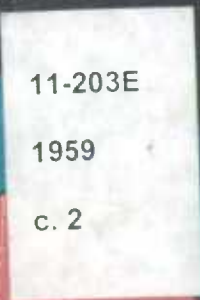


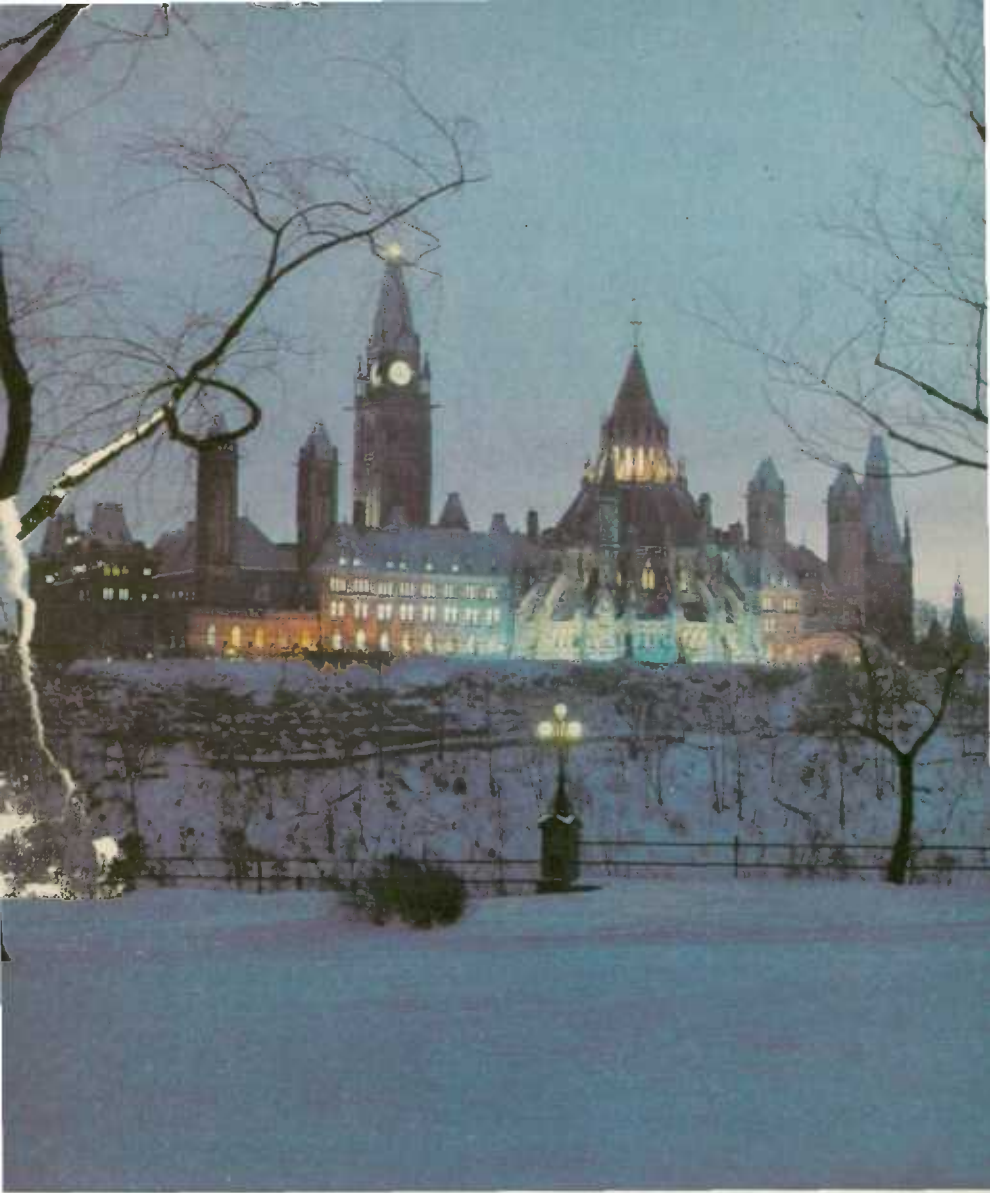
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Parliament Hill at Ottawa

Where only yesterday was the forest primeval, the vast untouched solitudes as old as time, there is today the pulsing activity of a great country whose canvas of history, ablaze with the hightoned colour of exploration and adventure, is mellowing with the deeper and more intense hues that reflect the life of an energetic and zealous people, the steadfast growth of a nation.

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The Official Handbook of Present Conditions and Recent Progress

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Foreword

THE illustrated Canada Handbook offers to the Canadian public and to the peoples of other lands a factual, annual survey of the Canadian economy set in a statistical background and illuminated with illustrations of the recent economic, social and cultural development of the nation. In text and tables, in layouts and illustrations, *Canada 1959* seeks to portray the present conditions of the Canadian people, their richly endowed resources, their democratic institutions and way of life, and their dynamic economy.

Apart from its special features, *Canada 1959* draws on the same official sources of the Dominion Bureau of Statistics and the various departments of the Government of Canada that contribute to the larger reference volume, the *Canada Year Book*. The illustrations are selected from a wide range of governmental, commercial, press and private sources.

Canada 1959 is produced in the Canada Year Book Section of the Information Services Division—Miss M. Pink, Assistant Editor and Chief of the Section; Dr. C. C. Lingard, Editor and Director of the Division.

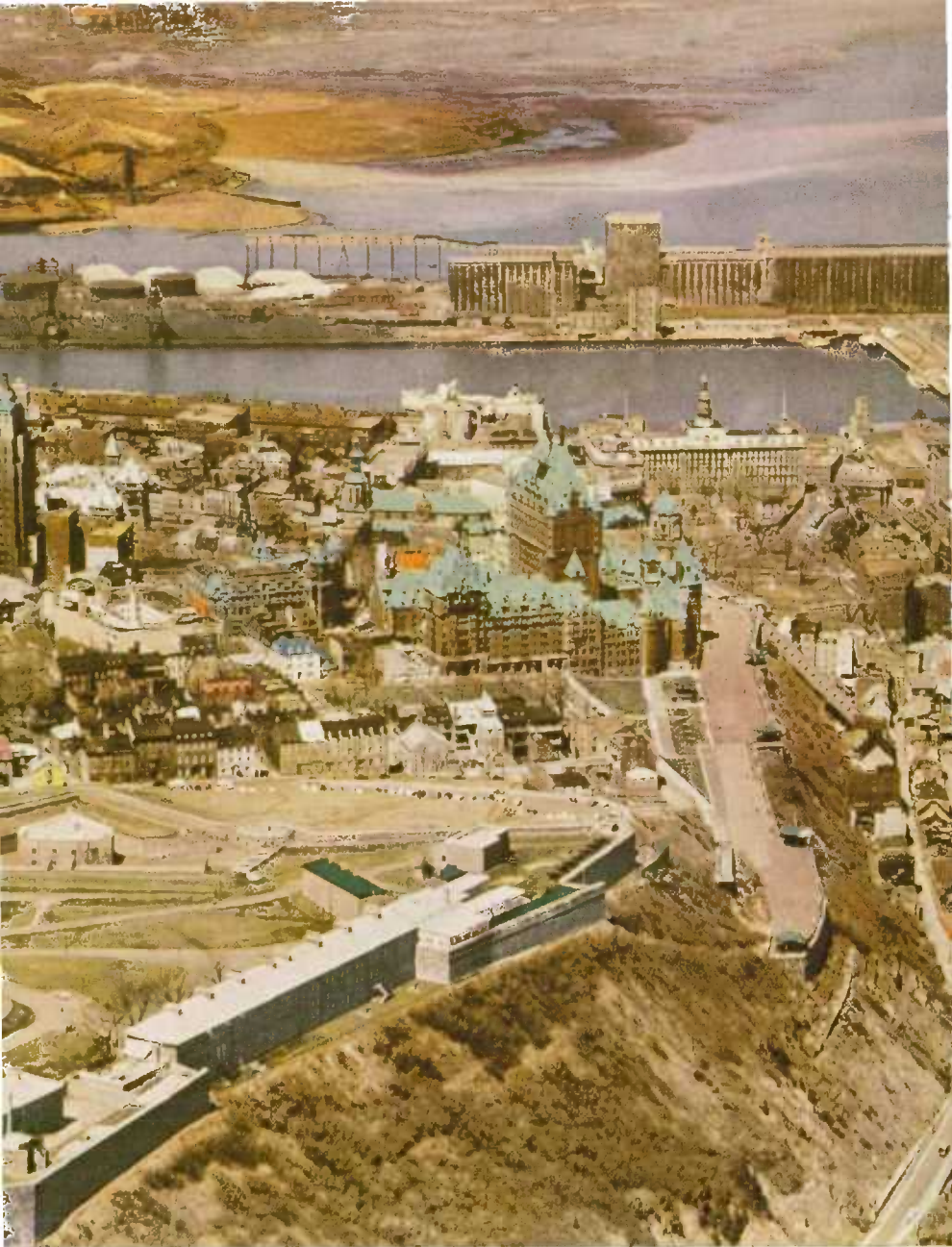
Walter E. Duffett.

Dominion Statistician

Dominion Bureau of Statistics,
Ottawa, June 15, 1959.

Contents

	Page
CANADA AND CANADIANS.....	1
<i>Population Pattern</i>	10
GOVERNMENT AND WORLD RELATIONS.....	21
CANADA'S NATURAL HERITAGE.....	45
<i>Forestry</i>	60
<i>Mining</i>	68
<i>Agriculture</i>	78
<i>Fisheries</i>	98
INDUSTRIAL DEVELOPMENT.....	105
<i>Manufactures</i>	110
<i>Electric Power</i>	124
<i>Labour</i>	134
TRANSPORTATION AND COMMERCE.....	149
<i>Transportation</i>	149
<i>Communications</i>	166
<i>Domestic Trade</i>	174
<i>Foreign Trade</i>	186
<i>Banking</i>	204
<i>Investment</i>	208
CANADA'S ECONOMY IN 1958.....	217
THE SOCIAL SPHERE.....	227
<i>Education</i>	227
<i>Scientific Research</i>	238
<i>Health and Welfare</i>	240
<i>Citizenship, Indians and Eskimos</i>	262
<i>Housing</i>	270
<i>Cultural Relationships</i>	274
TRAVEL IN CANADA.....	300
ACKNOWLEDGMENTS.....	313
INDEX.....	315



Quebec—to hear its name is an immediate transport to the past; to walk its narrow, precious streets is to journey with that motley throng of French aristocrats and seigneurs, proud churchmen, saintly women, adventurous explorers and traders, silent Indians and common people who shaped the history of this country and of this continent. Quebec is Canada's vitalizing touch between past and present. Today it stands nobly on its stately headland, living its modern-day progressive life in a beauty that only the romance of time can give—

*"Methinks within her wakes the mighty glow
Of pride, of tenderness—her stirring past—
The strife, the valour, of the long ago
Feels at her heartstrings. Strong, and tall and vast,
She lies, touched with the sunset's golden grace,
A wandrous softness on her grey old face."*

Canada and Canadians

THIS nation of Canada and its distinctive national characteristics are in a most pervasive sense the offspring of a steadfast union between history and geography—between tradition and environment. History and geography have combined to produce in Canada a situation in which two paramount ethnic stocks—French and British—have for two centuries had no other choice than to live together as distinct peoples within a single state. From this political unity has emerged a new concept of democracy based on ethnic and cultural diversity, and in the process of reconciling these and other diversities the Canadian people have developed to a marked degree qualities of compromise, tolerance, adaptability, moderation, tenacity and resourcefulness. Indeed, only through the application of these qualities was Canada able to overcome physiographical barriers to its westward expansion and offset the southward pulls and pressures of the neighbouring English-speaking republic, to weld diverse and far-flung regions into a transcontinental state, fashion a federal system of government peculiar to its needs, attain the rank of one of the world's major industrial powers, and in the doing acquire at last a sense of corporate unity and conscious pride in a Canadian national identity.

This fundamental dualism or diversity in the pattern of Canadian life had its origin two hundred years ago in a drama of death and triumph enacted on the St. Lawrence which was destined to colour almost every aspect of national activity. Here, at the heart of New France on Sept. 13, 1759, a well-executed amphibious operation culminated in the decisive Battle of the Plains of Abraham and the surrender of the city of Quebec three days later. British control of the Atlantic sea lanes ensured the fall of Montreal and, with its capitulation on Sept. 8, 1760, the conquest of New France was complete. Yet the story of the descendants of that little band of Canadians who suffered the despair of abandonment by France has from that day onward consisted of a patient rescue of themselves from the sense of tragedy, a profound belief in the miracle of their cultural survival, and the winning of full and free partnership with the descendants of the conqueror in the building of something that tends to unite rather than divide the founding races—a Canadian nation.

Overlooking the cove where General Wolfe and his men disembarked on that eventful Sept. 13, 1759, to scale the heights and change the destiny of Canada.





All that remains of the fortifications at Louisburg on Cape Breton Island in Nova Scotia, once one of the strongest fortresses in North America. It finally passed from French to British hands in 1758 and it was here, the following year, that the British fleet and troops gathered in preparation for the attack on Quebec.

Thus, Canada today is no dull monochrome of uniformity but a bicultural nation with a story of heroic achievement extending over three and a half centuries. Its national heritage was abundantly enriched by the French régime whose historic beginnings of settlement are associated with the name of Samuel de Champlain, model explorer and colonizer, 'Father of New France', dedicated to the ideal of nation-building in the vast expanses of the New World. For a hundred and fifty years, French Canadian fur traders, *coureurs-de-bois*, explorers and missionaries penetrated the distant recesses of the Continent west, north and south, driven by the lure of wealth-giving furs, the call of adventure and freedom in the trackless wilderness, and the desire to win souls for the Church. Seldom in history have so few people abounded in so many great souls, for a truly Canadian epic was enacted by the Jesuit martyrs and by inspired women and men of action—Brébeuf and Lalemant, Marie de l'Incarnation, Jeanne Mance and Marguerite Bourgeois, Laval and La Salle, Joliet and La Vérendrye.

Despite the wide dispersal of physical resources through exploration, adventure and the traffic in furs, the slender ribbon of French Canadian settlement along the St. Lawrence had put its roots deep into the soil and established in the century and a half prior to 1759 a distinct culture of its own centred in its few towns, its seigniories and parishes, its churches and manor houses with their large patriarchal family groupings, predominantly agricultural and characterized by stability and obedience to established authority through its basic elements—the Roman Catholic religion, the French language, the Laws or *Coutume de Paris* and a treasured body of customs and traditions. After the Conquest a few thousand British and colonial officials, soldiers and merchants settled in Quebec and Montreal, many marrying Canadians of the seigniorial class. But the vast majority of the 70,000 inhabitants could trace their Canadian ancestry for several generations and, despite their French heritage, possessed a sense of separate identity vigorously Canadian in interests and outlook.

The colourful story of Canada's subsequent growth and expansion across the northern half of the Continent—the spread of settlement and the inpouring of new people, bringing significant variants to its ethnic content—may be divided into four time-cycles of pulsating activity broken by periods of slackened pace or quiet consolidation.

Newfoundland brought into Confederation in 1949 a people bearing the stamp of many generations of life on that rugged long-isolated island, but a people with the same ethnic origins, language, religions and political backgrounds as those in the other provinces.



On the eve of the first of these cycles of population growth, that arising from the American Revolution (1775-83), the nucleus of what is now Canada lay in two diverse and widely separated regions—the predominantly French-Canadian St. Lawrence Valley (Quebec) and the multi-racial Atlantic colonies of Nova Scotia (formerly Acadia) and Newfoundland (destined to become Canada's newest province in 1949). A sturdy, independent Newfoundland fisher folk had for generations been wringing a precarious livelihood from the cod of the Grand Banks off the south coast of Newfoundland when the first roots of English settlement were planted in Nova Scotia with the founding of Halifax in 1749. The expulsion of the Acadians in 1755 uprooted the majority of the old French population of Nova Scotia, although a remnant evaded deportation and some of the exiles returned to the southwestern shore and to southern and northwestern Cape Breton. New England colonists meanwhile became the leading element of the population settling in such south shore centres as Yarmouth, Port Mouton and Liverpool and on the vacant Acadian farmlands. Other early settlers located at Lunenburg (Rhine-landers and Hanoverians), Londonderry and Truro (Ulster Scots and Irish), Sackville, Amherst and the Isthmus of Chignecto (Yorkshire Methodists), Gagetown and Miramichi (English), and Pictou, Antigonish and Cape Breton (Protestant Highland Scots and their Roman Catholic compatriots).

The first major wave of settlement to affect fundamentally the ethnic content and character of these two populated regions of Canada resulted from the outcome of the War of Independence of the thirteen American colonies against Great Britain. Perhaps 40,000 refugee Loyalists—soldiers, officials, land proprietors and other settlers who had opposed the Revolution or had refused to conform—sought life anew in Canada. Although some of the Loyalists located in previously established settlements, the great majority of the 20,000 who arrived in Nova Scotia moved on within a few months to the valley of the St. John River and contiguous areas north of the Bay of Fundy, where a new province, New Brunswick, was established in 1784 with its capital at Fredericton. While small groups of the refugees founded new homes also in Cape Breton and Prince Edward Island and in the Eastern Townships of Quebec, the arrival of some 10,000 Loyalists in the newly surveyed townships along the Upper St. Lawrence, the Bay of Quinte and in the Niagara Peninsula laid the foundations of the new province



In 1793 Governor Simcoe selected the north shore of Toronto Bay as the site of a new capital for Upper Canada and on it built Fort York. A replica of that Fort stands on the same spot today enveloped by one of the greatest concentrations of population in Canada—the City of Toronto.

of Upper Canada, created in 1791. Kingston, Brockville, York (Toronto), Hamilton, Port Dover, Woodstock, Whitby and Bowmanville were among the settlements founded before 1800.

This influx of United Empire Loyalists, followed by many thousands of post-Loyalists, brought about not only the creation of two new frontier provinces but a marked change in the racial complexion and the political temper of both regions. They were men of all ranks and classes who brought with them memories of homes and properties confiscated or destroyed, of personal suffering, and of families divided. American in outlook but full of bitterness for the new republicanism, their Loyalist monarchical tradition and attitude became basic elements in the future thinking of the Maritime Provinces. That the Loyalist tradition was less significant in Upper Canada may be attributed to the crowding prior to 1812 of many thousands of post-Revolutionary American immigrants to the lush lowlands along Lakes Ontario and Erie, thereby extending the Anglo-American character of Upper Canada settlement.

The racial dualism of Canada was thus firmly established in the St. Lawrence region by the American Revolution. The American effort to conquer Canada in the War of 1812 interrupted the flow of immigration from the United States, cast the people of the Republic for a time into the role of foes, strengthened the feeling of community among the isolated pioneer settlements in Upper Canada and confirmed Upper and Lower Canadians of both races in their determination to maintain an allegiance distinct and separate from the Republic to the south.

Indeed, the rapid reconstruction of the St. Lawrence fur trade after the Conquest and the westward extension (1776-1821) of exploration and the trade to the Mackenzie Valley and the Pacific constitute an outstanding example of co-operation between the duality of races—the French Canadians and the British. The North West Company of English-speaking fur-trading firms in Montreal took over the trading methods of the Canadians and relied upon their experience and knowledge as voyageurs, interpreters and guides in extending their fur-trading empire literally from ocean to ocean. When increasingly severe competition from the Hudson's Bay Company culminated in Lord Selkirk's establishment of an agricultural settlement

at the forks of the Red and Assiniboine Rivers (1812)—athwart the lines of east-west communications of its rival—open violence ended finally in the absorption (1821) of the North West Company by the Hudson's Bay Company which possessed the advantageous shorter northern Hudson Bay communications route to headquarters in London, England.

Although Canada's first transcontinental economic system came to an end with the disruption of the east-west lines of (fur) trade in 1821, the rivalry between the London-based Hudson's Bay Company and the Montreal-based North West Company (1784-1821) had accelerated the exploration of the Canadian West and the establishment of an expansive network of trading posts at strategic points along the maze of interior waterways extending to the Pacific and the Arctic that were to become the sites of many flourishing communities of the future. Moreover, these self-reliant and intrepid Canadian and British explorers and traders had thereby set the geographical framework for the vast northern political entity of Canada which the Fathers of Confederation were to design a generation later.

Hence, with the western prairies and the Pacific slope held secure by Hudson's Bay Company fur-trading operations for the next half-century, the story of Canada's second cycle of population growth and attendant economic development (1821-1850) centred about timber as a new staple of trade in the Maritimes and the St. Lawrence lowlands. The great upsurge of immigration from the British Isles during the third and fourth decades of the nineteenth century arose from the conjuncture of three fundamental factors—the insatiable demands of the British timber firms, naval authorities and the construction industry for ship timber, masts and 'square timber':

Where a little over a hundred years ago stood two forts commanding the junction of the Red and Assiniboine Rivers, surrounded by a straggling hamlet with a history of struggle and bloodshed behind it, has grown the metropolitan area of Winnipeg—Canada's fourth largest urban area, the beginning of the West and the transportation axis of the mid-continent.



the drive of poverty and industrial dislocation in the British Isles and the hope for a better life in the colonies; and the provision of low transatlantic fares for the immigrant as the owners of the timber ships sought to cover the costs of the otherwise unremunerative east-west voyage to Saint John (New Brunswick) or Quebec. Unlike the fur trade, lumbering was the natural ally of settlement and, with water power available for harnessing, the saw-mill vied with the flour mill as the first piece of fixed capital equipment that a frontier community acquired.

While the new inrush led in the Maritimes mainly to an expansion of the colonial communities then existing, its effects upon Upper Canada (Ontario) by mid-century were revolutionary. Scots, Irish and English—middle-class, yeoman and gentry—swelled the population of the towns and townships already established, joining communities of people possessing a long North American experience, or pioneered the new hinterland with agricultural settlements and towns in the forest lands extending from Lakes Ontario and Erie to Lake Huron and Georgian Bay. Many colonial settlements founded before railways joined waterways as means of transportation were established as lake or river ports, including Port Stanley, Sarnia,



Modern voyageurs following the old fur trade route across northern Saskatchewan pause for "une pipe" on Lac Mirond which is on the water connection between the Churchill and Saskatchewan Rivers. This part of the historic water route from Montreal to the Athabasca country and the Rockies has hardly changed since the fur traders first travelled it in the 1780's. The portages are still kept in good condition by the local traffic of the Indians.

Goderich, Owen Sound and Collingwood. Others were founded in the course of exploitation of timber resources in the Ottawa Valley, such as Hull (by Philemon Wright in 1800) and Arnprior (1823) on the Ottawa River. Settlement on the site of Canada's future capital of Ottawa (1857) was begun when Colonel John By commenced the construction of the Rideau canal in 1827.

Some communities were predominantly Scottish (Glengarry and Galt), German (Berlin, subsequently Kitchener), or Irish (Perth and Peterborough) while others were characterized by the ambitions and colourful colonizers with which their founding was associated. Prominent among the latter were the settlement of the London and St. Thomas communities through the efforts of Colonel Thomas Talbot, and the colonization by the Canada Company of the Huron Tract and the founding (1827-29) of Guelph, Goderich and Stratford. Thus, even before the commencement of railways as a factor in the distribution of settlement, the population of Upper Canada had grown from 25,000 at the date of its creation (1791) to 952,000 in 1851, of which perhaps 42 p.c. were non-Canadian by birth.

Meanwhile, the Pacific slope had been held secure by the fur-trading operations of the Hudson's Bay Company which in 1849 had received a royal grant establishing the colony of Vancouver Island. Then came the gold rush to the Fraser (1858) and Thompson Rivers bringing many thousands of gold seekers and necessitating the establishment of the Crown colony of British Columbia on the mainland. Following the "golden years of the Cariboo" from 1862 to 1865, the two colonies were united by Act of the British Parliament in 1866 and five years later British Columbia became Canada's Pacific Coast province.

Indeed, of the many factors that contributed to the grand design of building the nation of Canada with dominion from sea to sea, not least important was the growing awareness that early incorporation of the isolated colonies of Red River and British Columbia into a Canadian confederation



In contrast to the almost untouched hinterland of the northern prairies stands the great sprawling city of Edmonton which started life in 1795 as a solitary fur-trading post and has become the oil capital of Canada, gateway to the vast north country and air crossroads of the world.



Vancouver, within the span of a single life time, has grown from a small isolated port to become Canada's West Coast metropolis. Indeed its population has more than doubled in the past twenty years, spreading around the bays and inlets, up the mountain slopes, keeping pace with industrial expansion and with its developing role as the commercial, financial, educational and cultural centre of British Columbia.

and the opening up of the western prairies for settlement would alone prevent their absorption by the United States. The Civil War of the early 1860's served to quicken this awareness into a round of ambitious endeavours which facilitated confederation and accelerated the process of westward expansion. A small group of British American commercial and railway interests saw in the Confederation of Canada with the Maritime Provinces (1867) and in the acquisition by Canada of Rupert's Land and the North-Western Territory (1870) the means of establishing an economic base strong enough to support the national enterprise of a transcontinental railway without which the West could not be held nor developed as a new frontier of settlement.

Although additional incentives in the political sphere contributed greatly to Confederation, its realization made possible the acquisition of the prairie West, the inauguration of the third major wave of population growth (1900-1930), and the creation of a new transcontinental system based on wheat and the railway. The appearance of Icelanders and other Scandinavians and of German-speaking Mennonites among the pioneers on the prairies in the final quarter of the nineteenth century foreshadowed an influx of migration which drew heavily for the first time upon eastern and south-eastern Europe. Subject races of Czarist Russia, other Slavic and Hungarian

peoples from the old polyglot Hapsburg Empire, various nationalities of the Balkans and the eastern Mediterranean together with Oriental peoples from China, Japan and British India contributed to the settlement of the prairies and West Coast, to the growth of Canada's industrial and commercial centres, and to the multi-racial diversity of the Canadian people. Nevertheless, the majority of the immigrants of the period were akin to the older racial stocks, flowing in as they did from the American West, from the British Isles and the countries of northwest Europe to the free homestead land of the prairies.

An age of transprairie railway building opening up vast stretches of rich black wheatland to settlement, an energetic immigration policy based upon the free homestead system, a high flow of investment capital into the West, an insatiable world demand for hard spring wheat (Canada's new staple of trade), an Old World hungering for a new life of opportunity—all combined at the turn of the twentieth century to bring into the last of the great agricultural frontiers a mosaic of people in such numbers as to call for the creation of the two Prairie Provinces of Saskatchewan and Alberta as early as 1905 and make the migration movement the largest in the nation's history.

In the span of a single lifetime the Prairies were transformed from a fur-trading empire to a fully settled modern agricultural community comprised of multiples of quarter sections (160 acres) of farm lands and many small urban distribution centres of a few hundred people dispersed along a network of over 19,000 miles of railways and characterized largely by clusters of towering grain elevators at six-to-eight-mile intervals. Strategic railway junctions or divisional points in the maze of branch lines became large towns and cities—Winnipeg, St. Boniface, Regina, Moose Jaw, Saskatoon, Edmonton, Calgary, and Lethbridge—each performing a variety of fundamental services of an administrative, financial, commercial, manufacturing and cultural nature and destined for marked growth in recent years as mineral resources have provided the basis of urban industrialization and augmented the 'wheat economy' in the fuller development of the prairie region.

Moreover, the opening of the prairie West, with its immensity, its geographic and economic unity and its early twentieth-century tide of settlement, greatly stimulated the East and accelerated the signs of national pride. Hundreds of thousands of eastern Canadians, mainly from Ontario and the Maritimes, had also joined the west migration and laid down across the prairies a narrow ribbon of settlement complete with the co-ordinated heritages of the old colonies and of the British Isles. They carried with them the formative elements for a new Canadian society, institutions which they had themselves forged in the Canadian environment—their free public schools and their churches, their legislatures, their municipal institutions, their banking and insurance companies, their traditional democratic attachments and instinctive feeling of equality, and their affection for the new land they were building—which has made Western Canada one of the principal sources of modern Canadian nationalism.

The depression of the 1930's marked the end of the third major phase of Canada's population growth—a phase that lifted this country into the ranks of the leading wheat-producing countries of the world—and the advent of the Second World War ushered in a new era. The urgent pressures of war

undermined the supremacy of the older industrial nations of western Europe and fostered in Canada the development of a 'new industrialism' in which the latest innovations in scientific and technical knowledge were applied to new structural materials, new energy resources, new industrial processes and the adaptation of older staples to new productive uses. The revolution in transport equipment and the application of advanced methods of surveying opened up hitherto inaccessible and untapped resources of the Canadian Shield, establishing new communities and creating whole new industries. Today Canada's industrial frontiers are being pushed far into the Northland and its widened range of products is greatly broadening the country's industrial base and reducing its excessive dependence on raw-material production. Thus Canada became a land of opportunity and of hope for 1,800,000 immigrants who came during the years 1946 to 1958 and the growth of the population during that period, both by birth and excess of immigration over emigration, was quite remarkable.

In the vigorous activity of this postwar period and the surge of population growth, Canadians have become more fully appreciative of the richness of their economic and their cultural resources, as they have become more conscious of their capabilities. The rapid and successful completion of many construction and development projects of almost unbelievable complexity—Kitimat, Beaverlodge, Baie Comeau, Elliot Lake, Bersimis, Schefferville, the trans-Canada and trans-mountain pipelines, the St. Lawrence Seaway—have given a new sense of satisfaction in Canadian identity, a new pride in Canada's increased stature in the world. For the individual that pride is translated to his own horizon—the expanding city, the new factories, the new homes and schools and churches—translated alike for the descendants of the first French and English settlers, for the Canadians whose forebears came to this country in the years between, and for the recent new Canadians, into a great love of Canada.

Population Pattern

At the beginning of 1959 Canada's population was estimated to be about 17,284,000, which was an increase of 397,000 during the previous year. If the current rate of increase continues, the population will reach approximately 18,250,000 by June 1961, the date of the next decennial census. Thus during the ten years from the 1951 Census—when there were just over 14,000,000 people in Canada—to 1961, the population will have increased by roughly 4,250,000, or 425,000 each year.

As a background for the spectacular story of postwar population growth, a table is presented giving populations of the provinces at each decennial census from 1901 to 1951 and at the Census of 1956, with percentage changes for each period. These figures show clearly the effects of the heavy immigration during the early decades of the century and the settlement of the Prairie Provinces and British Columbia; the modest changes in population of the Maritime Provinces which have experienced considerable out-migration over the past fifty years; the slowing down of growth during the 1920's and the effects of the depressed conditions of the 1930's, particularly in the mid-west; the addition of the population of Newfoundland in 1949; the great movement westward to Alberta following the discovery and development of its vast

oil and gas resources, and to British Columbia during the 1940's and 1950's; and the steady growth of Ontario and Quebec throughout the whole half-century.

Population Growth, by Province, for Census Periods 1901-56

Province	1901	1911	Change 1901-11	1921	Change 1911-21	1931	Change 1921-31
	No.	No.	p.c.	No.	p.c.	No.	p.c.
Newfoundland.....	—	—	—	—	—	—	—
Prince Edward Is.....	103,259	93,728	-9.2	88,615	-5.5	88,038	-0.7
Nova Scotia.....	459,574	492,338	7.1	523,837	6.4	512,846	-2.1
New Brunswick.....	331,120	351,889	6.3	387,876	10.2	408,219	5.2
Quebec.....	1,648,898	2,005,776	21.6	2,360,510	17.7	2,874,662	21.8
Ontario.....	2,182,947	2,527,292	15.8	2,933,662	16.1	3,431,683	17.0
Manitoba.....	255,211	461,394	80.8	610,118	32.2	700,139	14.8
Saskatchewan.....	91,279	492,432	439.5	757,510	53.8	921,785	21.7
Alberta.....	73,022	374,295	412.6	588,454	57.2	731,605	24.3
British Columbia.....	178,657	392,480	119.7	524,582	33.7	694,263	32.3
Canada ¹	5,371,315	7,206,643	34.2	8,787,949	21.9	10,376,786	18.1
		1941	Change 1931-41	1951	Change 1941-51	1956	Change 1951-56
	No.	p.c.	No.	p.c.	No.	p.c.	
Newfoundland.....	—	—	361,416	—	415,074	14.8	
Prince Edward Is.....	95,047	8.0	98,429	3.6	99,285	0.9	
Nova Scotia.....	577,962	12.7	642,584	11.2	694,717	8.1	
New Brunswick.....	457,401	12.0	515,697	12.7	554,616	7.5	
Quebec.....	3,331,882	15.9	4,055,681	21.7	4,628,378	14.1	
Ontario.....	3,787,655	10.4	4,597,542	21.4	5,404,933	17.6	
Manitoba.....	729,744	4.2	776,541	6.4	850,040	9.5	
Saskatchewan.....	895,992	-2.8	831,728	-7.2	880,665	5.9	
Alberta.....	796,169	8.8	939,501	18.0	1,123,116	19.5	
British Columbia.....	817,861	17.8	1,165,210	42.5	1,398,464	20.0	
Canada ¹	11,506,655	10.9	14,009,429	21.8	16,080,791	14.8	

¹ Includes the Yukon and Northwest Territories.

The addition of nearly 2,100,000 to the country's population between 1951 and 1956 was the largest absolute increase in any five years in Canadian history. Partly responsible was the fact that economic prosperity and the expansion of employment opportunities brought about a resumption of immigration after the War. In the whole period 1931 to 1946 only about 235,000

By 1961, Canada's population will have increased by about 30 p.c. over 1951, but the number of children under 15 years of age will be 45 p.c. higher and the number in the school ages of 5 to 19 will be up by almost 50 p.c.





The prominence of the air-field at Whitehorse, the capital of Yukon Territory, typifies the importance of that medium of transport for settlements of the North. Whitehorse is on the Alaska Highway and has access to the sea by rail.

Life for the white man in the northern territories is losing some of its temporary character. Permanent communities have grown up around isolated mining and industrial developments—towns where the inhabitants live happily under conditions little different from those of their city compatriots. Without the use of aircraft, the development of many of these great industrial projects would not have been possible and sometimes, without it, they could not continue to exist. But elsewhere, ground or water facilities must be provided for access to supplies and markets. Indeed, the roads and railways now being extended northward, both east and west, are completely essential to the realization of the great potential of the north country.



A new 790-mile railway cuts diagonally across British Columbia from Vancouver to Dawson Creek and Fort St. John.



The Federal Government's extensive program of roadbuilding into the resource areas of the North is under way.

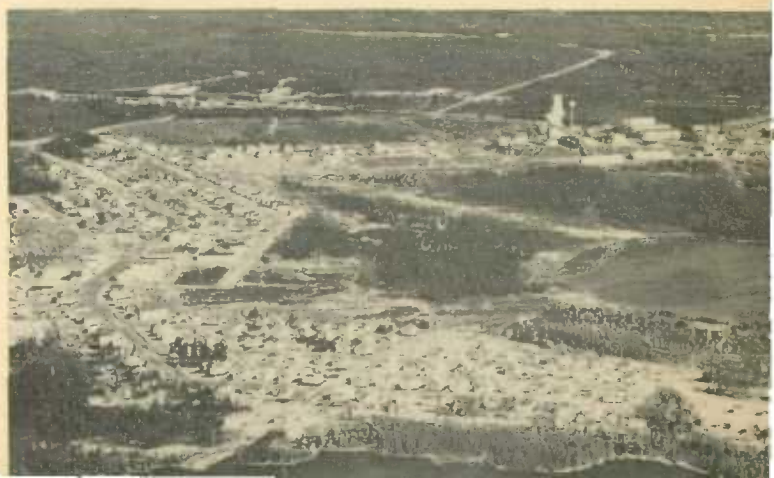


Schefferville, town-site for the Quebec - Labrador iron-ore development, is 360 rail-miles from the St. Lawrence port of Sept Iles.

Baie Comeau, aluminum smelter town on the north shore of the St. Lawrence River 250 miles below Quebec, is now accessible by road.



The provision of rail transport was a necessity in the establishment of the nickel-copper mine at Lynn Lake, near the Saskatchewan border of northern Manitoba.



Uranium City in northern Saskatchewan. This uranium-producing area with a population of about 4,000 is entirely dependent on air transport.

immigrants had come to Canada but between June 1946 and June 1956 the total reached 1,247,000 and although during this period about 534,000 Canadians and foreign-born persons left the country, the net immigration was around 713,000.

However, immigration was not the major factor in the growth of the period. The marriage rate, which started to rise during the War, remained at a remarkably high level throughout the postwar years and the average age at marriage was considerably lower. This brought about a phenomenal increase in the child population; as a result, the natural increase in population between 1951 and 1956 of 1,472,000 was more than double the 600,000 for the corresponding period in the 1930's, and accounted for more than 70 p.c. of the population increase. Net immigration accounted for the remainder.

In addition to growth, other interesting changes have taken place in the population picture in recent years. The narrow band of settlement across the southern border of the country, with its heavy concentrations in the industrial areas of southern Ontario, southeastern Quebec and southwestern British Columbia, began to spread—into the northern interior of Quebec, north of the Great Lakes in Ontario, north of Lake Winnipeg in Manitoba, across the Northwest Territories boundary in Saskatchewan and Alberta, and into the northern interior of British Columbia. Pockets of permanent settlement followed the establishment of great mining and industrial developments in the hinterland. More predominant, however, was another movement—from country to city.

Rural-Urban Population Change, by Province, 1951-56

Province or Territory	Rural			Urban		
	1951 ¹	1956	Change 1951-56	1951	1956	Change 1951-56
	No.	No.	p.c.	No.	No.	p.c.
Newfoundland.....	207,057	229,822	11.0	154,359	185,252	20.0
Prince Edward Island....	73,744	68,815	- 6.7	24,685	30,470	23.4
Nova Scotia.....	287,236	295,623	2.9	355,348	399,094	12.3
New Brunswick.....	296,228	300,326	1.4	219,469	254,290	15.9
Quebec.....	1,340,340	1,387,540	3.5	2,715,341	3,240,838	19.4
Ontario.....	1,221,717	1,302,014	6.6	3,375,825	4,102,919	21.5
Manitoba.....	336,961	339,457	0.7	439,580	510,583	16.2
Saskatchewan.....	579,258	558,662	- 3.6	252,470	322,003	27.5
Alberta.....	489,003	487,292	- 0.5	450,498	635,824	41.1
British Columbia.....	340,466	371,997	9.3	824,744	1,026,467	24.5
Yukon and N.W.T.....	19,782	24,388	23.3	5,318	7,115	33.8
Canada.....	5,191,792	5,365,936	3.4	8,817,637	10,714,855	21.5

¹ Areas for 1951 adjusted to 1956 boundaries.

By far the majority of newcomers to the country became urban dwellers and the active industrialized areas with their attractive employment opportunities gathered to themselves many rural people who were no longer required on mechanized farms. This cityward movement is suggested by the fact that the total population increased 14.8 p.c. between 1951 and 1956, but the rural population only 3.4 p.c. The increase of approximately 174,000 in the rural population, moreover, was the difference between a gain of 312,000 in the non-farm population and an actual loss of 138,000 in the farm population. As a consequence, the proportion of the farm population to the expanding

Informal visits to each other's homes to learn the language and gain an appreciation of each other's customs, culture and outlook on life, is the best way of overcoming the social barriers that have remained between English and French Canadians. Through the efforts of a private company dedicated to this purpose, hundreds of Ontario and Quebec families each year become temporarily bilingual as hosts or guests.



total of the country dropped from 19.8 p.c. in 1951 to 16.4 p.c. in 1956. Of the 5,365,936 persons classed as rural dwellers in 1956, 2,734,349 lived in rural areas but not on farms. Most of these people were situated close to urban centres in which they were employed. The actual farm population in 1956 numbered 2,631,587, as compared with 2,769,286 in 1951.

By contrast, the urban population increased over this period at an impressive rate of 21.5 p.c. to reach 10,714,855 in 1956. The gain of over 1,897,000 in the urban areas actually accounted for more than 90 p.c. of the total growth. Dominant in this expansion was the development of the metropolitan community. In 1956, nearly 6,300,000 persons lived in the fifteen metropolitan areas—more than one-third of the total population and close to 60 p.c. of the urban population.

Population Increase in Metropolitan Areas, 1951-56

Metropolitan Area	1951	1956	Increase		
			Metro- politan Area	City Proper	Fringe Area
	No.	No.	p.c.	p.c.	p.c.
Calgary	140,645	200,449	42.5	40.8	61.1
Edmonton	173,748	251,004	44.5	41.6	77.1
Halifax	133,931	164,200	22.6	9.0	46.7
Hamilton	272,327	327,831	19.8	15.0	37.8
London	128,977	154,453	19.8	6.7	56.9
Montreal	1,395,400	1,620,758	16.2	8.6	36.8
Ottawa	292,476	345,460	18.1	9.9	36.4
Quebec	274,827	309,950	12.8	4.1	25.7
Saint John	78,337	86,015	9.8	3.4	21.6
St. John's	67,313	77,991	15.9	8.0	44.8
Toronto	1,117,470	1,358,028	21.5	-1.2	56.3
Vancouver	561,960	665,017	18.3	6.1	37.8
Victoria	108,285	125,447	15.8	6.3	24.4
Windsor	163,618	185,865	13.6	1.6	46.6
Winnipeg	354,060	409,121	15.5	8.2	30.1
Totals	5,263,383	6,281,598	19.3	9.0	41.7

¹ Areas for 1951 adjusted to 1956 boundaries.

Intercensal estimates and surveys provide limited population data between censuses. In the two years since the 1956 Census, Canada's population is estimated to have increased by close to one million persons, to reach 17,048,000. The number of births in these two years was 932,000; immigration was unusually high at 255,000 from June 1, 1956 to June 1, 1957, and contributed appreciably to the record population gain. Ontario and British Columbia, the provinces that gained most in population from immigration and internal migration during the 1951-56 period, experienced the fastest rate of increase in the two latest years. Actually, British Columbia with an increase of 10 p.c. exceeded its high annual rate of about 4 p.c. a year in the 1951-56 period. Alberta also continued to attract people from other parts of the country and to grow at a faster rate than Canada as a whole.

Estimated Population 1958, and Percentage Increase 1956-58

Province	Estimated Population	Increase 1956-58	Province	Estimated Population	Increase 1956-58
	No.	p.c.		No.	p.c.
Newfoundland.....	438,000	5.5	Saskatchewan.....	888,000	0.8
Prince Edward Island	100,000	1.0	Alberta.....	1,201,000	6.9
Nova Scotia.....	710,000	2.2	British Columbia....	1,544,000	10.4
New Brunswick.....	577,000	4.0	Yukon.....	13,000	6.6
Quebec.....	4,884,000	5.5	Northwest Territories	20,000	3.6
Ontario.....	5,803,000	7.4			
Manitoba.....	870,000	2.4	Canada.....	17,048,000	6.0

According to an estimate for June 1958, one-quarter of the total population at that date was made up of children under ten years of age. The proportion in that age group reached a low of 18 p.c. in 1941, but higher birth rates of the postwar period restored the relative size of the group to what it was before 1921. It is interesting to note also that 5,662,000 Canadian children or one-third of the total population, were under working age, that is, under 15 years of age. In addition, only about half of the 1,266,000 young persons in the 15-to-19 age group were estimated to be in the labour force, so that another 600,000 or more of this group might be classed as dependants. A little over half of the total population were in the important working-age period, 20-64 years, while 1,285,000 or 7.5 p.c. were in the 'retirement' ages, 65 years or over, a somewhat higher percentage than in the early years of the century.

Estimated Distribution of Male and Female Population, 1958

Age Group	Male		Female		Total	
	No.	p.c.	No.	p.c.	No.	p.c.
0 - 4.....	1,097,600	12.7	1,051,100	12.5	2,148,700	12.6
5 - 9.....	976,200	11.3	940,900	11.2	1,917,100	11.3
10 - 14.....	815,600	9.4	780,400	9.3	1,596,000	9.4
15 - 19.....	642,500	7.4	623,600	7.4	1,266,100	7.4
20 - 44.....	2,985,800	34.5	2,934,600	34.9	5,920,400	34.7
45 - 64.....	1,493,800	17.3	1,420,500	16.9	2,914,300	17.1
65 - 69.....	232,900	2.7	230,200	2.8	463,100	2.7
70 +.....	401,300	4.7	421,000	5.0	822,300	4.8
Totals.....	8,645,700	100.0	8,402,300	100.0	17,048,000	100.0

Vital Statistics

One of the most significant aspects of Canadian life is an extraordinary record of low mortality and high longevity. This characteristic is strikingly illustrated in statistics of average life expectancy. In 1931, for example, life expectancy at birth—that is, the number of years a new-born infant boy could, on the average, expect to live—was 61 years. By 1941 it had risen to 64.5 and by 1951 to 68.5. In the brief period between 1951 and 1956 another two years have been added. This trend has also been apparent in the United States but no other area of even remotely comparable size has as large an aggregate of population living under such favourable conditions.

