	–	–	963	–
Net Totals	**17,618**	–	–	–	**78,203**	–

Provincial Finance

Under the provisions of the British North America Act of 1867 and its subsequent amendments, Provincial Governments were assured of certain revenues in the form of annual subsidies and allowances. The Act further empowered the provinces to impose taxes within their individual confines according to their requirements of revenue, chiefly the taxation of corporations and estates. As time went on other forms of taxation were introduced such as motor-fuel tax as well as motor-vehicle and other licences somewhat akin to taxation.

The possession of public domain and natural resources, such as lands, forests, minerals and water powers, also provided revenue from sales, leases and royalties.

Expenditures on educational requirements, public buildings, roads and highways, hospitals (mental and other), governmental administration, etc., were originally intended to be met out of the revenues above mentioned. However, the expansion of all these services for a growing population, together with the creation of public utilities such as railways, hydro-electric systems and, in late years, the unemployment relief problems have forced Provincial Governments to the loan markets for additional funds through the medium of debenture issues.

In provincial and municipal statistics of finance the individual provinces and municipalities have followed their own systems of reporting, in consequence of which true comparability is difficult to obtain. The Dominion Bureau of Statistics is at present engaged in bringing about uniformity of reporting such financial activities.

The following statements present the principal features of provincial finance as completely as present records will permit.

Aggregate Provincial Revenues and Expenditures

Fiscal Year and Province	Ordinary Revenues	Ordinary Expenditures	Direct Liabilities[1]
	$	$	$
1901	14,074,991	14,146,059	[2]
1921	102,030,458	102,569,515	565,470,552
1926	146,450,904	144,183,178	893,499,812
1929	183,598,024	177,542,192	1,034,071,264
1930	188,154,910	184,804,203	1,140,953,696
1935	160,567,695[3]	181,175,687[3]	1,717,370,436
1936	232,616,182	248,141,808	1,839,322,142
1937	268,497,670	253,443,737	1,862,303,955
1938	266,578,260[4]	252,151,331[4]	1,909,727,805
1939	275,535,514[4]	267,624,783[4]	2,032,684,173
1940[5]	302,481,833[4]	306,072,544[4]	2,130,566,952
Prince Edward Island	2,030,366	2,152,101	12,140,034
Nova Scotia	16,443,946	15,497,608	110,399,135
New Brunswick	12,459,611	11,921,467	106,538,075
Quebec	59,153,857	66,441,201	412,205,219
Ontario	106,384,870	109,618,967	749,023,753
Manitoba	20,223,411	20,223,411	147,227,622
Saskatchewan	24,958,420	25,258,324	219,431,814
Alberta	24,410,040	21,922,189	166,976,997
British Columbia	36,417,312	33,037,276	206,624,303

[1] Sinking funds are not deducted. [2] Not available. [3] Nova Scotia figures are for fourteen months and Ontario for five months. [4] Figures of ordinary revenue and expenditure for 1938, 1939 and 1940 are not all-inclusive and are therefore not entirely comparable with those for previous years. [5] Subject to revision.

Taxation.—As stated above, in earlier years the Dominion subsidies, together with provincial revenues, rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, but at the present time taxation accounts for nearly 45 p.c. of the ordinary revenue of Provincial Governments.

In 1916 the provincial revenue from taxation amounted to $12,521,816 and by 1940 it had increased to $142,682,913, or nearly 12-fold. In 1937, the latest year for which comparable statistics are available, three main sources provided 73·4 p.c. of the taxation revenue. These sources were: the gasoline tax, 30·1 p.c.; succession duties, 22·6 p.c.; and corporation taxes, 20·7 p.c. The gasoline tax produced $53,607,207 in 1940 as compared with $41,951,026 in 1939.

The rate of gasoline tax has been increased repeatedly in all provinces since its inception and many of these increases were made in the period of the depression after 1930; gasoline tax revenue is therefore not a good criterion as to mileage run unless these changes in taxes are considered.

Liquor traffic-control profits have also been an increasingly important source of revenue: in 1929 these reached $27,599,657; at the lowest part of the depression years, viz., 1935, they were only $10,818,228; but by 1940 they had risen to $31,228,139.

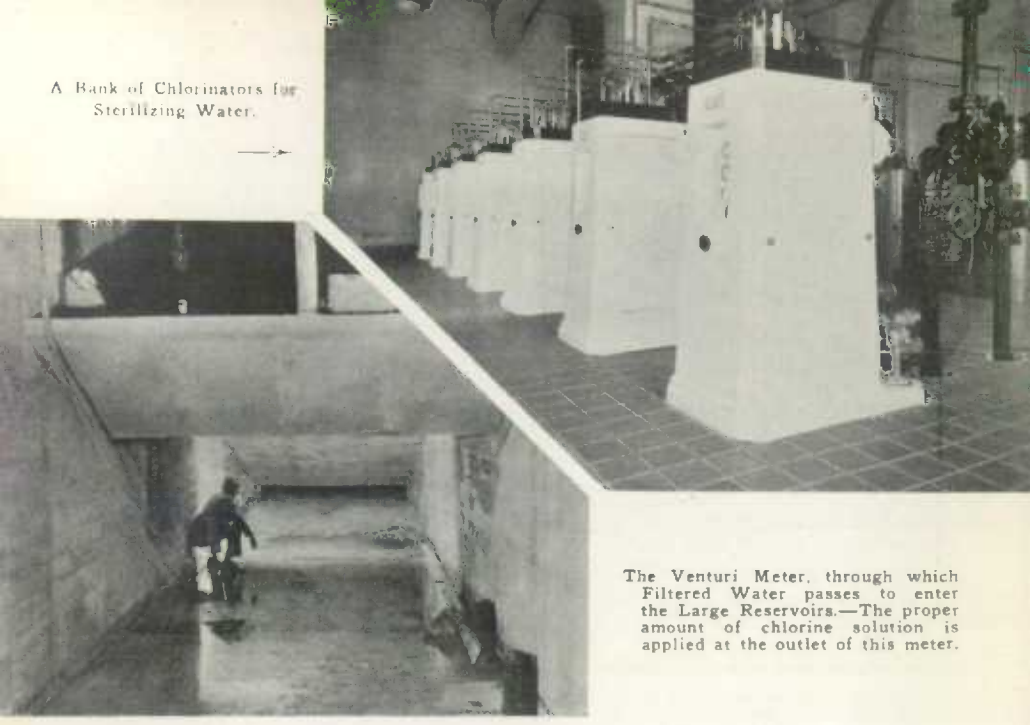
Bonded Indebtedness of the Provinces.—The total bonded indebtedness of all provinces, which is now approximately 80 p.c. of total liabilities, was as follows: $704,225,134 in 1925, $817,940,202 in 1929, $1,224,372,822 in 1933, $1,329,684,651 in 1934, $1,373,321,604 in 1935, $1,426,293,679 in 1936, $1,440,294,809 in 1937, $1,533,524,253 in 1938, $1,602,448,018 in 1939, and $1,715,576,637 in 1940. This bonded indebtedness for 1940 was divided by provinces as follows: P.E.I., $8,518,000; N.S., $105,122,647; N.B., $101,412,573; Que., $383,846,099; Ont., $630,690,211; Man., $93,177,481; Sask., $123,677,353; Alta., $127,974,537; B.C., $141,157,736. The development of the principle of public ownership is largely responsible for the high bonded indebtedness in certain provinces, particularly in Ontario where the hydro-electric system and the provincially owned Temiskaming and Northern Ontario Railway account for a good part of the bonded indebtedness of the Province. These public utilities are, of course, revenue-producing.