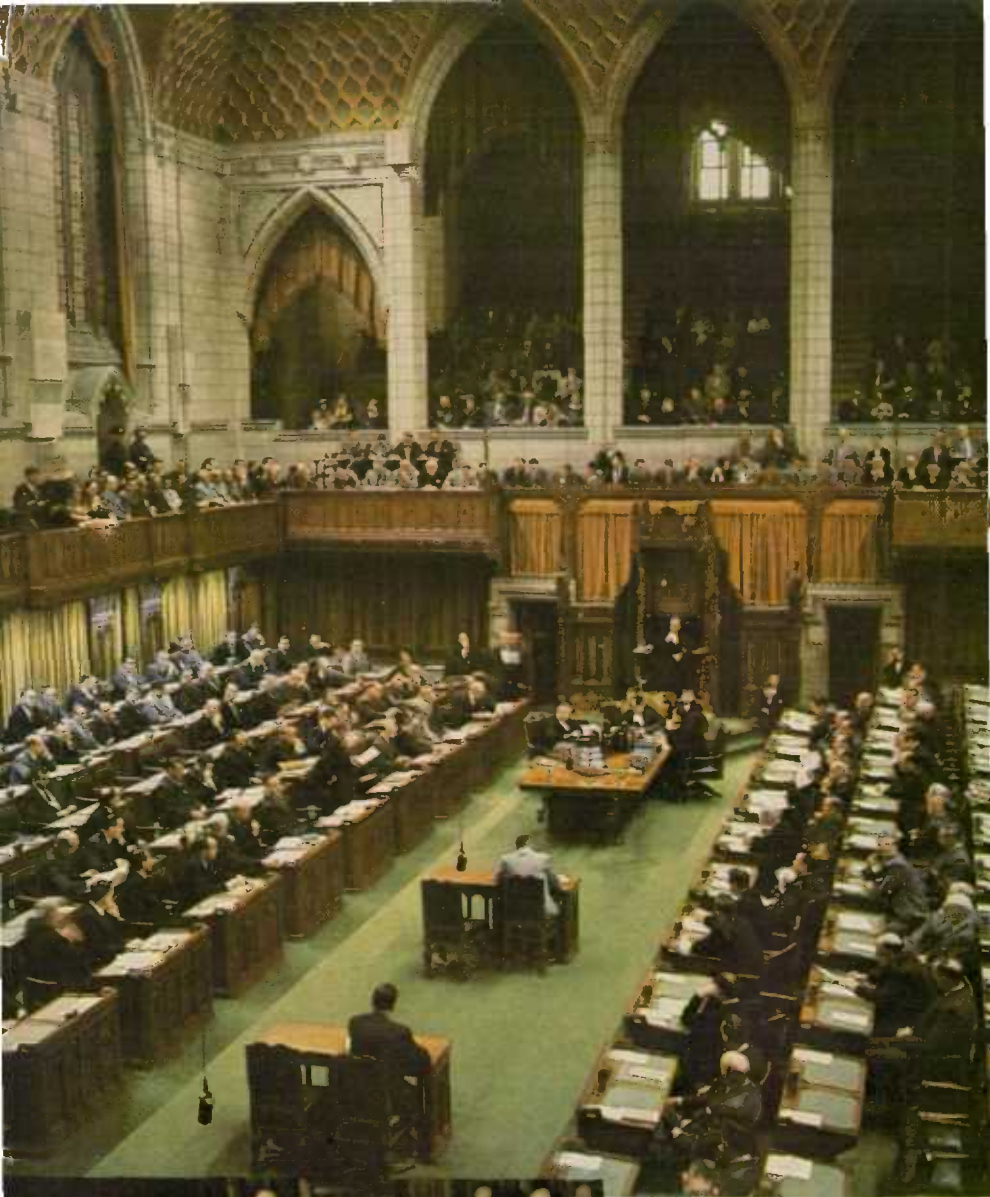
Record numbers of babies were born in Canada in 1957, and though death registrations also reached a record total, the natural increase for the year was the highest ever recorded—332,514 persons were added to the population through the excess of births over deaths. The birth rate for Canada as a whole rose from 28.0 per thousand population in 1956 to 28.3 in 1957 but was in excess of 29 per thousand population in Newfoundland, New Brunswick, Quebec and Alberta.

The second highest number of marriages on record was registered in 1957—a total of 133,186. After the high of 137,398 achieved in 1946 the number of marriages gradually declined to 128,029 in 1955; since that time the number has moved upward but the rate has dropped from 8.3 in 1956 to 8.0 in 1957. Recent declines in the marriage rate have not indicated a tendency among young people to postpone or avoid marriage but rather a temporary reduction in the supply of potential brides and grooms. The small crop of babies born during the depression years from 1934 to 1939 have been reaching marriageable age and thus producing a second-generation effect on the current marriage rate.

Canada conforms to a typical pattern of high mortality in infancy, low rates in childhood and adolescence, and an uninterrupted rise in mortality thereafter; almost uniformly, males have the higher rates. In general, reductions in mortality are apparent for both males and females over the past few years. Without exception the reduction in mortality has been greater for females than males and, in consequence, there has been a notable rise in the excess of male over female mortality at every age.

The prosperous postwar years have had their effect on the marriage rate in Canada, which has been remarkably high. The average age at first marriage for men is 26 years and for women just over 23.





The House of Commons where the elected representatives of the people of Canada debate and pass upon the issues brought forward by the Cabinet. The Prime Minister, the Rt. Hon. John G. Diefenbaker, with his colleagues (Finance Minister Fleming to his right) and the Government supporters sit to the right of the Speaker and the Opposition to the left. The Press sits immediately above the Speaker's chair and the gallery is open to the public.

Government and World Relations

THE government of Canada has evolved since its colonial beginnings with several distinctive characteristics. Canada is unique in being a monarchy among American republics, in being a sovereign nation built through the perpetuation of political traditions unbroken by revolution or civil war, and in possessing the cabinet system of parliamentary government on a continent where, in other countries, executive and legislative powers are separated. Moreover, Canada is noteworthy for its application of the principles of federalism and cabinet government to a transcontinental state; it is noteworthy as the laboratory in which not only a new manner of nation-building emerged but also in which the monumental conception and initiative of the Commonwealth of Nations took shape, giving the changing world a unique process and a noble pattern of political freedom.

The Canadian experiment in nation-building began on July 1, 1867, with the federal union of the three provinces of Canada (Ontario and Quebec), Nova Scotia and New Brunswick under the name of "Canada". Within four years, upon the acquisition of the vast interior of Rupert's Land and the Northwestern Territory (1870) and the admission of the Pacific Coast province of British Columbia (1871), the new Dominion, in an unparalleled westward expansion, was extended to the Pacific. Although the Province of Prince Edward Island entered Confederation two years later, followed by the spacious Canadian off-shore Arctic Archipelago in 1880, it remained for Britain's oldest colony of Newfoundland to round out the nation's territorial growth through union with Canada as a province as late as Mar. 31, 1949.

That the experiment was a bold one is evident in the formidable geographical, cultural and economic obstacles that faced the Fathers of Confederation some ninety years ago. Nothing but a broad federal union possessing a powerful central government would ensure the survival of the scattered and isolated colonies from the dangers of economic collapse and political absorption by the United States. Nothing but an expanding Canada could hope to hold the West as a new frontier of settlement and provide the nation with a new strategic staple of trade. Nothing but a broad territorial union could sponsor extensive railway construction essential to the linking of the Maritimes with the St. Lawrence Lowlands, to overcoming the barriers of the Canadian Shield and the Western Cordillera, to the settlement and exploitation of the vacant western plains, or to the realization of the vision of a vast internal free-trade area and a strong and diversified economy.

Only a federal union, with a generous measure of provincial autonomy, would end the political deadlock inherent in the cultural dualism of the peoples of Upper and Lower Canada. Only such a federal system of democratic government gave promise of harmonizing the two streams of English and French culture, of enabling autonomous provinces severally to enact legislation befitting their peculiar regional circumstances, and of facilitating among differing elements the growth of a common Canadian national sentiment.

Only a federal union would meet the demands of sectionalism, of diversely endowed regions, and of vast distances; permit the logical division of legislative powers whereby the central government would be competent to deal with all matters of national concern and the provincial governments with all those of local concern; and would leave unimpaired the practice of the unwritten conventions of responsible government recently won by the colonial legislatures—the responsibility of prime minister and cabinet to the legislature and the invaluable integration of legislative and executive functions.

Such were the visions, concepts and ambitions of the Fathers of Confederation as they drafted at Quebec in 1864 the Seventy-two Resolutions out of which the British North America Act was largely fashioned. That Act, which emerged from Westminster on Mar. 29, 1867, and became effective July 1, 1867, provided the new Canadian federation with a powerful central government as essential to its defence, to the development of its resources and to the extension of its authority to the far western and northern territories. The impressive array of specific powers falling within the exclusive legislative authority of the Parliament of Canada included control of the Armed Forces, the regulation of trade and commerce, banking, credit, currency and bankruptcy, criminal law, postal services, the fisheries, patents and copyrights, the census and statistics, the raising of money by any mode of taxation and, in the field of communication, such matters as navigation and shipping, railways, canals and telegraphs. In addition, the Federal Government was endowed with a residual authority in matters beyond those specifically assigned to the provincial legislatures and including the power to make laws for the peace, order and good government of Canada.

The provinces, on the other hand, were granted powers embracing mainly such matters of local or private concern as property and civil rights, civil law, provincial company charters, municipal government, hospitals and asylums, licences, the management and sale of public lands, and direct taxation within the province for provincial purposes. Legislation concerning immigration and agriculture could be enacted by both the Parliament of Canada and the provincial legislatures with the federal law having over-riding authority in the event of conflict.

In view of the cultural dualism of the new Dominion, the provincial legislatures were given exclusive authority in relation to education, subject to federal intervention in questions involving legal rights in denominational schools. For a like reason, the use of the English and the French languages was safeguarded, it being specifically provided that either language may be



The Dominion Bureau of Statistics, one of a group of fifteen government buildings in the west-central area of Ottawa, each functional in design and built specifically for the type of service it performs.



Expanding government services and a backlog of adequate accommodation has necessitated a tremendous federal construction program in the city of Ottawa. Wellington Street, with its modified chateau-type buildings conforming to the style of the Parliamentary group, is being transformed but, because of traffic and housing considerations, the major projects are grouped in various areas well away from the city centre.

used in the debates of the Parliament of Canada and of the Legislature of Quebec and in any court of Canada; and that both languages shall be used in the respective records and journals and in the published Acts of the Parliament of Canada and of the Legislature of Quebec.

The Parliament of Canada

Next to the distribution of legislative jurisdiction between the central and provincial governments, the most significant feature of the Canadian constitution is its unwritten parliamentary system "similar in principle to that of the United Kingdom".

That the Canadian constitution is founded on the British parliamentary system is evident in the fact that Parliament embraces the Queen, the Senate and the House of Commons; that the executive and legislative powers are in close identification through the control of administration by leaders of the parliamentary majority; and that the judiciary is virtually independent of control by either the executive or legislative branches of government. The Crown is the unifying symbol of all three spheres of power.

The Queen.—Although *Her Majesty Queen Elizabeth II* is Queen of Canada, her personal participation in the functions of the Crown for Canada is necessarily reserved to such occasions as a royal visit or the periodic appointment

of a personal representative on the advice of her Canadian Ministers. The presence of Her Majesty at the opening of Canada's Twenty-Third Parliament in October 1957, and at the celebration of the opening of the St. Lawrence Seaway in June 1959 were occasions of unprecedented significance for Canadians. In delivering the Speech from the Throne, the Queen became the first Sovereign to inaugurate in person a session of Parliament as Head of State of Canada, acting on the direct advice of her Canadian Ministers.



His Excellency the Right Honourable Vincent Massey, C.H., has held the post of Governor General of Canada since 1952. During those seven years his duties as the Queen's representative and his personal interest in the economic and cultural life of the nation have carried him to every corner of the land.

Her Majesty's presence, on both these historic occasions, in her capacity as Queen of Canada focuses anew the attention of Canadians on the role of the Crown today both as the symbol of the national sovereignty of her realm of Canada and as the symbol of the free association and unity of the equal and sovereign nations of the Commonwealth. Moreover, it emphasizes the continuity of Canada's national development as a parliamentary democracy grounded deep in the ancient traditions of the Mother of Parliaments, in British law, precedent and convention, and embracing time-honoured freedoms and proven institutions.

The title of the Queen, so far as Canada is concerned, is "Elizabeth the Second, by the Grace of God of the United Kingdom, Canada and Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith". Sovereigns of Canada since Confederation in 1867 are as follows:—

<u>Sovereign</u>	<u>Dynasty</u>	<u>Year of Birth</u>	<u>Date of Accession</u>
Victoria.....	House of Hanover.....	1819	June 20, 1837
Edward VII.....	House of Saxe-Coburg and Gotha...	1841	Jan. 22, 1901
George V.....	House of Windsor.....	1865	May 6, 1910
Edward VIII.....	House of Windsor.....	1894	Jan. 20, 1936
George VI.....	House of Windsor.....	1895	Dec. 11, 1936
Elizabeth II.....	House of Windsor.....	1926	Feb. 6, 1952



After a Parliamentary régime lasting 27 years during which many Members retained their seats at each election, the new Government taking office in 1957 had a younger look. At that time the average age of the 208 Government supporters was approximately 45 years.

The membership of the Ministry, as at June 15, 1959, and their respective portfolios are listed below according to precedence.

Rt. Hon. John George Diefenbaker.....	Prime Minister
Hon. Howard Charles Green.....	Secretary of State for External Affairs and Acting Minister of Public Works
Hon. Donald Methuen Flenting.....	Minister of Finance and Receiver General
Hon. Alfred Johnson Brooks.....	Minister of Veterans Affairs
Hon. George Hees.....	Minister of Transport
Hon. Leon Balcer.....	Solicitor General
Hon. George Randolph Pearkes.....	Minister of National Defence
Hon. Gordon Churchill.....	Minister of Trade and Commerce
Hon. Edmund Davie Fulton.....	Minister of Justice and Attorney General
Hon. George Clyde Nowlan.....	Minister of National Revenue
Hon. Douglas Scott Harkness.....	Minister of Agriculture
Hon. Ellen Louks Fairclough.....	Minister of Citizenship and Immigration
Hon. J. Angus MacLean.....	Minister of Fisheries
Hon. Michael Starr.....	Minister of Labour
Hon. William McLean Hamilton.....	Postmaster General
Hon. James MacKerras Macdonnell.....	Minister without Portfolio
Hon. William J. Browne.....	Minister without Portfolio
Hon. Paul Coutois.....	Minister of Mines and Technical Surveys
Hon. Jay Waldo Monteith.....	Minister of National Health and Welfare
Hon. Francis Alvin George Hamilton....	Minister of Northern Affairs and National Resources
Hon. Raymond O'Hurley.....	Minister of Defence Production
Hon. Henri Courtemanche.....	Secretary of State

The Senate.—The Senate or Upper House of the Parliament of Canada shares with the House of Commons the responsibility for the enactment of all federal legislation in that Bills must pass both Houses before receiving Royal Assent through the Governor General. Yet the influence of the Senate on legislation is immeasurably less than that of the Commons in which most public Bills are introduced by the Ministry and to which the latter is responsible. The most striking evidence of this fact is that any Bill for the expenditure of any public money or the imposition of any tax must originate in the elected House, by custom, through the Cabinet. None the less, the Senate has the power to perform a valuable service to the nation in amending and delaying the passage of measures that might result from sudden shifts in public opinion or party strength.

Canadian Senators are summoned for life by the Governor General, on the nomination of the Prime Minister, with equality of representation

The personal representative of the Queen in Canada is the *Governor General*, appointed by Her Majesty entirely on the advice of the Prime Minister of Canada and usually for a term of five years. He exercises such formal authority as summoning, proroguing and dissolving Parliament and assenting to Bills in the Queen's name. The present Governor General of Canada, the Right Honourable Vincent Massey, C.H., is the first Canadian to hold this high office. Appointed on Jan. 24, he assumed office on Feb. 28, 1952, and has received two extensions to his term of office.

The active Canadian executive authority for controlling the exercise of the powers of the Crown resides in the Cabinet or Ministry.

The House of Commons.—A new House of Commons is elected at least once every five years under an adult franchise conferred upon Canadian citizens or British subjects, male and female, who have been resident in Canada for twelve months prior to polling day. Representation by provinces and territories is now as follows:—

Newfoundland.....	7	Alberta.....	17
Prince Edward Island.....	4	British Columbia.....	22
Nova Scotia.....	12	Yukon Territory.....	1
New Brunswick.....	10	Mackenzie District, Northwest Territories.....	1
Quebec.....	75		
Ontario.....	85		
Manitoba.....	14	TOTAL.....	265
Saskatchewan.....	17		

Constitutional convention under the parliamentary system of representation requires that the leader of the national party that has won the largest number of seats in a newly elected House of Commons shall be asked by the Queen's personal representative to form the Government. The Ministry—responsible for determining all important policies of government and securing the passage of such legislation, financial measures and administrative provisions as their supporters may approve—is chosen by the Prime Minister to be representative, as far as possible, of the several regions of the country and its principal cultural, religious and social interests.

At the opening of Parliament in January 1959, Members of the House of Commons were, for the first time, provided with simultaneous translation of debates—English to French and French to English. In two unobtrusive transmitting booths, translators are on continuous duty during House proceedings.



The Hon. Roland Alloué, Speaker of the House, takes advantage of the system.

Legislative Assembly of each of the provinces as in the House of Commons at Ottawa. Provincial premiers and administrations as at June 15, 1959, were as follows:—

Newfoundland.....	Hon. J. R. Smallwood.....	Liberal
Prince Edward Island.....	Hon. Alexander W. Matheson.....	Liberal
Nova Scotia.....	Hon. R. L. Stanfield.....	Progressive Conservative
New Brunswick.....	Hon. Hugh John Flemming.....	Conservative
Quebec.....	Hon. Maurice L. Duplessis.....	Union Nationale
Ontario.....	Hon. Leslie M. Frost.....	Progressive Conservative
Manitoba.....	Hon. Dufferin Roblin.....	Progressive Conservative
Saskatchewan.....	Hon. T. C. Douglas.....	Co-operative Commonwealth Federation
Alberta.....	Hon. Ernest C. Manning.....	Social Credit
British Columbia.....	Hon. W. A. C. Bennett.....	Social Credit

The Territories.—The vast and sparsely populated regions of northern Canada lying outside the ten provinces and comprising Yukon Territory and the Northwest Territories have attained both elected representation in the House of Commons and a measure of local self-government. The local government of Yukon Territory is composed of a chief executive, styled Commissioner, appointed by the Federal Government, and a locally elected Legislative Council of five members, meeting at Whitehorse. The government of the Northwest Territories is vested in a Commissioner (who is the Deputy Minister of the Department of Northern Affairs and National Resources) assisted by a Council of nine members of whom four are elected by popular franchise in the Territories and five are appointed by the Federal Government from among federal officials. The Council meets annually in the Territories and at least once each year at Ottawa which is the Seat of Government.

Local Government

As local government at the municipal level falls under the jurisdiction of the provinces, there are ten distinct systems of municipal government in Canada, as well as many variations within each system. The variations are attributable to differences in historical development and in area and population density of the 4,300 incorporated municipalities. Possessing the power exclusively to make laws respecting municipal institutions, the provincial legislature of each province has divided its territory into varying geographical areas known generally as municipalities and more particularly as counties, cities, towns, villages, townships, rural municipalities, or municipal districts. Municipalities are incorporated by provincial legislation and have various powers and responsibilities suited to their classification. A municipality is governed by an elected council whose head may be called the mayor, reeve, warden or overseer, and the other citizens who are its members may be known as controllers, aldermen or councillors. The responsibilities of the municipalities are generally those most closely associated with the citizen's everyday life, his well-being and his protection.

The Judiciary

The Canadian judiciary interprets the law and administers justice. The provinces are authorized to administer justice in the territories under their jurisdiction, including the organization of civil and criminal courts and the establishment of procedure in civil matters in those courts. Legislation concerning criminal law and the procedure in criminal matters is under the jurisdiction of the Parliament of Canada.

for regional divisions (except in the Atlantic Provinces after the entry of Newfoundland in 1949 with six Senators). The representation in the Senate by regions and provinces is as follows:—

Ontario.....	24	Western Provinces.....	24
Quebec.....	24	Manitoba.....	6
Atlantic Provinces.....	30	British Columbia.....	6
Nova Scotia.....	10	Alberta.....	6
New Brunswick.....	10	Saskatchewan.....	6
Prince Edward Island.....	4		
Newfoundland.....	6	TOTAL.....	102

The Yukon Territory and the Northwest Territories at present lack representation in the Senate.

While the Ministers of the Crown carry the political responsibilities of their respective departments, the Federal Civil Service forms the staffs of the twenty departments and of various boards, commissions, bureaux and other agencies of the Government. The day-to-day administration of a department is handled by a permanent head, usually known as Deputy Minister. The majority of the civil servants are recruited, classified and promoted by the Civil Service Commission of Canada.

Provincial and Territorial Government

The Provinces.—Similar political institutions and constitutional usages operate in the government of the ten provinces as in that of the nation as a whole. In each province the Queen is represented by a Lieutenant-Governor appointed by the Governor General in Council, usually for a term of five years. The powers of the Lieutenant-Governor in the provincial sphere are essentially the same as those of the Governor General in the federal sphere.

The Legislature of each of the provinces comprises, in addition to the Lieutenant-Governor, a Legislative Assembly elected for a term of five years and, for Quebec only, a Legislative Council of 24 members appointed for life by the Lieutenant-Governor in Council. The franchise in provincial elections is granted, generally speaking, to every adult 21 years of age or over, although in Saskatchewan, Alberta and British Columbia the age is 18, 19 and 19, respectively. The conventions of cabinet government operate in the

Procedure in the Provincial Legislatures is very similar to that in the Federal House of Commons. A new Member, winner of an Ontario inter-term-by-election, is given permission by the Speaker to take his seat in the Provincial Legislature.





The Rideau River, where it flows over the cliffs at its mouth, divides to form the island chosen as the site for Ottawa's new City Hall—a building modern in every sense yet emblematic of government, placed in a magnificent setting facing the panorama of the Ottawa River and the Gatineau Hills.

The Supreme Court of Canada is the court of final appeal in Canada, and exercises general appellate jurisdiction throughout the nation in civil and criminal cases. The jurisdiction of the Exchequer Court extends to cases embracing claims made by or against the Crown in the right of Canada. The Chief Justice of Canada and the puisne judges of the Supreme and Exchequer Courts are appointed by the Governor General in Council.

Judges of the superior, district and county courts in each province, except those of the courts of probate in Nova Scotia and New Brunswick, are appointed by the Governor General in Council and their salaries, allowances and pensions are fixed and paid by the Parliament of Canada.

The new Wentworth County Court House in central Hamilton, Ont. Incorporated into the design of the entrance is the historic monument to the United Empire Loyalist families who first settled in the district.



Government Finance

Canada being a federal state, and the provinces having delegated certain powers and responsibilities to local governments, most Canadians are served and taxed by the federal authority, by a province, and by one or more local government corporations. While responsibilities and taxing powers are allocated as between the federal and provincial jurisdictions by the British North America Act, those of the local authorities have been established by provincial legislation.

Financial exigencies, changing needs, and the inevitable struggle for revenues among the different levels of government during the past two decades have resulted in demands for amendments to the constitution and in different interpretations thereof, and the holding of a number of conferences between the federal and provincial authorities at which consideration has been given to financial problems, particularly to the division of the "tax dollar". More specifically, to provide revenue for heavy national expenditures during the Second World War and at the same time control inflationary tendencies, the provincial governments vacated the income and corporation tax fields in favour of the Government of Canada for the duration of the War and a limited period thereafter in exchange for a tax rental fee.

These Agreements of 1942 were succeeded by the Dominion-Provincial Tax Rental Agreements of 1947 and 1952. Under the 1952 Agreements, all provinces except Ontario and Quebec agreed to lease their personal and corporation income taxes, special corporation taxes and succession duties to the Government of Canada in exchange for a rental fee. Ontario, which had not entered into the 1947 Agreements, also agreed to lease personal and corporation income taxes and special corporation taxes but retained the right to levy succession duties. Quebec, which since 1947 has levied corporation and corporation income taxes, in 1954 imposed its own personal income tax approximating 10 p.c. of that levied by the Federal Government.

Anticipating the lapse of the 1952 Agreements on Mar. 31, 1957, the Federal-Provincial Tax-Sharing Arrangements Act of 1956 was passed following an October 1955 conference, which provided three types of sharing of three sources of revenue between the two levels of government. First, the provinces could by agreement share in the revenues derived from the federal collection of the three standard taxes to the extent of 10 p.c. of the individual income tax, 9 p.c. of taxable corporate income, and half the succession duty. Second, provision was made for an equalization payment, designed to bring the per capita yield from the "standard rates of taxation" in each province up to the average of the two highest provinces. In addition, a stabilization payment—so far utilized only by Prince Edward Island and British Columbia—provided assurance that none of the provinces would lose, on the implementation of the new Act in 1957, any of the benefits enjoyed during the previous five-year period.

An interim measure covering the fiscal year commencing Apr. 1, 1958, following a November conference, was introduced in the House of Commons on Jan. 27, 1958, increasing from 10 p.c. to 13 p.c. that portion of the "standard individual income tax" which the ten provinces were entitled to receive under the 1956 Act. This revision was extended for another year by legislation introduced Mar. 11, 1959. Quebec did not sign a tax rental agreement and Ontario rented only the personal income tax field. However, the pay-

ment of a tax equalization grant is not contingent upon the signing of a rental agreement. Provision was made in January 1958 for adjustment grants for the Atlantic Provinces, amounting to \$25,000,000 for each of four fiscal years and divided as follows: Nova Scotia, New Brunswick and Newfoundland each \$7,500,000, and Prince Edward Island \$2,500,000.

Thus, once more, consideration periodically is given to the pressing demand from the provincial governments for a larger share of the revenues available, with the national authorities viewing it in the light of their own requirements and in the broad national interest.

There have been similar adjustments of revenue and responsibilities as between the provinces and the local or municipal authorities they have created, the demands by such authorities on the provinces being weighed against the needs of the provincial governments. Here, consideration of reallocation of powers and revenue, arising usually as a result of submissions and appeals from groups of local officials, have also effected changes from time to time.

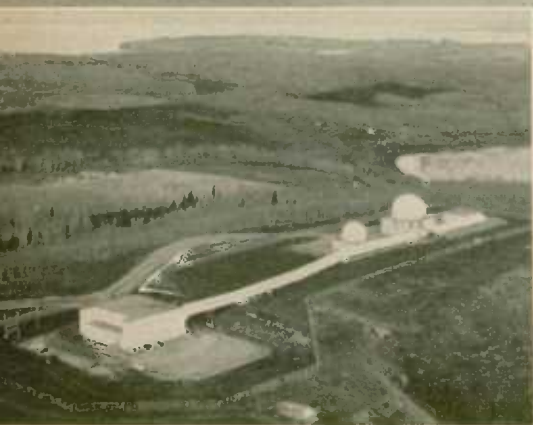
It is most important that solutions of these intergovernmental problems be found at intervals, as the number, volume and diversity of public services and the sources and amount of revenue continue to change and expand. Governments now provide services and collect revenue unheard of or undeveloped in years past, but these accrue in ever-changing proportions and, while adjustments cannot be continuous, they must be sought periodically to maintain equity and efficiency.

Finances of the Federal Government

The financial operations of the Federal Government involve more than the proper allocation of the tax burden, economy of expenditure and well-planned debt management. In the federal field there is sometimes a different emphasis caused by wartime stress, by actions intended to relieve depression or halt inflation, or by social philosophy, all of which may be summed up in the phrase "money management". The latter is not specifically mentioned in the British North America Act, but nevertheless it has long been a function of sovereign states, more fully understood as the study of the economics of finance has developed.

In the more routine aspects of its financial operations, the Government of Canada levies direct and indirect taxes, of which the income tax, individual and corporation, yields the largest return. Excise taxes (including a general sales tax), excise duties and customs duties also produce a very substantial sum. Succession duties and some other taxes yield relatively minor amounts, and certain non-tax revenues, special receipts and credits accrue each year from financial transactions outside the tax fields. A 3-p.c. sales tax, a 3-p.c. individual income tax with a maximum of \$90, and a 3-p.c. corporation income tax are levied in addition to the regular taxes from these sources as contributions to the Old Age Security Fund, from which pensions are paid to persons over seventy years of age.

The income tax has been the chief source of revenue of the Federal Government since before World War II. Rates of tax on individual incomes were increased considerably and other forms of income tax were introduced to help finance the War but after hostilities ceased a succession of reductions in rates and increases in exemption allowances relieved some of the burden for the taxpayer. Taxes on corporation incomes were also reduced and the



Defence services continue to be the major item of expense for the Federal Government, although the proportion of the total spent for that purpose dropped from 32 p.c. in the year ended Mar. 31, 1957, to 29 p.c. the following year.

Canada's newest air defence base at Cold Lake, Alta., is used as a training centre where jet flyers may become familiar with rocket firing away from civilian communities. The firing range, 40 miles from the base, is also used for the testing of missiles and rockets.

One of the lonely radar defence stations that dot the Canadian North.

excess profits tax was abolished. However, the expansion of personal income, the growth of the labour force and the growth of industry generally in the postwar years has offset the effect of the reduction in rates and the revenue from income taxes continues to grow each year.

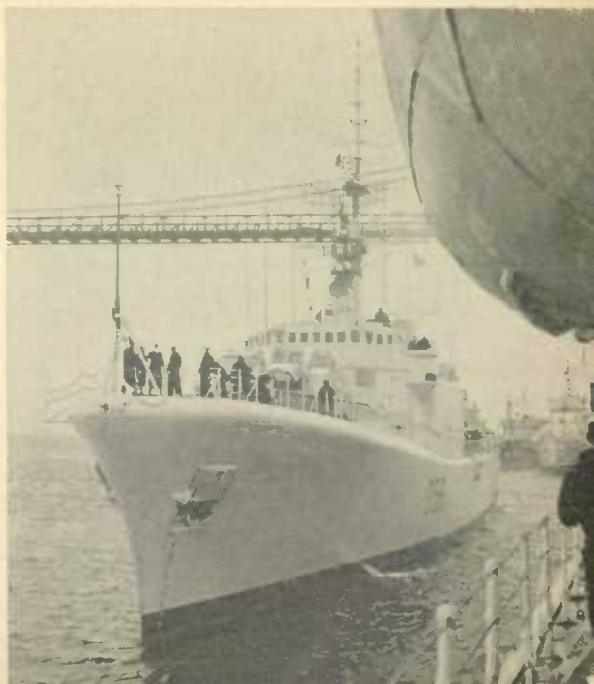
For personal income tax purposes, the present (1959) exemptions from income in respect of marital status and dependants are: \$1,000 basic exemption with additional exemptions of \$1,000 for persons taxed as married and \$500 for persons 65 years of age or over; maximum exemptions for dependants of \$250 each are allowed, or \$500 if the dependant is not eligible for family allowance. The rates from July 1, 1959, range from 14 p.c. on the first \$1,000 of taxable income to 80 p.c. on income in excess of \$400,000, including the Old Age Security Tax of 3 p.c. up to \$90.

Federal succession duties apply only on estates the net value of which is over \$50,000. However, a new Estate Tax Act passed in 1958 provides for a minimum deduction of \$40,000 in all estates and an additional deduction of \$20,000 where the deceased's wife survives and \$10,000 for each child under 21, or over 21 if wholly dependent upon the deceased or his wife because of infirmity. The \$10,000 deduction for such a child is increased to \$15,000 if the deceased's husband or wife did not survive him. These deductions are allowed regardless of whether or not the wife or child receive any benefit.

**Revenue and Expenditure of the Federal Government,
Year Ended Mar. 31, 1958**

Source	Revenue	Function	Expenditure
	\$'000		\$'000
Taxes—			
Income—		Defence services.....	1,587,659
Corporations.....	1,295,471	Mutual aid.....	118,464
Individuals.....	1,634,789	Veterans' pensions and other benefits.....	287,674
Interest, dividends, and other income going abroad.....	64,334	General government.....	298,981
General sales.....	878,962	Protection of persons and property.....	64,744
Excise duties and special excise taxes—		Transportation and communications.....	282,317
Alcoholic beverages.....	171,679	Health.....	62,017
Tobacco.....	273,586	Social welfare.....	1,047,001
Automobiles.....	72,331	Recreational and cultural services.....	66,948
Other commodities and services.....	31,365	Education.....	97,231
Customs import duties.....	498,069	Natural resources and primary industries.....	183,017
Succession duties.....	71,608	Trade and industrial development.....	10,437
Other.....	1,498	National Capital area planning and development.....	5,987
Total Taxes.....	4,993,692	Debt charges (excluding debt retirement).....	500,083
		Payments to government enterprises.....	129,032
Privileges, licences and permits..	21,226	Payments to provincial and municipal governments—	
Sales and services.....	57,291	Federal-provincial taxation agreements.....	354,243
Fines and penalties.....	1,603	Other.....	46,932
Exchange fund profits.....	22,880	Other expenditure—	
Receipts from government enterprises.....	78,114	International co-operation and assistance.....	52,939
Bullion and coinage.....	5,060	Postal service.....	177,880
Postal service.....	177,493	Other.....	84,679
Other revenue.....	9,848	Non-expense and surplus payments.....	312
Non-revenue and surplus receipts..	28,052		
		Total Net General Expenditure.....	5,458,607
Total Net General Revenue..	5,395,259		

One of Canada's fleet of destroyer escorts, the *St. Croix*, operating with the North Atlantic Command, draws up alongside H.M.C.S. *St. Laurent* in Halifax harbour following her first major cruise.



By far the largest item of expenditure of the Government of Canada is defence services. Other expenditures of major significance are made for health and social welfare, veterans pensions and other benefits, transportation and natural resources. Payment of debt charges and tax agreement payments to the provinces are also major items. The outlay for defence, health and welfare, veterans benefits, debt charges and payments to provinces has, during and since the War, caused much of the great growth in federal expenditure.

Finances of the Federal Government, Years Ended Mar. 31, 1868-1958

NOTE.—These figures are derived from the *Public Accounts of Canada* and differ from those in the preceding table. Revenue and expenditure in this table are on a gross basis and net debt here represents the excess of gross debt over net active assets.

Year	Total Budgetary Revenue	Per Capita Revenue ¹	Total Budgetary Expenditure	Per Capita Expendi- ture ¹	Net Debt at End of Year	Net Debt per Capita ²
	\$	\$	\$	\$	\$	\$
1868.....	13,687,928	3.95	13,716,422	3.96	75,757,135	21.58
1871.....	19,375,037	5.34	18,871,812	5.21	77,706,518	21.06
1881.....	29,635,298	6.96	32,579,489	7.66	155,395,780	35.93
1891.....	38,579,311	8.07	38,855,130	8.13	237,809,031	49.21
1901.....	52,516,333	9.91	55,502,530	10.47	268,480,004	49.99
1911.....	117,884,328	16.87	121,657,834	17.40	340,042,052	47.18
1921.....	436,888,930	51.06	528,899,290	61.82	2,340,878,984	266.37
1931.....	357,720,435	35.01	441,568,413	43.26	2,261,611,937	217.97
1941.....	872,169,645	76.63	1,249,601,446	109.80	3,648,691,449	317.08
1951.....	3,112,535,948	226.99	2,901,241,698	211.58	11,433,314,948	816.14
1952.....	3,980,908,652	284.17	3,732,875,250	266.46	11,185,281,546	773.59
1953.....	4,360,822,789	301.60	4,337,275,512	299.97	11,161,734,269	751.88
1954.....	4,396,319,583	296.15	4,350,522,378	293.06	11,115,937,064	727.15
1955.....	4,123,513,300	269.74	4,275,362,888	279.67	11,263,080,154	717.49
1956.....	4,400,046,639	280.29	4,433,127,636	282.40	11,280,368,964	701.47
1957.....	5,106,540,880	319.79	4,849,035,298	303.63	11,007,651,158	663.51
1958.....	5,048,788,279	304.36	5,087,411,011	306.65	11,046,273,890	647.94

¹ Based on estimated population as at June 1 of the immediately preceding year.

² Based on estimated population as at June 1 of same year.

Revenue of the Government of Canada reached an all-time high in the year ended Mar. 31, 1957, of approximately \$5,107,000,000, and the highest expenditures were made in the year ended Mar. 31, 1959—nearly \$5,400,000,000. The net debt reached a peak of \$13,421,000,000 at Mar 31, 1946.

Inflation in the general price level and population growth through the years have reduced the significance of the size of the Government of Canada debt, and the great expansion of the Canadian economy allows the country to support the present debt on a sound financial basis. On Mar. 31, 1939, the net debt amounted to 60.2 p.c. of the gross national product; by 1946 this had risen to 113.3 p.c. but by Mar. 31, 1958, the net debt amounted to only 35.1 p.c. of the gross national product.

The outstanding unmatured funded debt (including treasury bills) of the Government of Canada at Mar. 31, 1958, amounted to over \$14,245,000,000. The portion of the unmatured funded debt payable in Canada was 97.5 p.c., the portion payable in London amounted to 0.4 p.c. and in New York 2.1 p.c.

Provincial Finance

A major source of provincial revenue comes from the Federal Government in the form of payments under the Federal-Provincial Tax-Sharing Arrangements, augmented by federal government subsidies, health grants, and so on. Other main sources are sales taxes on motor fuel and fuel oil, general sales taxes, liquor profits, and licences and permits for motor vehicles, natural resources, etc. Corporation taxes and taxes on personal and corporation income provide a considerable portion of the revenue of the Province of Quebec. The largest expenditures of the provinces are for transportation, mainly highways, for health and welfare services and for education.

Provincial expenditures on construction and maintenance of highways and bridges amounted to an estimated \$538,000,000 in 1958.

A 480-foot-long four-lane bridge spanning the Assiniboine River is part of Greater Winnipeg's perimeter highway. ▶

Rough terrain for highway builders in the Haliburton area of Ontario. ▼



**Net General Revenue and Expenditure of Provincial Governments,
Year Ended Mar. 31, 1957**

Province	Revenue	Expenditure	Province or Territory	Revenue	Expenditure
	\$'000	\$'000		\$'000	\$'000
Nfld.....	36,870	44,346	Sask.....	121,872	110,132
P.E.I.....	7,570	10,094	Alta.....	241,317	170,000
N.S.....	57,881	70,756	B.C.....	273,059	257,641
N.B.....	57,335	59,339	Yukon.....	1,703	2,143
Que.....	445,930	433,459	N.W.T.....	1,125	886
Ont.....	481,775	552,155			
Man.....	66,120	62,867	Totals	1,792,557	1,773,818

Analysis of Net General Revenue and Expenditure of Provincial Governments, Year Ended Mar. 31, 1957

Source	Revenue	Function	Expenditure
	\$'000		\$'000
Taxes.....	732,774	General government.....	69,829
Federal tax rental agreements.....	366,328	Protection of persons and property.....	91,593
Privileges, Licences and Permits—		Transportation and communications.....	561,482
Motor vehicles.....	127,503	Health.....	261,539
Natural resources.....	287,905	Social welfare.....	143,334
Other.....	53,429	Recreation and cultural services	17,159
Sales and services.....	27,083	Education.....	362,960
Fines and penalties.....	6,610	Natural resources and primary industries.....	132,577
Other Governments—		Trade and industrial development.....	9,444
Government of Canada—share of income tax on power utilities.....	6,613	Local government planning and development.....	3,718
Subsidies.....	22,810	Debt charges.....	166,102
Municipalities.....	240	Contributions to local governments.....	40,864
Government enterprises.....	158,115	Contributions to government enterprises.....	7,928
Other revenue.....	760	Other expenditures.....	9,575
Non-revenue and surplus receipts.....	2,387	Non-expense and surplus payments.....	6,508
Total.....	1,792,557	Total.....	1,884,612
SUMMARY OF LIQUOR CONTROL REVENUE		Less Debt Retirement (included above).....	110,794
(included above)—		Total, exclusive of Debt Retirement.....	1,773,818
Sales tax.....	2,185		
Permits.....	33,343		
Fines and penalties.....	860		
Profits.....	153,801		
Confiscations.....	55		
Total.....	190,244		

Direct and indirect debt of provincial governments, less sinking funds, as at Mar. 31, 1957, amounted to over \$4,600,000,000, direct debt averaging out to \$163.60 per capita, and indirect debt to \$117.72 per capita. Total debt of the provinces has been increasing for a number of years, though the qualification mentioned as to the burden of federal debt—that it has become lighter because of inflation and increased population—has some application to provincial debt as well.

Municipal Finance

Incorporated municipalities include within their boundaries only a small portion of the area of Canada but they serve most of the population. Outside lie a few school districts and in parts of municipally unincorporated territory

some local services are provided by the provincial government concerned. A great part of the area of Canada has not sufficient density of population to warrant even these limited activities. In most provinces, the municipalities levy the local taxation for school authorities but exercise little or no control over school administration or finance. In much of Quebec and Prince Edward Island and in limited areas of some other provinces, school authorities levy and collect local taxes. There is no municipal taxation for school purposes in Newfoundland, as schools are denominational and largely financed by the province.

The largest source of revenue for municipalities and other local authorities, yielding over two-thirds of the total, is the real property tax. Also varying in importance from province to province are business and other taxes, licences and permits, public utility contributions, and provincial grants

The explosive growth of most of Canada's larger municipalities with its demands for increased and better services, for better roads and streets and through-traffic routes has placed a tremendous burden on local governments, bringing to the fore the need for extensive organizational and financial changes in municipal government operations.

About $6\frac{1}{2}$ miles of the 31-mile expressway being constructed across the island of Montreal will be elevated. The \$100,000,000 Metropolitan Boulevard should be completed by the end of 1961.



Concrete storm sewer being installed in a Toronto suburb



and subsidies. Of municipal expenditure from current revenue almost a third goes to support local schools. Other major expenditures are for public welfare, roads and streets, protection of persons and property, and debt charges. Increasingly substantial sums of borrowed capital have been expended in recent years in an attempt to catch up and keep up with the streets, sanitation systems, water systems and other municipal services required by urban municipalities, whose population and development have increased at a rate far beyond that of the remainder of the country.

Municipal debt in most urban areas has increased at such a rate as to offset the inflationary and population growth factors which have held down the burden of federal and provincial debt, though this situation probably applies also in many rural municipalities. Provincial governments supervise the issuance of municipal debt, and limit it by legislation or by regulatory formulae. In some instances, provinces are now aiding municipalities and schools in their capital projects by various methods, such as by outright grants, loans, sharing of debt charges, and assumption of debt. The whole question of municipal finance and municipal-provincial education relationships is undergoing much thought and review.

Canada's World Relations

Both external and internal factors have contributed to Canada's increased stature and role in world affairs. Prominent among the external factors are its strategic geographical position at the aerial crossroads of the Northern Hemisphere, impaled between two of the world's most powerful states; its membership in the Commonwealth of Nations which is so representative of the world's own variety of races, languages, creeds and stages of development and which Canada did so much to fashion; its obligations to the United Nations and to the North Atlantic Treaty Organization on behalf of international peace and security; its intimate relationship in political, social and economic spheres with the United States and its major dependence on international trade for the maintenance of a high standard of living for its people.

Internal factors contributing to Canada's almost unique position in world affairs include its remarkable postwar development of the key material and energy resources of modern industrialism; its construction of vast new enterprises in a half-continent where space, stability, peace and opportunity beckon the immigrant to a new life; and, by no means least potent, the duality of Canada's cultural heritage and the distinctive characteristics of its people. Hence, Canada's role in the councils of the nations has been one of counselling patience, moderation, restraint, toleration, reconciliation of conflicting interests, and impartiality—qualities of mind and conduct proven indispensable to its own nationhood. Canada's voice in the United Nations is recognized as being that of an unbiased party, of the "honest broker", and its role that of a bridge between the nations of the East and the nations of the West. Having created a new kind of democracy based upon diversity, its diplomatic corps is able to communicate to the evolving nations of Asia, Africa and the Middle East a capacity for understanding, a sense of partnership, of equality and respect, a sense of innate consciousness of the diversity of man.

Nine countries of south-east Asia are receiving capital assistance from Canada under the Colombo Plan, though the largest contributions have so far been made to India, Pakistan and Ceylon.

Goods forwarded, such as wheat, flour, copper, aluminum and railway equipment, are used as a means of raising money for development programs.



Direct assistance is given to various large projects, of which the Canada-India atomic reactor near Bombay is one. Each government pays half the cost of the project, with Canada erecting the steel rotundo to house the reactor and the reactor itself being provided by Canadian engineering firms.

The Commonwealth.—Membership in the Commonwealth is a fundamental part of Canada's position in world affairs. It is valued for the strength and support arising from a lasting relationship and for the opportunity to influence events by working closely with like-minded nations sharing the same political ideals and standards of international conduct.

The effectiveness of the Commonwealth is maintained by constant consultation and friendly exchange of views between all members. The Prime Ministers of the United Kingdom, New Zealand and Ghana all visited Canada in 1958. The Prime Minister of Canada made a world tour towards the end of the year, during which he paid official visits to the United Kingdom, the Asian members of the Commonwealth, and Australia and New Zealand. His reception in the countries he visited and the discussions he had with members of the Commonwealth governments are evidence of the vitality and usefulness of the Commonwealth as an association in which every geographical area and many different races of the world are represented. The importance of economic relations within the Commonwealth was emphasized by the Commonwealth Trade and Economic Conference held at Montreal in September 1958.

Canada's principal share of aid to materially under-developed countries has been channelled through the Colombo Plan, which began as a scheme to assist the Commonwealth countries in southeast Asia and has been extended to cover other countries in the area. From its beginning in 1950 to April 1959, Canada will have made \$231,800,000 available to the Plan. Among the projects assisted by Canada's contribution have been irrigation and hydro-electric developments in India and Pakistan, an atomic reactor in India and a fisheries development program in Ceylon. Canadian experts have been sent to work in southeast Asia and a large number of scholars from the area have received training in Canada in agriculture, engineering, medicine, business and public administration and many other fields.

The United Nations.—Canada has been active in all phases of the work of the United Nations since 1945 when it participated in the drafting of the United Nations Charter at San Francisco. Then, as now, Canada shared the conviction that this world organization was essential to international security and progress and that Canada must be willing to assume its full share of responsibility for maintaining the peace and for promoting the well-being of the postwar world through the United Nations.

When lack of unanimity among the great powers prevented the UN from dealing effectively with problems of international security, the urgent need to organize collective self-defence prompted Canada to take an active part in the creation of NATO. But, important as that organization has become to Canadian security, support for the UN remains a basic feature of Canada's international policy.

Canada, in 1948 and 1949, did its share as a member of the Security Council in mediating the disputes in Kashmir, Indonesia and Palestine, and in 1950 promptly joined the collective UN action that stopped aggression in Korea. During the Middle East crisis in 1956, Canada played a significant part in UN action which resulted in the cease-fire in Egypt and the formation of the UN Emergency Force for the Middle East. Since then Canada has contributed heavily to the composition of UNEF. In 1958, Canadian military personnel also took part in the UN Observation Group in Lebanon. Canada has taken an active part in the various United Nations bodies constituted for negotiation on disarmament and has participated in negotiations on the technical aspects of control and inspection measures for the suspension of nuclear tests and the prevention of surprise attack.

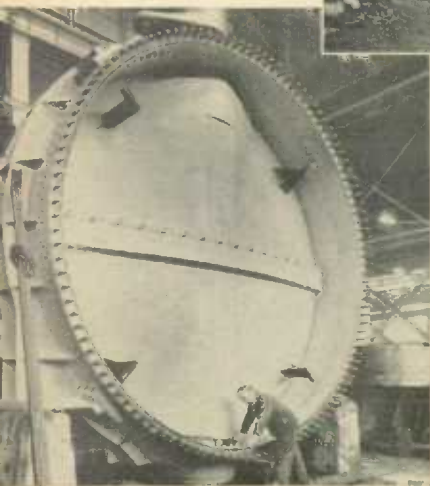


A team of physicists and engineers from Canada's atomic power project at Chalk River were sent to Japan in the autumn of 1958 to give technical advice on a Japanese-designed heavy-water reactor.

Prime Minister Diefenbaker, during the course of his tour of European and Commonwealth countries in the autumn of 1958, visited, with Mrs. Diefenbaker, the Warsak hydra-electric project being built co-operatively by the Canadian and Pakistan Governments. Canada is providing electrical equipment and engineering services.