Municipal Finance

Taxation.—There are 4,328 municipal governments in Canada and their chief source of revenue is from the taxation of real estate, though in some provinces municipal governments have imposed income, business and personal property taxes. While there is a lack of uniformity in the methods of taxation which renders true comparability impossible, the total tax receipts as reported for all municipalities amounted to $252,360,420 in 1931 and in 1939, which is the latest year for which records are available, the total tax receipts were $269,414,223.

The municipal expenditures are largely met out of the taxation revenue and provide for educational requirements, streets and roads, sanitation, fire and police protection, charities, social relief, etc. The depression years added heavily to normal real estate tax burdens, owing to curtailment of building requirements, commercial, industrial and residential. This affected the construction industry despite the encouragement offered by the National Housing Act. Unemployment ensued and municipalities had to bear their share of necessary relief charges which increased the ordinary taxes.

Bonded Debt.—As explained in the foregoing paragraph, the development of educational facilities and increased expenditures for municipal requirements could



A Bank of Chlorinators for Sterilizing Water.

The Venturi Meter, through which Filtered Water passes to enter the Large Reservoirs.—The proper amount of chlorine solution is applied at the outlet of this meter.

Water Purification at the Victoria Filtration Plant, Toronto.

Courtesy, Engineering and Contract Record, *Wallace and Tiernan Ltd., and Department of Works, Toronto*

not be met out of current revenues, so debenture issues had to follow. The following table shows municipal bonded debt by provinces for 1919 and 1939 with sinking funds, offsetting, for 1939.

Municipal Bonded Debt for 1919 and 1939 and Sinking Funds for 1939, by Provinces

Province	Total Gross Bonded Indebtedness of Municipalities		Sinking Funds Offsetting Gross Bonded Indebtedness
	1919	1939	1939
	$	$	$
Prince Edward Island	970,100	3,028,750	592,350
Nova Scotia	17,863,881	35,100,388	13,170,488
New Brunswick	11,188,467	26,557,555[1]	8,683,061[1]
Quebec	199,705,568	512,729,536	81,486,864
Ontario	243,226,877	388,201,829	63,323,498
Manitoba	55,562,788	90,021,300	44,160,931
Saskatchewan	39,585,388	53,783,782	19,971,388
Alberta	66,870,464	82,055,033	10,122,239
British Columbia	94,741,615	119,377,590	30,498,830
Totals	**729,715,148**	**1,280,855,763**	**272,009,649**

[1] 1940 figures; 1939 not available.

CHAPTER XVI

Currency—Banking—Insurance

Currency

The use of the dollar as a monetary unit was extended throughout the new Dominion by the Uniform Currency Act of 1871. The Canadian gold dollar weighs 25·8 grains, nine-tenths fine gold, and thus contains 23·22 grains of gold. Only very limited issues of gold coin have ever been made. British and United States gold coin are legal tender in Canada. Subsidiary silver coin is legal tender up to $10; the 5-cent piece (now made of nickel) is legal tender up to $5; and the 1-cent bronze coin, up to 25 cents. Since 1931, the Government has permitted the export of gold only under licences issued by the Department of Finance, thus conserving the gold resources of the nation to meet the external obligations, and Canadian mines now dispose of their gold through the Royal Canadian Mint according to definite conditions of purchase.

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

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

Notes Outstanding, 1900-41

(Yearly Averages)

Year	Dominion or Bank of Canada Notes Outstanding	Chartered Bank Notes Outstanding	Year	Dominion or Bank of Canada Notes Outstanding	Chartered Bank Notes Outstanding
	$	$		$	$
1900	26,550,465	46,574,780	1935	127,335,340[1]	125,644,102
1910	89,628,569	82,120,303	1936	105,275,223[1]	119,507,306
1920	305,806,288	288,800,379	1937	141,053,457[1]	110,259,134
1929	204,381,492	178,291,030	1938	161,137,059[1]	99,870,493
1931	153,079,362	141,969,350	1939	184,904,919[1]	94,064,907
1932	165,878,510	132,165,942	1940	277,095,305[1]	91,134,378
1933	179,217,446	130,362,488	1941	391,624,913[1,2]	82,704,378[2]
1934	190,261,981	135,537,793			

[1] Since Mar. 11, 1935, the figures used represent Bank of Canada notes. [2] Averages for ten months.