A hydraulic turbine valve being tested in a Canadian plant before dismantling for shipment to Pakistan.



Canada was elected by the General Assembly to serve another two-year term on the Security Council in 1958 and 1959 and, at the end of 1958, completed a three-year term as a member of the Economic and Social Council.

In 1958, Canada was assessed at the rate of 3.09 p.c. of the regular budget of the United Nations. This assessment, together with assessments to the budgets of the UN Specialized Agencies, totalled nearly \$3,200,000.

In addition, contributions to such special UN programs as the UN Children's Fund (UNICEF), the UN Expanded Programme of Technical Assistance, the UN Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) and the United Nations Refugee Fund amounted to \$3,350,000. A special gift of \$1,500,000 of wheat flour was made to UNRWA in 1958. Concurrently with these financial contributions, Canada has provided training facilities for UN fellowship holders and has sent Canadian experts abroad under UN auspices.

NATO.—The primary objective of NATO is to provide a strong military deterrent to any aggression within the North Atlantic area. This co-operative deterrent comprises a powerful strategic force, supported by ground and naval forces, maintained in readiness to blunt an attack for long enough to permit the West's retaliatory forces to carry out their role.

Canada makes a vital and substantial contribution to the collective strength of the Alliance. The Royal Canadian Navy has earmarked warships for the defence of coastal waters in the Canada-United States region and for the NATO naval forces under the control of the Supreme Allied Commander, Atlantic (SACLANT); a Canadian infantry brigade group to be equipped with Lacrosse missiles is on duty in Germany under the Supreme Allied Commander, Europe (SACEUR); and 12 squadrons of the RCAF serve at bases in France and Germany, also under SACEUR. Canada also co-operates closely with the United States in providing forces and facilities for the security of the North American region.

Since its inception in April 1950, the Canadian Mutual Aid Program has resulted in the provision of military assistance to Canada's NATO allies to an amount of approximately \$1,600,000,000. Over 5,000 pilots and navigators from ten NATO countries graduated under the NATO Air Training Plan carried out at RCAF establishments in Canada from 1950 until the successful completion of the full-scale program in July 1958. A limited number of aircrew students from European countries are continuing their training in Canada.

The United States.—The fact that Canada is a neighbour of the most powerful nation in the free world has an important bearing on the formulation and execution of Canadian foreign policy. Since the end of the Second World War there have emerged a growing number of problems of common concern to the two countries—problems related to the joint defence of the North American area of the North Atlantic Treaty and to the construction of continental defence installations in the Canadian North; co-operation in research and experimental projects; trade and economic relations; and boundary waters. The joint projects in the International Rapids Section of the St. Lawrence River for the development of power and the improvement of navigational facilities will be in operation in 1959.

Posts Abroad.—At the end of 1958 Canada was represented abroad by the following diplomatic and consular posts:—

Embassies (34)			Legations (4)	
Argentina	Haiti	Peru	Czechoslovakia	
Austria	Indonesia	Portugal	Finland	
Belgium	Ireland	Spain	Iran	
Brazil	Israel	Sweden	Poland	
Chile	Italy	Switzerland		
Colombia	Turkey			
Cuba	Japan	U.S.S.R.		
Denmark	Lebanon	United Arab Republic		
Dominican Republic	Mexico	United States		
France	Netherlands	Uruguay		
Germany	Norway	Venezuela		
Greece		Yugoslavia		
Offices of High Commissioners (9)			Office of Commissioner (1)	
Australia			West Indies:	
Ceylon			Port of Spain, Trinidad	
Ghana				
India				
Malaya				
New Zealand				
Pakistan				
South Africa				
United Kingdom				
Consulates General or Consulates (13)			Permanent Delegations and Missions (4)	
Brazil:	United States:		Berlin (Military Mission)	
São Paulo	Boston		Geneva (United Nations)	
Germany:	Chicago		New York (United Nations)	
Hamburg	Detroit		Paris (North Atlantic Council and Organization for European Economic Co-operation)	
Iceland:	Los Angeles			
Reykjavik	New Orleans			
Philippines:	New York			
Manila	Portland, Maine			
	San Francisco			
	Seattle			

Geography has made Canada and the United States neighbours, a common heritage has given them a sense of common destiny, ready means of transportation and communication have created between them the world's largest market, and the present-day ideological conflict has made them partners in the defence of North America. The network of relationships built up between the two countries, from the private to the government level, is without measure.



▲ Co-operation in continental defence is growing more and more intimate—epitomized by the existence of NORAD, a system of integrated operational control of the air defence forces of the two countries.

And co-operation in the peaceful exploration of space, begun during the IGY, is to be continued under a new research program for exploring the ionosphere with rockets and satellites.



▲ A new high-level bridge spans the St. Lawrence River, providing highway access between Cornwall, Ont., and Massena, N.Y. The substructure was built by Canada's St. Lawrence Seaway Authority and the superstructure by the United States entity.

▶ All aspects of waterfowl behaviour are studied at the Delta Waterfowl Research Station located on the Mississippi Flyway at the south end of Lake Winnipeg. The station is supported by United States and Canadian funds.





Recollet Falls on the French River, Ont.

*"And, despite the traders, despite the coureurs de bois
and the voyageurs, and those who slung canals
and fastened bridges above them, or sharpened their dreams
to the wizened and hungry winter of the rails
westward, forever—or fenced and festooned the miles,
this Laurentide land, boosted with waterpower
and blown from the North, was greater and grander by far."*

Canada's Natural Heritage

THE natural heritage
of this land—its

physical features, its location and size, its surface relief, prevailing climates, soils, vegetation and mineral resources—all combine to give it a distinctive nature and a strategic position in the present-day world. Three northern oceans wash Canada's shores and join it to the world's other great land masses in the Northern Hemisphere. Occupying the northern half of the North American Continent, with the exception of Alaska and Greenland, it lies directly between the two paramount powers of the modern world at the dead centre of the new heartland of air geography, and faces the densest populated lands of Western Europe and the Far East. Surpassed in size only by one nation (the U.S.S.R.) in the world and yet possessing a population only now approaching 18,000,000, its bountiful resources have been so utilized as to gain for it sixth place among the world's industrial nations. In recent years Canada has probably been growing faster proportionately than all other countries in population and wealth.

Canada's immense size of 3,851,800 sq. miles, its relative sparseness of population, its vast forest areas and rivers of renewable utility, and its potential of underground metals and fuels should, when viewed in the light of the approaching exhaustion of the vital natural resources of many older lands, enable this country to take a highly important place, through the instrument of international trade, in the economies of its great southern neighbour and of other lands on other continents.

In terms of physiography, climate, vegetation and soils, Canada may generally be divided into several symmetrically arranged regions consisting of a vast central upland sloping on its flanks to form interior lowlands that lead in turn to mountainous ocean borderlands in the west, the east and the north.

At the very heart of Canada lies the central upland or plateau known as the Canadian Shield, a vast rugged area of very ancient Precambrian rocks approximately 1,850,000 sq. miles in extent. Stretching from the Mackenzie River basin in the northwest across the Northwest Territories to the eastern tip of Labrador, the broad northern top of the Shield breaks up to become part of Canada's Arctic Archipelago while its centre sinks below the waters of Hudson Bay and its south tapers away in Lake Superior and in the neighbouring upland of the northern United States. Intensely glaciated, the Shield is characterized by rocky ranges, rounded or elongated granite domes, rugged terrain, shallow basins of sandstone or limestone, small sedimentary plains, innumerable lakes and dozens of large precipitous rivers that provide





The use of the helicopter opened a new era in the reconnaissance geological mapping of Canada, so facilitating the work in isolated inaccessible areas that it is hoped to have this initial mapping of the whole country completed in ten to fifteen years.

This base camp on Bowser Lake in north-western British Columbia is supplied by small aircraft but the helicopter is used to carry men and supplies to points of operation. Rock features may often be identified during low-level flights but in extremely difficult terrain geologists travel on foot between depots laid by helicopter.



the major source of the nation's hydro-electric power. Indeed the Hudson Bay depression at the heart of the Shield drains almost half the Canadian mainland, through the Nelson-Saskatchewan River system (which extends 1,600 miles from its source in the Rockies), the 1,000-mile Churchill, the Severn, the Albany and other rivers draining into Hudson Bay.

The Canadian Shield, long a great physical barrier to national development and unity, has in recent years under the impact of greatly accelerated resource exploration and development become a vital national asset—a bridge between the western provinces and the older settled industrial east, and a symbol of the current surge in national development. For it is in the Shield that Canada finds its principal and as yet relatively untapped sources of iron, uranium ores, copper, lead, zinc, nickel, cobalt, gold, titanium and asbestos, embracing as it does most of Quebec, northern Ontario, northern Manitoba and northern Saskatchewan and over one-half of the Northwest Territories. Prominent among the older established mining communities and the new discoveries are Quebec's Noranda-Rouyn, Malartic and Val d'Or (copper-silver-zinc-lead), Chibougamau and Murdochville (copper), New Quebec-Labrador (iron); Ontario's Sudbury (nickel, copper, zinc), Porcupine

Canada's most modern hydrographic vessel, CGS "Baffin", in northern waters. Of intense interest is the Government's scientific program in the Western Arctic which includes the mapping of the polar continental shelf and the obtaining of other details of military and economic importance.



and Kirkland Lake (gold, silver), Steep Rock and Algoma (iron), Blind River (uranium); Manitoba's Flin Flon, Lynn Lake and Thompson Lake (gold, silver, zinc, copper, nickel); Saskatchewan's Beaverlodge (uranium); and the Northwest Territories' Port Radium (uranium), Yellowknife (gold), Pine Point on Great Slave Lake (base metals) and Rankin Inlet (nickel) on the western shore of Hudson Bay. Indeed, greatly increased geological survey and mapping activities in the Territories indicate that this vast northern expanse of the Shield possesses potential mineral wealth that may eclipse in variety and abundance all other Canadian sources.

Moreover, it is in the rugged and uninhabited portions of the Canadian Shield in northern Ontario and northwestern Quebec that one finds the bases of the current industrial revolution of these two provinces and the potential of an even greater industrial future. For here the close association of abundant forest and mineral resources with cheap hydro-electric power—produced by harnessing the St. Lawrence and its northern tributaries—and convenient transportation facilities have resulted in the establishment of

The thundering waterfall, the protruding rocks, the dense forest—this is the Canadian Shield, harbourer of the nation's treasure.



thriving manufacturing industries engaged in pulp and paper production, sawmilling, metal smelting and refining and production of transportation equipment, represented by such place-names as Bersimis, Arvida, Baie Comeau, Beauharnois, Trois Rivières, Sudbury, Sault Ste. Marie, Fort William and Port Arthur. Indeed, the promise of undeveloped water power and mineral deposits is as large as the Canadian North itself and it embraces all of the Yukon and Northwest Territories as well as sizable northern portions of every Canadian province except the three Maritime Provinces.

Flanking the Shield to the southeast and the southwest lie the Interior Lowlands—the fertile plains of the Great Lakes-St. Lawrence basin, the western prairies and the Mackenzie plain—plains developed largely from sand, silt and other sediments poured into ancient shallow inland seas by rivers rising in the Shield and the flanking mountains. These expansive interior lowlands have long been the source of Canada's agricultural wealth—whether wheat, stock-raising, dairying, or fruit-growing—and are likewise the chief sources of building materials, industrial minerals and energy fuels. Canada's vast reserves of coal, natural gas and petroleum lie below these lowland plains in southwestern Manitoba, southern Saskatchewan, Alberta, northeastern British Columbia, and the valley of the Mackenzie.

The Great Lakes-St. Lawrence basin, shaped like a triangular peninsula bounded by Lakes Ontario, Erie and Huron and including the lowland of the St. Lawrence River and such tributaries as the lower Ottawa and St. Maurice, possesses wide varieties of terrain, climate and vegetation, rich farmlands and orchards, and thriving industrial centres and supports two-thirds of Canada's population. Here, through the industrial heartland of

The low-lying lands of the peninsula of southern Ontario are fertile and pleasant. They form one of the major agricultural regions of the country, producing in abundance almost every food requirement of the population.



the nation flows the remarkable St. Lawrence inland waterway for over 2,000 miles—a waterway that has dominated the development of south-eastern Quebec and southern Ontario since the earliest colonial period. Here, in the older settled portion of Ontario, hydro-electric power from the string of falls over the south edge of the Shield and from the great developments at Niagara Falls, excellent transportation facilities, and the sustaining influence of large centres of consumption have produced a heavy concentration of manufactures of every kind of consumer goods. Here, the St. Lawrence Seaway and Power Project (completed in the spring of 1959) provides ocean cargoes with 27-foot navigation to the centre of the Continent at the head of the Great Lakes, permits a greatly augmented east-west movement of Quebec-Labrador iron ore and west-east flow of bulk cargoes of grain, lumber, pulp and newsprint by large lake freighters, and makes possible an increased concentration of industrial enterprise at numerous populous inland Canadian ports—Montreal, Cornwall, Kingston, Toronto, Hamilton, Windsor, Sault Ste. Marie, Fort William and Port Arthur.

Westward, between the northward veering rim of the Canadian Shield and the Rocky Mountains, lie the flat wide lands of the western prairies and the Mackenzie basin—three step-like formations representing the northern portion of the great central plains of the North American Continent. The three broad steps of the prairies are divided by two notable scarps—the Manitoba Escarpment dividing the Regina plains of southern Saskatchewan from those of Manitoba's Red River, and the Missouri Coteau dividing the central Saskatchewan plains and those of southwest Manitoba from the Alberta plains and those of southwest Saskatchewan.

Productive, too, is the great prairie land that stretches unhindered across the southern mid-west, from its deep brown earth springing some of the greatest wheat crops of the world.





The foothills of the Rockies in Alberta and the interior plateaux of British Columbia are the cattle lands of the West.

Here, glaciation produced wide lakes and laid down fertile clays and other marine sediments which today form some of the deepest and most productive agricultural soils in Canada. The Red River Valley, in the ancient bed of glacial Lake Agassiz, and the Regina and Saskatoon plains are good examples. Elsewhere the scene is one of rather hummocky ground, innumerable morainic sloughs and slightly rolling surfaces, suited especially to ranching. Breaching widely the escarpments that divide the steps are the two long arms of the Saskatchewan River and its tributaries flowing from the Rocky Mountains to Hudson Bay.

The fertile prairie soils and semi-arid to sub-humid climates make this one of the greatest grain-growing areas in the world, although its agricultural production also includes a significant output of hogs, beef, poultry, eggs and dairy products. Mixed farming, prevalent in southwestern Manitoba, shades off to ranching in the drier grazing areas of southwestern Saskatchewan and southern Alberta though here the hand of man, through irrigation, is giving new growth to hundreds of thousands of acres of naturally dry land.

Moreover, the prairies are tremendously rich in oil and natural gas. Despite the prominence of the Alberta Turner Valley after 1914 as Canada's leading source of petroleum, the discovery of a rich new field at Leduc in 1947 and the subsequent rapid expansion of exploration and production of oil and gas in the three Prairie Provinces have greatly broadened and strengthened the economy of Western Canada and that of the nation as a whole. The recently proven reserves of 3,166,000,000 bbl. of crude petroleum and probable recoverable reserves of over 23,200,000,000 cu. feet of natural gas in Western Canada, together with the annual rate at which additional reserves are being found, have lifted Canada to rank among the leading fuel or energy-producing nations of the world—and yet probably 90 p.c. of the country's oil exploration work remains to be done.

Indeed, the world's greatest exploration for oil and natural gas, in terms of area involved, is now under way covering an area of over 120,000 sq. miles in the Yukon and the Mackenzie District of the Northwest Territories. For it is here that the western interior lowlands slope north to embrace the

Mackenzie Lowland drained by the Mackenzie River (Canada's longest river, measuring 2,635 miles) and its great tributaries, the Athabasca, Peace and Liard Rivers as well as such enormous Lakes as Athabasca, Great Slave and Great Bear. Although there are some stretches of reasonably good agricultural and forest land, much of the lowland surface is lumpy moraines pitted by countless bogs, and in the northern reaches the permanently frozen subsoil (permafrost) practically precludes agriculture. Eclipsing other natural resources of water power, forest, furs and fish are the base metal, oil and gas reserves of the region, not the least being the lead and zinc deposits along the south shore of Great Slave Lake and the Athabasca tar sand of immense potential in northern Alberta.

But Canada's potentially rich northland empire extends beyond the Mackenzie Lowlands and the endless rock of the Canadian Shield northward into the Arctic Archipelago, a composite area of many large islands, where preliminary geological surveys indicate occurrences of iron ore in southern Baffin Island and of oil on Ellesmere Island in the High Arctic. Here, where

The Canadian Shield cuts diagonally northward across Manitoba and Saskatchewan, its rocks becoming more prominent and its trees more sparse but its mineral potential ever present.



the Arctic Ocean washes the Canadian mainland and engulfs the Archipelago as far as its northernmost point of land at Cape Columbia on Ellesmere Island, Canada is neighbour to the Soviet Union and is hence one of the two major Arctic powers.

In an age of transpolar air transport, of transarctic radar stations and their accompanying airfields and of greatly increased scientific analyses and surveys, there is developing in the policies of the Government of Canada and in the minds of its people a steadily growing awareness of the newly emerging minerally rich and strategic North—of its significance as a part of this country. More and more Canadians have come to realize that the North is no longer a barren waste, but that it possesses resources which will be of enormous value in future years; that the magnitude of national development



Signs of interest in the resources of the Arctic islands have made their appearance. Frobisher Bay on southern Baffin Island, now an international airport, is the busiest spot of the Eastern Arctic—but it is the western islands, the rock formations of which are akin to those of the oil- and gas-bearing parts of the prairies, that hold the early promise of exploitation.

some decades hence will depend in considerable part on the degree of success or failure in their response to the challenge of handling those resources.

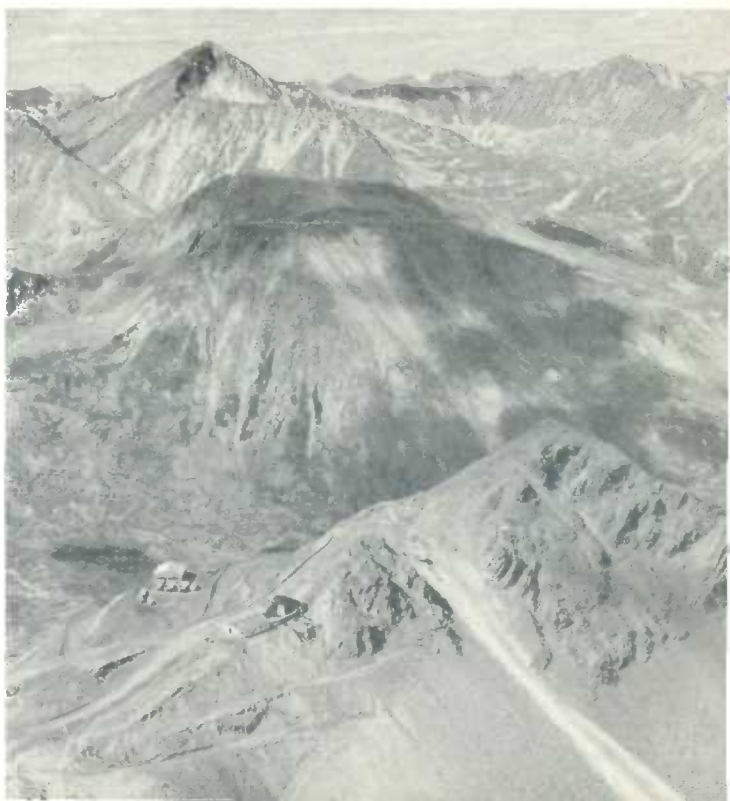
Canada's westernmost region, its mountainous Pacific borderland known as the Western Cordilleras and embracing British Columbia and the Yukon Territory, is made up of three major north-south sections, each with distinctive traits. The eastern section consists of three ranges of high fold mountains—the Richardsons, the Mackenzies and the Rockies with their lofty white-crested peaks of dazzling beauty, their dark green forests and blue-green lakes.

Westward across the Rocky Mountain Trench, containing the headwaters of such power-producing rivers as the Kootenay, Columbia, Fraser, Peace and Liard, lies the central section, of lower and broader relief with an intricate web of deeply trenched uplands, long narrow basins, gorge-like valleys, and small to large plateaux. Here, from north to south lies the Yukon plateau, the Central Upland, the Columbia, Cascade, Cariboo and Selkirk Mountains. Here the placer gold from the gravels of the Yukon and the gold in the sand bars of the Fraser and in the Cariboo Mountains attracted the first waves of extensive settlement into the Pacific region of Canada and led to the creation of British Columbia and the Yukon Territory. The Klondike gold-field, sixty years after the 'gold rush', remains a leading producer and a silver-lead-zinc mining industry has developed in the Keno Hill-Mayo region, east of Dawson. Indeed, recent geological mapping indicates significant concentrations of oil, gas, lead, zinc, silver, gold, iron ore, and asbestos in the Yukon, while in the southern interior of British Columbia



The green-clad mountains of British Columbia's Coast Range dip steeply into the sea forming a beautiful islet-strewn shoreline pierced by deep fiords and inlets. The barrier of islands provides a protected passageway for small shipping along the whole coast from Vancouver to Alaska.

A lonely asbestos mine in a forbidding setting in north-central British Columbia close to the Yukon border. The first road to be built under the new federal-provincial "roads to resources" program will give this mineral-rich area a 255-mile outlet to the sea.



valuable quantities of lead, zinc and silver ores have long been drawn from the famous Sullivan Mine at Kimberley.

The western section of the Western Cordilleras consists of the Coast Range, the relatively sheltered Inner Passage and the outer arc of islands—the Queen Charlottes and Vancouver. Here are Canada's loftiest mountain peaks, 18,000 to 20,000 feet in height, the most spectacular scenery, the densest tall-timber forests, innumerable steep glacial-cut fiords, a highly indented coast of utmost value to the fisheries, and a wealth of minerals in the Taku valley (copper, lead and zinc), at Bridge River (gold), at Hazelton (silver, lead, zinc, and cadmium), at Britannia Beach (copper) and at Campbell River on Vancouver Island (iron).

Thus, possessing almost every known mineral, the world's greatest timber resources (Douglas fir, western hemlock, western red cedar and white pine, etc.), immense energy resources of water power and natural gas for the service of industry, a vast almost untapped northern interior currently inspiring even greater power, metallurgical and transportation developments, and pockets of rich farming and grazing land in the southern mainland and Vancouver Island, British Columbia's contribution to Canada's natural heritage and future industrial growth is hardly less significant than that of either Ontario or Quebec.

Then, turning eastward 4,000 miles across the grandeur of forests and mountains, the wide expanse of prairie, the rock-bound forested Canadian Shield, and the intensely farmed and heavily industrialized Great Lakes-St. Lawrence basin, one comes to the old worn-down mountainous Atlantic borderland known as the Canadian Appalachians.

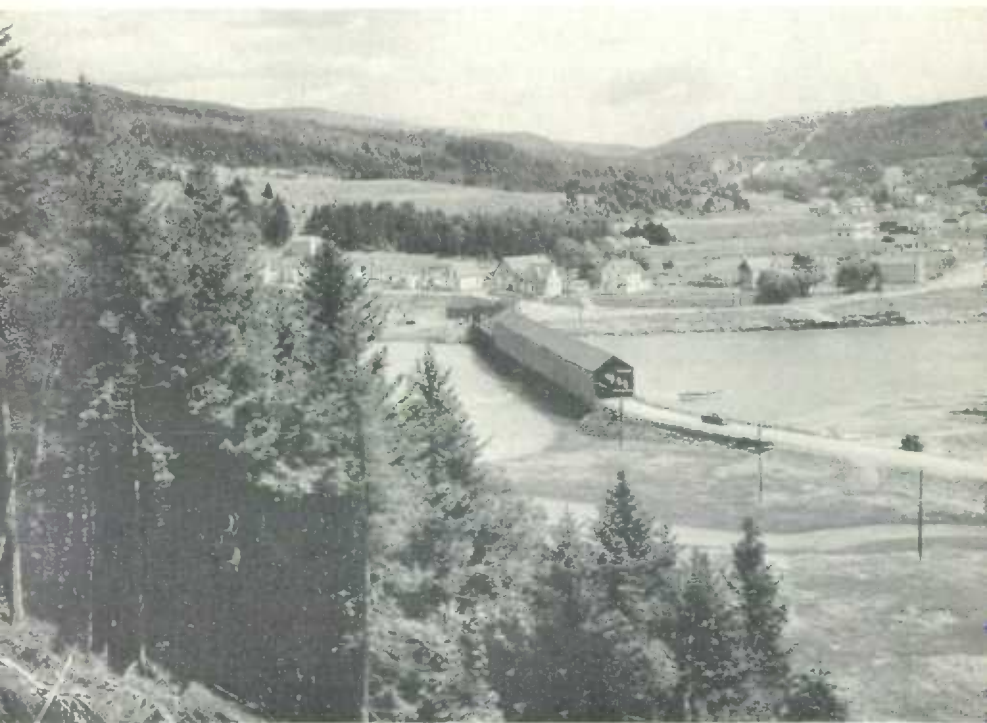
Running through the Eastern Townships and Gaspé Peninsula of Quebec, and broadening out in the three Maritime Provinces and the Island of Newfoundland is a series of complex mountain ranges plained down by prolonged erosion to mere stumps of their former state and interspersed with broad river valleys and sheltered uplands. Here, an intricate coastline of deep embayments, prominent headlands, rocky shores, and a succession of highland and lowland within relatively small areas have led to a quite varied economy—in the coastal areas, fishing is the predominant occupation while inland lumbering and logging are carried on in the uplands and agriculture in the scattered valleys and the tidal marshlands, and in certain areas mining is of utmost importance.

Off the east coast of Canada abound perhaps the greatest fishery resources of the world—cod, haddock and other groundfish are caught in abundance on the banks east of Newfoundland and Nova Scotia, in the Gulf of St. Lawrence and in the coastal waters of both Newfoundland and Nova Scotia; herring are prevalent in the bays from Fundy to Hamilton Inlet in Labrador; the inshore waters along Nova Scotia to northern Newfoundland abound with lobsters and Prince Edward Island is famous for its oysters.

Of the land resources, the importance of the forest industries is indicated by the fact that about one-fifth of the surface of the Island of Newfoundland, 70 p.c. of Nova Scotia and more than 80 p.c. of New Brunswick is under forest cover. Agriculture is of little value in Newfoundland but in Prince Edward Island it is the main occupation. The whole Island is overlain with a rich red soil particularly suited to potato growing. Potatoes are also the major crop of the upper St. John Valley in New Brunswick and apples and



Lake Massawippin in the Eastern Townships of Quebec. East of the St. Lawrence River through Quebec and New Brunswick, the prospect changes, the rolling countryside with its quiet rivers and lakes, its farmlands, its forests and its pleasant towns, is a delight to behold.



The covered bridge of Alma, N.B.

other fruit are specialties of the Annapolis and Cornwallis valleys of Nova Scotia, but otherwise mixed farming is general throughout the area.

In each part of the Canadian Appalachians, except Prince Edward Island, mineral resources add to the natural heritage. Although in New Brunswick production has lagged, large zinc-lead-pyrite deposits at Bathurst and the completion of the Beechwood power project on the St. John River are promising indications. In Nova Scotia, on the other hand, mining has long been prominent—its Cape Breton coal fields and those on the mainland across the Northumberland Strait account for over 50 p.c. of the nation's production. Indeed, the great iron and steel industry centred at Sydney is based on iron ore from Newfoundland and the coal fields of Nova Scotia. The province is also Canada's major source of gypsum and produces large quantities of salt.

Immense iron ore deposits on Bell Island, great pulp and paper mills at Grand Falls on the Exploits River and at Corner Brook, and the lead-zinc-copper mine at Buchans characterize the wealth of forest and mineral resources of the Appalachian portion of Newfoundland. Yet it is in the mainland Labrador portion of the Canadian Shield that the province may expect to find its greatest natural resources of timber, minerals and water power. In recent years Newfoundland has won the attention of the mining and pulp and paper world, and vast timber and mining concessions are being taken up in the Melville, Grand and Wabush regions of Labrador. Here flows as yet unhindered, the Hamilton River, one of the greatest sources of undeveloped power on the Continent.

Land and Water Areas

The following table shows the land and freshwater areas of Canada distributed by provinces.

Approximate Land and Freshwater Areas of the Provinces and Territories

Province or Territory	Land sq. miles	Freshwater sq. miles	Total sq. miles
Newfoundland (incl. Labrador).....	143,045	13,140	156,185
Prince Edward Island.....	2,184	—	2,184
Nova Scotia.....	20,402	1,023	21,425
New Brunswick.....	27,835	519	28,354
Quebec.....	523,860	71,000	594,860
Ontario.....	344,092	68,490	412,582
Manitoba.....	211,775	39,225	251,000
Saskatchewan.....	220,182	31,518	251,700
Alberta.....	248,800	6,485	255,285
British Columbia.....	359,279	6,976	366,255
Yukon Territory.....	205,346	1,730	207,076
Northwest Territories.....	1,253,438	51,465	1,304,903
Canada.....	3,560,238	291,571	3,851,809

The total area classified by tenure is as follows:—

	<i>Sq. miles</i>		<i>Sq. miles</i>
Privately owned or in process of alienation from the Crown.....	385,894	Provincial lands other than Provincial Parks and provincial forest reserves.....	1,634,430
Federal lands other than leased lands, National Parks, Indian reserves and forest experiment stations.....	1,531,461	Provincial Parks.....	57,463
National Parks.....	29,280	Provincial forest reserves..	203,877
Indian reserves.....	9,218	TOTAL AREA.....	3,851,809
Federal forest experiment stations.....	186		

Lake Erie, one of those inland 'seas' known as the Great Lakes. Together these six lakes have an area of over 95,000 sq. miles, though only parts of them are in Canadian territory.



The high figure for federal land is accounted for by the fact that it includes the total area of the Yukon and Northwest Territories. All unalienated lands within the provinces are administered by the provincial governments. Of Canada's land area of 3,560,238 sq. miles, 7.6 p.c. is occupied agricultural land—under crop, in woodland or unimproved. Forested land, both

Canada is lake country, particularly that portion lying within the Canadian Shield. Between Lake Superior and Lake Winnipeg, there is almost as much water as land—in a mapped area of 6,000 sq. miles there are more than 3,000 lakes.



productive and unproductive, accounts for 45.3 p.c. of the total and the remainder includes rock, muskeg, urban land, road allowances, etc.

Climate

Marked variability in the climate of Canada exists because of its location on the globe, its great extent, and the physical geography of the North American continental land mass of which it comprises the northern half. Three oceans, the Great Lakes, the Western Cordillera, the expansive north-south corridor of the great Central Plains and the Hudson Bay projection southward into the interior are among the most significant physical aspects shaping this variability.

With the exception of the Arctic and sub-Arctic zones, the climates of Canada lie mostly within the cool temperate zones and are characterized by relatively short summers and long winters, by a predominance of polar air masses, by a high frequency of storms and a prevalence of spring and autumn frosts. The southern limit of these zones is marked by the average temperature of January, the coldest month (below 27°F.) and the northern limit by the average of July, the hottest month (above 50°F.). The July mean serves also to indicate the southern limit of the Arctic climates and the northern limit of forest. Although somewhat severe, these cool temperate climates are stimulating rather than inhibiting in their effects; they challenge rather than frustrate.

Temperature and Precipitation Data for Certain Localities in Canada

Station	Length of Record Yrs.	Temperature (deg. Fahrenheit)					Precipitation	
		Avg. Annual	Avg. January	Avg. July	Ex-treme High (1921-50)	Ex-treme Low (1921-50)	Avg. Annual (inches)	No. of Days
Gander, Nfld.....	14	39.2	19.0	62.1	91	-16	39.50	199
St. John's (Torbay) Nfld.....	10	40.6	23.9	59.4	86	-10	59.99	208
Charlottetown, P.E.I.....	30	42.5	18.8	66.6	98	-23	43.13	162
Halifax, N.S.....	30	44.4	24.4	65.0	94	-21	54.26	156
Sydney, N.S.....	30	42.8	22.7	65.0	98	-23	50.61	165
Saint John, N.B.....	30	42.0	19.8	61.8	93	-21	47.69	168
Arvida, Que.....	19	36.6	4.2	65.2	95	-42	38.77	176
Montreal, Que.....	30	43.7	15.4	70.4	97	-29	41.80	164
Fort William, Ont.....	30	36.8	7.6	63.4	91	-38	27.62	142
Toronto, Ont.....	30	47.0	24.5	70.8	105	-22	30.94	145
Churchill, Man.....	21	18.8	-16.4	55.0	90	-50	14.41	101
Winnipeg, Man.....	30	36.6	0.6	68.4	108	-43	19.72	118
Regina, Sask.....	30	36.7	2.3	66.6	110	-54	15.09	109
Beaverlodge, Alta.....	30	36.1	9.7	60.2	98	-53	17.32	127
Calgary, Alta.....	30	39.0	15.8	62.4	97	-46	17.47	101
Nelson, B.C.....	30	45.8	24.4	67.2	103	-17	28.52	131
Victoria, B.C.....	30	50.2	39.2	60.0	95	6	26.18	144
Dawson, Y.T.....	30	23.8	-16.0	59.8	95	-73	13.99	117
Coppermine, N.W.T.....	19	11.7	-19.0	49.0	87	-58	10.87	103

Canada's cool temperate climates may be divided into a number of types: the humid type with a warm summer found in southern peninsular Ontario, in the lower Ottawa valley and in the Montreal plains and Eastern Townships of Quebec; the humid type with a cool summer is much more

widespread and includes the Avalon Peninsula of Newfoundland, the Maritimes, the edge of the Shield in Quebec and Ontario, and the northern fringe of the prairies from Winnipeg to Edmonton; the humid type of climate with cool summers and mild winters is found along the Pacific Coast of British Columbia and in the offshore islands; the humid type of climate with a severe winter has the widest range of all, extending from the intermediate slopes of the Coast Mountains of British Columbia to the northern half of Newfoundland—this, however, is not the climate of the most settled zone but of the pioneer zone. Semi-arid to arid climates occur in the extreme interior of the Continent and in the Arctic; the former in the southwest Prairies in the area of Regina, Moose Jaw, Swift Current, Medicine Hat, Calgary and Lethbridge, where precipitation averages 15-17 inches, and the latter extending well south of the Arctic Circle from Aklavik to Churchill, around Hudson Bay and down the Labrador coast—corresponding in general to the northern limit of tree growth.

Wildlife is still plentiful throughout the country and the conservation and protection of fur-bearing animals is of major concern to those whose livelihood depends on them.

The beaver, through protection, has been brought back from almost complete extinction to become one of the top revenue producers for the trapper.



▲ Quebec Government inspector checks the beaver 'take' of two trappers.



Ontario Government biologists conduct a muskrat survey at Big Island Lake, attempting to relate muskrat population to food supply and rate of propagation. The annual muskrat fur yield in the province is between \$300,000 and \$550,000.



Forestry

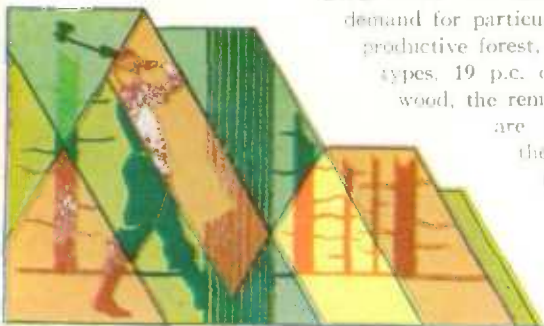
CANADA is above all a forest country. A broad band of forest swathes the land from Atlantic to Pacific, curving northward to skirt the prairies of the mid-west and broadening southward again to clothe the precipitous slopes and deep valleys of British Columbia. This great coniferous woodland interspersed here and there with hardwoods and changing in character with climate and soil conditions, covers more than half the land area of the provinces and extends northward to the Arctic Circle. It pours forth its bounty to all Canadians and in its maintenance and conservation every Canadian has a stake. In the rush of everyday life, in the roar of industry, in the building of factories and homes and in the shadow of majestic engineering exploits, it is scarcely realized that the forest still stands within sight of the cities and that in this forest the ring of the woodsman's axe and the whine of the saw reverberates throughout the land and generates, directly and indirectly, one in every thirteen dollars of the income of all Canadians. About 17 p.c. of the net value of production of all the primary industries—forestry, mining, agriculture, fisheries and trapping—comes from the forests and on the forests are based two of the great enterprises that dominate the Canadian scene—the pulp and paper industry and the lumber industry.

From colony to nation, Canada has ever been a great exporter of wood and wood products. The products taken from the forests have far exceeded the needs of the domestic population, and they have become and still remain Canada's most valuable export commodities. Indeed, the forests are the source of almost a third of all Canadian exports, and of this third pulp and paper accounts for about 70 p.c.

The forests of Canada fall into two categories—the unproductive forests and the productive forests. The unproductive forests cover 652,308 sq. miles of the total forested area of 1,612,593 sq. miles; they lie chiefly along the northern edge of vegetation where the size of the trees and their slow growth combine to give them little potential value. But it is the productive forests—those capable of producing continuous crops of wood of commercial value—that are the main concern. These cover an area of 960,285 sq. miles and of this area some 720,421 sq. miles are presently classed as accessible and carry an estimated supply of 585,788,000,000 cu. feet of merchantable timber. But accessibility is only a relative term. With the building of a road, a railway, a mill, or even a dam, inaccessible forests become accessible and the wood in them may be harvested economically. Nor does the term accessibility necessarily connote distance. There are commercial stands of timber relatively close to industrial centres which remain untapped only because

other areas lend themselves more readily to current demand for particular products and species. Of the productive forest, 62 p.c. is comprised of softwood types, 19 p.c. of mixed wood and 9 p.c. hardwood, the remainder being unclassified. There are more than 150 tree species in these forests, 31 of them conifers.

It is an important fact that the major part of the Canadian woodland is owned by the





Pulpwood from the Gatineau and Ottawa River forests—raw material for an integrated mill producing newsprint, dissolving and paper pulps and various building boards. The dissolving wood cellulose is used in the manufacture of rayon, cellophane and other plastics, bleached sulphite emerges as bond paper and the sugar content of the waste liqueurs of the sulphite pulping process is recovered and refined into ethyl alcohol.

Crown, that is by the people of Canada. Of the total forest classed as productive, 10 p.c. is privately owned, 20 p.c. is leased by the forest industries, and approximately 70 p.c. is unoccupied. Thus as owner and landlord, every Canadian has a direct interest in the forests, their nature, their future and the wealth they create for the country. The provincial governments administer the Crown land within their boundaries except for National Parks and other areas under the jurisdiction of the Federal Government. The latter also administers the forests in the nearly 1,500,000 sq. miles of land area in the Yukon and Northwest Territories.

The productivity of the Canadian forests, if they are properly managed can be maintained for all time. Depletion occurs by cutting, fire, insects, disease and natural mortality. The average annual utilization runs to about 3,100,000,000 cu. feet which together with the losses by fire is still much less than the annual increment of the forests since natural regeneration is generally satisfactory. Nevertheless, the demands on the forests are increasing, prompting governments and industry alike to plan for increased productivity



Permanent year-round sawmills on the British Columbia coast produce over one-third of Canada's lumber, and account for about half the lumber exports of the country. The main markets are the United States and the United Kingdom, but smaller quantities find their way to almost every part of the globe.

by more intensive forest management, by harvesting over-mature forests in which the volume of wood is declining and by bringing back forest growth on the millions of acres of forest lands denuded by fire, by overcutting or by unsound attempts at agriculture on unsuitable lands. There is now, however, much more efficient utilization of timber cut. More pulp and paper is produced from a cord of wood today than even a few years ago, and the use of more species brings a greater return from an acre of woodland. More commercial products like alcohol, tanning liquor, road binders, turpentine and yeast are made from what were formerly waste materials in pulping. The manufacture of rayon and cellulose products, plastic-wood products, fibreboard, laminated wood and wood particle products is permitting the use of inferior grades of wood and species of trees.

New forestry knowledge is continuously being developed and applied with the objective of bringing Canada's great forest asset to the point of highest sustained productivity.

Forest Industries

The forest industries of Canada are classified as woods operations, the lumber industry, the pulp and paper industry and the wood-using and paper-using industries, the latter groups using partially manufactured wood, pulp or paper as their raw materials.

Woods Operations.—The harvesting of the forest crop has become in many areas a completely mechanical operation, the methods varying with the terrain and the character of the forest. West of the Rockies, operations

are generally quite different from those in Eastern Canada. There the mild climate often permits year-round work in the woods and the size of the trees and the rugged terrain require the use of costly, heavy, mobile mechanical equipment and good roads or water transport facilities. In eastern areas where the trees are smaller and the cutting of pulpwood predominant, woods operations are more seasonal and generally performed by workers who regard three or more months each year in the woods as part of their calling. Mechanization, while a little later in being applied, is moving on apace. It takes many forms from the almost universal use of the power saw to the use of snowmobiles, heavy diesel trucks and tractors, mechanical loaders, log skidders and cable yard equipment.

The output of Canada's forests in 1956 amounted to 3,463,304,000 cu. feet of solid wood cut, with products valued at \$939,142,602. Estimates for 1957 indicate a decrease of about 368,000,000 cu. feet from the 1956 figure. This is the raw material for the sawmills, pulpmills, veneer mills, wood distillation, excelsior and other plants as well as the logs, pulpwood, bolts, fuel, poles, railway ties, and other primary products. Minor products include Christmas trees, cascara bark, balsam gum, resin, etc. Over 94 p.c. of the timber cut in 1956 was processed to some degree in Canada.

Logs and bolts for the lumber industry are the most important of the primary forest products and head the list of such products by value in British Columbia, Alberta, Nova Scotia and the Territories. Pulpwood is most important in all the other provinces, except Saskatchewan and Prince Edward Island where fuel wood comes first.

Lumber.—The lumber industry in Canada is particularly dependent upon the general economic condition of the country and on the state of foreign markets. The effects of strong or declining demand are more noticeable in British Columbia than elsewhere in Canada because well over 60 p.c. of the sawn lumber production comes from that province and because lumbering forms a large proportion of the industrial activity there.

For the first time in the postwar period, the Canadian lumber industry encountered some recessive trends in 1956 and 1957. The year 1958, however, showed signs of a recovery with production increasing by over 3 p.c. This increase was largely accounted for by British Columbia since the remainder of the country, with the exception of Alberta, recorded a drop. Though the over-all picture was reasonably good, production in some areas (particularly the Maritimes) and of some species was down considerably. The construction picture in North America allowed for a modest increase in shipments of

British Columbia saw-mills, using the large logs of the coastal forests, run at high speeds and turn out a wide range of specialized grades and sizes of lumber.



The demands on Canada's woodlands, the last remaining large-scale coniferous forests of the free world capable of greater sustained production, are very high and are likely to be higher in the future. Thus the maintenance of the forests is one of the greatest problems facing the country today.



lumber to the home market and to the United States. The latter absorbs about 80 p.c. of Canada's lumber exports.

Canadian sawmills vary greatly in size and in product. Some, particularly in British Columbia, are capable of cutting up to half a million feet board measure in a single shift. Others are small enterprises turning out one or two thousand feet a day. Spruce continues to lead Douglas fir in quantity cut but the position is reversed when market values are computed. These varieties are closely followed, in volume, by hemlock, cedar, white pine and jack pine, balsam fir, yellow birch and maple.

There were 6,276 active sawmills of all kinds in Canada in 1957 with over 50,664 employees who earned \$143,166,269 in salaries and wages. The industry produced 7,099,758,000 ft. b.m. of lumber with a gross value of \$466,227,702. About 51 p.c. of this production was exported at a value of \$282,690,031.

Pulp and Paper.—The manufacture of pulp and paper has been Canada's leading industry for many years. It stands first among all industries in value of production, in exports, in total wages paid and in capital invested. It is the largest consumer of electric energy and the largest buyer of goods and services in the land. The industry has a newsprint output about four times that of any other country and provides more than 50 p.c. of the world's newsprint needs. Canada is one of the world's greatest pulp exporters and stands second only to the United States as a producer of that product.

The industry includes several forms of industrial activity—operations in the woods and the manufacture of pulp, paper of all kinds and paperboard. In 1957 there were 31 mills making pulp only, 25 were making paper only and 72 were combined pulp and paper mills, some of the latter being completely integrated establishments conducting all operations from cutting to the final product of newsprint, wrapping paper, fine papers, tissues, cartons, paperboard or other wood fibre, and cellulose products. About four-fifths of the pulp manufactured was converted to other products in Canada; the remainder was shipped abroad. Newsprint is the top product, forming 76 p.c. of the total volume of paper and 95 p.c. of the amount of



Forest management in practice is not simple. Its objective—to grow wood and to remove the annual harvest efficiently and economically—is costly and complex. It involves first the estimation of wood available and its annual growth, by air and ground cruising. It involves the preparation of cutting programs, highly dependent on the inventory, growth and forest condition. Forests must be protected from fire, requiring the building of roads, towers and telephone lines, and the incidence of insects and diseases must be marked and checked. Forests must be replanted where feasible and continuing research conducted to determine better silvicultural methods. Management also involves the mechanical handling of the harvest and the development of equipment and methods to promote greater efficiency. And of no less importance, it involves the handling of the human work force—the employment, movement, accommodation and training of thousands of woodworkers whose livelihood, in whole or in part, is earned in the forest.





The work of the Institute includes applied research in the fields of woodlands operations and pulp and paper mill operations.



Examining a sand culture of tree seedlings in a laboratory study of the nutrition of pulpwood species.

A mill-scale refiner is part of the complement of equipment for research in mechanical pulping operations.



New laboratories facilitate the work of the Pulp and Paper Research Institute of Canada, an organization concerned with every aspect of the production and use of pulp and paper products and with the training of postgraduate students in research fields of interest to the industry. It represents a long-standing national partnership, being jointly supported by the Government of Canada, the pulp and paper industry and McGill University.

paper and paper goods exported in 1957. Quebec and Ontario together accounted for 75 p.c. of the newsprint production.

The postwar expansion program for both newsprint and pulp was all but completed by the end of 1958. During the year newsprint capacity increased by 7 p.c. while the over-all demand for this product declined by about 5 p.c., but despite this adverse combination production remained fairly stable. The main reduction was in newsprint but paperboard mills found a wider market for their output and the demand for fine paper and wrapping paper was also higher.