Banking

Banking in Canada began to develop some of the features of a central bank system soon after Confederation. These in chronological order are:—

(1) *Central Note Issue*, permanently established with the issue of Dominion notes under legislation of 1868.

The Oldest Bank Building in Canada, Halifax, N.S.—This building was erected about 1812 and in it Enos Collins began a private banking business in 1815. It was occupied by the Halifax Banking Company from 1825-1903 and by the Canadian Bank of Commerce from 1903-08.

Courtesy, Canadian Bankers' Association

(2) *The Canadian Bankers' Association*, established in 1900 to effect greater co-operation in the issue of notes, in credit control, and in various other ways.

(3) *Central Gold Reserves*, established in 1913.

(4) *Re-discount Facilities*, made a permanent feature of the system in 1923, provided the banks with a means of increasing their legal tender cash reserves at will.

(5) *The Bank of Canada*, established in 1935.

The Bank of Canada.—Legislation was enacted in 1934 to establish the Bank of Canada as a central or bankers' bank. All of its stock is now vested in the Dominion Government. The Bank regulates the statutory cash reserves of the chartered banks, which are required to maintain not less than 5 p.c. of their deposit liabilities payable in Canadian dollars in the form of deposits with, and notes of, the Bank of Canada. The Bank also acts as the fiscal agent of the Dominion of Canada and may, by agreement, act as banker or fiscal agent for any province. Bank of Canada notes, which are legal tender, are the main source of paper money in Canada and will become increasingly so as the chartered banks gradually reduce their note issues to 25 p.c. of their paid-up capital.

The Bank of Canada is empowered to buy and sell securities in the open market; to discount securities and commercial bills; to fix minimum rates at which it will discount; to buy and sell bullion and foreign exchange. Under the Exchange Fund Order, 1940, the Bank transferred its reserve of gold to the Foreign Exchange Control Board in which Canada's exchange reserves have now been centralized. At the same time the Bank of Canada's statutory 25 p.c. minimum gold reserve requirement against its note and deposit liabilities was temporarily suspended.

Commercial Banking.—The branch bank is perhaps the most distinctive feature of the Canadian system as it exists to-day, and for a country such as Canada, vast in area and with a small population, the plan has proved a good one. A result of the growth of branch banks was the development of a partly centralized

Pouring Fine Gold at the Royal Canadian Mint, Ottawa.
Courtesy, Canadian Government Motion Picture Bureau

system. The number of chartered banks, which was 36 in 1881 and 34 in 1901, decreased to 25 in 1913 and is now only 10. This lessening of the number of banks has been accompanied by a great increase in the number of branches. In 1868 there were only 123 branch banks in Canada. By 1902 the number, including sub-agencies, had grown to 747, by 1916 to 3,198 and by 1929 to 4,069, but by the beginning of 1941 the number had decreased to 3,311. From 1867 to October, 1941, the total assets have grown from $78,000,000 to $4,031,000,000.

The banks of Canada had among them, at the beginning of 1941, 132 branches (not including sub-agencies) in foreign countries, mainly in Newfoundland, the West Indies, Central and South America.

Statistics of Individual Chartered Banks as at Oct. 31, 1941

Bank	Branches in Canada and Abroad[1]	Total Assets	Liabilities to Shareholders	Liabilities to the Public	Total Liabilities	Loans and Discounts	Deposits by the Public
	No.	$ '000,000	$ '000,000	$ '000,000	$ '000,000	$ '000,000	$ '000,000
Bank of Montreal	488	1,047	75	970	1,045	325	907
Bank of Nova Scotia	293	358	36	320	356	131	287
Bank of Toronto	172	176	15	158	173	68	150
Banque Provinciale du Canada	139	60	5	54	59	20	52
Canadian Bank of Commerce	521	761	50	711	761	306	658
Royal Bank	682	1,054	55	996	1,051	367	923
Dominion Bank	132	169	14	154	168	84	143
Banque Canadienne Nationale	222	173	12	160	172	60	154
Imperial Bank of Canada	195	207	15	191	206	87	180
Barclay's Bank (Canada)[2]	2	26	2	24	26	5	18
Totals, Oct., 1941	–	**4,031**	**279**	**3,738**	**4,017**	**1,453**	**3,472**
Totals, 1940[3]	2,846	3,707	279	3,411	3,690	1,324	3,180
Totals, 1939[3]	2,861	3,592	279	3,298	3,578	1,244	3,061
Totals, 1938[3]	2,875	3,349	279	3,057	3,336	1,201	2,824
Totals, 1937[3]	2,890	3,317	279	3,026	3,305	1,201	2,776
Totals, 1936[3]	2,961	3,145	278	2,856	3,134	1,141	2,615
Totals, 1935[3]	2,978	2,957	278	2,668	2,946	1,276	2,427
Totals, 1930[3]	3,598	3,237	305	2,910	3,215	2,065	2,517
Totals, 1920[3]	4,876	3,064	252	2,784	3,036	1,935	2,438
Totals, 1910[3]	2,621[4]	1,211	179	1,019	1,198	870	910
Totals, 1900[3]	641	460	98	356	454	279	305

[1] As at Dec. 31 of previous year. Does not include sub-agencies. [2] Barclay's Bank commenced operations in Canada in September, 1929. [3] Averages from the respective monthly statements, except in the case of the numbers of branches in Canada and abroad which are as at Dec. 31. [4] 1911.

CANADA'S BANKING SYSTEM

A distinctive feature of Canadian banking is its branch-bank system. This method of operation is particularly well suited to the needs of a country of wide area and scattered population. It forms within itself a ready means of shifting funds from one part of the country to another and from one industry to another as the occasion may demand, and ensures fairly uniform rates over wide areas. To-day, the Bank of Canada acts as the regulator of the nation's currency and credit and, together with the various chartered banks, which gather deposits from innumerable sources and put them to immediate productive use, renders a valuable service to Canada's war effort.

The layout on the reverse side shows a number of Canada's banking institutions, from towering head office buildings in the large cities, to one-story branch banks in small rural areas.

Top, left to right: (1) A typical town branch bank at Cooksville, Ont.; (2) A modern-styled rural branch at Oliver, B.C.; (3) A substantial and well-built city branch at Winnipeg, Man.; (4) and (5) A rural branch at Dawson Creek, B.C., and a town branch at Dalhousie, N.B., respectively.

Centre, left to right: Head Offices of the Bank of Nova Scotia at Toronto, the Royal Bank of Canada at Montreal, the Canadian Bank of Commerce at Toronto, and the Bank of Montreal at Montreal. In the centre of the layout is the Bank of Canada at Ottawa.

Lower, left to right: (1) A rural branch at Lashburn, Sask.; (2) A typical suburban branch at Westminster, B.C.; (3) A city branch at Montreal, Que.; (4) A suburban branch at St. Jean, Que.; (5) A rural branch at South Mountain, Ont.

At lower centre is shown a branch of a Canadian bank at Jamaica, B.W.I. The ten Canadian chartered banks have a total of 132 branches outside the Dominion; the majority of these are in the West Indies, Central and South America.

Courtesy, Bank of Montreal; Bank of Nova Scotia; Canadian Bank of Commerce; Royal Bank of Canada

CANADA'S BANKING SYSTEM

Banking Operations Sixty Years Ago and To-day.—The inset shows a bank interior of the '80's. The heavy mahogany counter and tiled floor are typical of the period. The lower picture shows the main banking room of a modern head office.

Courtesy, The Canadian Banker;
Bank of Montreal

Bank Clearings and Bank Debits.—Through the clearing houses, inter-bank transactions have been recorded since 1889; they form a valuable indication of the trend of business. However, they do not tell the whole story, since numerous transactions between persons who carry their accounts in the same bank are not recorded in bank clearings; also, every amalgamation of banks lessens the total volume of clearings. Again, head office clearings have been effected through the Bank of Canada since Mar. 11, 1935, and this has tended to increase exchanges compared with previous years. For these reasons, a record of cheques debited to accounts at all branches at clearing-house centres is considered to possess greater reliability as a barometer of economic conditions and such a record was instituted in 1924; between that date and 1929 the grand total of bank debits for Canada increased from $27,157,000,000 to $46,670,000,000. From 1929 there was a steady decline to the 1932 level of $25,844,000,000, but in the next four years the movement was generally upward, reaching $35,929,000,000 in 1936. In 1937 and 1938 there were recessions, a slight increase was shown for 1939, and in 1940 the increase amounted to 9 p.c.

Bank Debits at the Clearing-House Centres, by Economic Areas, 1936-40

Economic Area	1936	1937	1938	1939	1940
	$	$	$	$	$
Maritime Provinces	630,402,014	733,359,446	639,682,953	679,947,972	824,489,836
Quebec	10,938,647,731	11,568,421,542	9,965,182,391	9,820,399,452	9,973,060,607
Ontario	15,778,679,837	15,939,149,497	13,810,063,008	13,618,490,448	15,384,403,480
Prairie Provinces	6,505,518,677	4,827,021,407	4,572,383,521	5,478,229,879	6,118,407,201
British Columbia	2,075,358,484	2,098,109,246	1,937,050,859	2,020,284,080	2,137,113,355
Totals	**35,928,606,743**	**35,166,061,138**	**30,924,362,732**	**31,617,351,831**	**34,437,474,479**

Insurance

Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States of America about the middle of the nineteenth century. By 1875 there were at least 26 companies, and possibly several more, competing for the available business in Canada, as against 41 active companies registered by the Dominion and a few provincial companies in 1940. Of the 41 active companies registered by the Dominion, 28 were Canadian, 4 British, and 9 foreign.

As a result of the adaptation of life insurance policies to the needs of the public, and of the growing wealth of the country, the increase in the amount of life insurance in force has been remarkable. In 1869 the total life insurance in force in Canada, by Dominion registered companies, was only $35,680,000 as compared with approximately $6,975,000,000 at the end of 1940. This latter figure was equal to $610·66 per head of population. In addition, there was $178,000,000 of fraternal insurance in force by Dominion licensees and $129,000,000 of insurance in force by provincial licensees. Thus the total life insurance in force in the Dominion at the end of 1940 was approximately $7,282,000,000. The premium income from Canadian business of all Dominion registered companies (not including fraternal benefit societies) increased from $90,000,000 in 1920 to $221,000,000 in 1930, but decreased to $200,000,000 in 1940.

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

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

The report of the Superintendent of Insurance for the year ended Dec. 31, 1939, shows that at that date there were 279 fire insurance companies doing business in Canada under Dominion licences, of which 56 were Canadian, 70 were British, and 153 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British, and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to

80 p.c. of the total number is a very marked point of difference between fire and life insurance in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) in the fire insurance in force is due, no doubt, partly to the growth of the practice of insurance; but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. By 1880, companies with Dominion licences had fire insurance totalling $411,564,271; by 1900, the one-thousand-million-dollar mark had almost been reached, and by 1930, the total stood at $9,672,997,000. At the end of 1940, besides $10,737,568,226 of fire insurance in force in companies with Dominion licences, there was also $1,379,286,835 in force in companies with provincial licences, or about $12,116,855,061 in force with companies, associations, or underwriters licensed to transact business in Canada.

Miscellaneous Insurance.—Miscellaneous insurance now includes among other classes in Canada: accident (including personal accident, employers' and property liability, and accidental damage to personal property); sickness; falling aircraft; earthquake; automobile; aviation; burglary; explosion; forgery; fraud; credit; guarantee; hail; inland transportation; live stock; machinery; personal property; plate glass; property; sprinkler-leakage; steam boiler; title; tornado; weather insurance; etc. Whereas, in 1880, 18 companies were licensed for such insurance, in 1940 there were 241 companies, of which 52 were Canadian, 65 British and 124 foreign.