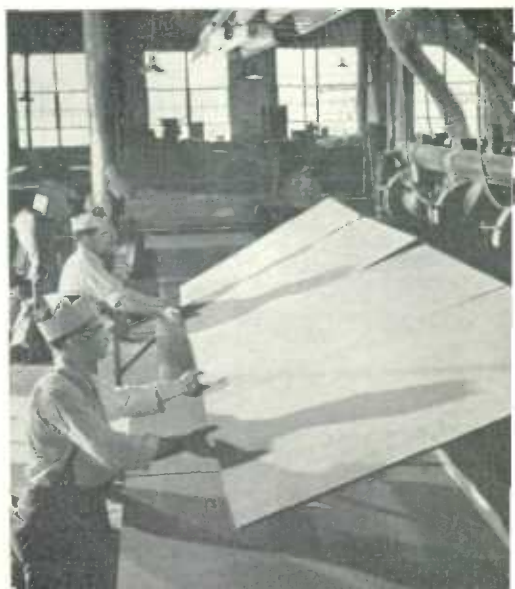
*Principal Statistics of the Pulp and Paper Industry, 1930, 1940,
1956 and 1957*

Item	1930	1940	1956	1957
Establishments.....No.	109	103	126	128
Employees....."	33,207	34,719	65,985	65,940
Salaries and wages.....\$	45,774,976	56,073,812	297,571,944	307,627,849
Gross value of factory shipments.....\$	215,674,246	298,034,843	1,453,441,726	1,411,934,462
Value added by manufacture.....\$	107,523,731	158,230,575	736,346,393	693,475,562
Pulp produced.....tons	3,619,345	5,290,762	10,733,744	10,425,295
	\$ 112,355,872	149,005,267	706,232,534	706,194,649
Paper produced.....tons	2,926,787	4,319,414	8,466,785	8,299,889
	\$ 173,305,874	225,836,809	1,070,492,355	1,056,371,332
Pulp exported.....tons	760,220	1,068,516	2,374,013	2,282,656
	\$ 39,059,979	60,930,149	304,536,497	292,406,102
Newsprint exported.....tons	2,332,510	3,242,789	5,967,194	5,900,625
	\$ 133,370,932	151,360,196	708,384,822	715,489,761

Wood-Using Industries.—This group includes thirteen industries, other than sawmills and pulpmills, using wood as their principal raw material. In 1957, these industries, comprising 4,520 establishments, gave employment to 76,175 persons and paid out \$225,493,899 in salaries and wages. The gross selling value of their products was \$779,482,475 and the net value \$348,083,054. The furniture industry (which includes metal furniture as well) accounted for \$307,340,601 of the total output, the sash, door and planing mills industry for \$224,579,465, the veneer and plywood industry for \$121,159,762, and the hardwood flooring industry for \$15,509,287. The other industries making up the remaining \$110,893,360 included: boxes, baskets and crates; wood-turning; morticians' goods; cooperage; woodenware; lasts, trees and wooden shoefindings; beekeepers' and poultrymen's supplies, excelsior, etc.

Paper-Using Industries.—Three industries engaged primarily in manufacturing commodities of paper and paperboard constitute this group, which in 1957 comprised 454 establishments, employed 28,343 persons and distributed \$95,658,442 in salaries and wages. The gross value of factory shipments was \$453,784,723 and the net value \$184,509,995. The paper box and bag industry contributed products valued at \$253,497,145 to the total output, the roofing paper industry \$40,935,412, and the miscellaneous paper goods industry \$159,352,166.

Butts, tops, sawdust and shavings—formerly tree waste—are now processed into wallboard and other building materials that have become so important in house construction.



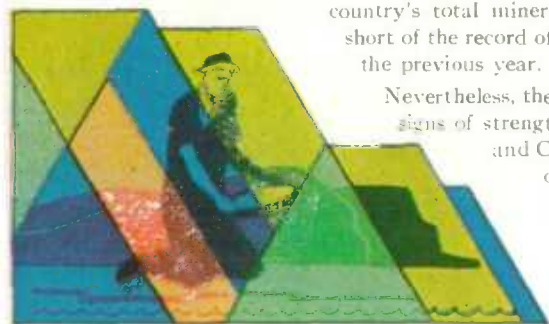
Mining

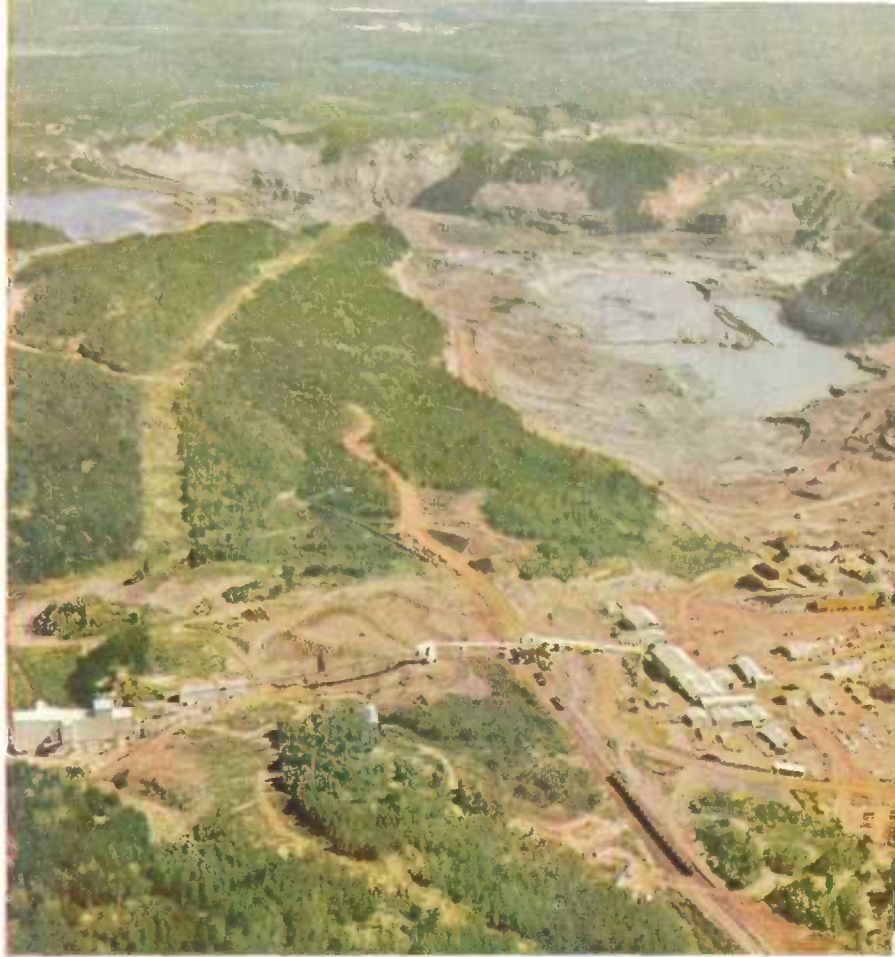
THE development of Canada's mining industry is inextricably bound up with the development and growth of the world's industrial economy and its requirements of mineral and metal products. In the early days of the country's exploration and settlement, occurrences of iron, silver, copper and coal were known to exist but little attention was paid to them, the interest of the settler being taken up with his immediate needs and the more exploitable resources of the forest and the soil. Even throughout the 1800's Canada's small requirements for metal products were supplied from outside the country and only the promise of gold was sufficient to excite the prospector. Then began the era of industrial expansion, first in the United States and later in Canada, with its demands for the products of the mine. New processes were discovered for recovering the metal content of ores and the mining industry was launched in earnest. Throughout the period between the two world wars, the list of minerals found and developed became longer, although gold was still of prime importance, and the great storehouse of underground wealth began to yield up its treasure.

But the events that have made Canada's mineral industry the dynamic force it is today—the oil and gas discoveries in the mid-west, the finding and developing of huge deposits of iron ore in Ontario, Quebec and Labrador and of uranium in Saskatchewan and Ontario, the great expansion of production facilities, and the accompanying technological achievements—have taken place mainly within the past twelve years. The number of useful minerals, the methods of locating them and utilizing them is continuing to grow unbelievably fast. Few industries have advanced as rapidly. Between 1947 and 1957 the total value of Canada's mineral production increased 240 p.c. Mineral fuels, mainly oil and gas, went up 411 p.c., industrial minerals 217 p.c. and metallic minerals 193 p.c. Canada leads the free world in the production of uranium, nickel, zinc and asbestos, is second in gold and the platinum metals and third in iron ore and silver.

Since Canadian mining is essentially an export business, it is particularly sensitive to trends of world trade. Thus the industry faced a challenge in 1958, a year of economic recession, reasonably severe in the United States and slightly less so in Canada. Markets for copper, lead and zinc, having eased at the end of 1957, remained at a low level. For nickel producers, the era of premium prices came to an end as a result of world over-supply. The petroleum industry lost a considerable part of its export market and asbestos producers faced recession on one side of the Atlantic and stiffening competition from producers abroad. As a result, the value of the country's total mineral production for 1958 fell 3 p.c. short of the record of approximately \$2,122,000,000 set the previous year.

Nevertheless, the industry also showed encouraging signs of strength. Uranium production doubled and Canada gained top position in world output. Substantial increases were shown in gold, silver, lime, sulphur, sand and gravel.





Sleep Rock iron ore development west of Port Arthur has carried on a continual expansion program since it first came into production in 1944. Three new concentrating plants have recently been completed and the productive capacity of the area now stands at about 3,500,000 tons of high-grade ore a year.

Natural gas output continued to grow as ever-lengthening pipelines brought the fuel to more and more Canadian communities. Continued large expenditures on exploration for iron in Quebec-Labrador and for base metals in the more promising areas such as the Mattagami district of western Quebec, and the continuance of a major nickel development under way in northern Manitoba indicate that the industry generally is looking beyond the present imbalance of supply and demand to the eventual strengthening of mineral markets.

Metals.—In contrast to the spectacular gains of previous years, the value of Canada's production of metals in 1958, at \$1,142,000,000, was some \$17,400,000 less than that of the year before. The leading base metals, copper, nickel, lead, zinc and iron ore were in over-supply and showed sharp declines.

Ninety-five per cent of Canada's nickel comes from the Sudbury area of Ontario. There the International Nickel Company of Canada, the country's leading producer, has an annual capacity of 310,000,000 lb. though market conditions forced it to cut back production in 1958. Nevertheless the company proceeded with the development of its Thompson and Moak Lake mines in northern Manitoba scheduled to reach the production stage by late 1960. This eventually will add some 75,000,000 lb. a year to the company's nickel-producing capacity and make that area the world's second largest source of nickel. Other producers of the metal are Falconbridge Nickel Mines Limited in the Sudbury area whose operations in 1958 were close to capacity of 50,000,000 lb. a year, Sherritt Gordon Mines Limited at Lynn Lake in Manitoba whose annual capacity is 25,000,000 lb., and North Rankin Nickel Mines Limited in the Northwest Territories with a

Ore samples from the new project at Wabush Lake are shipped by air to the assay laboratory at Schefferville for testing.



Outcroppings are common throughout the Trough, which extends from the coast of Ungava Bay south through the Quebec - Labrador border and westward to Lake Mistassini.



One of the major mineral developments in Canada's history has been the exploration and opening up to production of the Quebec-Labrador Iron Trough. The five mines now in operation, which produced upwards of 13,000,000 long tons of direct-shipping ore in 1958, are only the beginning; the completion of projects now in the planning or construction stage—some of them involving commitments of hundreds of millions of dollars—should, within the decade, place Canada among the world's leading producers of iron ore.

Canada is now in the forefront of uranium producers in the free world. New mines coming into production in 1958 more than doubled the output of oxide. In terms of value, placed at approximately \$290,000,000, uranium became Canada's leading metal, exports of which were exceeded only by those of pulp and paper and wheat.



capacity of 500,000 lb. a year. The total nickel production for 1958 came to 278,000,000 lb. valued at \$196,700,000.

Canada's three leading producers of copper are the International Nickel Company of Canada at Sudbury in Ontario, the Hudson Bay Mining and Smelting Company Limited at Flin Flon in Manitoba, and Noranda Mines Limited in Quebec's Noranda-Rouyn area. Noranda handles concentrates from its Horne mine and most of the independents. Geco Mines Limited in Ontario's Manitouwadge area went into operation in 1957 and emerged the following year as Canada's fourth largest producer. In 1958 Canadian copper mining was hurt by low prices. The world surplus of the previous two years continued to grow, forcing some producers to curtail their output and others to shut down. Nor was the situation improved by a 1.7-cent-a-pound duty imposed by the United States on its copper imports. The result was that the total value of Canada's copper production for 1958 was some \$29,000,000 less than that for the previous year. In all, the country produced 698,900,000 lb. of copper valued at \$178,000,000.

Recently most of the exploratory attention in copper has centred about the Mattagami region of western Quebec where a number of promising finds have been made. The most spectacular of these are the copper ore-bodies of New Hosco Mines Limited and Kenneco Explorations (Canada) Limited. Another Quebec area of prospecting interest is a greenstone belt west of Mistassini Lake, about 60 miles north of Chibougamau.

More than half of Canada's lead and zinc comes from British Columbia where the main producer is The Consolidated Mining and Smelting Company Limited. In 1958, low base-metal prices forced the company to reduce its output by 20 p.c. and, for the country as a whole, production values in 1957 and 1958 were below the record set earlier. The one exception was Ontario where the marked increase in returns was attributed to increased output from Geco and Willroy Mines Limited in the Manitouwadge area.

The value of Canadian iron ore shipments in 1958 at \$121,000,000, was about \$46,000,000 below the all-time record set the previous year. This



Eleven gold bars, each weighing about 1,000 oz. t. and valued at some \$35,000, represent a week's output from Kerr-Addison in northern Ontario, Canada's largest gold mine. Annual production from this mine is valued at close to \$20,000,000.

cutback was caused by a slump in the United States steel industry, the leading market for Canadian iron, brought about by the general business recession. Fortunately, that market recovered late in the year and it became apparent that the long-term prospects for iron ore were as promising as ever.

In fact, despite the fall in shipments, exploratory work on iron-bearing properties continued at a healthy pace. This was especially true in Quebec-Labrador, in an area extending through Mount Wright, Mount Reed and Lake Wabush where "a new iron province" was under development. Both American and Canadian interests were involved, to an extent of some \$700,000,000, in what may, in a decade or so, become the country's largest iron mining area. Iron Ore Company of Canada gave particular attention to the Lake Wabush area where its holdings were estimated at over 1,000,000,000 tons of concentrating-grade ore. Quebec Cartier Mining Company made definite plans to mine its Lac Jeannine deposit where a specularite-bearing formation will provide some 20,000,000 tons of iron ore annually. At Hopes Advance Bay in the Ungava Bay area, Ungava Iron Ore Company carried out extensive drilling and mapping. Plans called for three producing mines, with production scheduled for 1963.

Ontario is Canada's leading producer of uranium, accounting for about 76 p.c. of the Canadian total. In 1958 five new mines in the province's Elliot Lake area reached the production stage bringing the district total to twelve and making it the largest uranium-producing camp in the world. In the Bancroft district, one new mine came into production, bringing the total to four mines and three mills.

Saskatchewan's uranium production comes from seven mines on the north shore of Lake Athabasca. Three mills in the area worked close to or beyond capacity in 1958. In the Northwest Territories, Eldorado Mining and Refining Limited continued to produce both a precipitate and concentrate at its Port Radium mine, sending them to the company's refinery at Port Hope, Ont. In all, there are 23 Canadian uranium mines supplying 19 mills having a rated capacity of over 41,000 tons and capable of producing 45 tons of uranium a day. The total value of Canada's uranium output soared from \$136,000,000 in 1957 to \$290,000,000 in 1958.

More than half of Canada's gold production comes from Ontario, with Quebec, Northwest Territories, British Columbia, the Prairie Provinces, Yukon, and the Atlantic Provinces following in that order. The gold mining situation improved a little in 1958. Production for the year came to 4,500,000 oz.t. valued at \$154,000,000 compared to 4,400,000 oz.t. at \$148,700,000 the previous year. Interest in gold exploration and development also improved

markedly in 1958, responding to the prospects of increased aid under the government's Emergency Gold Mining Assistance Act. This measure gives financial assistance to gold mines facing high operating costs. In 1958 cost aid was extended to the end of 1960 and was increased by 25 p.c.

Industrial Minerals.—Though Canada maintained its position as the world's leading producer of asbestos in 1958, the North American business recession took its toll. For the first time in three years the volume of fibre moving to markets fell below 1,000,000 tons. The 1958 shipment figure was 942,135 tons valued at \$96,000,000. Nevertheless development of asbestos properties has continued. In 1958 the industry's productive capacity was increased by approximately 20 p.c. as three new mines came into operation in Quebec's Eastern Townships. Exploratory work on asbestos properties has also continued, mainly in Newfoundland and Yukon.

Canada is now considered an important world source of sulphur and sulphur compounds and in a few years its production of these



The new asbestos mill at Black Lake in the Eastern Townships of Quebec is one of three coming into production in 1958, increasing the industry's output by 13 p.c. and world production by 9 p.c.

The output of salt has nearly doubled since 1953, mainly because of the growing amounts required by the manufacturers of caustic soda, chlorine and other chemical products. Canada's largest rock-salt mine is at Ojibway, Ont. ▶

The first trainload of potash mined and refined in Canada left the Saskatchewan plant in March 1959. This mine is capable of supplying Canada's requirements of 100,000 tons a year and of entering world markets to the extent of 500,000 tons. A second potash development in the same area is under construction. ▼





The newest name in gas production is Berland River, 160 miles northwest of Edmonton, where the first well to go down has proved to be the deepest and most productive in Canada. Its open-flow potential is at present considered to be 1,500,000,000 cu. feet daily—enough to meet all of Canada's current needs.

commodities will be rivalling that of the United States. At one time most sulphur requirements had to be imported; now Canada is supplying much of the domestic demand and, in addition, is selling on the export market. Sulphur is produced in elemental form as a by-product in the purification of natural gas, and as sulphuric acid and sulphur dioxide obtained from the treatment of pyrite, pyrrhotite and smelter gases. In 1958 there was a further growth in sulphur recovery from natural gas with the output of five western plants alone totalling more than 1,100 tons a day. Canada's production of sulphuric acid has also increased greatly to meet the needs of the uranium mining industry where it is used as a leaching agent.

Canada became a producer of potash in 1958 when Potash Company of America opened its mine at Patience Lake in Saskatchewan, 15 miles east of Saskatoon. A second company expects to reach the production stage early in 1960 and some 25 companies hold land for further development. To date about 6,400,000 tons of recoverable potash have been outlined in a vast deposit extending east-to-west across the entire province.

Other industrial minerals on the rise in 1958 were lime with a production valued at \$20,400,000 and salt at \$15,400,000. Construction materials (cement, concrete aggregates, clay, etc.) soared from \$296,900,000 in 1957 to \$314,100,000 in 1958, to take care of the increasing requirements for housing and road building.

Fuels.—After being a pace-setter in Canada's postwar development, the oil industry slackened somewhat in 1958. Hurt by the loss of a considerable part of the American export market, crude production fell nearly 11 p.c. from the 1957 level. The estimated 1958 total was 166,500,000 bbl. or about 15,000,000 less than the previous year. The decline came largely from Alberta where production fell about 23 p.c. to 112,300,000 bbl. Saskatchewan's

output, on the other hand, increased about 21 p.c. to 46,500,000 bbl. while Manitoba's 5,900,000-bbl. output remained about the same.

Canada's production of natural gas reached a record 337,000,000,000 cu. feet, a rise of 117,000,000,000 cu. feet over the previous year. The Trans-Canada pipeline, the longest gas line in the world, was completed late in 1958 and natural gas was delivered to communities as far east as Montreal. It was a big year in pipeline construction with an ever-growing number of distribution lines linking more and more Canadian communities with the vast reservoirs of the West.

By contrast, Canada's output of coal, on the decline for the past eight years, fell to 11,500,000 tons in 1958, a drop of about 1,700,000 tons from the 1957 figure.

Mineral Production, by Province, 1957 and 1958

Province or Territory	1957		1958 (prelim.)	
	Value	P.C. of Total	Value	P.C. of Total
	\$		\$	
Newfoundland.....	82,682,263	3.8	68,752,085	3.2
Nova Scotia.....	68,058,743	3.1	64,002,597	3.0
New Brunswick.....	23,120,689	1.1	17,053,898	0.8
Quebec.....	406,055,757	18.5	370,804,294	17.5
Ontario.....	748,824,322	34.2	799,168,474	37.7
Manitoba.....	63,464,285	2.9	56,153,964	2.6
Saskatchewan.....	173,461,037	7.9	213,720,594	10.1
Alberta.....	410,211,763	18.7	338,790,192	16.0
British Columbia.....	178,931,120	8.2	157,143,008	7.4
Northwest Territories.....	21,400,615	1.0	24,791,516	1.2
Yukon.....	14,111,798	0.6	11,772,818	0.5
Totals	2,190,322,392	100.0	2,122,153,440	100.0

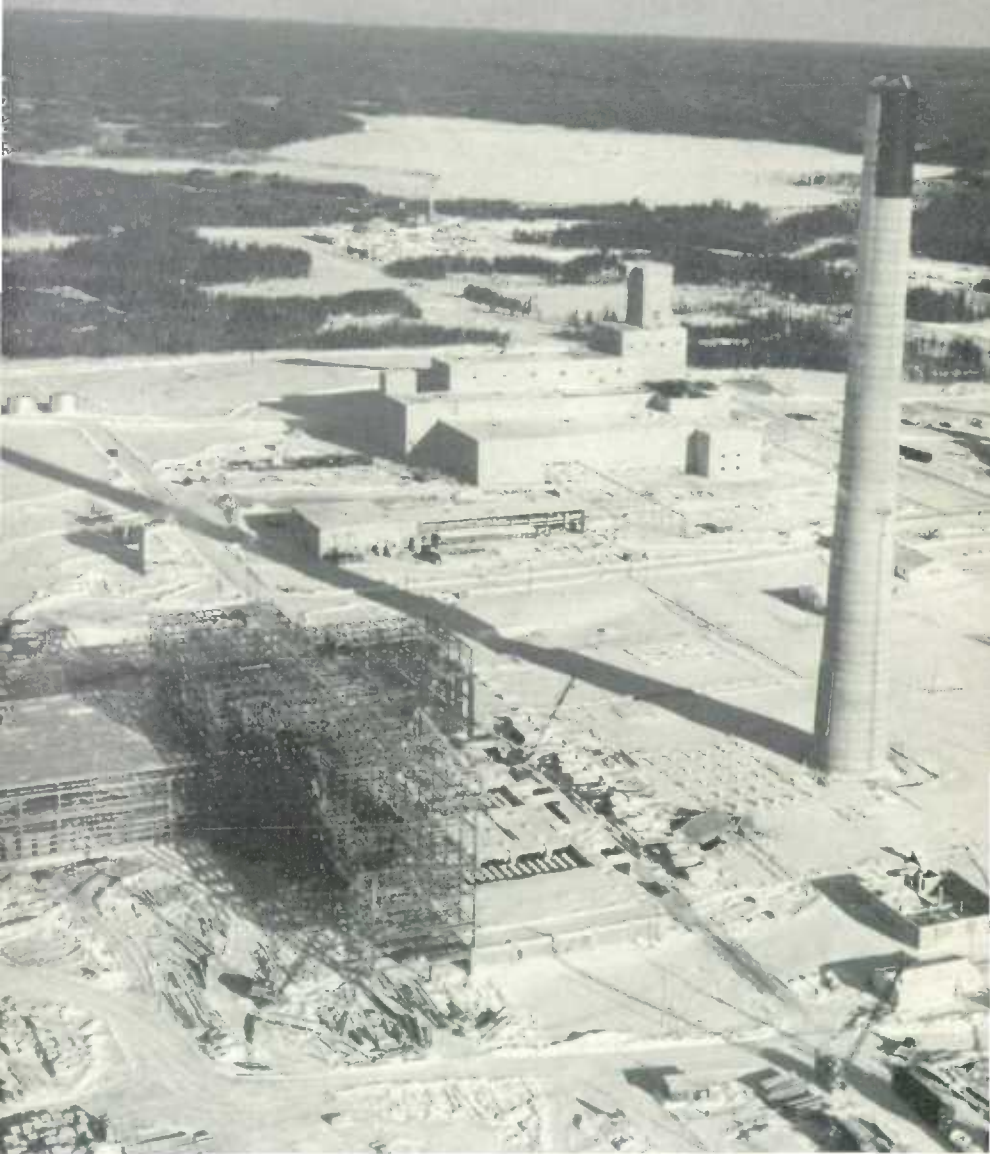
Most of the exploration interest in copper is at present in the Mattagami region of west-central Quebec where dozens of companies are carrying on field work and where a number of promising finds have been made. It has reached the point where a tent-site can be found on any creek, lake or river in an area of well over 2,000 sq. miles.



Quantities and Values of Minerals Produced, 1957 and 1958

Mineral		1957		1958 (prelim.)	
		Quantity	Value	Quantity	Value
Antimony.....	lb.	1,360,731	\$70,442	925,000	292,153
Bismuth.....	"	319,941	584,917	457,088	861,185
Cadmium.....	"	2,368,130	4,025,821	1,841,425	2,798,965
Calcium.....	"	221,225	282,378	70,259	85,807
Cobalt.....	"	3,922,649	7,784,423	2,521,240	5,196,088
Copper.....	"	718,218,535	206,897,988	698,929,034	178,077,588
Gold.....	oz. t.	4,433,894	148,757,143	4,534,455	154,065,491
Indium.....	"	384,360	693,770	69,000	155,250
Iron ore.....	ton	22,272,174	167,221,425	15,878,481	121,437,285
Iron (remelt).....	"	187,529	10,083,434	118,000	6,342,500
Lead.....	lb.	362,968,520	50,670,407	371,540,693	42,095,560
Magnesium.....	"	16,770,371	5,254,896	11,620,205	3,591,064
Molybdenite.....	"	783,749	1,166,557	566,000	781,231
Nickel.....	"	375,916,551	258,977,309	278,082,795	196,733,985
Palladium, rhodium, etc.....	oz. t.	216,582	7,896,209	150,720	4,491,809
Platinum.....	"	199,565	17,835,124	144,565	9,277,140
Selenium.....	lb.	321,392	3,535,312	403,264	2,624,480
Silver.....	oz. t.	28,823,298	25,182,915	31,311,378	27,209,192
Tellurium.....	lb.	31,524	55,167	43,278	74,554
Tin.....	"	709,102	580,342	718,000	692,870
Titanium ore.....	ton	10,770	97,075	5,415	36,100
Tungsten (WO ₃).....	lb.	1,921,483	5,279,275	690,977	1,900,187
Uranium (U ₃ O ₈).....	"	13,271,414	136,304,364	28,237,332	290,228,456
Zinc.....	"	827,481,656	100,042,533	857,275,945	93,100,167
TOTALS, METALLICS.....		—	1,159,579,226	—	1,142,140,007
Arsenious oxide.....	lb.	3,697,317	137,112	2,249,866	58,496
Asbestos.....	ton	1,046,086	104,489,431	942,135	96,168,029
Barite.....	"	228,048	2,992,913	201,329	2,067,916
Diatomite.....	"	120	2,400	6	270
Feldspar.....	"	20,450	393,284	17,750	328,105
Fluorspar.....	"	66,245	1,756,841	—	1,552,255
Gypsum.....	"	4,577,492	7,745,105	4,043,364	8,302,037
Iron oxide.....	"	7,518	187,211	2,060	162,160
Lithia.....	lb.	5,140,257	2,827,143	3,938,000	2,030,000
Magnetite dolomite and brucite.....	ton	—	3,046,298	—	2,547,428
Mica.....	lb.	1,282,416	111,583	1,072,703	92,736
Mineral water.....	gal.	348,710	185,167	347,500	185,000
Nepheline syenite.....	ton	200,016	2,754,060	200,149	2,636,142
Peat moss.....	"	137,747	4,734,504	146,064	5,534,549
Pyrite, pyrrhotite.....	"	1,166,416	4,808,228	1,181,281	4,496,372
Quartz.....	"	2,139,246	3,185,186	1,403,737	2,509,034
Salt.....	"	1,771,559	13,989,703	1,863,866	15,482,850
Silica brick.....	M	4,308	655,903	2,598	402,189
Soapstone and talc.....	ton	34,725	427,673	33,494	427,459
Sodium carbonate.....	"	157,800	2,568,728	53	800
Sodium sulphate.....	"	—	—	167,897	2,764,651
Sulphur in smelter gas.....	"	—	—	236,478	2,326,080
Sulphur, elemental.....	"	235,123	2,322,067	99,645	1,988,586
Titanium dioxide.....	"	186,422	9,740,570	—	6,068,838
TOTALS, NON-METALLICS.....		—	169,061,110	—	158,131,982
Coal.....	ton	13,189,155	90,220,670	11,441,695	78,217,621
Natural gas.....	M cu. ft.	220,006,682	20,962,501	337,996,000	28,487,600
Petroleum, crude.....	bbl.	181,848,004	453,593,620	166,476,268	401,027,215
TOTALS, FUELS.....		—	564,776,791	—	507,732,436
Clay products.....		—	35,922,158	—	42,611,899
Cement.....	ton	6,049,098	93,167,477	6,068,977	95,869,547
Lime.....	"	1,378,617	16,678,614	1,612,761	20,439,311
Sand and gravel.....	"	159,829,512	91,939,354	167,943,857	97,528,752
Stone.....	"	40,282,081	59,197,662	40,516,905	57,699,506
TOTALS, STRUCTURAL MATERIALS.....		—	296,905,265	—	314,149,015
Grand Totals.....		—	2,190,322,392	—	2,122,153,440

¹ Includes pyrophyllite.



Among the new mining programs, nickel holds a spotlight. The major nickel-mining project at Thompson Lake in northern Manitoba is progressing rapidly. During 1958, 2,000 men were engaged in sinking the mine shaft, constructing surface buildings and installing sewer, water and power distribution facilities. Fifty miles away a power plant was being built and two miles from the mine area a townsite was being transformed into the town of Thomasan, planned for an initial population of 8,000. The first smelter output is scheduled for July 1960 and full-scale production at an annual rate of 75,000,000 lb. for 1961.

Thus takes shape the development that will be world's second largest source of nickel.

Agriculture

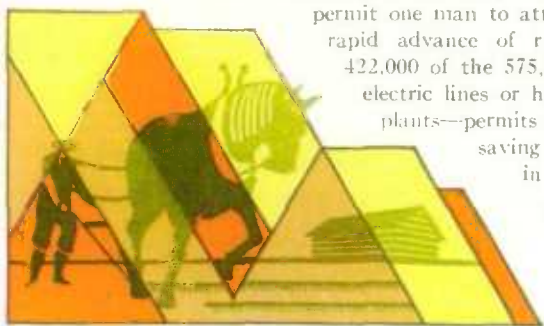
CANADA's agricultural economy has been undergoing marked changes in ever-increasing variety and extent since the settlement and cultivation of the broad wheatlands of the prairies gave the nation its great export staple early in the twentieth century and made possible the construction of transcontinental railway systems and the extension of political and economic institutions into that western hinterland. The steady increase in the total area of farm land, which characterized Canadian agriculture since the beginning of the century, has been interrupted at least temporarily. Farmed land now embraces approximately 174,000,000 acres but the downward trend in the number of farms first evident in 1951 has continued at the accelerated annual rate of fifteen farms per thousand, resulting in a 1956 total of 575,000 farms. On the other hand, there has been a growth in farm size of over 27 p.c. in the past quarter-century, a trend particularly noticeable in the Prairie Provinces where the adoption of power equipment has enabled the individual farmer to cultivate a much larger area.

Canadian farming has been highly mechanized since the beginning of large-scale operations—since the days of the horse-drawn sulky and gang ploughs, the stationary steam thresher and the annual harvester excursions of 'hired hands' associated with the rapid growth of the great wheat economy of the prairies at the turn of the century. Indeed, it was mainly after the easing of war restrictions on industrial production a little more than a decade ago that agriculture took its tremendous surge forward in the use of costly and efficient power equipment. Only after 1946 were farmers able in greatly increasing numbers to replace horse-drawn implements and old types of mechanical equipment with the full range of new power machinery developed for agricultural purposes.

Some indication of the growth of mechanization of farm operations may be noted by comparing census figures. The 160,000 tractors in use on Canadian farms in 1941 had risen to 499,811 by 1956, while the number of grain combines (which cut and thresh in one operation) had increased from approximately 19,000 to 136,927 during the same period. In the five-year period 1951-56, the number of farm trucks increased 41.3 p.c. to 277,183; power-producing gasoline engines by 36.5 p.c. to 249,779; and automobiles by 6.8 p.c. to 352,018. Thus, though accurate figures are not available covering the years since 1956, it is clear that most farms have either a motor truck or car and special tractor-drawn or motor-powered machines for tillage, harvesting and haymaking. The fruit or vegetable grower has tractor-drawn tillers and sprayers; the dairy farmer has milking machines that

permit one man to attend a score or more cows. The rapid advance of rural electrification—more than 422,000 of the 575,000 farms are served by hydro-electric lines or have their own small generating plants—permits farmers to acquire many labour-saving devices that increase efficiency in production.

Under the impact of technological improvements and the steadily





The prairies of the mid-west are emblematic of agriculture in Canada. Here is found three-quarters of the occupied farm land in the country. Here wheat-growing, overshadowing all other field crops, became Canada's first commercial and export crop, requiring the establishment of bulk handling systems that have since been developed to a high degree.

growing use of power equipment agriculture has become more commercialized and a greater interdependence has developed with other branches of the economy. Indeed, back at the turn of the century the opening of the West had introduced purely commercial agriculture with its large-scale mechanical production and marketing methods, while the eastern Canadian farmer was still clinging largely to the solid, substantial rural life of relative self-sufficiency, not far removed from the completely integrated operation of a hundred years ago when he raised and processed his own food and marketed his surplus through the application of manual and horse power. A significant series of events of recent decades—depression years, the organization of co-operatives, wartime policies curtailing wheat production and substantially increasing the output of dairy and livestock products, the great new industrialism and the resultant acceleration of the long-run movement of population from the farm to urban centres—all emphasize the degree to which agriculture



On this dairy farm almost every chore is mechanized. Labour-saving equipment enables the young farmer, with little help, to handle with ease a 38 cow herd and 140 acres of land.



A forage harvester loads fresh feed from an untrampled field and unloads it in the barnyard where the cattle are confined.

is now integrated into the commercial community, whether local, national or international.

Moreover, the individual farmer's own operations are now more dependent on the financial, commercial and industrial community than ever before. Manufacturers and implement dealers and other suppliers are his sources of costly new mechanical equipment, fuel, and such products as commercial fertilizers, insecticides and fungicides. Also a portion of certain production processes has shifted from farm to factory. Where the farmer formerly sold and delivered significant proportions of his produce directly to the consumer or to local marketing points, now the dairy factory, the creamery and the stockyard are the recipients, and commercial truckers carry on much of the transportation business. Moreover, a large livestock feeds industry has developed in which grain purchased from farmers is scientifically mixed with other nutrients and resold as prepared feeds for fattening livestock for market, while commercial hatcheries supply the farmers with practically all the chicks for the poultry-raising industry.

Although the farmers on the Canadian prairies have been practising extreme specialization in their wheat economy for a half-century and their experience has tended to show up some of the limitations and hazards of a one-crop economy, there has been a growing tendency elsewhere in Canada in recent years for the individual farmer to give up mixed farming and to specialize in fewer enterprises. While this development in some instances

has been dictated by climate, soil and distance from markets, in others it has been prompted by the necessity for reducing unit costs. For example, the farmers of Prince Edward Island and New Brunswick specialize in potato-growing, while farmers in all parts of Canada have become specialized poultry producers. With the added revenue from large-scale output, whether in such specialties as potatoes, poultry, fruits, vegetables, sugar beets or tobacco, the farmer hopes to be able to cover his higher operating costs and capital investment and still make sufficient profit to provide his family with the modern conveniences and commodities enjoyed by city dwellers.

But mechanization and the transfer to large-scale production of a farm specialty are costly steps and to assist him in financing his expanded operation the farmer may enter into contracts with, say, a feed company to supply feed for chickens and with a hatchery to provide chicks. The farmer grows the birds under supervision of the companies and receives either a flat rate or a share of the profits. On occasion the companies will contract with packing houses for marketing, and when all these operations are under one company contract farming is known as vertical integration.

Contract farming has been practised in sugar beet production, fruit and vegetable canning and the dairy industry, especially with fluid milk, for many years. It was the more recent introduction of the system into livestock that brought it into prominence. The broiler chicken industry, 85 p.c. of which is concentrated in Ontario and Quebec, expanded rapidly in recent years, growers taking their starters and their feed from feed companies or processing plants on credit and turning out broilers on prescribed feed formulas, weights, production dates and prices. An estimated 90 p.c. of the broilers in Ontario and 80 p.c. of the broilers in Quebec were grown under some such contract in 1958 and there appears to be no diminution of the trend. Advocates of vertical integration claim that it enables the small operator to switch to large-scale production with the conversion or construction of a few buildings. Turkey broilers are similarly produced.



Tobacco is one of Ontario's most profitable agricultural products. In 1958 the province's 4,000 growers sold their crop for \$75,000,000. A marketing board selected by the growers controls acreage planted and sales.

Also some 15 to 20 p.c. of the hogs in Ontario, which has one-third of the national herd, were produced under contract in 1958. The farmer obtains feed and weanlings from the feed company and is assured of volume and a market. He generally takes his chance on the price, which is supported by the Agricultural Stabilization Board.

The standardization of foods, the needs of big retail outlets for large volumes of commodities at the right time and of conforming to certain customer requirements, the security and credit offered to the producer—these have favoured vertical integration. However, this type of operation makes it difficult for the small farmer, particularly in the areas close to larger urban centres, to remain profitably in business. It also has the disadvantage of taking from the contract farmer his traditional independence since he must follow instructions of the credit company in farm management practices, pretty well reducing his status to that of an employee. Extension of the practice could well lead to production in one of the country's primary industries passing out of the hands of the farmers into those of the retailers, and it is also possible that the contract farmer may pay for the credit he gets in higher prices for feed and starters and in disadvantageous contract terms that are not readily apparent.

Nevertheless, whether or not the advantages outweigh the disadvantages, the changeover seems inevitable and the next decade will no doubt show a considerable decline in the number of farmers and farms in operation but the increase in agricultural productive capacity that will be required to feed a fast-growing population will be more than taken care of by a reduced farming community.

Cash Income

Cash income from farming operations was estimated at \$2,592,000,000 in 1957, about 3 p.c. less than the 1956 estimate of \$2,664,000,000. The decline of \$72,000,000 was attributed mainly to lower cash returns from the sale of cereal grains which were only partly offset by higher returns from the sale of livestock and dairy products. The largest decline was in the Province of Saskatchewan where the drop was \$59,000,000. The Maritimes, Quebec and Manitoba showed moderate declines but the farm cash income in Ontario, Alberta and British Columbia was above the 1956 levels.



Fur farming is now a specialized industry and is seldom carried on extensively in conjunction with other farming operations. Mink, of course, are the most popular of the ranch-bred fur-bearers—there were about 430,000 of them on farms across the country in 1958, valued at \$10,000,000.



The mixed farm is by no means disappearing. In many areas of central and eastern Canada the raising of livestock and feed and the production of cash crops is the most prevalent type of farming.

Over 90 p.c. of the 1957 farm income originated in the Prairie Provinces, Ontario and Quebec. The remainder of less than 10 p.c. was contributed about equally by the Maritime Provinces and British Columbia. Of the Prairie Province income, about 51 p.c. was derived from sales of field crops, principally cereal grains, but elsewhere in Canada where grass is the basis of the farm economy only 5.7 p.c. of the cash income was derived from field crops and about 94.3 p.c. from livestock and their products, and from fruit, forestry and other products.

The cash income from farming operations includes income from the sale of farm products and, for western farmers, participation payments on previous years' grain crops together with supplementary payments made under the provisions of the Prairie Farm Assistance Act and advances under the Prairie Grain Advance Payments Act (*see p. 96*). Other sources of revenue such as income from off-farm work and income from investments are not included. Income in kind represents the volume of produce grown by farm operators and consumed in the farm household, as well as imputed rental value for the farm dwelling.

The sum of total cash income, income in kind and total value of year end inventory change constitutes gross farm income, which was estimated at \$2,780,629,000 in 1957, a drop of 13.5 p.c. from the 1956 figure. The figure of net income, however, which is the amount accruing to farm operators for family living, savings and investment after the deduction of operating expenses and depreciation, was down by 27.6 p.c. The major portion of the decline resulted from a smaller crop and smaller grain marketings in the Prairie Provinces. In all provinces farm expenses and depreciation charges were lower in 1957 than in 1956, which tended to offset somewhat the effects of lower income.

Cash Income from the Sale of Farm Products, by Province, 1955-57

Province	1955	P.C. of Total	1956	P.C. of Total	1957	P.C. of Total
	\$'000		\$'000		\$'000	
Prince Edward Island...	26,054	1.1	26,626	1.0	24,509	1.0
Nova Scotia...	40,139	1.7	44,423	1.7	41,955	1.6
New Brunswick...	40,639	1.7	49,288	1.9	44,813	1.7
Quebec...	398,855	17.0	389,499	14.6	387,915	15.0
Ontario...	766,237	32.6	790,496	29.7	791,477	30.5
Manitoba...	175,973	7.5	211,415	7.9	203,849	7.9
Saskatchewan...	427,204	18.2	597,884	22.4	538,857	20.8
Alberta...	369,411	15.7	437,846	16.4	440,740	17.0
British Columbia...	105,686	4.5	116,043	4.4	117,746	4.5
Totals	2,350,198	100.0	2,663,520	100.0	2,591,861	100.0

Cash Income from the Sale of Farm Products, by Source, 1957

Source	Amount	Source	Amount
	\$'000		\$'000
Grains, seeds and hay...	684,921	Miscellaneous farm products...	49,265
Vegetables and other field crops...	184,507	Forest products sold off farms...	46,140
Livestock and poultry...	953,383	Fur farming...	16,118
Dairy products...	459,594		
Fruits...	39,939	Cash Income from Sale of Farm Products	2,591,861
Eggs, wool, honey and maple products...	157,994		

Net Income of Farmers from Farming Operations, 1955-57

Item	1955	1956	1957
	\$'000	\$'000	\$'000
1. Cash income...	2,350,198	2,663,520	2,591,861
2. Income in kind...	338,435	329,271	327,435
3. Value of changes in inventory...	211,833	220,042	-138,667
4. Gross Income (Items 1 + 2 + 3)...	2,890,486	3,212,833	2,780,629
5. Operating expenses and depreciation charges...	1,633,860	1,760,633	1,728,711
6. Net income excluding supplementary payments (Items 4 - 5)...	1,256,626	1,452,200	1,051,918
7. Supplementary payments...	33,338	5,004	1,987
8. Net Income of Farm Operators from Farming Operations	1,289,964	1,457,204	1,053,905

Estimates for 1958.—Preliminary estimates suggest that cash income from the sale of farm products for 1958 will be in the neighbourhood of \$2,800,000,000.

This compares with the estimate of nearly \$2,600,000,000 for 1957 and the all-time high of \$2,859,000,000 established in 1952. While returns from the sale of some field crops are estimated to be above 1957 levels, most of the increase in total income for 1958 will be attributable to a substantial rise in returns from livestock and livestock products.

Field Crops

Crop conditions across Canada were variable in 1958. In the Prairie Provinces, where drought was experienced for the second consecutive year, crops turned out exceptionally well. Hail losses were light and losses from rust were negligible but insect outbreaks required extensive control measures. Dry weather also prevailed in parts of British Columbia while in the Maritimes and Quebec the weather ranged from normal to too much moisture and cool weather in some areas. Although the growing season was dry over the main producing areas of Ontario, cool weather and timely rains, coupled with new high yielding varieties of many crops, pushed yields of most small grains to record levels. Canadian production of field crops in 1958, on the average, did not differ greatly from that of the previous year. New production records were established for soybeans and sugar beets.

Total marketing of the five major grains in Western Canada in the crop year 1957-58 amounted to some 575,600,000 bu. compared with 585,400,000 bu. in 1956-57 and the ten-year (1946-47 to 1955-56) average of 571,100,000 bu. Combined exports of the five grains, including wheat flour, rolled oats and oatmeal, malt, and pot and pearl barley expressed in grain equivalent, totalled 441,700,000 bu. as against 389,000,000 bu. in 1956-57 and the ten-year average of 371,000,000 bu.

Reflecting reduced production in 1957, combined stocks of the five major grains at July 31, 1958, were estimated at 900,200,000 bu., some 20 p.c. below the previous year-end carryover but 94 p.c. above the ten-year average. With relatively small crops being harvested again in 1958, total available supplies for the 1958-59 crop year were 1,946,000,000 bu. and supplies of

World Wheat "King", Gail Adams of Munson, Alta., and her brother show how they screened Chinook spring wheat for their entries in the 1958 Royal Agricultural Fair at Toronto. Screening, picking and polishing are the last steps in the summer-long production of the wheat entered in the international contest.



the five major grains were (1957-58 figures in parentheses): wheat, 980,200,000 bu. (1,100,100,000 bu.); oats, 555,900,000 bu. (606,800,000 bu.); barley, 362,900,000 bu. (358,800,000 bu.); rye, 18,100,000 bu. (22,700,000 bu.); and flaxseed, 28,800,000 bu. (26,800,000 bu.).

Estimated Area, Yield and Production of Principal Field Crops, 1957 and 1958

Crop	Area		Yield per Acre		Production	
	1957	1958	1957	1958	1957	1958
	acres	acres	bu.	bu.	bu.	bu.
All wheat.....	21,030,800	20,899,100	17.6	17.6	370,508,000	368,730,000
<i>Winter wheat.....</i>	<i>590,000</i>	<i>580,000</i>	<i>33.2</i>	<i>41.2</i>	<i>19,588,000</i>	<i>23,896,000</i>
<i>Spring wheat[†].....</i>	<i>20,440,800</i>	<i>20,319,100</i>	<i>17.2</i>	<i>17.0</i>	<i>350,920,000</i>	<i>344,834,000</i>
Oats for grain.....	11,017,000	11,039,200	34.5	36.3	380,599,000	400,951,000
Barley.....	9,403,200	9,548,000	23.0	25.6	215,993,000	244,764,000
All rye.....	550,600	521,400	15.5	15.3	8,539,000	8,002,000
<i>Fall rye.....</i>	<i>439,500</i>	<i>409,900</i>	<i>16.6</i>	<i>16.6</i>	<i>7,299,000</i>	<i>6,792,000</i>
<i>Spring rye.....</i>	<i>111,100</i>	<i>111,500</i>	<i>11.2</i>	<i>10.9</i>	<i>1,240,000</i>	<i>1,210,000</i>
Flaxseed.....	3,485,600	2,664,700	5.5	8.7	19,179,000	23,166,000
Mixed grains.....	1,452,200	1,421,800	43.6	45.5	63,292,000	64,648,000
Corn for grain.....	514,500	498,500	57.6	60.0	29,613,000	29,892,000
Buckwheat.....	107,400	102,400	20.5	20.9	2,202,000	2,139,000
Peas, dry.....	84,900	71,500	16.5	16.0	1,400,000	1,146,000
Beans, dry.....	62,500	67,000	17.5	21.2	1,094,000	1,421,000
Soybeans.....	256,000	263,000	25.4	25.3	6,508,000	6,649,000
Potatoes.....	312,100	311,000	cwt.	cwt.	cwt.	cwt.
			141.2	128.1	44,077,000	39,837,000
Mustard seed.....	92,150	87,325	lb.	lb.	lb.	lb.
			772	805	71,112,000	70,292,000
Rapeseed.....	617,500	679,200	701	623	433,058,000	423,000,000
Sunflower seed.....	30,000	48,700	400	454	12,000,000	22,125,000
Tame hay.....	11,452,000	11,477,000	tons	tons	tons	tons
			1.68	1.57	19,188,000	18,029,000
Fodder corn.....	370,700	380,800	9.74	9.89	3,612,000	3,767,000
Field roots.....	32,900	34,800	10.79	11.52	355,000	401,000
Sugar beets.....	83,743	97,845	12.58	13.74	1,053,564	1,344,759

[†] Includes relatively small quantities of winter wheat in all provinces except Ontario.