The total net premium income for 1940 was $39,817,366 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past twenty-one years; although decreases were shown for a few years prior to 1935, there has been an increase each year from 1935 to 1939. As recently as 1910, the premium income of companies doing an automobile insurance business was only $80,466; in 1916 it was $909,503 and in 1940, $18,859,851. The premium income of personal accident insurance came second with $3,228,375. Combined accident and sickness insurance was third in 1940 with $3,091,018. The premium income of all accident and sickness insurance combined totalled $10,839,769.

Canadian Government Annuities.—The Government Annuities Act authorizes the issue of Government annuities in order to encourage the people of Canada to provide, during the earning period of their lives, for old age. A Canadian Government annuity is a yearly income of from $10 to $1,200, either payable for life, or guaranteed for 10, 15 or 20 years and payable for life thereafter. Annuities may be either deferred or immediate, and may be purchased individually or by associated groups operating under retirement plans.

From the inception of the Act until Mar. 31, 1941, the total number of individual annuity contracts and certificates under group contracts issued was 72,149; of these, approximately 10,800 were issued under group contracts and pension plans. The remaining contracts were issued to individual annuitants. The net receipts for the entire period totalled $172,103,676.

On Mar. 31, 1941, there were in effect 65,780 contracts and certificates. Annuity was payable under 22,390 of these and annuity was still deferred under 43,390. The total amount of annuity payable under the vested contracts was $9,047,286 and the value of outstanding annuities was $156,053,072.

Canadian Head Office of the Metropolitan Life Insurance Company at Ottawa.

Loan and Trust Companies

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

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of $2,110,403 and deposits of $577,299. In 1940 there were 43 loan companies which reported, with a paid-up capital of $37,052,228 (Dominion companies $19,145,919 and provincial companies $17,906,309).

The reserve funds of all real-estate-mortgage loan companies at the end of 1940 was $24,305,102 (Dominion companies $14,262,422 and provincial companies $10,042,680); liabilities to the public $129,695,998 (Dominion companies, $98,988,451 and provincial companies $30,707,547); and liabilities to shareholders, $63,396,724 (Dominion companies, $34,542,188 and provincial companies, $28,854,536).

Trust companies act as executors, trustees, and administrators under wills or, by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minors or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy.

The aggregate total assets of the trust companies of Canada at the end of 1940 were $2,673,859,907 as compared with $805,000,000 in 1922 (the earliest year for which figures are available. The bulk of these assets ($2,673,859,907 in 1940) was represented by estates, trusts and agency funds. The assets of Dominion companies in 1940 amounted to $312,471,653 and of provincial companies to $2,582,940,157.

Small Loans Companies and Money-Lenders

The small loans companies, 3 in number and incorporated in recent years by the Parliament of Canada, make small loans of $500 or less on the promissory notes of borrowers, additionally secured, in most cases, by endorsements or chattel mortgages. Such companies, at the end of 1940, had an aggregate paid-up capital of $1,234,250; reserve funds, $421,488; borrowed money, $3,708,366; other liabilities, $1,465,099; small loans made, $13,423,217; small loans balances, $6,286,353.

On Jan. 1, 1940, the Small Loans Act, 1939 (c. 23, 3 George VI) passed by the Parliament of Canada, came into force under which licensed money-lenders making personal loans of $500 or less are limited to a rate of cost of loan of 2 p.c. per month on outstanding balances and unlicensed lenders to a rate of 12 p.c. per annum, including interest and charges of every description. As at Dec. 31, 1940, there were 69 licences issued under the Small Loans Act, 1939, of which 3 were issued to small loans companies and 66 to money-lenders. Figures for small loans companies are given in the paragraph immediately above. The 66 money-lenders, except one whose licence was cancelled in January, 1941, made personal loans in 1940 of $6,995,220 and at the end of that year had outstanding small loans balances of $3,581,059.

Capital Invested in Canada and Canadian Investments Abroad

In considering the relative importance of Canada's international indebtedness in the nation's economic life, the place Canadian capital occupies in the total amount of capital invested in Canada should be noted. It is estimated that the amount of capital invested in Canada is about $18,000,000,000. This sum includes the bonded indebtedness of Dominion, provincial, and municipal governments, investments in railways, all manufacturing concerns, mines and metal industries, public utilities, trading establishments, finance, insurance, land, and mortgages. It does not include private capital in domestic enterprises. Of this sum, it is estimated that about 62 p.c. is owned in Canada; 22 p.c. in the United States; 15 p.c. in the United Kingdom; and less than 1 p.c. in other countries.

Very marked changes have taken place in Canada's international indebtedness during the present century. The industrial expansion in Canada in the years preceding the First World War was related closely to the heavy inflow of capital from Great Britain. The rapid growth of United States investments in Canada took place after 1914. Part of this increase in the investments of the United States in Canada came after 1926 and there was a change in these investments between 1926 and 1930 of from $3,161,200,000 to $4,298,400,000. In 1937, the latest year for which an estimate was made, British and foreign capital invested in Canada amounted to $6,765,000,000, of which $3,932,400,000 was invested by residents of the United States, $2,684,800,000 by residents of the United Kingdom and $147,800,000 by residents of other countries.

In appraising Canada's international indebtedness, consideration must also be given to Canadian investments abroad. These have grown from $1,352,800,000 in 1926 to $1,757,900,000 in 1937. The largest part of the 1937 investments, about $1,097,600,000, was invested in the United States, $40,900,000 in the United Kingdom, and $619,400,000 in other countries.

Miscellaneous

Canadian Bond Financing.—In 1940 sales of Dominion Government bonds amounted to 90·9 p.c. of the total sales. Provincial issues registered an increase of 1·8 p.c. As would be expected in war-time, sales of principal and corporation bonds decreased, while no railway bonds were placed on the market during the year. Corporation bonds registered a decrease of $211,131,600, or almost 90 p.c. of the 1940 sales. All of the bonds issued were sold in Canada.

Analogous to Dominion bond issues are those of War Savings Certificates, whereby persons of modest means are enabled to participate in the financial end of the war effort. See preceding chapter, p. 142.

Sales of Canadian Bonds, 1929 and 1933-40

Year	Class of Bonds		Distribution of Sales			Total
	Government and Municipal	Railway and Corporation	Sold in Canada	Sold in the United States	Sold in the United Kingdom	
	$	$	$	$	$	$
1929	218,628,309	442,530,600	378,395,909	263,654,000	19,109,000	661,158,909
1933	564,171,513	5,385,000	434,556,513	60,000,000	75,000,000	569,556,513
1934	564,558,132	73,402,696	529,630,828	50,000,000	58,330,000	637,960,828
1935	907,500,200	109,005,700	853,940,900	162,065,000	500,000	1,016,505,900
1936	946,091,087	352,983,224	1,211,824,311	86,000,000	1,250,000	1,299,074,311
1937	1,145,499,475	119,946,800	1,177,196,275	88,250,000	Nil	1,265,446,275
1938	1,057,438,011	75,442,500	1,044,038,844	40,175,000	48,666,667	1,132,880,511
1939	1,205,542,589	242,708,600	1,316,651,189	127,500,000	100,000	1,448,251,189[1]
1940	2,261,977,793	25,077,000	2,287,054,793	Nil	Nil	2,287,054,793

[1] Includes $4,000,000 distributed elsewhere.

Interest Rates.—There does not exist in Canada as yet a market for money in the same sense as in great financial centres such as London and New York. However, since the War of 1914-18, the importance of Dominion financing in the domestic market has made it possible to compile a Dominion index of bond yields that is representative of interest rates in Canada. Since the publication of *Canada 1941*, the base on which these indexes have been compiled has been changed to the period 1935-39, instead of the former 1926 base, and the table below shows comparable figures for the past seven years.

Indexes of Dominion of Canada Long-Term Bond Yields, 1935-41

(1935-39=100)

Month	1935	1936	1937	1938	1939	1940	1941
January	102·4	106·5	94·1	99·2	93·5	103·3	96·3
February	105·9	103·6	99·0	98·6	93·8	101·9	96·1
March	104·1	102·4	105·0	97·9	92·1	101·9	95·8
April	104·5	101·8	106·2	96·2	93·8	100·2	95·9
May	103·0	100·9	104·6	94·6	95·0	99·8	95·9
June	105·8	98·0	102·5	95·4	93·0	101·4	96·4
July	105·2	95·5	101·8	95·7	92·9	101·1	95·8
August	104·4	92·6	100·8	96·1	94·5	100·0	–
September	112·8	91·8	100·6	98·0	108·7	98·9	–
October	113·9	96·0	102·8	97·2	106·3	98·6	–
November	108·3	94·7	102·4	94·6	102·7	98·0	–
December	109·1	93·3	100·0	94·0	104·3	97·0	–

CHAPTER XVII

Education—Research

Education

The Effects of the War on the Direction of Education.—A review of education in Canada at the close of the second year of the present war must be confined largely to the effects of war-time economy and social conditions on the educational progress of the country.

While the War has not changed the structure, policy, or functions of the Canadian educational systems, certain changes in tempo, correlation and emphasis are already apparent in each of the nine systems of education.

The immediate need for highly trained personnel for the defence forces, administrative departments and industry (see pp. 109-10) has produced problems in the educational field common to each province: a shortage of qualified teachers; steadily increasing enrolment in secondary and technical schools; and the need for equipment and buildings with which to train workers for industry and defence.

The latter problem has brought to the vocational and technical schools a degree of ascendancy hitherto unknown. The system of Dominion-Provincial co-operation inaugurated during the years of unemployment has been expanded into a war-emergency training scheme. Training schools and shop-work classes in every available school and centre have been established throughout each province under the centralized supervision of the Dominion Department of Labour.

Provision has been made also for refresher courses for older men who have been out of touch with specialized and precision industry; and special courses for adult men and women with a talent for mechanics, who desire to devote their talents to productive service for the War. Young men who are about to enlist in the scientific and mechanized branches of the defence forces are given preliminary training under this system.

A similar high level of function has been reached by a branch of educational activity that is comparatively recent in Canada—selection of trainees for defence forces primarily, by means of tests of intelligence and aptitude. Tests of health and fitness, too, have taken on an added importance, and these things have had

A Corner of a School Library.—Most urban junior and senior high schools and collegiates have their own libraries.

an effect on the schools by placing greater emphasis on physical training, health education, nutrition, and wholesome emotional orientation through integrated subject-study and extra-curricular activities.

Many centres have established army cadet-corps in connection with their schools, and the immediate popularity of the Air Cadet League, organized within the past year, shows a definite trend towards air-mindedness on the part of young Canadians. The growth of the Canadian Navy has similarly increased interest in the Sea Cadet Corps of the Navy League of Canada.

At no time in Canadian history has there been a more concerted drive towards education for constructive citizenship with special efforts directed towards enlightenment and appreciation of the freedom bestowed by democratic government. The establishment of a Canadian Council of Education for Democracy in 1940 was a step towards co-ordination of activities and a united national objective on the part of the provincial educational authorities, educationists, and organizations with programs of informal public education or formal adult education.

The Junior Red Cross Society has for many years been officially recommended by provincial educational authorities as a medium of organized activity for the pupils of elementary and, in many cases, secondary schools. For the duration of the War the program of this Society has been adapted and integrated with the curricular activities relating to sewing, home science, shop work, health education and first aid. The sewing classes direct their activities to articles, knitted or hand sewn, for the defence forces; home science is directed towards the conservation of food, balanced diets and home nursing; while the manufacture of splints, wooden utensils, aeroplane models, electrical war-maps and other articles related to the war program develops a sense of responsibility towards the war effort.

The system of recommendation for promotion, in lieu of examination, has been extended in most of the provinces and credits have been granted to those students who engage in actual war-work, through assistance on farms or in factories, on the production of certified evidence of such work.