Weather conditions favoured the development of high quality in the 1958 western crop of hard red spring wheat; about 90 p.c. of it was in the top three grades and for the first time in several years a fairly large volume of



A barley field near Winnipeg being sprayed with pesticide for the control of a barley aphid. This method of controlling weeds, insects and plant diseases is rapid and efficient.



The humble potato is an important agricultural crop throughout most of the country. Quebec and Ontario are heavy producers but the growing conditions in Prince Edward Island and New Brunswick are particularly favourable. Seed potatoes, grown in these provinces and shipped to many parts of the world, are noted for their vigour and freedom from disease.

A Federal Government inspector spot-checks bags of table potatoes on a railway freight car. Inspection at the retail level has recently begun. ▶



the crop was graded No. 1 Northern. The 1957 and 1958 crops marked the return to exceptionally strong wheats which Canada harvested continuously during the dry periods of the late 1930's and early 1940's. Production of Durum wheat in the Prairie Provinces amounted to some 15,900,000 bu., down sharply from the 44,100,000 bu. in 1957.

Production, Imports and Exports of Wheat, Years Beginning Aug. 1, 1950-58

NOTE.—Until Aug. 1, 1955, wheat flour was converted into bushels of wheat at the average rate of 196 lb. of flour to 4.5 bu. On Aug. 1, 1955, conversion rate was changed to 100 lb. of flour to 2.3 bu.

Year beginning Aug. 1—	Production	Imports of Wheat and Flour	Exports of Wheat and Flour	Domestic Dis- appearance
	'000 bu.	'000 bu.	'000 bu.	'000 bu.
1950.....	466,490	12	240,961	148,538
1951.....	553,678	18	355,825	169,895
1952.....	701,973	17	385,527	150,456
1953.....	634,040	457	255,081	143,926
1954.....	331,981	178	251,909	162,176
1955.....	519,178	20	309,181	167,191
1956.....	573,040	148	261,797	161,319
1957.....	370,508	1	316,073	172,528
1958.....	368,730	—	—	—

Marketing of Major Grains.—The Canadian Wheat Board, a Crown corporation in operation for nearly twenty-five years, is the general agency for all wheat, oats and barley produced in Western Canada and sold commercially for interprovincial or export movement. The farmer places his grain in annual marketing pools operated by the Board. He receives an initial payment at the time he delivers the grain at a country elevator or into a railway car and participates on the basis of his grain deliveries in any surplus the Board may subsequently realize on the sale of grain. Through the provision of that initial price guaranteed by the Government of Canada, the Board stands as a buffer between the farmer and the constantly changing conditions of supply, demand and price under which wheat is produced in Western Canada and throughout the world. At the same time, the distribution of participation payments carried out from time to time helps to steady the flow of farm income and to spread it throughout the year.

The Board, through a delivery quota system, also ensures the equitable use of available grain storage facilities, which is particularly important in times when producers have more grain than the normal storage facilities of the country can handle adequately. The quota is based on a producer's specified acreage, a term that refers to the combined acreage which the producer had seeded to wheat (excluding Durum), oats, barley, rye, cultivated grasses and forage crops or had summerfallowed. At the beginning of the season producers may deliver a minimum quota of bushels per farm unit regardless of the specified farm acreage, and then progressively increasing quotas are established as storage space becomes available.

The Canadian Wheat Board derives its authority from the Government of Canada through the Canadian Wheat Board Act and reports to Parliament through the Minister of Trade and Commerce. Its operations have far-reaching effects on the economy of the whole country and of Western Canada in particular.

Western farmers delivered some 378,400,000 bu. of wheat in 1957-58 compared with 362,500,000 bu. in 1956-57 and the ten-year (1946-47 to 1955-56) average of 362,400,000 bu. Exports consisted of 275,700,000 bu. of wheat and the equivalent of 40,400,000 bu. of wheat in the form of flour. The combined exports went to 84 countries and their territories and colonies. Domestic utilization of commercial and farm wheat increased from 161,400,000 bu. in 1956-57 to 172,500,000 bu. in 1957-58.

The initial payment set by the Wheat Board was \$1.40 per bu. basis No. 1 Northern, in store Fort William-Port Arthur or Vancouver, and the initial payment for No. 1 C.W. Amber Durum was \$1.50 per bu. The 1956-57 pool account was closed as on May 9, 1958, with producers averaging about \$1.59 per bu. for No. 1 Northern wheat.

Marketings of oats totalled 57,700,000 bu. during 1957-58 as against 69,300,000 bu. the previous year. About 26,200,000 bu. of oats and oat products were exported in 1957-58, exceeding by a considerable margin the 1956-57 total of 18,700,000 bu. The amount of oats used in Canada was placed at 425,700,000 bu. in 1957-58 compared with 398,700,000 bu. in 1956-57. Farmers marketed some 116,600,000 bu. of barley in 1957-58 compared with 120,700,000 bu. marketed in 1956-57 and domestic disappearance amounted to 160,400,000 bu. as against 155,700,000 bu. the previous year.

Prince Edward Island breeders have adhered to a carefully worked-out program designed to create the finest hog on the market. As a result the percentage of Island-bred hogs to win the coveted Grade A stamp is almost twice as high as the over-all Canadian average.

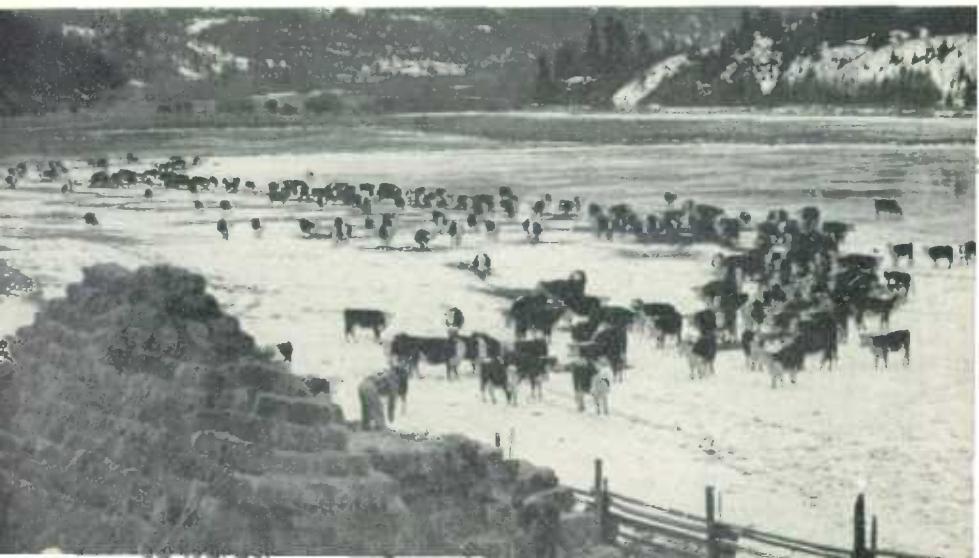


Livestock

Livestock production has recently taken over from grain-growing as the Canadian farmer's most important source of income. Cash income statistics indicate that the sale of livestock (not including poultry or such livestock products as milk and wool) surpassed in value the sale of the five major grains in three of the past five years. Farmers' cash income from livestock production in 1957 amounted to \$784,741,000, whereas that from sale of wheat, oats, barley, rye and flaxseed, including participation, adjustment and equalization payments and advances under the Prairie Grain Advance Payments Act, totalled \$656,646,000.

Remarkable year-to-year increases in cattle raising, especially in Western Canada, have occurred regularly since 1952. Concomitant with these increases have been drought-caused beef cattle shortages in the United States range areas, so that the export market for live cattle and for meat has been very buoyant during 1957 and 1958. In 1957 live cattle exports totalled some 387,500 head, exceeded only three times before—in 1948, 1949 and 1950. By the end of October 1958 it was apparent that live cattle exports for the

Winter feeding of cattle on a western ranch. Many changes have eliminated some of the risk involved in range livestock production. Unfenced ranges and large-scale round-ups are a thing of the past and mechanization, transportation, better feeding, veterinary care and careful breeding have contributed to a more secure enterprise.



year would surpass any previous totals. At the same time domestic demand for beef was also on the increase; per capita disappearance of beef reached an all-time high of 74.8 lb. in 1957.

Hog production has been steady over a decade, income-wise, at around \$300,000,000 a year. However, it has been plagued by a two-year cycle wherein lowered production resulting from low prices is followed by higher prices and then higher production and a return to low prices, to generate the cycle again. Export of live hogs has never been a feature of this enterprise, although the export market for pork products has averaged 69,150,000 lb. over the past five years; in 1957 it dropped to 43,513,000 lb.

The number of cattle on farms in Canada at June 1, 1958, was estimated to have been 11,001,000 head, down nearly 3 p.c. from the all-time high of 11,296,000 head in 1957. Milk cows and heifers over two years old were estimated to have totalled 3,129,000 head in 1958 and 3,147,000 in 1957. This level has been maintained for many years with little year-to-year fluctuation. The June 1958 hog population was estimated at 6,164,000 head, up 27 p.c. from the June 1957 figure, but sheep numbers were still near the record low point of 1,461,000 in 1951. Horse numbers continued to contract rapidly as the result of farm mechanization, and were estimated at only about 675,000 head.

Prices for livestock in 1957 were generally favourable to the producer. Good slaughter steers, up to 1,000 lb., averaged \$19.05 per cwt. live at Toronto, while Grade A hogs at that market averaged \$31.05 per cwt. dressed. Good lambs sold for \$22.45 on the year's average.

Meat production in 1957 totalled about 2,319,160,000 lb., surpassing the 1956 quantity of 2,242,280,000 lb. Domestic disappearance of meat reached a record high of about 2,376,000,000 lb.

Estimated Meat Production and Consumption, 1956 and 1957

Item		1956		1957	
		BEEF		VEAL	
Animals slaughtered.....	No.	2,441,200	2,602,500	1,336,700	1,381,200
Animals exported.....	"	52,604	375,673	3,913	11,859
Meat production ¹	'000 lb.	1,182,517	1,288,238	140,220	150,551
Total domestic disappearance.....	"	1,157,867	1,240,262	137,698	150,069
Per capita disappearance.....	lb.	72.0	74.8	8.6	9.0
		PORK		MUTTON AND LAMB	
Animals slaughtered.....	No.	6,899,300	6,515,500	761,600	766,800
Animals exported.....	"	1,655	1,865	5,090	17,788
Meat production ¹	'000 lb.	887,250	847,015	32,292	33,356
Total domestic disappearance.....	"	795,816	766,876	41,116	44,251
Per capita disappearance.....	lb.	49.5	46.2	2.6	2.7
		OFFAL		CANNED MEAT	
Production.....	'000 lb.	91,797	93,362	81,699	70,100
Total domestic disappearance.....	"	84,937	88,625	85,930	86,053
Per capita disappearance.....	lb.	5.3	5.3	5.3	4.2

¹ Production from animals slaughtered in Canada, basis cold dressed weight excluding offal and, in the case of pork, fats and offal.

Dairying

Cows kept for milking purposes were found on 70 p.c. of Canada's 575,000 farms by census enumerators in 1956. Although the milk cow is a familiar sight on most Canadian farms, herds of 13 or more were found on only 15 p.c. of them. Two-thirds of all milk produced comes from Ontario and Quebec. Near towns and cities, farmers are usually able to sell most of their milk to dairies for sale as fluid milk, fluid cream, chocolate drink, skim milk and buttermilk—milk sold for fluid distribution commands a premium price. To produce economically a constant supply of quality milk all year 'round for this market, farmers have found it necessary to make substantial capital investment in bulk milk handling and storage facilities with a resulting increase in the size of herd. Farmers less favourably situated, or unable to break into the fluid milk market, supply milk or cream to dairy factories for manufacture into butter, cheese, concentrated milk products and ice cream. Canadian farmers sold \$530,000,000 worth of milk and cream in 1958. This was \$90,000,000 greater than such sales in 1957 and accounted for about 17 p.c. of total cash income from the sale of farm products.

During 1958 about 18,000,000,000 lb. of milk were produced in Canada—7,000,000 lb. more than the previous record in 1957. Of the milk supply 58 p.c. was used in the manufacture of dairy factory products, 30 p.c. was sold as fluid milk and cream, and the remainder was used on farms. Of the milk



Purebred Holsteins on a New Brunswick farm in the St. John River Valley. While Ontario and Quebec farms produce the greater part of the milk output, the dairy herd is a familiar sight in almost every farming area of the country.



utilized for dairy factory products, 75 p.c. went into creamery butter, 18 p.c. was used for cheddar cheese and concentrated milk, and the remainder was used for ice cream and cheese other than cheddar.

Canadians use, in one form or another, almost all of the milk they produce. Some cheddar cheese, skim milk powder, whole milk powder, and evaporated milk was exported in 1958. Imports of dairy products consisted mainly of special varieties of cheese.

Dairy Production, by Economic Area, 1957 and 1958

Economic Area and Year	Total Milk Production	Milk Used in Fluid Sales	Products Manufactured ¹			
			Butter		Cheddar Cheese	Ice Cream
			Creamery	Dairy		
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 gal.
Maritimes. 1957	1,097,066	359,286	18,736	2,101	1,799	2,511
..... 1958	1,110,110	360,487	19,361	1,917	1,615	2,534
Que. and Ont. 1957	11,599,437	3,648,631	199,558	2,330	93,409	21,994
..... 1958	12,082,902	3,708,264	223,030	2,044	85,732	22,607
Prairies 1957	3,833,485	941,811	82,195	7,653	3,137	6,735
..... 1958	4,059,313	966,871	90,436	7,478	2,374	7,138
B.C. 1957	776,040	436,843	2,882	441	691	3,877
..... 1958	804,811	455,862	3,258	337	789	4,236
Totals. 1957	17,306,028	5,386,571	303,371	12,528	99,036	35,117
..... 1958	18,057,136	5,491,484	336,085	11,776	90,510	36,515

¹ Not included in this table are: whey butter with a production of 2,248,000 lb. in 1957 and 2,134,000 lb. in 1958, other cheese with 10,083,000 lb. and 10,385,000 lb. respectively, and concentrated milk products with 540,058,000 lb. and 592,372,000 lb. respectively.

Poultry and Eggs

During the past few years there has been a tremendous increase in efficiency in the production of poultry meat and eggs in Canada. The trend has been towards producing a high-quality product by large-scale poultry enterprises. The ever-increasing volume of broiler chicken marketings highlighted the industry in 1958—an estimated volume of 134,000,000 lb. of dressed weight broilers moved through registered processing plants compared with 95,000,000 lb. in 1957. The dressed turkey broiler industry also moved forward to such an extent that some 12,000,000 lb. were recorded for the year.

Poultry meat of all kinds produced in 1958 was estimated at 454,449,000 lb. (eviscerated weight) compared with 412,372,000 lb. in 1957—the 1958 figure was made up of 341,761,000 lb. of fowl and chicken, 106,157,000 lb. of turkey and the remainder goose and duck. Consumption in 1958 was 26.6 lb. per person as against 25.9 lb. in 1957.



The large-scale raising of turkey broilers is the current news in the poultry business. Sales have been skyrocketing—mostly of 15-week-old birds weighing five to eight pounds and sold in the off-season.



The Canadian consumer has become accustomed to finding fresh vegetables in the markets the year 'round, a demand that has had to be met by imported products. However, a challenge to this import trade is now appearing in the commercial production of greenhouse vegetables in southern Ontario to supply off-season requirements.

The estimated production of eggs in 1958 was 449,819,000 doz. and consumption was 24.8 doz. per person.

Eggs and Poultry Meat Produced, by Province, 1958

Province	Eggs		Poultry Meat (visceroated)	
	Production	Value	Production	Value
	'000 doz.	\$'000	'000 lb.	\$'000
Maritime Provinces.....	32,645	14,203	20,580	8,293
Quebec.....	59,488	25,032	81,858	27,859
Ontario.....	191,408	75,048	194,269	65,049
Prairie Provinces.....	130,794	38,157	128,743	43,594
British Columbia.....	35,484	13,637	28,999	10,962
Totals, 1958	449,819	166,077	454,449	155,757
1957	446,476	159,603	412,372	145,417

Fruit and Vegetables

Commercial fruit-growing is confined almost exclusively to rather limited areas in Nova Scotia, New Brunswick, southern Quebec and Ontario, and British Columbia. In most of these areas fruit is the principal crop and is of paramount importance to the district.

The apple is the most important of the fruit crops, 15,906,000 bu. with a farm value of \$14,881,000 having been produced in 1957. Average prices ranged from 66 cents a bushel in Nova Scotia to \$1.33 in Quebec. Strawberries and raspberries are grown in commercial quantities in all fruit-growing areas but tender tree fruits are grown only in British Columbia and Ontario. Ontario produces most of the grapes grown in Canada, and apricots and

loganberries are exclusive to British Columbia. Blueberries are indigenous to many areas throughout Eastern Canada while cultivated varieties are grown commercially in British Columbia and Nova Scotia.

The 1958 apple crop was estimated to be slightly above that of 1957 and production of peaches, pears, cherries, plums and prunes was considerably higher.

Farm Values of Fruits Produced, 1954-57, with Averages 1949-53

Fruit	Average 1949-53	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000
Apples.....	14,864	17,965	10,870	16,048	14,881
Pears.....	2,239	2,246	2,579	2,853	2,161
Plums and prunes.....	1,025	1,467	1,068	896	925
Peaches.....	4,364	5,208	6,125	4,384	6,116
Apricots.....	314	293	316	194	450
Cherries.....	2,448	3,421	3,503	2,076	3,584
Strawberries.....	6,068	6,870	5,910	4,240	3,698
Raspberries.....	294	3,131	2,775	2,407	3,008
Grapes.....	2,983	3,926	3,622	3,293	2,832
Loganberries.....	156	162	178	53	162
Blueberries.....	—	3,109	2,688	2,290	1,887
Totals.....	34,755	48,098	39,634	38,734	39,704

A marketing system has been developed for distributing fresh fruit from specialized production areas to all parts of the country. Canning and processing plants in the fruit districts provide a valuable outlet for most fruit crops and considerable quantities of apples, strawberries and blueberries are marketed in the United States. Fruit export prospects to the United Kingdom were increased by new allocations and grants announced in the autumn of 1958.

Although vegetables are grown for home and local use everywhere across Canada and even as far north as the Yukon, the areas of commercial production, as for fruit-growing, are fairly well defined. A wide variety of crops is grown in southern Ontario which is the main producing area, in Quebec particularly in the Montreal district, and in southern British Columbia. A somewhat smaller range is produced in the Maritimes and in the Prairie Provinces. Canning, freezing and processing plants operate in the important producing areas.

Government and Agriculture

The Federal Government and each of the provincial governments maintains a Department or Director of Agriculture which has the general function of giving the utmost aid and guidance to the farmer in almost every field of his operations. The activities of the federal Department include research, promotional and regulatory services, and assistance programs. Much of this work is carried out in co-operation with provincial authorities.

The research work of the Department is aimed at the solution of practical farm problems through the application of fundamental scientific research to all aspects of soil management and crop and animal production. Its broad program of investigation is conducted through ten research institutes, seven of them at Ottawa, six regional research stations, three regional research

laboratories, 27 experimental farms, 22 laboratories, two forest nursery stations and 17 substations located throughout the ten provinces and the Yukon and Northwest Territories. The institutes are engaged in basic research of wide application to agriculture and forest biology: breeding, nutrition and management of animals; plant studies including disease control and breeding of superior varieties; fruit and vegetable processing and storage; soil chemistry and classification; entomology; bacteria of agricultural significance; processing of dairy products; control of destructive insects and noxious weeds; insect diseases through biological means; and examination of chemical pesticides. Other units deal with regional problems such as cereal diseases, forest diseases and pests, exploitation of peat bogs, reclamation of marshland, shelter-belt trees, soil erosion, dryland agriculture and the growing of special crops such as tobacco.

Other Departmental services are directed toward the prevention or eradication of livestock diseases, the inspection and grading of agricultural products and the promotion of sound policies for crop and livestock improvement. Safeguarding crops and livestock from diseases or pests that might be imported with shipments from abroad is an important part of this service. Programs for the eradication of bovine tuberculosis and brucellosis and analytical and diagnostic services are provided for domestic and wildlife diseases. The promotion of high quality seed and purebred livestock is also of great importance. Another type of activity is the enforcement of laws governing the sale of feeds, fertilizers, pesticides and many other products purchased by farmers.

The Canadian Government has enacted a number of financial measures to ensure a greater stability of the farm economy. Under the Canadian Farm Loan Act, 1927, long-term and short-term mortgages are made available to farmers. The Farm Improvement Loans Act, 1944, provides funds for equipping, improving and developing farms, and from 1945 to the end of 1957, 653,397 loans for almost \$723,000,000 were made.

A number of federal Acts assist the marketing of produce. The Agricultural Stabilization Act, which in 1958 replaced the Agricultural Prices Support Act, 1944, gives price support

From the Niagara fruit belt — a plain one to seven miles in width and fifty miles in length bordering Lake Ontario's southern shore — comes 90 p.c. of Canada's peaches.





The capped barley sheaves in this Experimental Farm field at Melfort, Sask., are part of the endeavour of the federal Department of Agriculture to develop superior varieties of cereal grains for production in the area. Up to 300 varieties of wheat and 100 varieties of other grains are tested here each year.



The Experimental Farm at Fort Simpson, N.W.T., is engaged in the study of field crops, fruits and vegetables that will do well in northern latitudes.



A national poultry breeding program is conducted to give information and assistance to the poultry farmer.

to any designated natural or processed product but is mandatory for cattle, hogs, sheep, cheese, butter, eggs, wheat, oats and barley—the last three covering only the cereals produced outside the jurisdiction of the Canadian Wheat Board. The Agricultural Products Marketing Act, 1949, enables the Federal Government to apply provincial marketing legislation to any produce sold outside a province or the nation. Where drought causes severe crop loss, farmers may obtain compensation through the Prairie Farm Assistance Act, 1939, and prairie farmers who cannot deliver all their grain to market are given temporary financial assistance under the Prairie Grain Producers Interim Financing Act, 1956. The Prairie Grain Advance Payments Act permits the Canadian Wheat Board to make interest-free advances to

farmers against threshed grain stored elsewhere than in an elevator. Repayment is made when grain is delivered to market.

Irrigation and Land Conservation.—The Federal Government, jointly with the respective provinces, has constructed a number of projects concerned with land utilization and water conservation. Under the Prairie Farm Rehabilitation Act of 1935, financial and other assistance has been provided to combat the problems of drought and soil drifting adversely affecting agriculture in the Canadian prairies. Five major irrigation projects, which will assure adequate supplies of water for more than 1,500,000 acres of land, have been or are being constructed in southern Alberta and Saskatchewan. The latest to be undertaken is the South Saskatchewan River Project, a large-scale multi-purpose water conservation project which will make better use of the water resources of the river through irrigation, river control, power, urban water supply and recreation. Financial assistance has also been given to individuals for the construction of 56,000 dugouts, small dams or other water conservation projects on their own farms, as well as for hundreds of community projects. These projects have extended the benefits of water widely throughout the dry areas. In British Columbia many smaller irrigation projects have been constructed in the Okanagan and South Thompson valleys where the land is used mainly for the growing of small fruits and vegetables and for dairying. In addition, several major reclamation projects have been undertaken in Manitoba and Saskatchewan where flood problems exist.

The marshlands of Prince Edward Island, Nova Scotia and New Brunswick are among the more productive soils in Canada when protected from the sea by dykes and breakwaters. The Federal Government and the province concerned are sharing jointly in the work of rebuilding protective structures and rehabilitating these areas.

The South Saskatchewan River where construction has started on the largest rolled-earth dam to be built in the country. The \$96,000,000 project, the construction costs of which are being shared by the Governments of Canada and Saskatchewan, will make maximum use of the water resources of the river through the irrigation of 500,000 acres of land and through river control, power, urban water supply and recreation.



Fisheries

THE vast and rich marine and fresh-water fishing areas immediately accessible to Canadian fishermen constitute one of the nation's valuable natural resources. Canada is the only country in the world with three of its borders on different oceans—the Atlantic on the east, the Pacific on the west, and the Arctic on the north. The mainland coastline, added to that of islands on all three sides, totals 60,000 miles, and off these coasts abound the greatest fishery resources of the world. Little wonder then that the fishing industry became a mainstay in the early days of colonization and, though its relative importance in the over-all economy of the country has decreased with time, the industry is still of extreme importance in the coastal areas where it provides complete or partial livelihood for nearly 80,000 fishermen and about 16,000 processing-plant workers. Its importance to the country as a whole lies in the fact that it is the producer of a highly nutritive and palatable food product and also the producer of a valuable export commodity. Modern methods of processing and transportation have greatly assisted the sale of fish on the domestic market and Canada's marine fish crop now goes in various processed forms to countries throughout the world. In addition, Canada has a relatively small but still important freshwater fishery, most of the products of which are shipped to the United States as fresh fish or filets.

The Canadian commercial catch amounts to some 2,000,000,000 lb. a year, the market value of which is close to \$200,000,000. This harvest is made up of about 150 kinds of fish and shellfish, some of them important because of their great abundance such as cod, haddock, redfish and flatfish, and others because of the high demand for them such as lobster and salmon. Much of the success of the industry can be attributed to its ability to utilize this wide variety of fish in supplying all levels of the food market and in producing such by-products as fish meal and marine oil.

Because particular species require unique environmental conditions, they are confined to certain locations. Lobsters and oysters are bottom dwellers and are usually found in shallow water fairly close to shore. Herring live chiefly in offshore water but are generally caught when they move inshore to spawn. Cod commonly stay close to the bottom of the offshore banks, except for occasional movement in search of food or in response to changing water temperature. Salmon are ordinarily caught near river estuaries when returning from the sea to the coastal streams for spawning. Most of the important freshwater fish, such as whitefish, pickerel and lake trout, live in the larger inland lakes but some freshwater species establish permanent homes in rivers.

Fish varieties may be classified into six main groups: groundfish (excluding halibut), Pacific halibut, salmon, herring, Atlantic lobster, and freshwater fish.

The groundfish group is dominated by certain Atlantic species—cod, haddock, pollock, hake, redfish and the subgroup of small flatfish which includes American plaice, witch, winter flounder and yellowtail flounder caught in the





From the blue waters of the Pacific Coast, fishermen reaped a magnificent harvest in 1958—the first major reward for twenty years of investigating, planning, and river and stream restoration to rebuild the almost-destroyed Fraser River sockeye salmon runs. This bonanza appears to be only the beginning of a vastly expanded salmon industry.

Gulf of St. Lawrence, on the banks east of Nova Scotia, the Grand Bank and northward to Hamilton Inlet Bank, and in coastal waters particularly in Newfoundland. Equipment, determined by the characteristics of the species and the nature of the fishing ground, consists of both small and large craft, using line gear and otter trawls. Trap-nets are widely used for the large inshore runs of cod along the east coast of Newfoundland. The products of this group, which account for more than one-quarter of Canada's fishery products, are principally frozen fillets and cured fish (dried-salted cod). On the Pacific Coast, about 20 species of groundfish are caught by fishermen using otter-trawlers. The major contributors to the fishery include five flatfish or flounder species (brill, lemon sole, rock sole, dover sole and starry flounder) and four roundfish species (lingcod, gray cod, dogfish and rockfishes or rock cods).



CGS "A. T. Cameron", the largest research vessel used by the Fisheries Research Board in its extensive operations in the north-west Atlantic and eastern Arctic areas.



Disease - resistant oysters, produced by the Board, are being used to restock depleted grounds.



Counting salmon fingerlings on their migration to the sea in a British Columbia stream.



Lowering fresh codfish into a brine tank during a study of curing methods.

The continental shelf from Juan de Fuca Strait to the Aleutian Islands is the home of the Pacific halibut. Two-thirds of the Canadian catch is taken in the southern part of this area by line gear or troll. About 90 p.c. of the catch is marketed in dressed frozen form.

The Pacific salmon—sockeye, pink, chum, coho and spring—are the most important group of species in the Canadian fisheries not only on account of their value as a renewable source but also because such derived products as canned and frozen salmon are finding an expanding domestic and export market. All members of the Pacific salmon group spend the first part of their lives in freshwater streams or lakes before migrating to the sea. When they reach maturity, they return to their lakes or rivers of origin to spawn and it is during this homeward migration that commercial fishermen, using purse-seines, gill-nets, traps and trolls, haul in their valuable catches. Canning is the chief form of utilization although a substantial portion of the catch is disposed of in fresh, chilled and frozen forms. The sockeye is the most highly valued of the Pacific species since it retains its colour best when canned. The coastal area from the Bay of Fundy to Ungava Bay is the home of the Atlantic salmon or 'true' salmon as it is sometimes called. Their habits are similar to those of the Pacific salmon and they

too are caught in the sea by drift-nets, trap-nets and stationary gill-nets, as they return to the coastal streams for spawning.

The Atlantic herring are found for the most part in bays from Fundy to Hamilton Inlet in Labrador. Most of the catch is taken during spawning in Passamaquoddy Bay and Chaleur Bay in New Brunswick, and in the Bay of Islands and Fortune Bay in Newfoundland. East Coast herring, caught in weirs, trap-nets, gill-nets and purse-seines, are packed and canned for food although quantities are used for bait in lobstering and line-fishing. Pacific herring, caught chiefly along the east and west coasts of Vancouver Island and in the channels tributary to Hecate Strait, are taken with purse-seines during the autumn and winter months. Most of the catch is used for the production of meal and oil.

The inshore waters along the Atlantic Coast from Massachusetts to northern Newfoundland abound with lobsters. They are caught with baited traps during regulated seasons. From the income standpoint, the lobster resource is the most important to fishermen of the Maritime Provinces, superseding even the cod in landed value. It is a resource that requires extremely careful supervision on the part of fisheries authorities because of the heavy fishing pressure brought about by high prices for the species as against the available supply.

The major freshwater commercial fishing areas are the Great Lakes, Lake Winnipeg, the Lesser Slave Lake and the Great Slave Lake. The chief species are perch, whitefish, cisco, yellow perch, pike, and grey trout. With few exceptions all freshwater fish are taken with trap-nets and gill-nets of various kinds.

No matter how vast the fisheries resources are, the danger of over-fishing is a very real problem—their conservation and development are the main concern of the federal Department of Fisheries. The Fisheries Research Board of Canada, the Department's scientific arm, since its establishment in 1937 has worked diligently in devising programs to protect and develop the resources of both ocean and inland waters. Technologists are continually involved in research associated with preserving and processing the raw product and developing new products. The Board's biological work is conducted through

A fisherman prepares his traps for the half-year lobster season at Wood Harbour, N.S. The lobster catch is worth about \$25,000,000 to the Atlantic Provinces.





The redfish, variously called red bream and ocean perch, found in abundance off Canada's East Coast, was of little food value until it came to market filleted and quick frozen. Its mild flavour and low price won it instant popularity.

five permanent stations with substations, and the field of operations includes most of the fishing areas of the oceans and the more productive freshwater areas. Its work in the Arctic has been stepped up in recent years with the objective of assessing the marine resources of that area, and of carrying out detailed biological studies on species of special importance to the living economy and general productivity of the Arctic region.

Canada has long taken a prominent part in initiating and administering control measures, at international levels, dealing with fish stocks of interest to this country. Under the International Pacific Salmon Fisheries Convention, Canada and the United States have enjoyed considerable success in restoring the sockeye runs of the Fraser River. Outstanding results have been gained from joint Canadian-United States action in rehabilitating the halibut stocks of the North Pacific and the Bering Sea. Similar good results have been obtained in the management of the Pribilof seal herds under the North Pacific Fur Seals Convention, which Canada shares with the United States, Russia and Japan. As a member of the International Commission for the Northwest Atlantic Fisheries, Canada takes a leading part in the management of the fisheries of the Northwest Atlantic. Canada is a signatory, with the United States and Japan, to the International Convention for the High Seas Fisheries of the North Pacific Ocean, and is also a member of the International Whaling Commission.

Fisheries Statistics

Fisheries production fluctuates considerably from year to year depending both on the vagaries of nature and on certain economic factors. In 1957, the latest year for which figures are available, quantity and value of landings dropped back to the 1955 level after an unusually successful year in 1956. In the Pacific area much of the decline in volume was caused by a greatly reduced catch of herring. The salmon catch was somewhat heavier but because the increase was in one of the less expensive species the take had a lower value. A good part of the decline on the Atlantic Coast was caused by a sharp drop in the lobster catch and a smaller catch of cod in Newfoundland brought a reduced average price.

In 1958 this downward trend was reversed on the Pacific Coast but Atlantic scarcities were much more severe and, despite recovered and sometimes record prices, catches were so much smaller that their total landed value, which roughly constitutes the fishermen's gross income, continued to drop. Lobster, cod and haddock were particularly scarce but pollock and redfish began winning market acceptance and the freezing industry by using these species was able to keep up with lively demand.

British Columbia, on the other hand, had a banner year in 1958. August brought the biggest sockeye run in many years and other species were plentiful. Fishermen's earnings were high and canneries operated at overtime capacity. In September the United Kingdom lifted currency controls from salmon imports and British interests bought the entire sockeye pack with the exception of 300,000 cases reserved for the domestic market. The price paid was \$26,000,000.

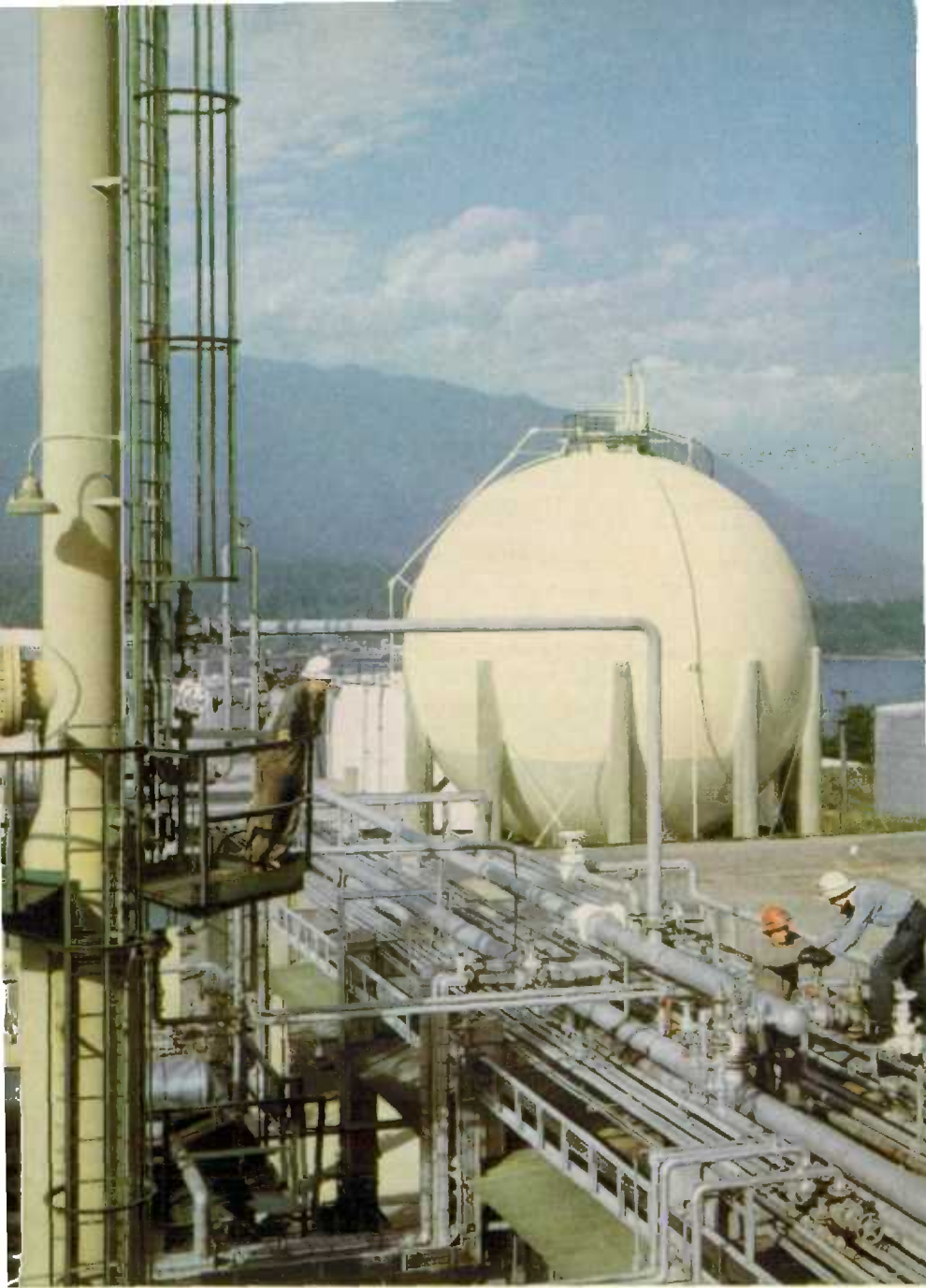
Quantity and Value of Landings of the Chief Commercial Fish, 1955-57

Kind of Fish	1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value
	'000 lb.	\$'000	'000 lb.	\$'000	'000 lb.	\$'000
Atlantic Coast	1,324,738	50,057	1,432,533	55,887	1,377,395	50,551
Cod	579,563	14,367	654,124	16,396	641,834	15,057
Haddock	135,573	4,325	155,390	4,862	131,638	4,210
Halibut	4,446	950	5,422	1,266	7,558	1,751
Herring and "Sardines"	201,089	2,046	196,200	2,391	222,314	2,515
Lobsters	48,568	16,479	51,960	18,023	44,438	14,501
Mackerel	28,118	1,072	22,449	802	18,630	724
Redfish	43,980	1,015	59,646	1,274	46,361	1,032
Salmon	2,644	892	2,650	982	3,033	1,071
Swordfish	4,546	1,090	4,612	1,295	5,180	1,341
Other	276,211	7,830	280,080	8,596	286,409	8,349
Pacific Coast	498,376	27,711	674,975	36,058	490,187	30,021
Halibut	19,679	2,555	23,315	5,067	22,542	3,673
Herring	305,692	4,187	491,396	7,077	295,376	4,892
Salmon	131,008	18,481	113,540	21,356	131,897	18,888
Other	41,997	2,488	46,734	2,558	40,372	2,571
Inland	118,959	13,124	124,596	13,892	119,649	13,472
Pickarel (blue)	12,070	1,448	12,020	1,802	6,398	1,151
Pickarel (yellow)	19,739	3,093	20,922	3,161	19,215	3,693
Whitefish	21,990	3,726	22,884	3,636	24,445	3,611
Other	65,160	4,857	68,770	5,293	69,591	5,107
Totals	1,942,073	90,892	2,232,104	105,837	1,987,231	94,044

Landings and Values of All Fishery Products, by Province, 1955-57

Province or Territory	Quantities Landed			Value of Products		
	1955	1956	1957 ¹	1955	1956	1957 ¹
	'000 lb.	'000 lb.	'000 lb.	\$'000	\$'000	\$'000
Newfoundland	577,954	621,560	575,825	27,990	29,374	25,946
Prince Edward Island	35,931	42,202	39,637	3,841	5,246	4,410
Nova Scotia	425,902	442,846	438,694	47,093	49,363	45,105
New Brunswick	167,438	194,283	192,299	20,420	22,831	22,293
Quebec	129,192	140,110	139,845	6,004	7,861	7,930
Ontario	45,634	59,710	51,109	7,631	8,920	7,928
Manitoba	34,936	30,397	31,571	6,044	6,426	5,929
Saskatchewan	10,152	9,441	11,066	1,617	1,766	2,010
Alberta	8,731	9,641	10,415	1,144	1,306	1,451
British Columbia	498,376	674,975	499,187	60,032	67,725	63,489
Northwest Territories	7,827	6,939	6,584	1,529	1,483	1,298
Totals	1,942,073	2,232,104	1,987,231	183,345	202,301	187,789

¹ Estimated



Oil refining is Canada's fastest growing industry, now ranking third in value of production among all manufacturing industries. Its capacity has increased from 246,000 bbl. a day in 1946 to 850,000 bbl. in 1958 but, even so, has not caught up with demand. There are refineries in every section of the country geared to local needs but the main refining centres, which turn out scores of industrial raw materials, are Montreal, Sarnia, Vancouver, Edmonton, Halifax, Regina and Winnipeg. One-third of the capacity is in Montreal alone.

Industrial Development

<i>Manufactures</i>	110
<i>Electric Power</i>	124
<i>Labour</i>	134

CANADA'S remarkable wave of industrial development of the past decade or so may be attributed to a combination of favourable circumstances, some internal and some external, and to the considerable skill and readiness of its citizens in adapting themselves to the challenging opportunities confronting them. Technological advances, new techniques of geological surveying and of power generation and transmission have accelerated the rate and range of discovery of the underground wealth of this country and greatly facilitated its profitable exploitation. New fuels in abundance, new means of transport and communications, new structural materials and new industrial processes have drastically modified the whole framework of potential economic development. The confidence and capabilities arising out of Canada's war and postwar achievements in the industrial field, the continued instability of international politics, and the greatly increased obligations on the world stage which Canada's relatively higher rank as a world power has placed upon its people—all have provided the popular will and the urgent pressure of events to transform the nation's economic potentialities into a diversified and complex industrial economy.

Although the distribution of the gross national product among the main industry sectors in recent decades shows a continuous decrease in the proportional output derived from agriculture in contrast with the upward trend in resources and manufacturing industries, Canada's farms are steadily increasing their unit output and generally lowering unit costs under the impact of mechanization and the adoption of other improvements which are making agriculture progressively more commercial in character. Scientific developments and improved utilization and conservation methods are likewise rendering Canada's vast forests potentially more productive. In fact, the growth in the net value of production of the lumber, pulp, paper and other forest industries from \$1,580,000,000 in 1947 to \$2,396,000,000 in 1956 constitutes a fair measure of the expanding rate (52 p.c.) of Canadian industry in general.

Perhaps the most significant contribution to Canada's postwar growth and potential as an industrial power—presently sixth industrially and fourth in international trade among the nations of the world—is the abundance and variety of its energy resources. Although Canadian industry has obtained the energy it needed in the form of power mostly from hydro-electric plants, it has relied mainly on coal to provide it with energy in the form of heat and has had either to obtain it from Canadian collieries situated long distances from the chief concentrations of industry in Canada or to import it from the United States or occasionally from overseas countries. The same has been true of residential and commercial consumers, while oil has had similarly to be imported. Since 1947, however, with the discovery of large fields of oil and natural gas on the prairies, imports of fuel are declining as a proportion

of Canada's total energy requirements and in many parts of the country the average real cost of energy has been falling steadily.

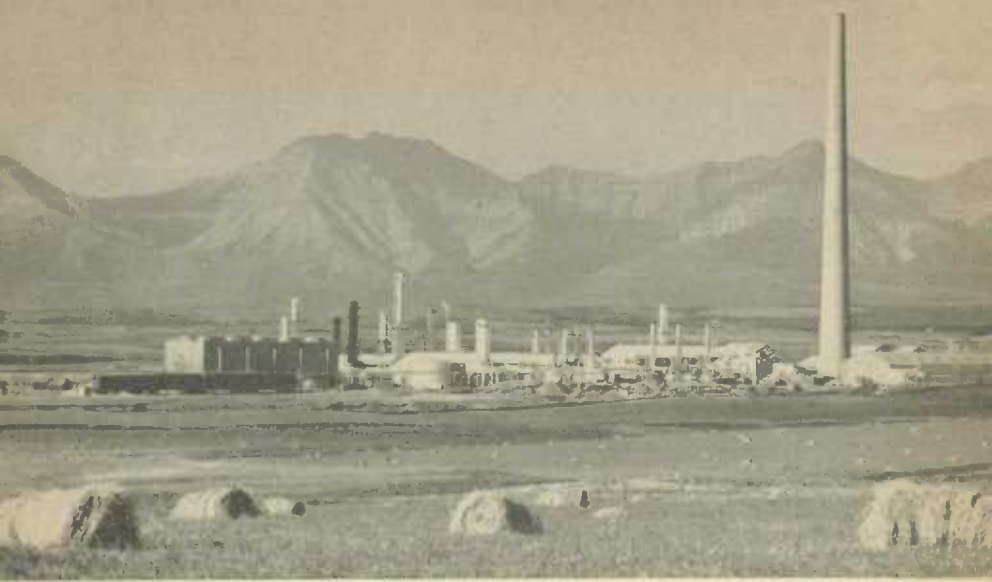
Thus, to Canada's rich coal resources of some 98,000,000,000 tons and its abundant and widely distributed water power resources (currently recorded as sufficient to permit a hydro-electric turbine installation of 87,000,000 h.p. and having an installed capacity of 22,379,626 h.p.) may now be added the vast resources of petroleum and natural gas in its extensive interior plains estimated in 1958 to comprise proved recoverable reserves of 3,500,000,000 bbl. and 21,000,000,000,000 cu. feet, respectively. The market for coal has been shrinking rapidly as the railways have been dieselizing their operations and as residential and commercial space-heating requirements have been increasingly met by oil and natural gas—and there is little immediate prospect that the additional quantities of coal that will be burned in thermal generating plants or used for coking purposes in steel making and other metallurgical industries will make up these losses.