One of the most significant educational projects since the declaration of war has been that undertaken by the Canadian Legion War Services Incorporated in co-operation with the Canadian Association for Adult Education on behalf of men serving in the armed forces. This is a system of education, primarily through correspondence courses, with a curriculum acceptable to all of the nine provinces and Newfoundland. The object of these courses is three-fold: to make more skilled and efficient fighting men; to assist in upholding morale during periods of inactivity or convalescence; and to prepare the soldier-student for entrance into civilian life after the War. The courses are supplemented by an educational library service.

The institutions of higher education are assisting the war effort in many ways. Many of the outstanding professors and specialists have been assigned to Government bureaus in an administrative or advisory capacity and the various Departments and research staffs are directing every effort to the co-ordination of lectures and research projects with war needs.

Enrolment in the applied sciences and medicine has increased more rapidly than in the liberal arts, but to date the total enrolment has not been greatly affected by the demands of the defence forces, partly, no doubt, because compulsory military training has been instituted within the university or college activities. These training courses have to a degree superseded the campus activities of previous years.

TECHNICAL EDUCATION IN WAR-TIME

Future Aero-Engine Mechanics Study the Intricacies of an Aeroplane Engine.

Class Receiving Training in Machine-Shop Practice to Fit Them for Employment in War Industries.

A Youth Learns Arc Welding; the Mask Protects the Eyes from Dangerous Glare.

Courtesy, Department of Labour

Some institutions have authorized corresponding compulsory war-work training for the women students. These courses are selective and may be first aid, air-raid precautions, applied science or other related war activities.

The shortage of teachers in the schools brought about by enlistments, marriage, transfer to other forms of work, and the reduced number training in recent years, has made it necessary in some cases to grant special teaching permits to individuals without the provincial official certificates and to give permission to married women holding regular teachers' certificates to return to the profession. Salaries have tended to show an increase and the financial problems of school boards have been lightened in some districts by more prompt tax payments.

Several provinces have suspended teachers' summer courses for the duration of the War, largely because of the heavy duties that have developed upon the qualified instructors and the requisitioning of buildings and equipment for training the defence forces. Those provinces that have retained their summer and seasonal schools for adults and teachers are emphasizing subjects calculated to sustain morale, or those directly related to the war effort.

The new curricula have been subjected to the trial and error period with some consequent adjustments and adaptations. But in the main the results are quite satisfactory and, with the new emphasis on constructive democratic citizenship as a subject of adult study, the parents and school supporters who were in doubt over the changes introduced have acquired a broader concept of the objectives and philosophy contained in the new system of education designed to produce wholesome, adaptable citizens.

The progress of adult education or post-school education is seen in the demand for more comprehensive information on public affairs and a more intelligent acceptance of regulations designed for social and physical welfare. The radio is responsible in no small degree for this progress and its use as a contributing factor to both formal and informal education is now accepted and established.

Summary Statistics of Education in Canada, 1940

NOTE.—Figures in even hundreds are approximate only.

Type of School or Course	Institutions	Pupils	Teachers	Expenditure
	No.	No.	No.	$
Provincially Controlled Schools—				
Ordinary and technical day schools	32,800	2,191,876	75,526	
Evening schools	452	93,340	2,500	
Correspondence courses	7	21,564	300	130,000,000
Special schools	20	5,051	500	
Normal schools	83	6,501	689	
Privately Controlled Schools—				
Ordinary day schools	865	90,956	4,955	5,800,000
Business training schools	189	20,533	694	
Dominion Indian Schools	378	18,396	600	2,331,554
Universities and Colleges—				
Preparatory courses	60[1]	19,803	1,413	
Courses of university standard	155	49,356	5,825	19,000,000
Other courses at university	10[1]	55,455		
Totals	**35,000**	**2,572,831**	**93,000**	**157,100,000**

[1] Includes only affiliated schools that are not enumerated in "Courses of university standard".

The biennial survey of libraries in Canada for 1938-40 suggests that increasing prosperity or activity lessens the number of readers; although the volumes and circulation have increased regularly since 1933, the number of borrowers has decreased consistently.

Some effort has been made to provide the rural population with library service through regional libraries, but over half of the population of the Dominion, and that half largely the section with prolonged winter reading opportunities, have no adequate library service.

The public libraries too are called upon to collaborate with the schools more and more in providing the much greater range of reading material that is demanded by the new programs of study. More than a quarter of public library patrons are boys and girls, and juvenile reading material constitutes 15 p.c. of the total volumes recorded.

The National Research Council in Relation to the War

The National Research Council of Canada, in co-operation with all interests concerned is effectively serving the scientific and technical war needs of Canada in all their multifarious aspects. The Council operates directly scientific research laboratories which are to-day engaged almost exclusively on war problems. It also fills the more far-reaching function of stimulating and correlating scientific facilities in Canada. As a result there is being maintained in the present conflict the most intimate contact and close co-operation between the fighting services, Departments of Government, industrial institutions, universities and research laboratories in the prosecution of all scientific and technical aspects of war preparation.

The laboratories consist of four research divisions: Physics and Electrical Engineering, Chemistry, Mechanical Engineering, and Biology and Agriculture.

In addition to the research divisions, under the auspices of the Council, there were in active operation in 1941 about thirty associate committees responsible for co-ordinating and supervising research on large national problems such as aeronautical research, field-crop diseases, forestry, industrial radiology, laundry research, metallic magnesium research, etc. The memberships of these associate committees contain the names of interested authorities across Canada who are responsible for the formulation of plans and the general direction of the work. Investigations are carried out not only at the National Research Council laboratories but also in the laboratories of the various universities, Government Departments, and industrial institutions across the country. Two of the most important committees are those dealing with medical research and aviation medicine. Problems of night vision, of shock, of fatigue, of resistance to cold and protection from heat are among the subjects on which intensive work of great value is being done.

The demands upon the National Research Council during recent months have increased greatly and it has been necessary to add to the staff and facilities. As at Oct. 31, 1941, the staff of the National Research Council numbered 780 as compared with 308 in July, 1939. In addition to those actually with the establishments of the National Research Council, increasing numbers of scientifically trained men from the defence services have been seconded for duty as co-workers with National Research Council scientists on research problems. A glance into almost any of the working laboratories shows men in uniform.

Facilities in the universities in co-operation with the National Research Council are also being effectively used for war work. At the end of the year, more than one hundred persons were employed on war research projects in the universities of Canada under a co-ordinated plan supervised by the National Research Council.

At Ottawa, the main building of the National Research Council is filled to capacity. Small new research stations have been established at various points for special purposes and teams of research workers have been sent to important strategic centres in Canada, the United States and Great Britain.

Several additional laboratory buildings on a new site just outside Ottawa (Montreal Road) have now been completed and occupied. Facilities have been provided for aerodynamic research in horizontal and vertical wind tunnels, for aircraft and allied instrument testing, and for the construction of instruments and models. There is also an aircraft engine laboratory and an aircraft structures laboratory for the design and testing of aircraft parts.

A New Canadian Industry.—In the workshops and laboratories of the Government-owned Research Enterprises Ltd., Toronto, optical glass is melted, ground, polished and incorporated in Canadian-made optical instruments such as range finders, gun sights and periscopes.

Courtesy, Department of Public Information

During peace-time, the National Research Council had many valuable contacts with the technical sections of the Department of National Defence and this association has become more intimate as the War has gone on, until, to-day, in addition to its former role, the Council is functioning as a research station for the three fighting services of the Department of National Defence and also for the Department of Munitions and Supply. While the relationships between the Services and the National Research Council were, up to recently, entirely informal, the Council has now been officially listed as the Research Station of the Royal Canadian Navy. Many scientific problems have been attacked and solved for

the Navy. Prototypes of certain secret equipment have been developed in the Council which are now being produced in very large quantity for the use of not only Canada but all of the Allies, and several other developments have received general recognition for their tactical and strategical importance.

In the Division of Biology and Agriculture, scientific and engineering problems involved in the storage of perishable foodstuffs and their transport to Great Britain have received attention. Means have been found whereby the quality of bacon and eggs delivered overseas is being maintained in spite of the impaired facilities for war-time transport. Investigations have been made into the storage of human blood for transfusions, and local Red Cross units are now using shipping containers designed in the laboratories. Investigations are under way on the manufacture of starch, starch products and gluten from wheat.

In the Division of Chemistry, the laboratories devoted to textiles, leather, and rubber immediately became engaged in testing war materials, developing substitutes, and, in consultations with the Services, the preparation of specifications for war materials. The magnesium laboratory, which had been training personnel for the production of metallic magnesium, is to-day engaged in assisting the development of production of this strategically important mineral.

The work on chemical defensive methods is an excellent example of the co-operation of the Department of National Defence with the National Research Council. All research on methods of defence against chemical attack, excepting training phases, is directed by a special committee of which a member of the National Research Council is chairman, and technical officers of the Department of National Defence and of the laboratories are members. This committee has organized and is directing over one hundred research projects within the various university laboratories and in the Chemistry Division at Ottawa. It has also supervised the manufacture of all the gas masks produced in Canada.

The Division has undertaken the initial production of special chemicals not immediately available in Canada and has supplied needs until commercial sources of supply have been found or for which the demand is so sporadic and limited that commercial production is not feasible.

In the Mechanical Engineering Division, the transition from civil to military aeronautics was easily taken. The wind tunnels have been engaged on many miscellaneous projects in aerodynamics; extensive co-operative investigations on lubricating oils and fuels have been undertaken; the model-testing basin is engaged in studies in connection with boats and floats, and considerable fundamental work has been done in the use of moulded plastic plywood construction. The shops of the Division of Mechanical Engineering have been busy on the construction of various gear equipment developed and designed for the Services of the Department of National Defence, and in making and rectifying gauges for the Department of Munitions and Supply.

In the Physics and Electrical Engineering Division there has been rapid growth in staff, chiefly in connection with the testing and certification of gauges for munitions inspection and in the development of secret radio gear in which considerable success has been obtained. A new experimental radio field has been equipped and established some miles from Ottawa.

The Division is also directly concerned with naval problems and works in close co-operation, through a liaison officer, with the Royal Canadian Navy. Research on ballistics, X-ray analysis of aircraft and other castings, electrical

engineering research especially for the Navy, and studies on acoustics are being carried out. An important war service rendered by the Division during the year was in consultations and initial work in promoting the production of fire-control and other optical war instruments and special radio apparatus for the War. Great strides have been made in the improvement and development of instruments in the radiolocation field. Equipment designed in the laboratories of the National Research Council is already proving its worth in operational use.

The National Research Council was largely responsible for the organization of Research Enterprises Limited, a wholly Government-owned company, formed for the purpose of manufacturing in quantity special secret military equipment from prototypes developed by the National Research Council.

Quite recently a number of public spirited corporations and individuals, impressed by the practical value of the work of the Council, raised a fund of $1,250,000 from which grants are made to the National Research Council in order to carry on investigations and develop new equipment that may be useful in war. This money in addition to regular Government grants has given great flexibility to the Council's efforts, and has already greatly assisted the war effort. In addition to the very real amount of research and development work that has been carried on, the Council has been particularly active in maintaining the most effective liaison possible between the scientific work going on in Canada and that being conducted in Great Britain and the United States. Ever since the War broke out, the Council has maintained specialists in England for this purpose. A scientific liaison officer has recently been appointed to London. In return the British Government has established a liaison office in Canada. The liaison with the various laboratories in the United States is very intimate, and scientists from the United States are constantly visiting Canadian establishments and in turn Canadian scientists travel freely to the United States and are acquainted with progress there.

Establishment of the Inventions Board by the Government has enabled this important branch of work to be centralized under the auspices of the National Research Council. To date upwards of 7,800 inventions and suggestions intended to further Canada's war effort have been received and dealt with by the National Research Council, various departments of Government, and by other bodies.

The work the National Research Council has been able to do in the present emergency has shown that the foundations of the institution were well laid and the practical achievements and sound advice given have proved the value of science to the country both in peace and in war.

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