Nevertheless, the tremendous activity that has recently taken place in the transporting, refining and marketing of the oil and gas energy resources has significantly strengthened the Canadian economy. As a result of several major pipeline operations and the attendant expansion of strategically placed oil refineries, Canada is rapidly becoming self-sufficient in oil and gas and the economy of the western provinces and Ontario is undergoing important structural changes through the establishment of ancillary industries utilizing these fuels; the thriving petrochemical industries close to the major refining centres or near the low-cost natural gas and oil fields are striking examples.

Canada is, moreover, a leading world source of uranium ores, one of the newest and most spectacular of energy resources. Its 22 uranium mines in production at the end of 1958 with 17 processing plants had attained a uranium ore capacity of 39,850 tons a day. Canada is also among the leaders in atomic research for industrial purposes and has under construction an atomic power station for experimental purposes in the technical field of electric power generation through the use of nuclear fuels.

Despite the fact that less than one-third of Canada's land area has undergone geological reconnaissance mapping and a much smaller area on a scale adequate for mineral exploration, the rich variety, steadily expanding accessibility and abundant wealth of its mineral resources so far brought to light, place Canada among the great mineral-producing nations. A measure of the growth and significance of the Canadian mining industry may be observed in the following statement.

<i>Mineral</i>	<i>Av. 1945-49</i>	<i>1957</i>	<i>1958</i>	<i>1958 as p.c. of 1945-49</i>	<i>Canadian Production as p.c. of 1957 World Production</i>	<i>Canada's World Rank 1957</i>
Copper.... '000 tons	230.3	359.1	349.5	151.8	9	5
Nickel..... "	119.5	188.0	139.0	116.3	61	1
Gold..... '000,000 oz.t.	3.3	4.4	4.5	136.4	12	3
Zinc..... '000 tons	244.9	413.7	428.6	175.0	13	2
Iron ore.... "	1,923.3	22,272.2	15,878.5	825.6	—	4
Lead..... "	167.9	181.5	185.8	110.7	8	5
Uranium						
U ₃ O ₈ '000 lb.	—	13,271.4	28,237.3	—	—	—
Asbestos... '000 tons	595.7	1,046.1	942.1	158.1	58	1
Gypsum..... "	2,275.7	4,577.5	4,043.6	177.7	16	2
Petroleum... '000 bbl.	11,470.5	181,848.0	166,476.3	1,451.3	3	7
Silver..... '000,000 oz.t.	14.3	28.8	31.3	218.9	13	3



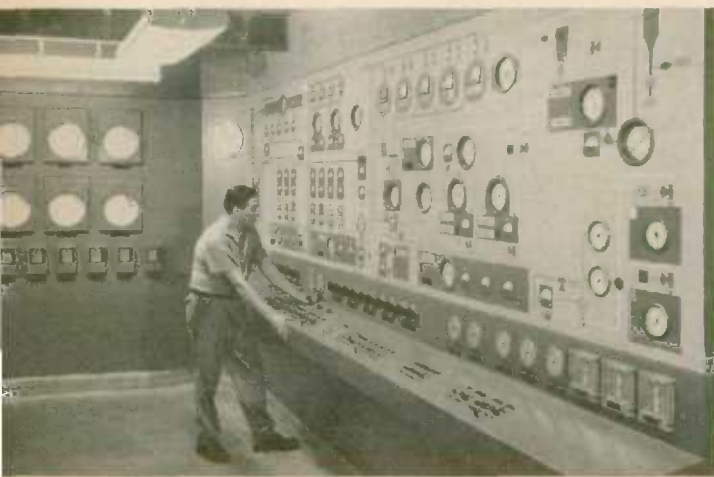
In the Alberta foothills at Pincher Creek stands one of Western Canada's most important new industrial plants. It produces natural gas and is the main single supplier of gas to the Trans-Canada pipeline. Because its products—which include sulphur, propane, butane and condensate—have such a wide application, it may well prove the basis of an extensive secondary industry development.



Scarborough, a fast-growing industrial suburb of Toronto where more than 175 new manufacturing plants have been established since 1952. These low sprawling buildings, landscaped and uncrowded—producing mainly electrical equipment, printed matter, industrial machinery, metal alloys, glass and chemical products—are typical of the pleasant appearance of the modern industrial community.



The largest paper machine in the world is one of four operated by a Fort William paper company, with a total rated capacity of well over 350,000 tons of newsprint a year. The pulpwood from 40,000 acres of forest is required to supply the mill for one year.



A newly installed automatic system in a Shawinigan pulp and paper mill controls the entire sulphite process and conserves raw material by providing a 30-p.c. increase in the pulp yield and maintaining exacting quality standard.

That Canada in ten years has more than doubled its mineral production indicates that it is producing many basic minerals vital to its own economy and in short supply in other countries. Furthermore, the fact that these resources are available in a politically and economically sound Canada has attracted a remarkable inflow of investment capital and technical skills from the United States. Increased Canadian and foreign investment in new mines, in oil fields and related industrial projects, and in new transportation facilities

has brought about substantial shifts in Canada's economic geography, broadening the distribution and diversification of industry and strengthening the national economy.

Many of the major resource developments—be they the Thompson Lake nickel project in northern Manitoba, the Quebec-Labrador iron ore developments and the neighbouring Grand Falls hydro-electric scheme, the Baie Comeau smelter on the north shore of the lower St. Lawrence, or the St. Lawrence Seaway's deep channel navigation and hydro-electric development—have brought in their train an accentuated demand for other capital outlays in the provision of new or expanded manufacturing industries, various types of distributive and service facilities, public projects such as roads, hospitals and schools and, of course, more housing to accommodate a growing population.

Although a more moderate expansion characterized many aspects of Canadian industrial development in 1957 and 1958 than was the case in 1956 when construction on certain major projects was at its peak and the stockpiling of strategic minerals by the N.A.T.O. powers was still a significant factor, the citing of various economic indicators provides additional evidence that Canada is rapidly assuming the status of a great industrial nation. Between 1951 and 1957, Canada's population has grown by 18.4 p.c., its per capita disposable income from \$1,056 to \$1,280 or by 21.2 p.c., its per capita gross national product from \$1,511 to \$1,895 or by 25.4 p.c., and its volume of industrial production by 25.4 p.c. The rapid growth that took place during 1955 and 1956 moderated slightly during the two years following. Although the population and per capita disposable income continued to rise, the volume of industrial production declined about 2 p.c. in 1958 as compared with 1956 when industrial production was the highest on record. Canada's foreign trade, likewise a significant measure of the nation's industrial expansion, reached an all-time high level of \$10,569,000,000 in 1956, a point almost retained in 1957. Indicative of the minor decline in the economy in 1958 was the drop of 8 p.c. in imports during the year as compared with 1957. Exports held very firm, dropping only from \$4,934,000,000 in 1957 to \$4,929,000,000 in 1958.

Plywood emerging from the press before sanding and trimming. Most Canadian plywood is made of softwood and comes from British Columbia. Hardwood plywoods are produced mainly in Quebec and Ontario.

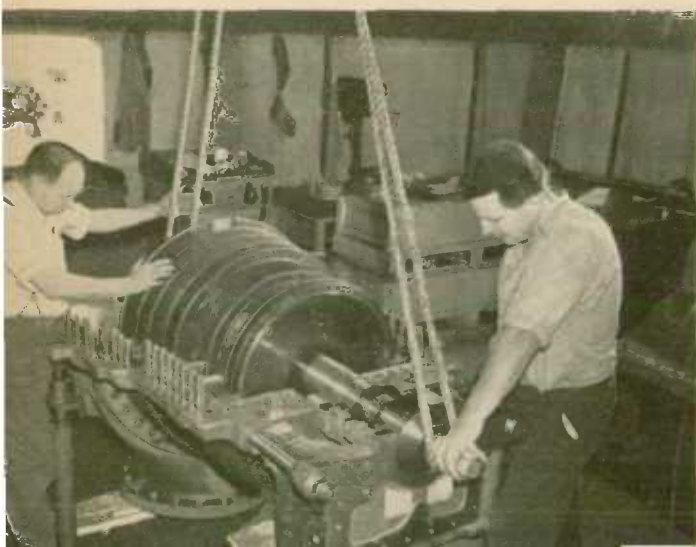


Manufactures

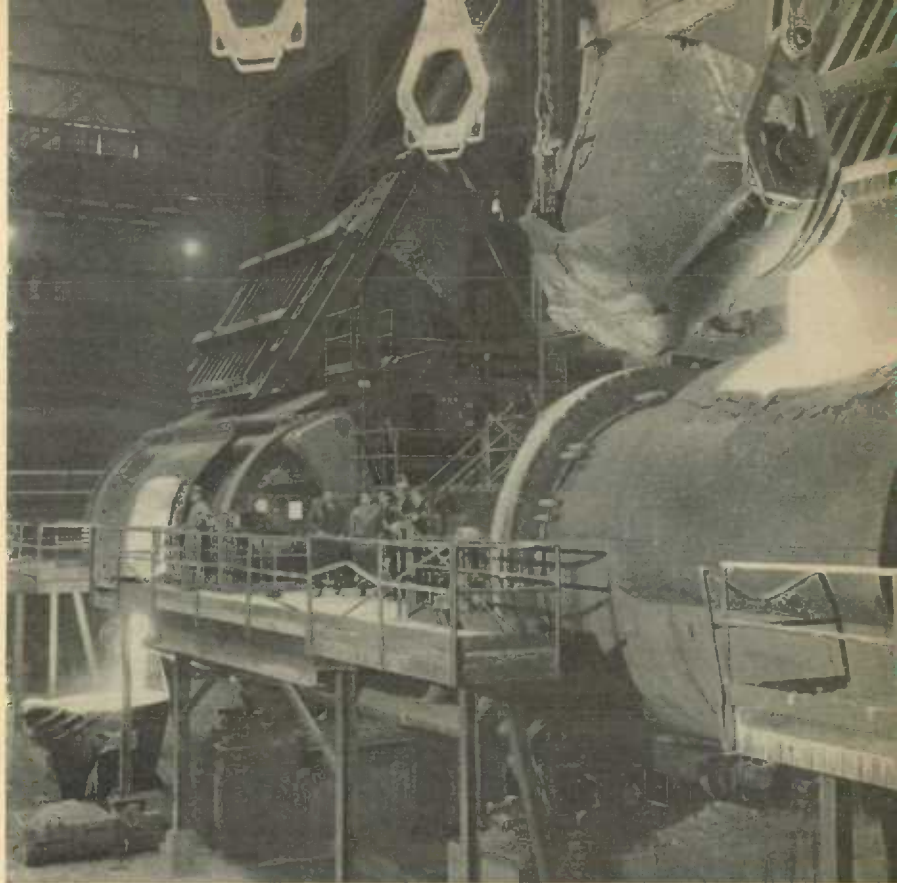
THE growth of the past twenty years in Canada's resource industries and in primary manufacturing represents a new phase in the long history of its export staples based upon natural resources—a history which began with fish and furs and which has centred successively on timber, lumber, meat and cheese, wheat and now on minerals and forest products. During this period, the decline in exports of food to the United Kingdom and Western Europe has been paralleled by the expanding endeavour to appease the world-wide appetite for forest and mineral products. The Second World War, the greatly enlarged obligations of Canada's new status, the growth of governmental activities in the realm of economic and social welfare, the rapidly increasing size of the Canadian economy itself, the cumulated backlog of consumer goods, and the discovery of abundant energy resources have been significant factors in the recent developments in Canadian manufacturing.

Of utmost importance in the advancement of such manufacturing as the production of pulp and paper and the refining of minerals has been the availability and the development of large sources of cheap hydro-electric energy and petroleum resources, not to mention attraction of world financial resources toward investment in an expanding, free and sound economy. The increase in the economic size of Canada and in the living standards of its people along with the extending production of some of the newer export staples have provided additional competitive strength to Canadian manufacturing industries.

Indeed, the large deficiencies in many forms of capital equipment and durable consumer goods—deficiencies in factories, houses, schools, hospitals, roads and items providing a high level of material comfort as well as greater leisure—have been responsible in large degree for the increase recorded in the proportion of Canadian output of the past eighteen years attributable to the secondary manufacturing industries. Typical among these are such industries as iron and steel, chemicals, motor vehicles, motor vehicle parts, synthetic textiles and petroleum products. Moreover, with the comparatively rapid increase in the Canadian demand for manufactured goods has come the transfer of many kinds of activity from the home and service sectors to the manufacturing sectors of the economy.



Turbine blades of a steam turbine generator set undergoing inspection. Expanding use of thermal power has opened up a market for gas and steam turbines to Canadian manufacturers who have previously concentrated on producing hydraulic generating equipment.



Refining processes for the Sudbury nickel-copper ores have undergone continual improvement since the first method of economical separation was discovered. Today's recovery from these ores not only includes pure nickel and copper but also gold, silver, cobalt, platinum, palladium, iridium, rhodium, ruthenium, selenium, tellurium and sulphur.

In fact, the development of Canada's secondary manufacturing industries, although perhaps less spectacular and less publicized than its primary manufacturing, has carried the country well along the way to becoming a nation of urban factory and office workers. Secondary manufacturing industries now account for about three-quarters of the output and a slightly higher portion of employment in the whole manufacturing sector of the economy; they are characterized by a high degree of processing, a major dependence on the domestic market, and a tendency to be located close to the centre of that market. Their growth has contributed greatly to the creation of a more broadly based and much more diversified economy, and they are typically established around the fringes of the larger cities. Driving through the outskirts of Montreal or Toronto, for example, one passes a succession of new plants, large and small, built to produce electronic equipment, television sets, plastics, steel pipe, diesel locomotives, aircraft and aircraft parts and consumer goods of all kinds, few of which were produced in Canada in any quantity before the war.



Automatic electric ranges coming off the production line in a Hamilton plant. Close to \$150,000,000 worth of electrical appliances are manufactured each year to equip Canadian homes.

It is only in the past two decades that manufacturing has attained its position of pre-eminence in the Canadian economy. When war broke out in 1939, Canadian industry responded to a flood of military orders and expanded and diversified at a dramatic rate. Canada, along with the United States, became "the arsenal of the free world". Productive capacity, inadequate to meet the demands placed upon it, underwent intensive expansion particularly in the heavy industries producing automobiles, aircraft, ships and steel. There was spectacular development in such fields as aluminum, electrical apparatus, toolmaking and chemicals. Fewer imports meant the satisfaction from domestic production of demand for such consumer goods as textiles, shoes, apparel and many other products, and by the end of the war well over 1,000,000 workers were employed in manufacturing industries, more than 25 p.c. of the labour force.

The postwar period brought neither a reversal of the outstanding industrial progress of the war years nor any major setback. Reconversion from wartime to peacetime production was completed within two years, and most industries embarked upon programs of modernization and expansion. The outbreak of the Korean war in 1950, Canada's obligations under the NATO treaty, and heavy annual defence expenditures served to stimulate industries in the fast-developing fields of electronics, jet aircraft and engines, and shipbuilding. Full employment, immigration, a high birth rate—all made for strong and sustained consumer demand. Automobiles, radio and television sets, refrigerators and other electrical equipment and telephones became common to the great majority of Canadian homes.

In fewer than twenty years the number of manufacturing establishments increased by almost 50 p.c. and the total number of workers in industry by about 110 p.c.

This transformation of the economy has made Canada, for all its small population, one of the leading industrial and trading nations of the world. The traditional conception of Canada as primarily an agrarian and rural country has lost all validity. Increased efficiency and improved productivity having vastly reduced agriculture's dependence upon manpower, the hands and skills thus released have found employment in the more than 10,000 new manufacturing plants that have been built since 1945 in or near the cities and

The production of transportation equipment of all kinds is of particular importance to this country where the heavy and long-distance movement of goods and people demands efficient facilities suited to Canadian geographical, climatic and industrial requirements. Such equipment, as a group, leads the manufacturing field.



A motor truck assembly line in an Ontario plant.



The changeover to diesel power by Canadian railways and the extension and modernization of their rolling-stock has kept the manufacturers of such equipment very active in recent years.

Aside from the construction of naval vessels which accounts for three-quarters of the output of Canadian shipyards, the ship-building industry specializes in the production of cargo vessels, tankers and tugs.



The DHC-4 Coribou is a twin-engined successor to the Beaver and Otter — those small versatile aircraft performing choreboy service all over the world. This new cargo passenger carrier is also designed for short landings and take-offs. Twelve have been ordered by the U.S. Army for evaluation purposes.





▲ The Canadair aircraft plants in suburban Montreal which produce medium- and long-range propeller-turbine aircraft for military, civilian transport and executive use, as well as parts for ground-to-air missiles.

▲ Model of the CL-44 jet-prop long-range transport aircraft, of unique design, which is now on the production line. Fleets of these aircraft have been sold to the two largest all-cargo airlines in the United States.

towns of Canada's ten provinces. Canada, in the process, has become a predominantly industrial and urban society.

Directly, manufacturing supports nearly one-third of the whole population; indirectly, it contributes significantly to the employment of most other Canadians through purchases by manufacturing companies and their employees and dependants of raw materials, foods, farm products and transportation services, to mention only the more important. There are now as many Canadians employed in manufacturing as in the combined industries of farming, forestry, fishing, mining and construction. Figures for 1956 show that a record total of 1,353,020 employees, working in some 37,000 manufacturing plants, earned about \$4,600,000,000. The selling value of factory shipments was in excess of \$21,600,000,000—another record. After deducting the cost of materials used, including fuel and electricity, the value added by manufacture is established at over \$9,600,000,000, nearly one-third of the gross national product in 1956. The minor recession experienced by the manufacturing industries in 1957 resulted in a drop of only 3,000 employees, while salaries and wages paid and the selling value of factory shipments continued to rise, the former increasing by 4.6 p.c. and the latter by 2.1 p.c.

The following table shows the long-term growth in Canadian manufacturing. These figures are reasonably comparable but, since they cover so long a period, allowances should be made for certain changes in information collected

and in treatment of the data. For instance, in 1952 the collection of data on gross value of production was replaced by value of factory shipments. The former included all goods produced during the year irrespective of whether they were shipped from the factory during that year. The latter includes all goods leaving the plant during the year regardless of when produced. The difference is not great since most goods are shipped during the year in which they are manufactured. Gross values of production or shipments represent more than the actual contribution of the industry to the economy. They give the value of goods leaving the industry and therefore include all the work put into them at earlier stages of production.

Summary Statistics of Manufactures, 1917-57

Year	Estab- lish- ments	Employees	Salaries and Wages	Cost of Materials	Net Value Added by Manufacture ¹	Gross Value of Products ²
	No.	No.	\$'000	\$'000	\$'000	\$'000
1917.....	21,845	606,523	497,802	1,539,679	1,281,132	2,820,811
1920.....	22,532	598,893	717,494	2,085,272	1,621,273	3,706,545
1929.....	22,216	666,531 ³	777,291	2,029,671	1,755,387	3,883,446
1933.....	23,780	468,658	436,248	967,789	919,671	1,954,076
1939.....	24,805	658,114	737,811	1,836,159	1,531,052	3,474,784
1940.....	25,513	762,244	920,873	2,449,722	1,942,471	4,529,173
1943.....	27,652	1,241,068	1,987,292	4,690,493	3,816,414	8,732,861
1945.....	29,050	1,119,372	1,845,773	4,473,669	3,564,316	8,250,369
1947.....	32,734	1,131,750	2,085,926	5,534,280	4,292,056	10,081,027
1948.....	33,420	1,155,721	2,409,368	6,632,882	4,938,787	11,875,170
1949 ⁴	35,792	1,171,207	2,591,891	6,843,231	5,330,566	12,479,593
1950.....	35,942	1,183,297	2,771,267	7,538,535	5,942,058	13,817,526
1951.....	37,021	1,258,375	3,276,281	9,074,526	6,940,947	16,392,187
1952.....	37,929	1,288,382	3,637,620	9,146,172	7,443,533	16,982,687
1953.....	38,107	1,327,451	3,957,018	9,380,559	7,993,069	17,785,417
1954.....	38,028	1,267,966	3,896,688	9,241,858	7,902,124	17,554,528
1955.....	38,182	1,298,461	4,142,410	10,338,202	8,753,450	19,513,934
1956.....	37,428	1,353,020	4,570,692	11,721,537	9,605,425	21,636,749
1957 (prelim.).....	—	1,350,099	4,782,813	11,711,789	—	22,097,730

¹ For 1924-51, value added by manufacture is computed by subtracting the cost of fuel, electricity and materials from the gross value of products; for 1952 and 1953 the deduction is made from value of factory shipments and for 1954 to 1956 from the calculated value of production. Figures prior to 1924 are not comparable since statistics for cost of electricity are not available.

² In 1952 gross value of products was replaced by value of factory shipments; see text above. ³ A change in the method of computing the number of wage earners in the years 1925-30 increased the number somewhat over that which the method otherwise used would have given. In 1931 the method in force prior to 1925 was re-adopted.

⁴ Newfoundland included from 1949 but figures for 1949 and 1950 exclude fish processing.

Automatic equipment turns out 2,400 loaves of bread an hour — from grain of wheat to finished loaf, the bread is untouched by human hands.





The most modern equipment in the world has been installed in this textile mill at Valleyfield, Que. Canada's cotton textile industry, faced with stiff competition from abroad, must maintain technological superiority to win a share of the domestic market.

Cutting room in a Winnipeg shirt factory. The factory clothing business in Canada, which continues to increase its output, is highly concentrated in Montreal, Toronto and Winnipeg.



The index of the volume of manufacturing production indicates that production continues to rise faster than employment. In 1947 the index was 93.2 compared with an average of 100.0 for the year 1949. In 1957 it was 142.5, an increase of 53 p.c. from 1947. The advance in employment during the same period was but 19 p.c.

Hundreds of new commodities have been added to the list of Canada's manufactures in recent years, and significant changes have been made in the ranking of certain industries. Aircraft and parts which did not rank among the leading industries in 1949 advanced to eleventh place in 1956, industrial machinery moved up from twenty-sixth to fifteenth place and electrical apparatus and supplies from nineteenth to ninth place. Moderate advances in position were also recorded by non-ferrous metal smelting and refining,

petroleum products, primary iron and steel, rubber goods, food preparations and motor vehicle parts. On the other hand, slaughtering and meat packing, sawmills, butter and cheese and railway rolling-stock moved farther down the list. Pulp and paper and motor vehicles were in first and fourth place respectively in 1949 and remained in the same position in 1956.

The following table gives principal statistics of the fifteen industries with the largest values of factory shipments in 1956.

Principal Statistics of the Fifteen Leading Industries, 1956

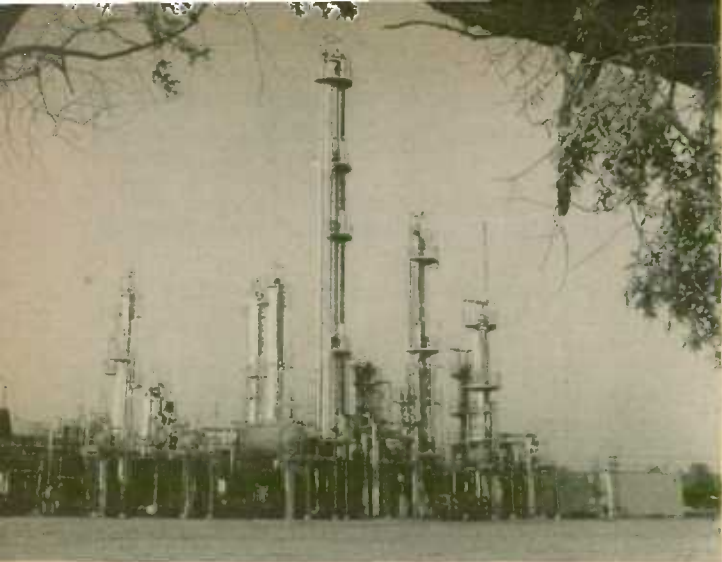
Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manu- facture	Selling Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000
Pulp and paper.....	126	65,985	297,572	625,205	736,346	1,453,442
Non-ferrous metal smelt- ing and refining.....	23	30,788	130,140	820,604	511,018	1,396,565
Petroleum products.....	61	13,925	66,342	766,375	444,428	1,253,799
Motor vehicles.....	16	35,099	149,948	697,300	298,259	988,143
Slaughtering and meat packing.....	154	24,667	90,472	667,994	171,398	844,889
Primary iron and steel...	50	36,043	162,881	301,299	352,523	680,860
Sawmills.....	6,629	57,078	154,809	350,746	279,711	639,414
Butter and cheese.....	1,369	20,135	58,431	319,963	101,806	431,255
Miscellaneous electrical apparatus and supplies...	161	26,501	99,639	205,429	199,625	393,562
Rubber goods, including footwear.....	91	23,136	82,155	160,687	198,602	355,584
Aircraft and parts.....	52	35,563	146,428	138,156	212,270	354,510
Railway rolling-stock.....	29	28,118	100,729	207,028	134,094	345,516
Miscellaneous food prepa- rations.....	301	9,678	30,461	229,524	102,842	334,668
Motor vehicle parts.....	198	21,471	82,362	177,585	154,511	329,525
Machinery, industrial....	329	26,575	102,884	142,777	200,480	329,447
Totals, Fifteen Leading Industries.....	9,589	454,762	1,754,253	5,810,672	4,097,913	10,131,179
Percentage of fifteen lead- ing industries to all industries, 1956.....	25.6	33.6	38.4	49.6	42.7	46.8

Provincial Distribution

Fully one-half of all Canadian manufacturing output is concentrated in Ontario, the country's industrial heartland, although the province also has the largest number of occupied farms and is the leading producer of both minerals and furs. Ontario's industrial development has been largely influenced by its geographic location on the Great Lakes waterways within easy reach of Pennsylvania's coal and Minnesota's iron ore,



A Canadian couturière turns her talents toward costume design.



A new plant at Sarnia adds another source of supply to Canada's output of petrochemical raw materials, chiefly centred at that city and at Montreal and Edmonton.

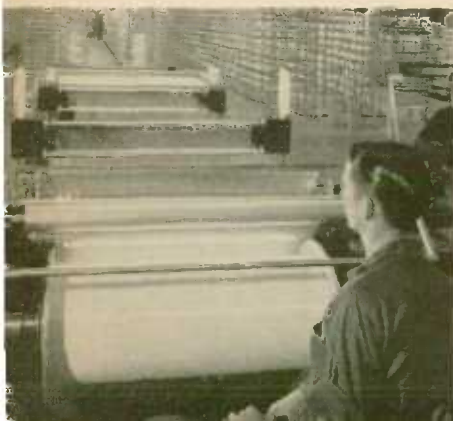


The chemical companies process these materials and their "intermediate" products are, in turn, used by other manufacturers to make the thousands of end-products of bewildering variety which have become indispensable in the world of today.

Petrochemicals are doing spectacular things in the field of agriculture, not the least of which is the provision of a highly efficient nitrogen fertilizer—a non-caking, dust-free product which is distributed in polythene-lined bags or in bulk.

Nylon—as yarn, staple fibre or plastic—produced at a Kingston plant, will be converted into hundreds of products ranging from baby garments, stockings and rope to moulded engineering material.

One of the first petrochemical products to be made was ethylene glycol or antifreeze which, in addition to its many other uses, is an ingredient in the production of high explosives.



both indispensable to Ontario's steel mills. The province's excellent—and low cost—hydro-electric power resources, the diversity of raw materials to be had from farm, forest and mine and, not least, the fact that one-third of all Canadians live there, have been hardly less important factors in attracting industry.

Ontario has a greater diversification of manufacturing production than any other province and a number of important industries are carried on there exclusively. By value, the province turns out 90 p.c. or more of Canadian production of motor vehicles and parts, agricultural implements, machine tools, tobacco processing and packing, bicycles, non-ferrous metal products, prepared breakfast foods and starch and glucose; between 80 and 90 p.c. of heavy electrical machinery, rubber goods, soaps and washing compounds, household and office machinery, automobile accessories, fabrics, wine, typewriter supplies, leather tanneries and artificial abrasives; and between 70 and 80 p.c. of primary iron and steel, telecommunications equipment, iron castings, refrigerators, vacuum cleaners, etc., hardware, tools and cutlery, cordage, rope and twine, sporting goods, carpets, batteries, white metal alloys, jewellery and silverware, toys and games, and wool yarn.

Other industries in which more than 50 p.c. of the value of Canadian shipments come from Ontario are: fruit and vegetable preparations, heating and cooking apparatus, feed mills, aluminum products, animal oils and fats, sheet metal products, wire and wire goods, aircraft and parts, industrial machinery, printing and bookbinding, brass and copper products, miscellaneous chemical products, acids, alkalies and salts, boxes and bags, paper, miscellaneous electrical apparatus and supplies, confectionery, and boilers, tanks and plate work. Preliminary statistics for 1957 show 640,000 manufacturing employees in the province producing goods with a selling value in terms of factory shipments in excess of \$10,847,000,000, virtually half the national total.

Quebec, largest in area of Canada's ten provinces, ranks second only to Ontario in manufacturing production and mineral output, as in population. The province accounts for about 30 p.c. of the value of Canadian manufactured goods, most manufacturing industries being concentrated in the fertile and strategic valley of the St. Lawrence. The most important single industry is pulp and paper, followed by non-ferrous metal smelting and refining. In terms of number of employees, however, Quebec's leading manufacturing



The list of petrochemical products is almost endless and is extending by about 300 new articles each year. Older, heavier and less-adaptable materials have been replaced, making the world a safer, healthier and more colourful place in which to live.

industry is primary textiles, which includes production of cottons, woollens, synthetic fibres and fabrics, hosiery, knitted goods, and the dyeing and finishing of textiles. The fast-growing aluminum industry also is a major factor in the province's manufacturing production.

As with Ontario, a high proportion of total Canadian production in a number of industries is concentrated in Quebec. In addition to those industries already mentioned, others playing a key role in the economy of the province include petroleum products, miscellaneous electrical apparatus and supplies, slaughtering and meat packing, women's factory clothing, cotton yarn and cloth, tobacco, cigars and cigarettes, men's factory clothing, railway rolling-stock, etc. Preliminary statistics for 1957 show 446,000 employees in manufacturing, and selling value of factory shipments exceeding \$6,802,000,000.

British Columbia, most westerly of Canada's provinces, ranks third in manufacturing production, as in area and population. Rich in raw materials, its forest resources, minerals, fisheries and electric power are the foundation of a rapidly increasing number of manufacturing industries. Chief among these are industries deriving from forest resources—sawmills, pulp and paper, veneers and plywoods, sash, door and planing mills, accounting among them for nearly half of British Columbia's manufacturing employment. Other leading industries include petroleum products, fish processing, slaughtering and meat packing, shipbuilding, food preparations, fertilizers, and printing and publishing. Preliminary figures for 1957 show 105,000 employees in manufacturing industry; selling value of factory shipments during the year exceeded \$1,817,000,000.

Although Ontario, Quebec and British Columbia account collectively for close to 90 p.c. of total Canadian manufacturing production and employment, the other seven provinces also have shared to some extent in the mushroom-growth of the manufacturing industry since 1939. In Manitoba, New Brunswick, Nova Scotia and Newfoundland, manufacturing ranks as the leading industry, while in Alberta, Saskatchewan and Prince Edward Island it is assuming steadily increasing importance.

Statistics of Manufactures, by Province, 1956

NOTE.—Values are rounded to the nearest thousand.

Province or Territory	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$'000
Nfld.	783	10,502	30,463	6,977	55,452	62,608	123,691
P.E.I.	192	1,775	3,233	401	17,807	6,162	24,497
N.S.	1,402	30,937	83,949	13,346	214,779	159,820	384,398
N.B.	1,004	22,560	61,063	14,251	176,440	125,314	313,281
Que.	12,112	446,137	1,396,415	181,050	3,605,522	2,888,149	6,622,503
Ont.	13,215	641,190	2,310,635	229,356	5,683,753	4,868,570	10,655,099
Man.	1,534	42,821	133,506	13,502	367,025	270,018	647,389
Sask.	798	11,536	36,683	8,237	176,871	113,628	298,204
Alta.	1,971	36,792	120,195	14,015	412,138	285,831	703,189
B.C.	4,393	108,595	393,869	42,617	1,007,883	824,249	1,859,368
Yukon and N.W.T. .	24	175	681	189	3,867	1,076	5,130
Canada.	37,428	1,353,020	4,570,692	523,941	11,721,537	9,605,425	21,636,749

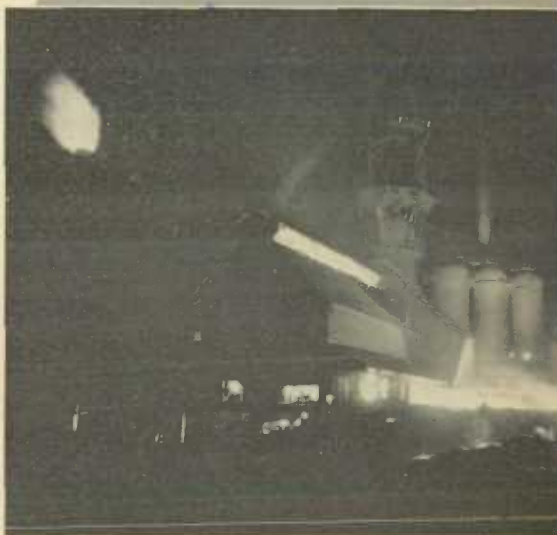
Steel is a vital element in the economy—basic to almost every manufacturing industry and basic to the construction projects that are adding to the wealth of the country. New capacity, technical improvements and diversification of product have increased efficiency and stabilized the industry which now produces about 75 p.c. of domestic consumption. Canadian steel is used most extensively in construction, in railway equipment, in oil and gas pipelines and in the making of merchant trade goods and containers—these items taking about 63 p.c. of the output. Machine tools, exports, motor vehicles and pressed and stamped goods take most of the remainder.



Building Construction—17.7 p.c.



Pressing, Forming and Stamping—4.3 p.c.



Automotive Industries—5.2 p.c.



Exports—5.2 p.c.

Preliminary Statistics of Manufactures, by Province, 1957

NOTE.—Values are rounded to the nearest thousand.

Province or Territory	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials Used	Selling Value of Factory Shipments
	No.	\$'000	\$'000	\$'000	\$'000
Nfld.	10,418	32,183	7,360	54,388	116,810
P.E.I.	1,592	2,992	364	16,340	30,376
N.S.	31,764	90,792	15,232	237,177	426,700
N.B.	21,600	60,387	13,589	176,285	312,396
Que.	446,472	1,470,133	187,162	3,629,975	6,802,235
Ont.	639,814	2,418,259	243,665	5,644,513	10,847,133
Man.	42,997	136,706	12,321	367,845	673,250
Sask.	12,018	40,083	8,662	183,485	303,268
Alta.	38,086	131,706	14,534	426,153	762,356
B.C.	105,249	398,902	43,387	971,670	1,817,644
Yukon and N.W.T.	89	670	153	3,958	5,562
Canada	1,350,099	4,782,813	546,429	11,711,789	22,097,730

The prosperity of most of the cities and towns of Canada is intimately connected with their manufacturing industries which provide employment for a large proportion of the labour forces. The following table gives the principal statistics for those urban centres in which manufacturers shipped goods to the value of more than \$100,000,000 in 1956.

Urban Centres with Value of Factory Shipments of Over \$100,000,000 in 1956

NOTE.—Statistics for urban centres cannot be published when one establishment has 75 per cent or more, or two establishments have 90 per cent or more, of the total production.

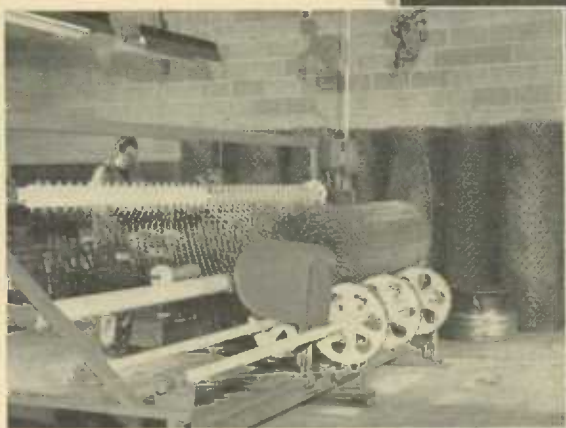
Urban Centre	Estab-lish-ments	Em-ployees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Plant or Materials Used	Selling Value of Factory Shipments
	No.	No.	\$'000	\$'000	\$'000	\$'000
Montreal, Que.	4,289	182,759	582,257	22,355	1,175,254	2,207,686
Toronto, Ont.	3,411	143,758	470,860	19,997	962,271	1,797,706
Hamilton, Ont.	585	58,742	232,166	28,649	498,411	987,729
Montreal East, Que.	39	6,816	28,234	21,555	523,722	739,194
Vancouver, B.C.	1,299	36,052	31,541	6,326	299,290	534,658
Windsor, Ont.	336	24,091	96,798	5,454	186,300	369,790
Sarnia, Ont.	57	7,124	30,444	17,434	182,459	356,837
Winnipeg, Man.	869	26,629	80,892	3,669	163,809	309,520
Kitchener, Ont.	211	15,708	52,562	2,495	112,940	221,712
London, Ont.	282	15,311	50,559	2,683	99,452	211,681
Quebec, Que.	441	15,990	45,625	6,487	104,513	204,230
Edmonton, Alta.	383	11,850	38,670	1,915	124,357	202,341
New Toronto, Ont.	48	7,794	32,082	2,160	107,043	196,960
Lachine, Que.	75	12,705	50,526	1,922	93,706	186,507
Calgary, Alta.	349	9,981	34,433	1,981	110,614	178,593
St. Laurent, Que.	76	15,581	59,691	2,048	67,710	176,385
Sault Ste. Marie, Ont.	52	8,845	40,861	9,163	77,733	168,320
Peterborough, Ont.	92	9,908	37,793	1,367	84,410	153,392
Brantford, Ont.	166	10,819	35,679	2,032	71,631	141,010
St. Boniface, Man.	96	4,917	17,910	1,910	104,335	139,879
Shawinigan Falls, Que.	48	6,112	23,784	10,399	57,731	134,589
Leaside, Ont.	51	8,325	30,553	1,183	67,401	132,606
Trois Rivières, Que.	86	8,495	28,560	8,690	58,785	130,933
LaSalle, Que.	48	5,769	20,652	3,490	67,147	128,270
Ottawa, Ont.	315	10,550	33,875	2,557	52,013	119,651
New Westminster, B.C.	111	6,286	23,195	1,606	62,688	110,956
Chatham, Ont.	75	3,971	14,796	1,169	81,757	108,998
Sherrbrooke, Que.	121	8,101	22,562	1,537	55,197	101,607
Mount Royal, Que.	38	6,317	20,302	691	57,714	101,078



Railways—18.4 p.c.



Pipes and Tubes—12.1

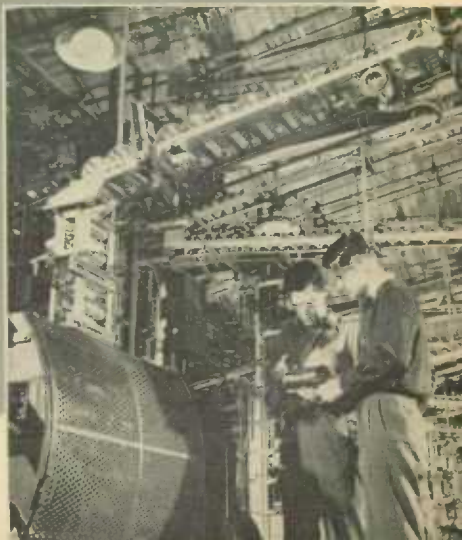


Machine Tools—10.0 p.c.



Machinery and Tools—4.0 p.c.

Containers—7.7 p.c.



Electric Power

CANADA is extremely well provided with energy potential in many forms—wood products, coal, petroleum, natural gas and falling water, and the more recently recognized minerals which contain a tremendous potential because of their atomic structure. Increasing amounts of energy are being utilized for the production of electric power, in which Canada ranks fourth among the nations of the world. On a per capita basis, Canadians are the second largest consumers of electricity in the world.

In some areas of the country, the production of thermal-electric power is increasing rapidly because the more accessible and economic sources of water power have now been developed and fossil fuels are readily and abundantly available. In the Atlantic Provinces and in Ontario, the fuel supply of thermal-electric plants is mainly coal, while in Western Canada, coal, oil and natural gas are used. Important progress also is being made in the development of power from nuclear sources, although it is uncertain just how soon such energy will compete economically with the more conventional methods of power production.

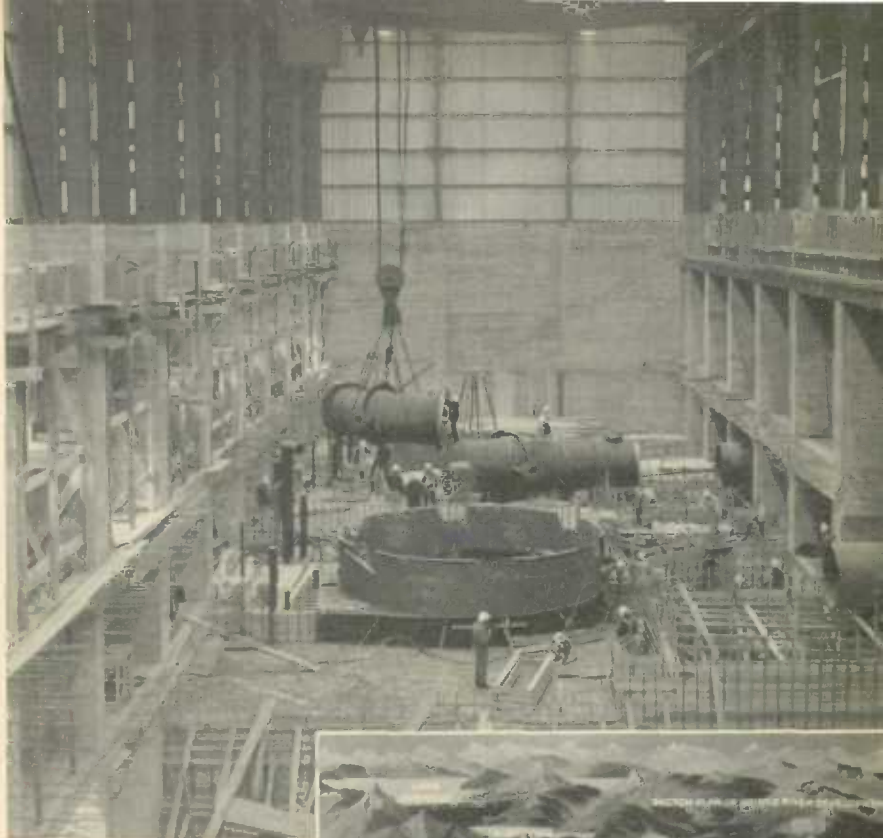
However, the many fast-flowing rivers of Canada with their natural or man-made reservoirs, are the principal source of power and no doubt will retain this leadership for some years to come; being renewable, this source of power is also the most permanent of the country's natural energy resources. In 1958 hydro facilities generated over 90 p.c. of the total electric energy produced in the country.

The following table gives the total power potential of all currently tabulated water power sites in Canada together with the installed capacity of all existing water power developments as of Jan. 1, 1959.

Available and Developed Water Power, by Province, Jan. 1, 1959

Province or Territory	Available Continuous Power at 80 p.c. Efficiency		Installed Turbine Capacity
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
	h.p.	h.p.	h.p.
Newfoundland.....	1,608,000	3,264,000	370,370
Prince Edward Island.....	500	3,000	1,482
Nova Scotia.....	30,500	177,000	182,898
New Brunswick.....	123,000	334,000	254,140
Quebec.....	10,896,000	20,445,000	9,879,857
Ontario.....	5,496,000	7,701,000	7,126,556
Manitoba.....	3,492,000	5,798,000	778,900
Saskatchewan.....	550,000	1,120,000	109,835
Alberta.....	911,000	2,453,000	308,210
British Columbia.....	18,200,000	19,400,000	3,312,150
Yukon Territory.....	4,678,000	4,700,000	58,190
Northwest Territories.....	374,000	808,000	18,050
Canada.....	46,359,000	66,203,000	22,376,048

Since it is usual practice to install turbines having a capacity in excess of the power equivalent of the six-month flow, the currently recorded water power resources of Canada will permit the installation of capacity considerably



Construction of a second powerhouse is the final stage in British Columbia's Bridge River power project. Powerhouse No. 1 and two satellite stations are now producing 336,500 h.p. and the completion of the second phase of development in mid-1959 and 1960 will bring capacity to over 680,000 h.p.



greater than the amount shown. The total installed capacity at the end of 1958 represented about one-quarter of the feasible turbine installation of the country.

To meet the continued demand for electric power to operate mines, mills and factories, to power farm machinery and home appliances, and to light homes, offices and streets, new hydro-electric capacity amounting to nearly 2,500,000 h.p. and new thermal capacity of over 500,000 kw. was added during the year, representing the highest annual increase in electric

capacity on record. By far the largest hydro increases were made in Ontario and Quebec where 1,301,800 h.p. and 900,000 h.p. respectively were added. In the Prairie Provinces present emphasis for additional power requirements is on new thermal-electric installations.

Atlantic Provinces.—Water power is the main source of electric energy in Newfoundland. Of the total installed capacity, 85,900 h.p. has been installed by pulp and paper mills to generate power for their own use, 267,815 h.p. is used to generate power for sale and 15,220 h.p. serves the mining industry. The 156,000-h.p. station of Bowater Power Company Limited, located on the Humber River, is the largest single development. During 1958, 32,600 h.p. in five units was added to the province's capacity for hydro power and 20,000 kw. was added to the steam plant at St. John's. One of Canada's largest sources of potential water power is located on the Hamilton River in Labrador, which is at the eastern extremity of the Canadian mainland. Ultimate development will approach 4,000,000 h.p.

Prince Edward Island possesses no large streams and consequently most of the electric power generated is produced by thermal stations. In 1958 the capacity of the steam plant at Charlottetown was being increased by 10,000 kw.

Nova Scotia's economic water power sites already have been developed to a large degree; nevertheless, the greater part of the electric power generated is thermal power. The Mersey River provides the principal source of hydro-electric power and contains six developments with a total installed capacity of 57,240 h.p. A total of 168,375 h.p. of hydro capacity is developed for general distribution, 10,067 h.p. solely for the pulp and paper industry and 4,726 h.p. for other industries. In 1958 a new unit of 5,000 h.p. replaced two units of 1,150 h.p. each on the Avon River and construction was started on the installation of a total of 20,000 h.p. at two sites on the Sissiboo River. New thermal capacity totalling 81,000 kw. was under construction for operation in 1959.

New Brunswick's present hydro-electric development represents about half of the province's total available water power resources, but the greater part of the electric output is generated by thermal plants. The largest hydro installations are the 80,000-h.p. Grand Falls development on the St. John River and the 90,000-h.p. Beechwood development, the second 45,000-h.p. unit of which came into production in 1958. The potential of this river, developed and proposed, may exceed 450,000 h.p. In 1958 a 6,540-kw. unit was added to the steam plant at Bathurst and a 12,500-kw. unit to the Edmundston steam plant. Construction on a 50,000-kw. steam plant at Saint John is slated for completion in 1961.

Quebec.—Quebec is the richest of the provinces in available water power resources, its present hydro installations of nearly 10,000,000 h.p. representing about 44 p.c. of the total for Canada. Vast power resources are available on the southward flowing tributaries of the St. Lawrence River and Gulf, where a capacity of over 8,000,000 h.p. is now installed in the province and where additional capacity of about 3,000,000 h.p. is either under construction or proposed for development.

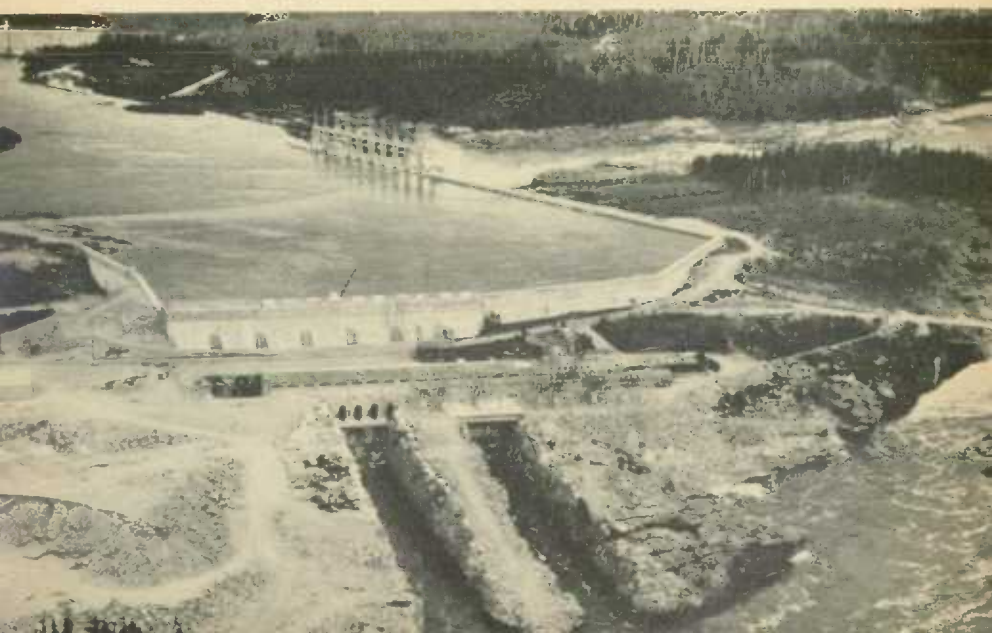
Most of the developed sites are owned by private corporations but the provincial government through its Quebec Hydro-Electric Commission is

the major producer in the hydro-electric field. The largest single hydro-electric station in Canada, the Commission's Beauharnois development on the St. Lawrence River about 30 miles upstream from Montreal, has an installed capacity of 1,424,000 h.p. Its total capacity will be increased to 2,235,000 h.p. in 1961 when the final section of the development is brought into operation. The Commission's Bersimis I plant on the Bersimis River was completed in 1958 raising the total plant capacity to 1,200,000 h.p. Bersimis II, to be completed in 1960, will provide an additional 855,000 h.p. Four other Commission developments totalling 354,400 h.p. are located on the St. Lawrence and Ottawa Rivers.

The Aluminum Company of Canada has the second largest installed capacity in the province with four developments on the Saguenay and Peribonca Rivers totalling 2,040,000 h.p. The Chute des Passes development under construction on the Peribonca will add another 1,000,000 h.p. when completed in 1960. The Shawinigan Water and Power Company, which supplies power for the area between Montreal and Quebec and southward across the St. Lawrence River, has seven plants on the St. Maurice River with a total capacity of 1,753,500 h.p.—the seventh, at Rapide Beaumont, was completed in 1958—and about ten smaller developments on other rivers.

Many other power sites throughout the province have been developed and others are under construction to supply the growing requirements of metallurgical, forest products and other industries and for general public needs. In 1958 the 180,000-h.p. extension to the McCormick development on the Manicouagan River near Baie Comeau was completed, a 50,000-h.p. station on the Lièvre River was under construction, and a 66,000-h.p. plant on the Hart Jaune River near Little Manicouagan Lake was started, the latter to supply the immense operations of the Quebec Cartier Mining Company in

A 180,000-h.p. extension to the Manicouagan River plant at First Falls near Baie Comeau, Que., was completed in 1958. Power from this plant is supplied to the aluminum smelter at Baie Comeau and to the Quebec Hydro network.





Ontario Hydro continues to increase its power-generating capacity in the northern and western sections of the province. Four projects estimated to cost \$75,000,000 are currently under construction.

The powerhouse structure at Red Rock Falls, 12 miles northeast of Thessalon, rises above the snow-covered ground. This two-unit 38,000-kw. station will be in initial operation by late 1960.

the Lac Jeannine area. Transmission lines have reached the point where practically all power-producing plants of the province are interconnected. Capacity of thermal stations in Quebec is only about 60,000 kw.

Ontario.—Ontario ranks third among the provinces in total available water power resources and second in installation. New capacity amounting to 1,301,800 h.p. was completed during 1958, the highest among the provinces. Nearly all of this capacity was installed by The Hydro-Electric Power Commission of Ontario, Canada's largest power-producing and distributing organization. It owns and operates 66 hydro-electric stations and two thermal-electric plants amounting to almost 90 p.c. of the province's total installed generating power. The transmission network of Ontario Hydro covers a large part of the province and is interconnected with systems in Quebec, New York and Michigan States, and in southeastern Manitoba.

The greatest concentrations of water power resources in Ontario are located on the Niagara and St. Lawrence Rivers. The largest development—the Sir Adam Beck-Niagara Generating Stations Nos. 1 and 2, the latter completed in 1958, have a capacity of 2,522,000 h.p. These and five other plants totalling 685,775 h.p. obtain their water from the Niagara River and the Welland Canal. After four years of intensive construction work on the St. Lawrence Power Project, 11 of the 18 units were placed in service in 1958. By Nov. 1, 1959, this project will be completed with 1,200,000 h.p. of new capacity for the province.

Many moderate-sized generating plants are in operation on the Ottawa River, north of Lakes Huron and Superior and in the far western part of the province. Ontario Hydro generating capacity in these areas was increased during 1958 by 81,000 h.p. at Whitedog Falls on the Winnipeg River, 102,000 h.p. at Caribou Falls on the English River, 18,500 h.p. at Manitou Falls on the English River, 19,000 h.p. at Alexander Falls on the Nipigon River and 25,000 h.p. at Cameron Falls on the Nipigon River. A 60,000-h.p. station on the Kaministiquia River will be in service by September 1959 and plans call for an additional 353,000 h.p. on the Mississagi and Abitibi Rivers. In addition a 30,300-h.p. station was placed in service in 1958 on the Montreal River by the Great Lakes Power Company, which is also constructing a similar unit on the Michipicoten River.

A vital factor in the Commission's plans for the future is the development of thermal-electric stations as supplemental sources of power.



A two-mile hydraulic tunnel will carry water to the Silver Falls plant now under construction on the Kaministiquia River, 30 miles northwest of Fort William. The plant will be in operation in 1959.



Despite winter conditions, construction moves ahead on the 131,000 kw. three-unit plant on the Abitibi River.

A massive steam-operated hammer drives great steel piles into the ground on the Fort William waterfront, preparing the foundation for the first thermal-electric plant in northern Ontario. ►



During 1958 construction was started on two large thermal-electric generating stations—one near Toronto and the other at Fort William. A third station is planned for the Hamilton area. Excellent progress was made on the enlargement of the Richard L. Hearn Generating Station at Toronto

to 1,200,000 kw., or three times its present size. Studies were continued in conjunction with Atomic Energy of Canada Limited and other interested agencies with regard to the development of a large-scale reactor for the production of energy from nuclear resources. A 20,000-kw. nuclear-electric generating station is under construction near Chalk River.

Prairie Provinces.—Of the three Prairie Provinces, Manitoba is the most abundantly endowed with water power resources having large potentials on the Churchill, Nelson and Saskatchewan Rivers. Most of its hydro-electric installations are located on the Winnipeg River where the development of all available power sites has been completed. Power from this river is supplied to the City of Winnipeg, to adjacent municipalities and to the transmission network of the Manitoba Power Commission which serves consumers in suburban Winnipeg and rural Manitoba. On the Nelson River at Grand

Rapids a 210,000-h.p. development is being built by the Manitoba Hydro-Electric Board for completion in 1961. The power generated will be supplied to the mining development of the International Nickel Company at Moak, Mystery and Thompson Lakes. At the same time, new load requirements in southern Manitoba are being met by installations of thermal-electric plants. A steam plant at Brandon with a capacity of 132,000 kw. was completed in 1958 and a similar plant was under construction at Selkirk for 1960 completion. Diesel generating plants at The Pas and Churchill were being extended.

In Saskatchewan, hydro power developments have been confined to mining uses in the northern areas where water power resources are abundant. During 1958, the Churchill River Power Company continued construction on an additional 19,000-h.p. unit at its Island Falls development on the Churchill River, scheduled for completion in 1959. Serving the more settled areas farther south, the transmission network of the Saskatchewan Power Corporation is supplied exclusively by thermal-electric plants having a generating capacity of 444,841 kw. However, under the agreement between the Federal Government and the Saskatchewan Government, construction was begun on a 200,000-h.p. hydro-electric generating plant as part of the South Saskatchewan River project which includes a large-scale irrigation project. During the year, 86,000 kw. was added to thermal capacity by the extension of a steam plant at Saskatoon and a gas plant at Kindersley.

Alberta's major hydro-electric installations, from which Calgary Power Limited serves a large part of the southern portion of the province, are located on the Bow River and its tributaries. There are other reserves of water power available but most of them are in the far northern areas, remote from centres of population. As a consequence, the increasing demand for power in southern Alberta is being met by thermal-electric plants for which economic sources of fuels—coal, oil and natural gas—are in abundant supply. Thermal capacity amounted to 477,488 kw. at the end of 1958. During the year a 66,000-kw. unit was added to the Wabamun steam generating station, a 3,000-kw. gas-diesel unit replaced a 500-kw. unit at Fairview, a 10,000-kw. gas-turbine unit was brought into service at Edmonton and similar single units at Lethbridge and Sturgeon Lake.

British Columbia.—The British Columbia Electric Company Limited, a subsidiary of the British Columbia Power Commission, is the major hydro-electric producer and distributor in the province with a total installed capacity of 1,029,835 h.p. in 14 developments. Its Bridge River system, utilizing the waters of Bridge River and Seton Creek, is in the final stage of construction. Upon completion in 1960 it will have an installed capacity of 680,000 h.p. in four plants. Power is transmitted to Vancouver from these plants, from the 190,000-h.p. Cheakamus development, from two developments totalling 220,000 h.p. on the Stave River and from several smaller plants. On Vancouver Island, the British Columbia Power Commission added 42,000 h.p. to its Strathcona development and continued construction on an installation of 35,000 h.p. on the Ash River near Port Alberni.

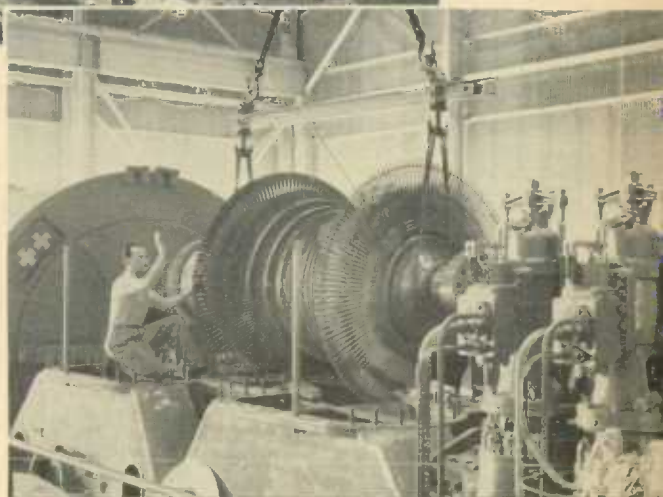
The largest single development in British Columbia is the 1,050,000 h.p. Kemano plant of the Aluminum Company of Canada which uses the waters diverted from the Nechako River to the Kemano River to supply energy



The extension of the Richard L. Hearn Generating Station at Toronto is progressing. When completed in 1960 the plant will have a capacity of 1,200,000 kw.

The trend toward thermal power has developed significantly during the past four or five years—in the Maritimes and the Prairie Provinces where water resources are limited but also in Ontario and British Columbia where supplies of hydraulic energy within economical transmission distance are becoming fewer and more costly to develop.

Lowering a turbine rotor into place on the new generator installed at the Wabamun steam plant near Edmonton. This generator is now in operation.



The Port Mann gas-fired generating plant on the south bank of the Fraser River just east of Vancouver will be supplying 134,000 h.p. to the B.C. Electric hydro system by the end of 1959.



to the aluminum smelters at Kitimat. A 150,000-h.p. unit was added to its capacity in 1958.

In the thermal-electric field, diesel plants owned by the B.C. Power Commission at Quesnel, Prince George and Dawson Creek were transferred to inactive plant following the installation of larger tri-fuel plants. The Commission continued construction at its Georgia Generating Station at Chemainus on Vancouver Island for the addition of 48,000 h.p. to the existing 53,000-h.p. development. The B.C. Electric Company expects to complete its 134,000-h.p. Port Mann Gas Turbine plant in 1959 and has begun the construction of a steam plant at loco on Burrard Inlet which ultimately will contain 1,266,000 h.p.

Yukon and Northwest Territories.—Substantial water power resources in the Yukon Territory are located principally on the Yukon River and its tributaries; in the Northwest Territories more than half the resources are located on rivers flowing into Great Slave Lake. Because of light precipitation, the favourable sites in the Territories are dependent on large storage capacities. The development of these resources will depend chiefly upon the exploitation of the mineral wealth of the region. The Northern Canada Power Commission in 1958 completed the installation of 15,000 h.p. in two units at Whitehorse Rapids on the Yukon River. On the Snare River in the Northwest Territories, the Commission is planning the construction of a 9,200-h.p. development at a site about eight miles downstream from the existing Snare River plant. A 150-kw. diesel generating plant was installed by the Commission at Inuvik, N.W.T., and a 100-kw. unit was being added to the Fort Simpson diesel plant. The Yukon Electrical Company Limited installed a 150-kw. diesel plant at Haines Junction.

Electric Power Statistics

The total electric power generated in Canada in 1957 amounted to 91,030,880,000 kwh. This figure includes power generated or purchased for resale by publicly or privately owned utilities and power generated by industrial establishments mainly for use in their own plants. Of the total, 92 p.c. was produced from water power and the remainder was generated thermally; 4,829,843,000 kwh. were exported to the United States.

Electric utilities provide much of the power for large industries, but some of them generate their own requirements. In 1956, manufacturing industries purchased 27,223,512,000 kwh. but generated 19,401,000,000 kwh. for their own use. Of this amount 4,535,560,000 kwh. were generated by pulp and paper industries and 13,228,803,000 kwh. by smelters and refineries.



With the use of newly designed tools, linemen cover high-voltage wire and insulators with a protective shield of rubber through which repairs may be made in perfect safety.



How NPD will look when completed in 1961.

Canada has two nuclear power projects under way: the 20,000-kw. station under construction on the Ottawa River which, as its name implies, is a Nuclear Power Demonstration project, and a development program for a larger-scale reactor which will produce 200,000 kw. of energy.



The primary mining industry purchased 3,544,514,000 kwh. from electric utilities but generated 542,835,000 kwh.

In 1957 there were 4,004,200 domestic, including rural, customers in Canada compared with 1,987,360 in 1945. During that period the amount of electricity consumed domestically advanced from 3,365,497,000 kwh. to 15,857,618,000 kwh., or from 1,693 kwh. to 3,960 kwh. per customer. The per customer consumption varied widely among the provinces; Manitoba led with 5,895 kwh. while Prince Edward Island and New Brunswick had the lowest averages. Farm customers added during 1957 numbered 10,169, Saskatchewan accounting for over 6,000 of the increase. In 1957, Ontario accounted for almost 50 p.c. of the total domestic power consumed, though this province had but one-third of the total population of the country.

Canadians enjoy one of the lowest rates per kilowatt hour in the world. The revenue from domestic consumers averaged 1.62 cents per kwh. in Canada in 1957 as compared with 2.56 cents in the United States, and commercial and industrial sales averaged 0.8 cents per kwh. in Canada compared with 1.3 cents in the United States. The 1957 average bill for domestic and farm service stood at \$64.19 against \$28.05 for 1945, an increase of 129 p.c., while consumption per customer rose 134 p.c. Provincial bills ranged from \$87.44 for British Columbia to \$51.51 for Quebec.

Labour

At the turn of the present century Canada's labour force, less than two million strong, was composed mainly of farmers and farm workers, merchants and craftsmen working in small shops or on their own account. Today, over six million men and women, ranging from general labourers to highly trained professional workers and executives and from workers on the farm to those in large manufacturing plants, provide the nation with goods and services.

The productive capacity of the Canadian economy has greatly increased during this period. New raw materials have come into use, such as oil, aluminum and titanium, making possible the production of goods not available before. Synthetic materials such as nylon and artificial rubber have become essential to everyday life, and new machines have been developed to aid the worker in producing better goods with less effort. Specialization, highly mechanized farm operations, and advancing techniques and organizational methods in manufacturing and distribution have opened up vast opportunities for bettering production and extending services. These developments, together with higher wages, better working conditions, higher educational standards and greater emphasis on technical training, have helped to raise the standard of living for the whole community of workers.

The pace of development over the past fifty years has not, of course, been steady. It was slowed down or interrupted on several occasions. Today, however, a better understanding of the operation of the economy together with the institution of new social assistance such as unemployment insurance, workmen's compensation and old age security provides a more even flow of income and in turn helps to balance economic development.

Seasonal unemployment caused by cold weather and, to some extent, by consumer buying habits still results in serious annual loss to the Canadian economy. Some winter slow-down is unavoidable, but it has been possible by concerted effort to reduce the extent of winter unemployment. New techniques and materials have made winter construction work more practicable and the government as well as industrial establishments now plan their programs so that as much work as possible is done during winter months.

Development in the field of labour has been assisted by legislation at both federal and provincial levels. Laws have been enacted to set minimum standards for hours of work, wages and many other conditions of employment. Most Canadian workers, however, enjoy conditions of employment far better than those required by law.



Hauling pipe from one of the world's largest oil wells.



Pistons being assembled to connecting rod for installing into a diesel engine.

The right of workers to belong to labour unions of their own choosing is protected by law and union membership has grown rapidly, particularly since 1940. Today 1,454,000 persons are members of unions. Through their organizations they have negotiated more than 7,300 collective bargaining agreements which generally embody joint labour-management decisions on wages and conditions of employment.

The Labour Force

The labour force of Canada, as measured by sample surveys conducted by the Dominion Bureau of Statistics, includes those people who have jobs plus those who do not have jobs and who are looking for work. "Job" in this sense means work for pay or profit, or unpaid work which contributes to the running of a farm or business operated by a relative. Thus a coal miner or a shopkeeper is considered to be in the labour force but a housewife or a student is not. The labour force is not a fixed group of people. It is constantly changing, as new workers enter and others leave.



The planning and designing of the complex communications and electrical control equipment required for efficient operation is a specialized enterprise on which the modern factory is highly dependent.

Employment in Canada fluctuates with the season of the year. In 1958, the number of persons with jobs was lowest in February standing at 5,395,000, then rose to a high of 6,025,000 in August and declined again to 5,680,000 in December.

Industrial Distribution of Persons with Jobs, by Sex, Week Ended Feb. 21, 1959

(Thousands of persons 14 years of age or over)

Industry	All Persons with Jobs			Paid Workers		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Agriculture.....	576	32	608	65	1	69
Forestry.....	81	1	82	63	1	64
Fishing and trapping.....	1	1	1	1	1	1
Mining and quarrying ²	91	1	95	88	1	92
Manufacturing.....	1,180	293	1,473	1,122	286	1,408
Construction.....	341	10	351	284	6	293
Transportation ³	365	65	430	335	63	398
Public utilities.....	64	10	74	64	10	74
Trade.....	611	283	894	471	235	706
Finance, insurance and real estate..	116	96	212	104	95	199
Service.....	658	665	1,323	568	621	1,189
Totals.....	4,088	1,459	5,547	3,167	1,328	4,495

¹ Fewer than 10,000.

² Includes oil wells.

³ Includes storage and communication.

In the labour force (February 1959) about three out of four persons are male and almost one-half are from 25 to 44 years of age. The average female worker is younger than the average male worker. With regard to occupation, about one worker in every seven is in agriculture at the seasonal peak; this proportion drops to about one in nine in mid-winter. Geographically, about two out of three live in the Provinces of Ontario and Quebec. The percentage of the labour force to the total population 14 years of age or over is lower in Newfoundland, the Maritime Provinces and British Columbia than in the remainder of the country. In non-agricultural industries, which in February 1959 employed 4,939,000 persons, about 88 p.c. of the men and 93 p.c. of the

women are paid employees. In agriculture, on the other hand, paid employees form a relatively small element—hardly more than one worker in six, even during the harvest season.

Occupational Distribution of Persons with Jobs, by Sex, Week Ended Feb. 21, 1959

(Thousands of persons 14 years of age or over)

Occupation	All Persons with Jobs			Paid Workers		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Managerial.....	458	55	513	224	21	245
Professional.....	327	232	559	287	226	513
Clerical.....	281	437	718	280	430	710
Transportation.....	346	1	351	323	1	327
Communication.....	52	36	88	51	36	87
Commercial.....	240	162	402	235	141	376
Financial.....	49	1	53	39	1	42
Service.....	250	306	556	230	278	508
Agricultural.....	580	31	611	70	1	73
Fishing, logging and trapping.....	65	1	65	49	1	49
Mining.....	53	1	53	52	1	52
Manufacturing and mechanical ¹	817	180	997	792	175	967
Construction.....	276	1	277	242	1	243
Labourers and unskilled workers (not agricultural, fishing, logging or mining).....	294	10	304	293	10	303
Totals.....	4,088	1,459	5,547	3,167	1,328	4,495

¹ Fewer than 10,000.
electric power production.

² Includes stationary enginemen and occupations associated with

Employment in 1958

The year 1958 was a period of adjustment and recovery following the contraction of economic activity that took place during the latter part of 1957. Advances in production, employment and income as a whole were smaller than in most years of the postwar period. The value of the nation's total output of goods and services was running at an annual rate (seasonally adjusted) of \$32,388,000,000 in the third quarter, which was 2.2 p.c. higher than the third

The small industry, employing fewer than 15 persons, is quite prevalent. About 25 p.c. of all establishments are in this category, though they employ just over 10 p.c. of the workers.





The Hon. Ellen L. Fairclough, Minister of Citizenship and Immigration, with Miss Margaret Aitken and Mrs. Jean Casselman—all three elected to the Federal Parliament by Ontario constituencies.

Canadian women are among the fortunate ones in the world who have attained the basic rights of equality with men. They may hold public office and few occupations are closed to them. Even so, they are not prominent in public life. There are at present five women Senators, three women Members of Parliament and six in provincial legislatures. It was not until 1957 that the first woman was appointed to the Federal Cabinet and until 1958 that the first woman achieved ambassadorial status.



Miss Margaret Meagher, Canadian Ambassador to Israel.



Canadian women have served on municipal councils and boards of education for many years, some of them as mayors and reeves.

quarter of 1957. Because prices continued to rise during the year, the advance in real output was quite modest. Labour-management negotiations produced further improvements in the working conditions and wage rates of Canadian workers. Industrial disputes were more prevalent than usual but, as usual, the vast majority of agreements were concluded without serious difficulty.

The underlying employment trend turned upward early in 1958 after declining fairly steadily since the second quarter of 1957. While the over-all employment gain was relatively small, the loss incurred in non-farm employment during the contraction was recouped by the end of 1958. However, the gain extended across a much narrower front than it did, for example, in 1955. Farm employment continued the long-term downward trend that was in evidence during most of the postwar period.

The labour force showed a more moderate rate of increase in 1958 than in the preceding two years. In November, it was estimated to be only 59,000 higher than a year before. This compares with annual increases of 173,000 and 221,000, respectively, during 1956 and 1957 when the labour force was expanding at an unusually rapid rate. The reduced number of new entrants to the labour force in 1958 can be attributed to the relatively small increase in the adult population. The civilian non-institutional population aged 14 years or over showed an average increase of only 17,000 a month in the third quarter of 1958 compared with 27,000 a month in the same period of 1957. Most of the year-to-year difference resulted from changes in the

pattern of immigration. In 1957, some 282,000 immigrants arrived in Canada and about half of them became attached to the labour force. In 1958, the number of immigrants entering the country was estimated at 120,000.

While the lower level of immigration was probably the principal cause of the slower growth of the labour force during 1958, a drop in the proportion participating in the labour force was an important contributing factor. In November 1958, 53.6 p.c. of the population 14 years or over were in the labour



On the other hand, women are invading many professional and technical occupations, although they are still predominantly in fields that are traditionally feminine — teaching and nursing.

Of all the women presently in the labour force about half are in professional and clerical occupations and only 12 p.c. in manufacturing.

force compared with 54.1 p.c. a year earlier. In other words, if the participation rate in November had been the same in the previous year there would have been 50,000 more persons in the labour force. There are various reasons for the decline in participation rate, one of the most important being the scarcity of job opportunities. It is notable that the fall in participation was most marked in the older and younger age groups.

The importance of women in the labour force continued to grow during 1958—women accounted for almost half of the increase during the year, a record proportion. Women in the 45-64 age group, most of whom were married, figured prominently in the increase. About 27 p.c. of all women of working age were in the labour force in mid-summer compared with 26 p.c. a year before. An unusually sharp expansion of the female labour force in agriculture accounted for 16,000 of the total increase in 1958. Industries in which women are well established—trade and service—absorbed the greatest number of new female entrants.

One of the major problems in 1958 was the relatively high level of unemployment. For the year as a whole the number of persons without jobs and seeking work was almost two-thirds higher than in 1957. However, as the





Canadian industry and higher education are forming a closer working partnership. Under one arrangement, students are placed with selected industrial firms, splitting their time between practical and academic work, and emerging with degrees in civil, mechanical or chemical engineering.

year drew to a close there was evidence of improvement. The increase in job seekers between August and November was only two-thirds of the increase in the same period of 1957 although the unemployment level in November was still higher than a year earlier.

A study of industrial employment shows that expansion during 1958 was fairly well concentrated in the service industries. In November, the number of persons employed in services—which include schools, hospitals, federal, provincial and local government agencies, theatres, law firms, barber shops, laundries, hotels, restaurants, and a variety of other establishments of a similar kind—was estimated at 1,313,000, which was 101,000 more than a year earlier. These industries have shown a relatively high rate of growth in all postwar years and are largely responsible for the strong demand for women workers.

Activity in the goods-producing industries increased moderately as the year progressed, although the pattern was not uniform. The over-all business recovery was hampered by weaknesses in a number of key durable goods industries. Automobile plants operated at a relatively low level all year owing to reduced purchases of new motor vehicles; in the first nine months sales were 10 p.c. lower than in the comparable period in 1957. The ship-building and railway rolling-stock industries also showed production declines owing to reduced orders. Electrical apparatus, household furnishings and building materials showed a noticeable improvement largely as a result of the record rate of housebuilding.

The soft goods industries fared relatively better than durables in 1958, increasing fairly steadily after a January low. In September the index (1949=100) stood at 246.1, which was only 3 p.c. below the 1957 peak. The improvement extended across a broad front with paper products, textiles, chemicals, foods and beverages showing gains.

As usual in the early stages of business recovery, the increase in output was accomplished to some extent by reducing part-time work and lengthening the work week rather than by hiring additional workers. Thus, average hours worked in manufacturing (seasonally adjusted) increased from a low of 39.6 in November 1957 to 40.5 in September 1958.

The declining trend in construction employment which began in the second quarter of 1957 was arrested early in 1958. Since then, employment in construction remained quite stable, although some important segments of the industry showed opposing trends. Residential construction was an important area of strength throughout 1958. At a seasonally adjusted annual rate of \$1,832,000,000 in the third quarter, outlays for residential construction were at an all-time high and nearly 10 p.c. above the high level of the first quarter. Outlays for non-residential construction, seasonally adjusted, declined by 2.9 p.c. between the first and third quarter. After the peak in the third quarter of 1957, expenditures on non-residential construction declined by about 8 p.c.

Forestry employment continued at an unusually low level during 1958 owing to a decline in pulpwood production. Developments in the lumbering industry were much more encouraging. Lumber sales increased markedly during the year, resulting in a corresponding rise in production. In September, for example, total production of sawn lumber in Canada was 11 p.c. higher than in the corresponding month in 1957.

Although industrial employment on the whole and in most areas and industries was lower in 1958 than in 1957, payrolls in four provinces and in a majority of the major industrial divisions continued to move up, and the decline in the industrial composite index was slight. Average weekly wages and salaries were generally higher, the composite figure of \$70.43 for the year establishing an all-time maximum. The over-all rise of 3.7 p.c. was, however, less than that shown in a similar comparison in immediately preceding years, partly owing to declines in the average hours worked in some industries and partly to changes in levels of activity between relatively low-pay and relatively high-pay industries. More than offsetting the effect of these factors were further advances in wage and salary rates and retention of more senior personnel at a time when staffs in many establishments were being reduced, with the result that per capita earnings of industrial workers generally in 1958 reached new all-time levels in most parts of the country.

Informal after-hour discussions with plant foremen of a large manufacturing industry raises the average level of craft knowledge for those looking towards advancement.



Index Numbers of Employment and Payrolls, and Average Weekly Wages and Salaries, by Province and Industry, 1957 and 1958

NOTE.—Figures are for the last pay periods in the months of January to December, and are computed from monthly returns from industrial establishments usually employing 15 or more persons.

Province and Industry	Index Numbers (1949 = 100)						Average Weekly Wages and Salaries		
	Employment			Payrolls					
	1957	1958	P.C. Change	1957	1958	P.C. Change	1957	1958	P.C. Change
							\$	\$	
Newfoundland	130.1	122.6	- 5.8	215.2	202.4	- 5.9	61.99	62.36	+ 0.6
Prince Edward Island ..	115.2	114.9	- 0.3	173.6	175.1	+ 0.9	50.68	51.15	+ 0.9
Nova Scotia	100.2	95.5	- 4.7	150.8	148.6	- 1.5	56.36	58.33	+ 3.5
New Brunswick	103.8	98.0	- 5.6	157.4	150.8	- 4.2	57.33	58.14	+ 1.4
Quebec	121.5	117.0	- 3.7	192.8	192.7	- 0.1	65.18	67.69	+ 3.9
Ontario	124.3	119.6	- 3.8	198.2	197.8	- 0.2	70.56	73.20	+ 3.7
Manitoba	110.9	108.8	- 1.9	166.5	171.8	+ 3.2	63.73	66.85	+ 4.9
Saskatchewan	125.3	126.6	+ 1.0	197.4	206.9	+ 4.8	65.26	68.14	+ 4.4
Alberta	152.2	150.5	- 1.1	238.5	246.4	+ 3.3	69.62	72.88	+ 4.7
British Columbia	123.9	114.7	- 7.4	200.6	190.7	- 4.9	73.80	75.88	+ 2.8
Composite	122.6	117.9	- 3.8	194.7	194.1	- 0.3	67.93	70.43	+ 3.7
Forestry (chiefly logging)	99.3	75.9	-23.6	172.0	136.0	-20.9	69.38	71.74	+ 3.4
Mining	127.2	123.5	- 2.9	207.7	207.9	+ 0.1	83.89	80.60	+ 3.2
Manufacturing	115.8	109.8	- 5.2	185.3	182.7	- 1.4	69.94	72.67	+ 3.9
Durable goods	125.3	114.8	- 8.4	199.8	190.6	- 4.6	74.81	77.93	+ 4.2
Non-durable goods ..	107.6	105.6	- 1.9	171.1	175.0	+ 2.3	65.08	67.77	+ 4.1
Construction	135.7	126.3	- 6.9	241.8	227.4	- 6.0	73.62	74.54	+ 1.2
Transportation, storage and communication ..	120.4	115.5	- 4.1	178.7	179.9	+ 0.7	71.20	74.72	+ 4.9
Public utility operation ..	133.6	137.6	+ 3.0	221.9	242.8	+ 9.4	78.99	83.85	+ 6.2
Trade	131.8	131.6	- 0.2	203.3	211.6	+ 4.1	57.51	60.20	+ 4.7
Finance, insurance and real estate	145.0	149.3	+ 3.0	216.8	233.0	+ 7.5	63.36	66.40	+ 4.8
Service	131.9	135.1	+ 2.4	205.9	221.0	+ 7.3	45.77	48.23	+ 5.4

Labour Legislation

Under Canada's federal system of government, labour laws may be enacted either by provincial legislatures or by Parliament, depending on the nature of the employment. The field in which federal legislation applies includes such industries as navigation and shipping, interprovincial transportation systems, air transport, telegraphs, radio, banking, and operations



Several thousand older veterans, who have passed retirement age and who are in need of some financial assistance, are employed by the Canadian Corps of Commissionaires in posts requiring light but necessary duties.

Modern construction methods allow work to continue throughout the year and most builders are taking advantage of them, not only to finish urgent projects quickly but also to aid in the battle against winter unemployment.



of federal Crown companies. Most of the employment in factories, mines, construction work, commercial firms and the service industries is subject to provincial legislation.

The general principles of labour relations legislation in Canada have not been greatly changed since they were established at the end of World War II by a federal Act in the federal field of jurisdiction and by an Act in each province. Generally, these Acts assert the right of employees to belong to trade unions and an employer is required to recognize a representative union as the bargaining agent of the employees in the unit, and to negotiate with it concerning conditions of employment. Conciliation services are made available if the parties cannot reach an agreement, and a strike or lockout is prohibited until an effort has been made to resolve the differences by negotiation and conciliation. Collective agreements are binding on the union, the individual employees and the employer. Some variations have been introduced in some of the provincial Acts. In recent years special provisions have been made for the settlement of disputes for certain classes of employees performing public services, notably teachers, policemen and firemen, where strike action to settle disputes is not consistent with the nature of the responsibilities.

Laws which prohibit discrimination in respect to employment by an employer or a trade union on grounds of race, colour, religion or national origin are a recent development, having been enacted by six provinces and by the Federal Government since 1951.

Specific minimum standards are fairly generally established in the provincial field for the basic conditions of employment such as wage rates and hours of work. Minimum wage rates are set on the recommendation of a government board in every province except Prince Edward Island.

Equal pay laws have been enacted by the Federal Government and by six provinces in the past seven years. Five provinces have hours-of-work laws of general application. In Alberta, British Columbia and Ontario, limits of eight hours a day and 44 or 48 hours a week are imposed, while in Manitoba and Saskatchewan the laws do not limit hours absolutely but require that overtime rates be paid after specified limits. In seven provinces,



A change of scene and of pace is a necessary relief from the tension or the monotony of the daily round. While vacations with pay for the worker have been fairly commonly applied by Canadian industry, they are now becoming a legal right under provincial and federal legislation.

minimum wages and maximum hours in some industries are regulated through industrial standards or similar laws.

In 1958 the Parliament of Canada passed the first vacation-with-pay Act applicable to industries under federal jurisdiction, providing for a vacation with pay of two weeks after two years' service with one employer. If at the end of a completed year of employment an employee has less than two years' service he is entitled to a vacation with pay of one week. Nova Scotia also passed its first vacation with pay Act during the year, providing for an annual vacation with pay of one week after a year's service for most workers. In Saskatchewan, which already requires a two-week vacation with pay after a year's service, the Annual Holidays Act was amended during the year to provide for a three-week vacation with pay after five years' service with the same employer. The situation in the other provinces is as follows.

Three of the remaining provinces provide for a two-week vacation with pay after varying lengths of service for most workers—British Columbia after one year, Alberta after two years and Manitoba after three years. A one-week vacation with pay is required in Alberta and Manitoba for workers who have worked for one year but have not completed the requirement for a two-week vacation. In Ontario, Quebec and New Brunswick, workers are entitled to a one-week vacation with pay after a year of employment. The New Brunswick legislation, when passed in 1955, applied to the mining and construction industries but was extended during the year to fish, fruit and vegetable packers.

Legislation, which may be federal, provincial and in some instances municipal, plays an important part in securing safe and healthful working conditions. In all provinces in which mining is carried on, laws designed to ensure the safest possible working conditions in mines are in effect. Factories Acts set standards aimed at reducing hazards in the working environment in a large part of industry. Steam boilers must meet certain standards, and only persons who hold certificates of competency may operate them. With respect to railways, a Board established by federal legislation has authority to issue safety rules having the force of law. Safety measures for the protection of seamen are prescribed in the general federal law respecting shipping. In construction, inspection by municipal inspectors plays a significant part.

Under a workmen's compensation law in each province, a worker who is disabled by an industrial accident or a disease caused by the nature of his employment is entitled to compensation. Such compensation is based on the amount of earnings and, if the disability is permanent, upon the extent of the disability. While the worker is totally disabled, it is 75 p.c. of earnings in most provinces, subject to the provision that earnings above a specified amount (\$5,000 a year or less depending on the province) may not be taken into account. In fatal cases, widows, children or other dependants are awarded fixed monthly sums. Compensation and medical aid are payable from an accident fund to which employers are required to contribute and which provides a system of mutual insurance.

Apprenticeship laws in all provinces provide for the training of young people in designated skilled trades through a combination of on-the-job training and class instruction. Most provinces have agreements with the Federal Government for financial assistance in promoting apprenticeship. In a few provinces legislation is in effect requiring tradesmen in certain designated trades to hold certificates of competency, without which they may not engage in the trade.

Labour Organization

Approximately 1,454,000 men and women from Newfoundland to British Columbia are members of labour unions, an increase of 4.9 p.c. during 1958. Some 167 international and national unions are active in Canada and 111 of these unions, having 78.7 p.c. of the total union membership, are affiliated with the Canadian Labour Congress. The Canadian and Catholic Confederation of Labour with some 104,000 members mostly in the Province of Quebec is the largest single group outside the Congress, but negotiations for affiliation are in progress. Two Railway Brotherhoods with a membership of 9,608 in the operating trades are also unaffiliated as well as a miscellaneous group of



The labour movement, in display and discussion at regional conventions, brings before the delegates its concern with the question of human rights. A proposed Bill of Rights is at present before the Federal Parliament.

about 178,000 members of international, national and local organizations throughout the country.

The proportion of workers organized in the industrial groups varies widely. The manufacturing industry accounts for 36.6 p.c. of the union members and 40.2 p.c. of the workers employed in manufacturing are organized. The transportation industry, with perhaps the longest history of union organization, is the most highly organized with nearly three out of every four workers belonging to trade unions. On the other hand, only one worker in every twenty employed in trade and one in every five workers employed in the service industries is a union member.

Geographically, too, there is variation. Workers in manufacturing form an important part of trade union membership in all regions of the country, though obviously more so in the Central Provinces than in the remainder of Canada. One-half of the trade union members in Ontario and Quebec are employed in manufacturing industries, while in other regions the proportion falls to somewhere between 20 p.c. and 30 p.c.

Unemployment Insurance

A contributory scheme of unemployment insurance and a nation-wide free employment service is in operation in Canada. The Unemployment Insurance Act, which became effective in July 1941, is administered by an Unemployment Insurance Commission, consisting of a Chief Commissioner and two Commissioners—one appointed after consultation with organized labour and one after consultation with employers. Regional and local offices strategically located across the country handle applications for employment and claims for unemployment insurance benefit.

All persons employed under a contract of service are insured unless specifically excepted. Exceptions include such employments as agriculture, domestic service, school teaching and those employed on other than an hourly, daily, piece or mileage basis with annual earnings exceeding \$4,800. Persons employed on an hourly, daily, piece or mileage basis are insured regardless of earnings level. Employers and insured workers contribute equally, the contributions being based on the wages or salaries earned. The Federal Government adds one-fifth of the total employer-employee contributions and pays administration costs.

Rates of Contribution and Benefit under the Unemployment Insurance Act

(Effective Oct. 2, 1955)

Range of Earnings	Weekly Contributions		Employee's Average Weekly Contribution	Weekly Benefit	
	Em- ployer	Em- ployee		Without Dependant	With Dependant
	cts.	cts.	cts.	\$	\$
While Earning in a Week—					
Less than \$9.00.....	08	08			
\$ 9.00 and under \$15.00..	16	16	Less than 20.....	6.00	8.00
\$15.00 and under \$21.00..	24	24	20 and under 27.....	9.00	12.00
\$21.00 and under \$27.00..	30	30	27 and under 33.....	11.00	15.00
\$27.00 and under \$33.00..	36	36	33 and under 39.....	13.00	18.00
\$33.00 and under \$39.00..	42	42	39 and under 45.....	15.00	21.00
\$39.00 and under \$45.00..	48	48	45 and under 50.....	17.00	24.00
\$45.00 and under \$51.00..	52	52	50 and under 54.....	19.00	26.00
\$51.00 and under \$57.00..	56	56	54 and under 58.....	21.00	28.00
\$57.00 and over.....	60	60	58 to 60.....	23.00	30.00

Persons Insured under the Unemployment Insurance Act, by Industrial Group, Sex and Province, as at June 1, 1958

Industrial Group	Males	Females	Province	Males	Females
	No.	No.		No.	No.
Agriculture.....	6,530	900	Newfoundland.....	48,410	8,800
Forestry and logging..	67,390	1,820	Prince Edward Island	9,430	3,270
Fishing, hunting and trapping.....	7,890	120	Nova Scotia.....	110,040	29,210
Mining, quarrying and oil wells.....	105,180	4,530	New Brunswick.....	93,450	24,110
Manufacturing.....	979,040	309,360	Quebec.....	836,770	308,890
Construction.....	316,150	8,920	Ontario.....	1,160,310	489,870
Transportation, storage and communications.....	326,810	63,580	Manitoba.....	151,170	57,710
Public utility operation.....	40,070	7,030	Saskatchewan.....	66,590	27,530
Trade.....	420,070	261,610	Alberta.....	189,280	59,950
Finance, insurance and real estate.....	53,590	99,590	British Columbia....	274,610	105,690
Service.....	298,440	227,270			
Unspecified.....	8,610	2,550			
Claimants.....	310,290	127,750			
Totals.....	2,940,060	1,115,030	Totals.....	2,940,060	1,115,030

During 1958 a total of 2,781,000 initial and renewal claims were filed at local offices. Of this total, 2,381,869 were classed as "entitled to benefit" and benefit payments amounted to \$492,901,000. Comparable data for 1957 were 2,373,000 claims filed, 1,923,337 entitlements to benefit and \$305,076,000 paid in benefit. Claims considered under the seasonal benefit terms and payments made under such terms are included in these data.

The National Employment Service.—The Unemployment Insurance Commission operates the National Employment Service rendering service to all workers and employers in Canada through a national chain of about 200 offices. In 1958 a total of 840,129 vacancies were filled by the employment service. Of these 590,255 were jobs for regular employees and 224,285 were casual placements; the number of persons for whom jobs were found in other areas was 25,589.



The Frederick G. Gardiner Expressway, still in course of construction, cuts a broad swath eastward across Toronto's southern edge. It will carry perhaps the greatest concentration of weekday motor traffic in Canada, relieving several congested arteries on the lakefront.

<i>Transportation</i>	149
<i>Communications</i>	166
<i>Domestic Trade</i>	174
<i>Foreign Trade</i>	186
<i>Banking</i>	204
<i>Investment</i>	208

Transportation and Commerce

MODERN commerce is a complexity—a vast interwoven web of activity moving and financing goods from producer to consumer. As ease of movement and communication extends, so extends the volume of trade. Transport and storage facilities are now such that highly perishable goods may travel over long distances so quickly that their freshness is not in the least impaired, that goods produced in one area of the country may be transported advantageously thousands of miles to another for marketing, that great quantities of staple commodities may move smoothly outside the country in export trade and large and small shipments of consumer and capital goods may enter at ocean ports and find their way into every corner of the nation. Great intricate networks of communication facilities criss-cross the land and the backing of nationwide banking institutions is available in every city, village and outlying settlement from the southern border to beyond the Arctic Circle. The distribution of goods employs the work and investment of a multitude of people in a multitude of interlocking occupations and no developing requirement remains long unfilled.

Transportation

Change, which has been the keynote of transportation in this country ever since the first trails began to lead inland away from the water routes, has gathered momentum in the past quarter-century as it has elsewhere in the world. A continually increasing demand for speed and efficiency of service in every form of facility, the adaptation of almost unbelievable technological change in equipment and in management processes including the introduction of automation, and the facing of competition from other equally efficient means of movement have challenged the transportation industry and placed before it a never-ending series of problems.

Across Canada's industrialized areas the railways continue to be the principal facility of mass movement, carrying bulk freight over continental distances and sending their spur lines into the hinterland to serve the nation's basic resource industries. Aircraft provide for passengers and lighter or fragile freight the speed required by today's fast-moving pace of business, and reach into areas which distance and inaccessibility would otherwise isolate. Water movement of heavy freight, now facilitated by the improved St. Lawrence Seaway, is of particular importance in Canada's transport picture as is coastal shipping along the seaboard. The network of highways, rapidly expanding but never quite meeting demand, serves individual and commercial traffic. Although much of its service is comparatively local, the future of the truck transport business is continent-wide. A combination of truck and rail service is becoming common as a means of freight hauling,

particularly on overnight runs and into areas where road facilities are not adequate. Finally, the pipelines laid across the country are a means of transport of specialized economic value in that they provide low-cost facilities for the movement of oil and gas products to larger markets.

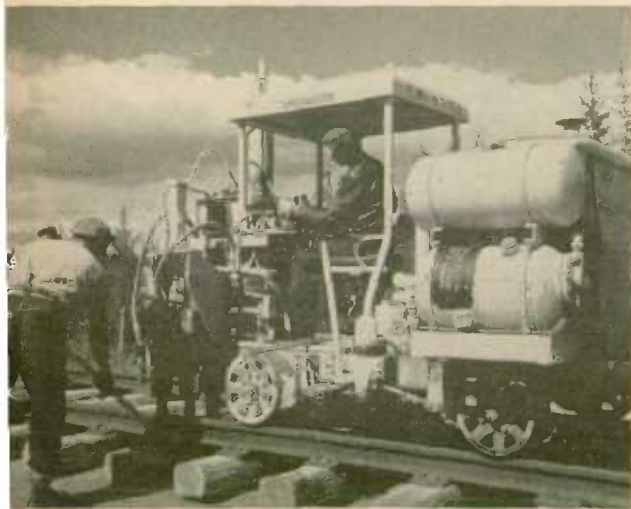
Canada is thus supplied with extensive transport facilities, modern in every respect, determinedly engaged in keeping abreast of demands and serving the commerce of the country with efficiency and despatch.

Railways

Two great transcontinental railway systems operate almost all of the railway facilities in Canada—the Canadian National Railway System, a government-owned body, and the Canadian Pacific Railway Company, a joint stock corporation. These systems, though highly competitive, still co-operate in many fields where duplication of service is not profitable. Both systems, in addition to their wide-flung railway and express operations and their extensive maintenance services, conduct other transport facilities—fleets of inland and coastal vessels and ferries, ocean-going steamships, nation-wide telegraph services providing communication between all principal points of Canada with connections to all parts of the world, highway transport services, year-round and resort hotels, and extensive passenger and freight air services over domestic and international routes.

Both Canadian railways, in common with other railways of North America, are passing through a period of financial difficulty brought about by a continuing increase in wages and material prices at a time when competitive pressures have been lowering both passenger and freight traffic. Thus operating revenue in 1958 amounted to \$1,172,358,263 and operating expenses to \$1,130,940,505 as compared with revenues of \$1,240,731,443 and expenses of \$1,183,875,138 in 1957. The 61,950,034,000 ton-miles of revenue freight handled by the two companies in 1958 was a decrease of more than 2,000,000,000 ton-miles as compared with 1957 and passengers carried numbered 20,482,973 compared with 21,957,626.

Nevertheless, these two companies continue to invest in new plant and equipment and to readjust existing railway facilities and working force to the kind and quantity of service which the public is prepared to patronize

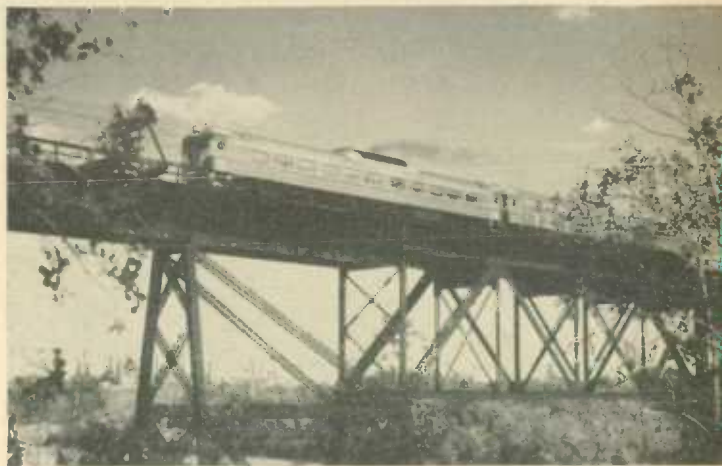


Machines perform much of the heavy work in track-laying. The spiker drives six spikes at a time, but men with hammers and muscles are still required to finish the rail joints.

Improvement in railway service and operating efficiency—a continuing process paralleling the continuing change in transport requirements—involves constant readjustment of plant, facilities and working force.



Self-propelled diesel railiners are coming into increasing use on branch lines. These versatile units can be coupled in multiple for heavier runs.



and to pay for. Diesel-electric locomotives which can remain in service for longer periods and require less maintenance have almost completely replaced steam locomotives. A wide variety of new rolling-stock is being placed in service to meet the constant changes in the nation's transportation requirements. Trailers-on-flat-car transportation has been very successful and was extended during 1958 from cities in Quebec and Ontario to New Brunswick,



A yardmaster surveys freight operations from his seven-storey vantage point. A two-way loud speaker system keeps him in touch with switching crews on the ground.

Loaded trailers travelling by flat car — a service that will be nationwide by the end of 1959.



to the head of the Great Lakes and into Western Canada. Self-propelled rail diesel cars are cutting down costs on short runs. New branch lines are being built to help tap Canada's northern resources. During 1958 the CNR began construction of a 52-mile line in northern Manitoba to connect a base-metal development with the smelter at Flin Flon. In Quebec, the 300-mile line linking the promising Chibougamau mining area with the industrial sections of the province moved closer to completion. Heavy new investment in railyards where automation and television now play important roles, new buildings and modernized repair shops are all part of the effort to keep abreast of demands, as are the intensive programs of office mechanization and continuing systems of employee-training.

The Board of Transport Commissioners for Canada controls railway freight and passenger rates and makes rules and regulations relating to railroad construction, operation and safety.

Urban Transit Services

Change also marks the operations of urban passenger-transport services. The motor bus with its greater speed and maneuverability has almost completely replaced the electric railway. The trolley bus, a transition vehicle

between the electric car and the motor bus, is also losing favour. The much greater use of private motor vehicles within the towns and cities and to and from the newly developed suburban areas has cut down tremendously the number of passengers carried in public conveyances. The transit services are at the same time faced with increasing costs of operation and much greater areas to service. Attempts to cover the added expenditure by higher fares or by diminished service have tended to defeat their own purpose.

In 1958 urban transit systems carried 1,094,836,840 passengers as compared with 1,137,792,702 in 1957, continuing the downward trend in evidence since 1949. However, it is noteworthy that during 1958 in the larger centres where traffic and parking problems are increasing, the passenger load remained fairly stable or actually increased, which may indicate a future trend. The Toronto system, the only one in Canada operating a subway, transported 35,932,278 passengers in 1958 compared with 36,579,014 in 1957. Transit systems operating in the larger urban areas are mostly municipally owned but in the smaller centres private ownership is more prevalent.

Highways, Roads and Streets

Canada's road-building program is still on the increase. Since the end of the Second World War, governments at the three levels have spent approximately \$5,000,000,000 repairing, rebuilding and extending highways, roads and streets in an endeavour to meet the demands of motor traffic. Surfaced mileage, which stood at 131,000 miles in 1945, increased to 231,000 miles by the end of 1957. During that year alone more than \$700,000,000 was spent on highways and rural roads and \$150,000,000 on urban streets, sidewalks and bridges—a total of \$850,000,000.

The chief spending agencies are the provincial governments, which accounted for 66 p.c. of the total in 1957, including assistance to municipalities. Federal Government expenditure accounted for 8 p.c. and municipal and other agencies for the remainder.

Metropolitan Toronto's efficient public transportation system combines tram, bus and subway lines. The fare of 12½ cents a ride is the lowest for any city in North America. Construction starts on a ten-mile extension to the subway in September 1959.





New Brunswick's Highway No. 1, near St. Stephen.

The twin ribbons of Highway No. 400 stretch northward from Toronto.



This new British Columbia highway will be a spectacular route, crossing the Selkirk Mountains and running through two National Parks.



More people and goods moving in more motor vehicles have placed a tremendous strain on Canada's highways. In an attempt to cope with demand, construction expenditures for rebuilding and extending the network have been advancing year by year, and the prospect is that this heavy outlay will continue, perhaps to the extent of \$30,000,000,000 over the next quarter-century.

Expenditures by the various levels of government and other agencies on highways, roads, bridges and streets for the years 1953 to 1957 were:—

<u>Agency</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
	(million dollars)				
Federal Government.....	27	34	37	60	72
Provincial Governments.....	348	366	449	543	564
Municipal Governments.....	104	117	134	161	175
Other.....	1	4	2	20	39
TOTALS.....	480	521	622	784	850

Each province has a major construction program under way and work on the Trans-Canada Highway neared completion at the end of 1958 in several provinces. Expenditure by the Province of Ontario tops that of any other road-building agency and that of Quebec ranks second. City traffic congestion is being countered by changes in traffic arteries, skilful use of traffic control devices and channelling, and by the construction of expressways which are under way in Toronto, Montreal, Ottawa and Vancouver.

Federal Government expenditures on roads will show a decided increase over the next five to seven years as a result of the inauguration of an agreement whereby the Government of Canada will share with the provinces one-half the cost of building roads into undeveloped and underdeveloped areas, involving an expenditure of \$150,000,000. The first project under this plan is a 255-mile road which will open up to development a large and comparatively inaccessible region of northwestern British Columbia. The Federal Government, in addition, has undertaken a seven-year \$100,000,000-program of road-building in the Yukon and Northwest Territories, also for the purpose of opening up resource-development areas. A road now under construction from the Mackenzie Highway around the west end of Great Slave Lake to Yellowknife will be ready for use in 1959.

Motor Vehicles

Motor vehicle registrations continue to increase year by year, reaching a record of 4,459,595 in 1957 compared with 4,226,474 in 1956. Of the total, 3,383,419 were for passenger cars—one for every five Canadians—and 1,076,176 were for commercial vehicles including 1,012,041 trucks, 13,666 buses, 34,910 motorcycles and 15,559 other types. Registrations in the different provinces were: Newfoundland, 47,655; Prince Edward Island, 21,193; Nova Scotia, 156,498; New Brunswick, 116,350; Quebec, 881,047; Ontario, 1,793,499; Manitoba, 244,342; Saskatchewan, 300,094; Alberta, 405,229; British Columbia, 487,533; and the Yukon and Northwest Territories, 6,155.

Provincial revenues from vehicle registrations and licences also reached a new high at \$139,750,497, \$11,941,000 more than in 1956. Gasoline tax revenues rose to \$341,144,026, derived from the sale of 2,626,091,030 gal., most of which was consumed by motor vehicles.

A new picturesque roadway crosses Montreal's Mount Royal.



The apparent supply of new passenger vehicles in 1957 amounted to 389,147 cars, 36,817 fewer than in 1956. The 1957 number included 318,416 cars manufactured in Canada and 70,731 imported cars. In that year 382,023 passenger cars were sold, valued at \$1,087,620,000, as well as 76,276 trucks and buses valued at \$281,311,000. Finance companies provided loans for 43.9 p.c. of the number and 35.1 p.c. of the value of these vehicles. The average loan provided was \$2,388.

Motor Transport.—The extension and improvement of Canadian highways and technical improvements in equipment have encouraged a continuous expansion in freight traffic on the roads. High-speed expressways and regular schedules operated by the carriers have vaulted the industry into a role of national importance.

The present series of motor carrier statistics does not include companies operating contract services or hundreds of small businesses operating one or two trucks each. The records of the latter group are often inadequate and their life is frequently so brief as to make a census impossible. There is an indication, however, of gradual consolidation and growth of these smaller firms. Among the common carriers in 1957, 2,062 firms reported an average gross revenue of \$125,633 compared with 2,531 firms in 1956 with an average gross revenue of \$92,960.

It has become evident that intercity travel by bus is showing the same declining trend as other forms of commercial passenger transit. Scheduled and chartered buses carried 67,751,485 passengers in 1957 compared with 67,996,186 in 1956, and vehicle miles dropped to 89,525,967 from 96,638,805 in 1956. Revenues in 1957 amounted to \$39,277,877 as against \$39,948,106. The average fare per passenger was 58 cents in 1957, indicating that short-distance travel was the mainstay of operation.

Shipping

Canada, as the fourth trading nation of the world, has a vital interest in shipping. Not only does much of the nation's external trade travel by sea,

but a large part of the domestic commerce moves along coastal waters, on the St. Lawrence River, through the Great Lakes or on the numerous smaller lakes and rivers farther inland. There are many settlements along both



The Homer Bridge, over which the Queen Elizabeth Highway passes, is raised to permit the passage of freighters through the Welland Canal.

The Department of Transport buoy-tender "Grenville" winches aboard a seven-ton buoy to be placed in the eastern approaches of Lake Ontario. The buoys are spotted in position just before the opening of the navigation season.



East and West Coasts that rely entirely on shipping for their survival, and there are isolated areas in the interior where water is almost the only available means of transportation.

Except for the coastal trade, the waterways of Canada—the rivers, lakes and canals—are open on equal terms to the shipping of all nations. However, most of the inland trade is carried in ships of Canadian registry. In 1957, 137,350 vessels arrived at Canadian ports in conducting foreign or coastal trade as compared with 123,955 in 1956 and 120,442 in 1955. The total tonnage of all cargoes loaded and unloaded in foreign trade during 1957 at Canadian ports amounted to 87,913,595 tons. Of this, 29,106,252 tons or 33.1 p.c. was carried in vessels of Canadian registry.

Of the total waterborne foreign trade, 61.0 p.c. or 53,643,207 tons was with the United States and, of this traffic, Canadian vessels carried 52.9 p.c. In trade with other countries, however, Canadian vessels carried only 754,445 tons of a total of 34,270,388 tons. Most of the remainder was carried by vessels of the United States, the United Kingdom, Norway, Liberia, Panama, Germany, Sweden, Italy, Japan and the Netherlands.

Commodities exported by vessel in 1957 amounted to 49,095,493 tons, very slightly lower than the 1956 total. Lower shipments from Atlantic, St. Lawrence River and Great Lakes ports were largely offset by an 11-p.c. increase in Pacific Coast shipments, where a total of 10,805,213 tons was exported in 1957. Major tonnages of Canadian exports by ship in 1957 included: iron ore, 19,973,873; wheat, 6,476,583; gypsum, 3,524,568; and newsprint, 2,346,243. Imports conveyed by ship amounting to 38,818,102 tons were also lower than in 1956 by over 4 p.c. Bituminous coal at 15,540,066 tons, iron ore at 4,689,651 tons and petroleum oils and products at 3,356,487 tons were all down as were tonnages of bauxite, limestone and cement. However, shipments of iron and steel, iron in pig and bloom, and pulp recorded increases.

Canadian aids to navigation include adequate marking of dangerous areas by lighthouses and other marine signals, an efficient pilotage service, and radio-signal and direction-finding stations. Comprehensive federal legislation and regulations ensure a high standard of safety for navigation in Canadian waters.

Canals

The major canals in Canada are those of the St. Lawrence-Great Lakes waterway—the three new canals of the St. Lawrence Seaway with their seven locks, providing navigation for vessels of 25-foot draught from Montreal to Lake Ontario; the Welland Ship Canal bypassing the Niagara River between Lake Ontario and Lake Erie with its eight locks; and the Sault Ste. Marie Canal and lock between Lake Huron and Lake Superior. These 16 locks overcome a drop of 580 feet from the Head of the Lakes to Montreal. The St. Lawrence Seaway was opened to navigation on Apr. 25, 1959, and a new phase in the history of this waterway began. From Montreal to Lake Ontario the former bottleneck of narrow shallow canals and of slow passage through 22 locks has been overcome, giving faster and safer movement for larger vessels. The new locks and linking channels now accommodate all but the largest ocean-going vessels and the upper St. Lawrence and Great Lakes are open to 80 p.c. of the world's saltwater fleet. Only time will establish the value of this project, but it is certain to bring about a major change in the pattern of trade and the destiny of the Great Lakes area.

Subsidiary Canadian canals or branches include the St. Peters Canal between Bras d'Or Lakes and the Atlantic Ocean in Nova Scotia; the St. Ours and Chambly Canals on the Richelieu River, Quebec; the Ste. Anne, Carillon and Grenville Canals on the Ottawa River; the Rideau Canal between the Ottawa River and Lake Ontario; and the Trent and Murray Canals between Lake Ontario and Georgian Bay in Ontario. The commercial value of these canals is not great but they are maintained to control water levels and permit the passage of small vessels and pleasure craft. The Canso Canal, completed in 1957, permits shipping to pass through the causeway connecting Cape Breton Island with the Nova Scotia mainland. During 1957, 37,230,349 tons of freight passed through all Canadian canals in 29,436 vessels.

Harbours

A considerable part of the goods carried in Canada, both in domestic and international trade, use water facilities for some portion of their journey.

The interchange of movement from land to water routes and vice versa is handled at many ports on the sea coasts and along the St. Lawrence-Great Lakes waterway all of which are well equipped with the necessary



Contrecoeur, like other deepwater ports flanking the St. Lawrence River, is expanding its facilities preparatory to the reception of lake vessels passing through the Seaway. This is a trans-shipping point for iron ore which could well serve as a return cargo for vessels carrying grain from the lakehead to Montreal.



The first St. Lawrence Canal, 1781 — from a painting by Rex Woods.

The conquering of the mighty St. Lawrence is at last complete. The bypassing of its treacherous rapids was begun as far back as 1780 when the first lock canal was built at Coteau du Lac. It was 900 feet long and 7 feet wide, with three 40-foot locks 2½ feet deep, sufficient for the passage of batteaux, the only boats in use at the time other than canoes. Now, nearly 180 years later, the river has reached its zenith of service. The Iroquois lock is the most westerly of seven great locks which permit all but the largest ocean-going vessels to move westward some 2,200 miles from the sea to the Head of the Lakes.



The Trent Canal, providing navigation from Peterborough to Trenton on Lake Ontario, is used mainly by pleasure craft.



docks and wharves, warehouses, equipment for the handling of bulk freight, harbour railways, grain elevators, coal bunkers, oil storage tanks and dry docks.

Eight of the principal harbours are administered by the National Harbours Board, a Crown corporation responsible to Parliament for their efficient operation. Seven other harbours are administered by commissions that include municipal as well as federal appointees and, in addition, there are about 300 public harbours, all of which are under the supervision of the Department of Transport. The harbours administered by the National Harbours Board are: Halifax and Saint John on the Atlantic seaboard; Chicoutimi on the Saguenay River, and Quebec, Trois Rivières and Montreal on the St. Lawrence River in Quebec; Churchill on Hudson Bay; and Vancouver on the Pacific Coast. Most of these ports also have dock and handling facilities owned by private companies.

A large construction program is under way both by the National Harbours Board and by other administering agencies to keep Canadian harbour facilities in line with requirements. In particular, the ports on the St. Lawrence River and Great Lakes are preparing for an influx of larger shipping as a result of the completion of the Seaway project. New wharves and piers, grain elevators and warehousing and freight-handling equipment are being constructed or installed.

The freight movement through a large port includes that loaded and unloaded from sea-going vessels, the cargo handled by coastal vessels which is as large or larger, in-transit movement, and the movement from one point to another within the harbour. Figures for the ports reporting the highest tonnages in foreign and coastwise trade in 1957 are given in the following table.

*Foreign and Coastwise Trade through Ports Handling
over 2,500,000 Tons in 1957*

Port	Foreign		Coastwise		Total Freight Handled
	Loaded	Unloaded	Loaded	Unloaded	
	tons	tons	tons	tons	
Montreal, Que.	3,827,496	4,445,089	3,756,319	4,405,719	16,434,623
Sept Îles, Que.	11,145,374	65,216	2,856,176	148,449	14,215,215
Vancouver, B.C.	6,829,817	1,105,297	2,645,947	2,209,570	12,790,631
Port Arthur, Ont.	3,181,927	257,537	4,590,687	218,571	8,248,722
Hamilton, Ont.	17,400	6,595,124	384,520	818,793	7,815,837
Halifax, N.S.	2,077,436	2,794,460	1,299,304	107,488	6,278,688
Toronto, Ont.	107,235	2,749,132	778,918	1,471,943	5,107,228
Sault Ste. Marie, Ont.	216,998	3,853,264	155,795	393,714	4,619,771
Contrecoeur, Que.	2,121,702	—	23,378	1,858,281	4,003,361
Port William, Ont.	558,320	527,592	2,363,077	398,902	3,847,891
Quebec, Que.	795,920	417,368	185,659	2,434,572	3,835,519
Port Colborne, Ont.	53,327	617,192	1,293,746	1,716,396	3,680,651
Sydney, N.S.	64,166	253,932	1,671,609	1,398,996	3,488,703
Sarnia, Ont.	106,687	974,560	1,731,043	518,758	3,331,048
Port Alfred, Que.	405,533	2,399,489	42,332	424,499	3,271,853
Bell Island, Nfld.	2,454,498	—	659,424	29,430	3,143,352
Trois Rivières, Que.	557,160	314,535	16,021	1,833,178	2,720,894
Saint John, N.B.	1,353,792	746,880	104,767	370,520	2,575,959

Certain of these ports, such as Port Alfred, serve large industrial establishments rather than great aggregations of population and their cargoes are therefore limited mainly to the movement of such heavy bulk raw materials as iron ore, pulpwood or, as for Port Alfred, bauxite.

TCA provided over two billion seat-miles of transportation in 1958, increasing its passenger-carrying capacity by 20 p.c. during the year.



Civil Aviation

On Feb. 23, 1959, the fiftieth anniversary of the first flight of aircraft in Canadian skies was celebrated. In the half-century since that flight the air age has developed and Canada has become one of the world's foremost air powers, its airlines ranking fourth among the nations in passenger-miles flown annually. In this country with its vast distances and its frontier areas, aviation holds an invaluable place in the transport field.

Today the nucleus of Canada's freight and passenger air service is provided by the Trans-Canada Air Lines and the Canadian Pacific Air Lines. TCA, a publicly owned company, was created by Act of Parliament in 1937 to operate an all-Canadian transcontinental and international air service. From small beginnings, its operations have expanded until, in 1958, TCA carried 2,785,523 revenue passengers flying 1,625,689,000 revenue passenger-miles. During the months of greatest public requirement TCA operated 11 daily transcontinental flights in each direction. A third Super Constellation transcontinental flight was inaugurated including non-stop service between Edmonton and Toronto and other direct services were begun between Calgary and Saskatoon, Toronto and Moncton, and Montreal and Halifax. TCA, the pioneer user of propeller turbine aircraft in North America, extended Viscount service to 12 more Canadian communities. Its international route pattern was broadened to include Belgium, Switzerland and the Island of Antigua in the West Indies. Nonstop flights were begun between Montreal

With the friendly familiarity of a small-town bus, TCA's daily two-way "milk run", making frequent pauses at prairie cities between Winnipeg and Edmonton, carries shoppers, football fans, students, machinery, cut flowers, live turkeys — almost every conceivable type of passenger and cargo.





CPA's Britannia turbo-prop aircraft introduced in May 1957 the fastest daily service between Montreal, Toronto, Winnipeg and Vancouver. These, carrying tourist as well as first class passengers, are also used on services between Vancouver and Europe, the Orient and Honolulu.

and Paris as well as a shortened transatlantic operation between Vancouver and London. Fifteen weekly flights in each direction were scheduled across the Atlantic during the peak summer traffic. TCA routes, domestic and international, totalled 31,544 unduplicated miles and service was being provided within Canada and to the United States, the British Isles, France, Belgium, Germany, Switzerland, Bermuda and the islands of the Caribbean. At the end of the year the airline's fleet in service consisted of 46 Viscounts, 12 Super Constellations, 21 North Stars and 9 DC-3's. Its working force numbered 10,043 persons. A further increase in service and equipment will take place in 1959—20 Vanguards on order, combined with the long-range DC-8's and short-range Viscounts, will give TCA an all four-engined, turbine-powered fleet, probably the first in the air transportation industry.

In 1942 a number of independent companies engaged in flying in Canada's northland were taken over by the Canadian Pacific Railway and consolidated into one company—Canadian Pacific Air Lines Limited. In 1949 this company was designated to provide transpacific services on behalf of Canada and later added other overseas routes until today it is one of the largest world carriers in terms of unduplicated route-miles. Its south Pacific service links Canada with Australia, New Zealand, Honolulu and Fiji, and a northern route extends to Japan and Hong Kong. Four flights a week cross the Arctic from Vancouver to Amsterdam, and an Atlantic service operates to Portugal and Spain. A South American network serves Mexico City, Lima, Santiago and Buenos Aires. These international routes were particularly active in 1958—their revenue was 29 p.c. higher than in 1957. New equipment placed in service during the year included six Bristol Britannia turbo-prop airliners and four DC-6A aircraft. At the end of the year the fleet consisted of 41 aircraft.

In Canada, CPA flies north-south routes, mostly in the West. In 1958 permission was given by the Air Transport Board to CPA to operate one transcontinental flight a day in each direction between Vancouver, Winnipeg, Toronto and Montreal.

Though Canada's aviation spotlight tends to be directed on TCA and CPA, extensive scheduled service is provided by a number of smaller carriers—in the lower St. Lawrence area by Quebecair; in the Atlantic and Pacific Coast areas by Maritime Central Airways and Pacific Western Airlines, respectively; in northern Manitoba and western Ontario by Trans-Air of Winnipeg. At the end of March 1958, licensed air carriers operating in Canada held certificates covering 42 scheduled, 111 flying-training and 650 non-scheduled and specialty commercial air services. Non-scheduled services are operated by most of the independent lines. They provide effective access to sections of Canada that are inaccessible by other means of transportation and act as feeders to the scheduled airlines. Their specialty services include recreational flying, aerial photography and surveying, aerial pest control and aerial advertising.

The Federal Department of Transport, which is responsible through its Air Services for the control of civil aviation, operates 111 airports and provides traffic control over approximately 20,500 miles of airways. A chain of airports, equipped with modern air navigation facilities, extends from coast to coast, linking at Edmonton with the Yukon and Northwest Territories. As air travel has increased and larger, faster aircraft have come into use, airport and navigational facilities have been under strain to keep pace. Until recently emphasis has been rather on the extension of facilities required for aircraft and for the safety of flying than on the provision of more convenient terminal facilities. However, an extensive program of terminal improvement is now well under way.

In this day of world-wide air travel, international co-operation in the field of civil aviation is imperative. Canada has a special interest in the



Canadian mining has made its great headway on the wings of aircraft—small aircraft capable of landing on or taking off from unknown waters or rough unprepared ground.

▲
A prospector and his canoe are portaged by helicopter.

▶
A bush pilot lands on a mountain lake.



International Civil Aviation Organization of the United Nations, which has its headquarters in Montreal, and is a signatory to agreements with Australia, Belgium, Denmark, France, Ireland, Mexico, the Netherlands, New Zealand, Norway, Peru, Portugal, Sweden, the United Kingdom and the United States, with traffic and landing rights at many European, Caribbean, United States and Pacific points. Operating certificates have been issued to 17 Commonwealth and foreign scheduled services flying into Canada.

Pipelines

The recent period of extensive pipeline construction in Canada is about over; after an active year in 1958 when more than 4,000 miles of all kinds of pipe were laid during the construction season, the point has been reached where most of the major approved jobs to serve the domestic demand for natural gas are completed and oil pipeline facilities on the whole are adequate to handle expected deliveries. There are now about 23,000 miles of pipeline in Canada.

Gas Pipelines.—The major construction of natural gas pipelines took place in 1957 and 1958 when about 9,000 miles of gathering, transmission and distribution lines were installed. The industry has now two long-distance gas lines originating in Western Canada, which together span the Continent from Vancouver to Montreal—the Trans-Canada line to the east and the Westcoast Transmission Company line to the west.

The Trans-Canada line is the longest pipeline in the world. It brings natural gas from the Alberta-Saskatchewan border across the prairies, through northern Ontario to Toronto, and then eastward to Montreal. Lateral lines serve Ottawa and Lindsay in Ontario. A portion of the line from the Manitoba-Ontario border to Kapuskasing was constructed by the Northern Ontario Pipe Line Crown Corporation but Trans-Canada serves as the operator and holds an option to purchase this section of the line.

Dependent upon Trans-Canada for supplies of natural gas are six principal companies that distribute the gas in areas in which they hold franchises.

The trunk line of Westcoast Transmission Company Limited was completed in 1957 to carry gas from the Peace River district to the lower mainland of British Columbia, including large quantities for export to the United States at Huntingdon. Since the completion of the trunk line, additional milages of gathering line have been built annually to connect with new gas fields in the northeastern part of the province. Two major companies serve Vancouver, Huntingdon and adjacent areas.

Many other gas companies are in operation in Canada, depending mostly on local supplies of gas to supply local needs. In 1958, sales of natural gas by utility companies in Canada totalled 206,022,000,000 cu. feet valued at over \$115,000,000. These figures compare with sales of 168,783,000,000 cu. feet valued at about \$83,000,000 in 1957.

Oil Pipelines.—The principal components of Canada's oil pipeline system are the lines of Interprovincial Pipe Line Company which carry crude oil from Edmonton eastward as far as Toronto, and Trans-Mountain Oil Pipe Line Company which carry crude oil westward from Edmonton to Vancouver and the United States.

Interprovincial has two complete pipelines from Edmonton to Superior, Wis., at the head of Lake Superior, connecting with a larger line, 30 inches in diameter, from that point to Sarnia, Ont., and a 20-inch line from Sarnia to the Toronto area. The company receives crude oil from six pipelines in Alberta, two in Saskatchewan and two in Manitoba in addition to that from its own line in Alberta which originates in the Redwater field and runs to Edmonton where it also connects with Trans-Mountain Oil pipeline. Interprovincial makes deliveries to two pipelines in Saskatchewan, two in Manitoba and three in the United States. The Interprovincial system, either directly or in conjunction with its connecting carriers, transports western Canadian crude oil to refineries located at: Saskatoon, Moose Jaw, and Regina in Saskatchewan; Brandon and Winnipeg in Manitoba; the St. Paul-Minneapolis area and Wrenshall in the State of Minnesota, Superior in the State of Wisconsin, West Branch, Bay City and Midland, in the State of Michigan; and Sarnia, Clarkson and Port Credit in Ontario.

The Trans-Mountain pipeline runs from Edmonton to Vancouver and to the Puget Sound area of the State of Washington. It receives Alberta crude oil from seven pipelines in that province and is connected to refineries located at Kamloops and Vancouver in British Columbia, and Ferndale and Anacortes in the State of Washington.

Net deliveries of crude oil in 1958 amounted to 272,815,448 bbl. compared with 288,635,631 bbl. in 1957, the peak year.

Toward the end of the 1958 construction season, pipeline crews worked with swift precision to close the last gaps in the Trans-Canada natural gas pipeline, the longest ever built as a single project. The last weld in the 853-mile stretch from Port Arthur to Toronto, which was the construction program for 1958, was made at Kopuskasing on Oct. 10.



Communications

COMMUNICATIONS media in Canada have been shaped to meet the needs of the country. Great networks of telephone, telegraph and radio services, inextricably bound together, provide adequate and efficient service which, in this era of electronic advancement, is under continual technological change and development. The familiar challenges of the country—its size, its topography, its climate, its small population—which have reared their heads in other areas of development, have had to be faced as well in the field of communications. That they have been overcome is evidenced by the fact that today Canada possesses communication facilities and service second to none in the world.

Telecommunications

Many telephone systems provide service across the nation; they number more than 2,600 and range in size from large shareholder-owned companies to small co-operative systems in the rural districts. The privately owned Bell Telephone Company of Canada, operating throughout the greater part of Ontario and Quebec, serves 61 p.c. of all telephones in the country. The British Columbia Telephone Company, also shareholder-owned, serves 9 p.c. of the total. Four private companies cover the Atlantic Provinces and three provincially owned systems serve the Prairie Provinces.

Canadian use of telephone service runs at a high level. During the past ten years the number of telephones has more than doubled to over 4,800,000—one for every 3.4 persons. The estimated number of calls on all systems in 1957 was 7,990,725,000, representing an average of 1,710 calls per telephone and 498 calls per person. Long-distance calls accounted for 178,608,000 of the total, most of them to points in Canada or between Canada and the United States. Long-distance service makes possible the interconnection of practically any telephone across the country with any other; also with telephones in the United States and in most parts of the world. In Canada, long-distance service is provided by the separate systems within the territories they serve and, on a nationwide basis, by the Trans-Canada Telephone System, an organization of the major telephone companies.

Improvement and extension of local and long-distance service continues to absorb the bulk of invested money and labour. But at the same time, with the growth of the economy and its northward-reaching



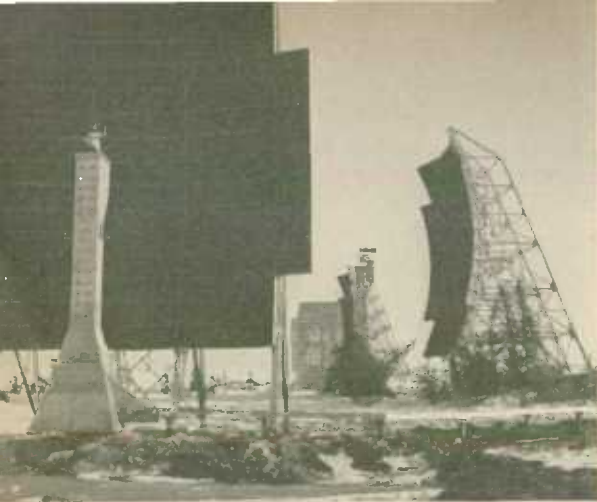
Behind each telephone instrument in service is a heavy and increasing investment in what is known collectively as "telephone plant". It amounts to \$414 a set, having increased from \$302 in 1950.



The field of telephone communications is one in which change is continual and dramatic. The industry, particularly over the past decade, has been faced with the provision of greatly increased service to a rapidly growing population and at the same time with a demand for new and complex types of service and new methods.

tendencies, Canadian telephone companies are being called upon to supply communications to many new and important centres of development. Typical of such pioneering efforts is the recently completed project of the Québec Téléphone and the Bell Telephone Company linking Goose Bay in Labrador and the iron-ore area on the Quebec-Labrador border with other parts of the world through a radio relay network operated out of Quebec City.

About 80 p.c. of all telephones in Canada are now dial operated and equipped for automatic completion of local calls. For a number of years operators have been dialing many long-distance calls direct to the wanted telephone. The switching system that makes this possible also permits customer dialing of long-distance calls and Direct Distance Dialing is already in effect in the Toronto, Windsor and Guelph areas in Ontario. A long-range international plan, developed by the telephone companies of Canada and the



An Eskimo resident of the town of Happy Valley in Labrador tries out his new dial telephone, to the delight of his family. ▼



▲
A new voice highway brings telephone and other communication services to the northern triangle from Sept Îles to Schefferville in Quebec and Goose Bay in Labrador, linking this resource-rich area with the trans-Canada microwave network. The tropospheric scatter system used permits relay stations to be located 200 miles apart.

United States, will eventually allow most telephone-users on the North American Continent to dial long-distance calls direct.

As part of the transmission methods needed to carry the great volume of long-distance traffic, Canada completed, in 1958, construction of the world's longest single microwave radio relay network. Years of planning and work by Canadian telephone systems, suppliers of telephone equipment and construction firms, went into this coast-to-coast network, which is capable of carrying 2,400 long-distance conversations and two television programs at the same time.

Numerous flexible services are provided by Canadian telephone companies for business and industry. Special conference circuits can be quickly arranged. Data transmission and processing facilities allow rapid exchange of coded



Direct Distance Dialing is gradually being extended throughout North America to cope with the growth of personal and business long-distance traffic. The operator asks and records the caller's telephone number; machines complete the call.

information and printed matter between plants, warehouses, retail outlets and many other business and industrial locations. Telephoto and facsimile provide photographic copy direct from the originator. Radio installations link the traveller with the regular telephone network, giving mobile service to such users as highway departments, trucking and construction firms, fire and ambulance services, police departments and oil pipeline companies.

Nation-wide telegraph service is available through the facilities of the member companies of the Trans-Canada Telephone System, and the two major railways co-operate in the operation of a teletype network across the country.

The Canadian Overseas Telecommunications Corporation, a Crown agency, is responsible for most overseas communications. Working in conjunction with other international telephone agencies, COTC maintains channels of communication to a number of European countries by way of undersea cable and shortwave radio. The world's first transatlantic telephone cable, completed in 1956, will be supplemented in 1961 by another

The Montreal police radio division, which controls the patrol cars on duty throughout the city, handles an average of 800 messages a day.



This collection of teletypes, flashing lights and control boards in Montreal's Bonaventure Terminal is busy 24 hours a day transmitting and receiving messages to and from the entire world. It can handle 82,000 messages a day and is one of the most efficient methods of transmission ever devised.



Laying additional under-ground cable through which will pass all types of communication services—telex, private wire teletype, facsimile, television programs, etc.



A splicer joining its 5,454 wires—this is the largest cable available to the communications industry today.

cable extending from Canada to the United Kingdom, the initial step in a long-term plan to bring about a world-wide Commonwealth cable system. Transpacific telephone traffic is handled through a radio link between Vancouver, Australia and Japan.

Ship-to-shore communication on the East Coast, the St. Lawrence River and the Great Lakes is handled by the Federal Government. On the Pacific Coast the North-West Telephone Company operates one of the most extensive radio telephone networks in the world. It serves 3,300 vessels and 400 long-distance centres on islands or at isolated mainland fishing and logging camps, 340 vehicles and 40 aircraft. The radio beams of its northern stations reach out to the Arctic Circle.

The construction of a number of defence projects along the northern reaches of the country have been undertaken by the major telephone organizations.

Postal Service

The despatching of mail in Canada for delivery in and outside the country is another efficient public service that is generally taken for granted. From an operating standpoint, the postal service consists of two main elements—the great chain of post offices, large and small, which serves the people wherever they may be, and the tremendous network of air, land and water transportation services that link these post offices into a smoothly operating machine.

At the end of March 1958, there were 11,768 post offices in Canada and the volume of mail passing through them during the fiscal year was higher than ever before. It is estimated that an item of mail must be handled an average of thirty times from point of mailing to point of delivery, so that the 3,723,000,000 items handled during the year involved 110,000,000,000 operations performed by approximately 50,000 postal workers.

Every type of transport equipment in the land is utilized in the delivery of mail. All first-class domestic letter mail up to and including eight ounces is carried by air at ordinary rates of postage whenever this expedites delivery, and air service is co-ordinated with highway and city transportation facilities to give the best possible service. Post offices operate in railway cars on all principal rail routes, working in conjunction with highway and baggage car services. Recently there has been a definite trend towards greater use of scheduled highway mail service. Isolated areas are served by air. About 90 p.c. of Eastern Arctic mail is carried by the Royal Canadian Air Force and private courtesy flights and the remainder goes by government and private vessels. Coastal settlements are also served by ship.

Wherever population warrants, post offices are established for the transaction of every type of postal business. House-to-house delivery is conducted in cities and towns and daily service over rural routes is being rapidly extended. In suburban areas, delivery is often made to group mail boxes where it is picked up by the addressee. Mobile service delivers mail to business houses and industries located in city outskirts where delivery by carrier is not practicable. In addition, a multitude of side services are involved in moving mails to and from sub-post offices, postal stations and railway stations, wharves and airports, collecting from street letterboxes and delivering parcel post and registered mail.

The whole service is integrated into a complex network which is under constant change and improvement. In recent years many new post office buildings have been constructed and existing properties modernized. In the larger offices mail is handled automatically from arrival to departure and

Conveyors and parcel-sorters in use in the new Vancouver and Winnipeg post offices are considered to be the most modern and efficient equipment available for handling this type of mail. The two post offices together have close to three miles of conveyors.





In the mechanical end of newspaper production, each page is made up separately in metal on a flat table. A curved plate to fit the printing cylinders is made from a flexible impression of this make-up and from there the press takes over.

mechanical equipment such as sorting and cancelling machines, revolving tables, bundle-tying machines and spiral chutes speed up the work. All information gained from research in the field of electronic and mechanical aids in mailing techniques in Canada and in other countries is now being pooled for mutual benefit.

The Press

The press of Canada and particularly Canadian newspapers—supplemented by the newer media of communications, radio and television—have built over the years a proud tradition of honest and objective reporting and of vigorous and forthright criticism of both national and international affairs as seen increasingly through Canadian eyes. Indeed, the free enterprise press of Canada constitutes one of the most effective generators of an active and intelligent public interest in the nation's business, a staunch guardian of Canadian democratic rights and principles, and a basic medium of expression in the cultural life of the nation.

By reason of Canada's vast area and its relatively low density of population, daily and weekly newspapers circulate largely on a regional basis, although in a land well served by speedy air and rail transportation a number of metropolitan newspapers in such centres as Toronto, Montreal, Quebec, Winnipeg and Vancouver enjoy almost nation-wide influence. Every publishing day, 111 Canadian daily newspapers, counting morning and evening editions separately, appear on the streets, of which 91 are in English, 13 in French and the remainder in other languages. Total circulation is over 4,000,000. A fair number of these papers have been established for over a century; thirteen of them have circulations in excess of 100,000 and account for more than half of all papers sold. Most of this newspaper circulation is in urban centres, the rural areas being more adequately served by weekly or monthly publications that cater to their particular interests. Included in the latter group in 1957 were many of the 85 foreign-language papers published in Canada to serve the recent immigrants from Central and Eastern Europe.

Magazines and periodicals also enjoy a large circulation. In 1957, 727 periodicals, ranging widely in topic from arts, sports and religion to construction, had a circulation in excess of 13,357,000.

Behind the newspapers lie two great news-gathering organizations, the Canadian Press and the British United Press. The CP, a co-operative

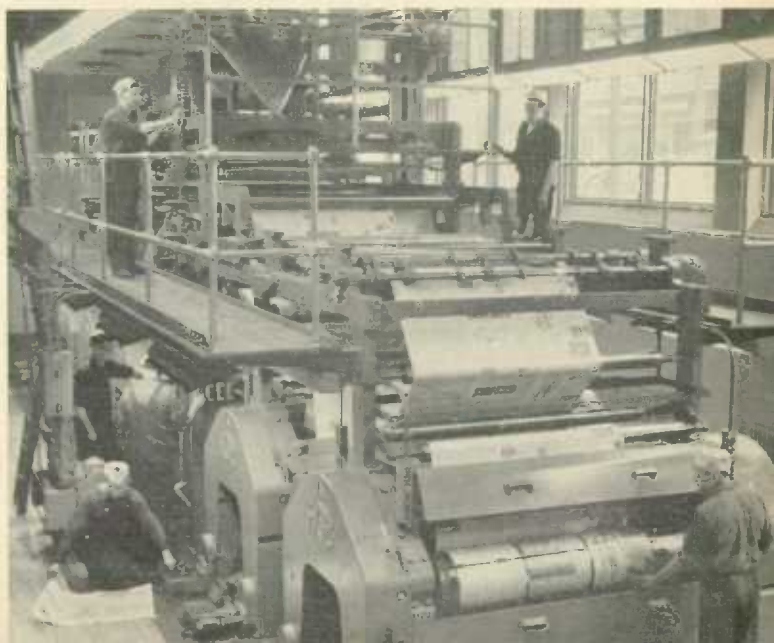
venture formed in 1917, is owned and operated by the Canadian newspapers. It collects and delivers news and photographs of interest to newspapers and radio stations throughout the nation, and transmits items of world-wide interest through reciprocal arrangements with Reuters, the British agency, and the Associated Press, the United States co-operative. Attaining its more modern structure in 1923, it is, in practice, a venture for exchanging news among its 100 daily newspaper members, and the costs are shared by almost all dailies in relation to the populations of the cities served.

The other service, British United Press, is a limited company in Canada and maintains a close association with the United Press (New York). From its headquarters in Montreal and its 12 Canadian bureaus, it serves (1958) 183 subscribers including 56 private broadcasting stations in Canada. Of the world news agencies, Agence France Presse maintains an office in Montreal and International News Service has a number of regular correspondents scattered throughout Canada and reporting to INS bureaus in the United States. Also, some foreign newspapers have agencies in Ottawa to interpret Canadian news for their readers.

Daily newspapers alone contribute about 70 p.c. of the revenue received from Canadian periodical publications, totalling about \$261,000,000 yearly, of which amount \$197,000,000 is realized from advertising and \$64,000,000 from sales. Printed and bound books were produced to the value of \$37,000,000 although less than half of that was classed as reading matter—the remainder being catalogues and other advertising material. Recorded imports of books and other printed matter greatly exceeded exports, the former amounting to \$88,553,000 in 1958, and the latter \$4,271,000.

Newsprint used by the publishing and printing industries was valued at \$62,700,000 in 1956, and book paper, used mostly in magazines, at \$25,000,000. The trade employed nearly 31,000 people whose salaries and wages amounted to \$116,000,000.

This high-speed press turns out 46,500 48-page newspapers an hour — newspapers created, produced, sold and read in the space of a few hours.



Domestic Trade

DOMESTIC trade, which at first glance might be considered to cover only the movement of goods from one point to another within the country, is in reality a broad and complex subject. It includes all the values added to commodities as they move from the manufacturer, the producer or the importer to the ultimate domestic consumer—services of transportation companies, warehouses, wholesale and retail stores, financial houses, and so on. It also takes into account many kinds of professional and personal services—theatres, dry cleaning plants, barber shops, advertising agencies, automobile and radio repair shops, hotels, cold storage lockers, taxis—in fact, all businesses that sell service rather than goods. It is not possible to cover the whole subject of distribution in detail here, but brief information on the more important phases is given, and included is a review of consumer credit which is an integral part of the distribution of goods and services and is of particular interest at the present time as an indication of the buying habits of the people.

Distribution Channels.—It is through the efforts of the wholesaler and the retailer that goods produced in Canada or brought in from other countries reach their destination with the consumer. Within the general framework of these two complex activities, many changes have taken place during the past decade, not only in the variety and volume of commodities handled but also in the means by which they are distributed and financed.

Wholesale trade tends toward being big business; a relatively small number of establishments concentrated in the larger cities do a high percentage of the wholesale business of the country. However there has recently been a definite trend toward manufacturer control of the distribution of their own products. Among independent wholesalers, the groceries and food specialties trade is the most important; for manufacturers' sales branches,

the machinery, equipment and supplies trade ranks highest; and among agents and brokers, the farm products trade is by far the most important single kind of business.

In the retailing field, there is perhaps as little resemblance between the methods of presenting goods on the market now and twenty years ago as there is in the style, quality and variety of goods offered for sale. Particularly interesting developments include the supermarket, the place of the chain and of the independent store, the suburban shopping area, self-service, store hours and credit plans.





This shopping centre in a new residential district of Toronto, dominated by its large chain food outlet, is typical of hundreds that have mushroomed in like districts throughout the country. They take care of casual requirements but are not serious competition for the greater variety of better quality goods offered in the downtown areas.

The independent store has maintained substantially the same position in the retail field since 1930, although it has lost ground in recent years in the food business as a result of the establishment of the supermarket, and to the variety chain store as a result of the shopping-centre development in which the stores are usually either branches of larger local stores or of regional or country-wide chains. The development of a shopping centre is often financed by a chain-store establishment and built around a large outlet for that organization.

Department store sales continue to hold their own in the face of competition from the shopping centre but it is interesting to note that three large outlets do more than half the total department store business in Canada and dominate the mail-order field which is of great importance not only in the



British Columbia salmon is handled by a comparatively few large processing and packing plants. They operated to capacity following the record catch in 1958.

While a great part of the salmon 'take' is canned each year, a large quantity also finds its way to the fresh fish market, either frozen or packed in chipped ice.



rural areas but in urban centres as well. The department store and the centre-town shopping district still have a strong appeal because of the greater variety of better quality goods available there.

Competition has been responsible for many changes. Store hours have been lengthened—it is estimated that only about 12 p.c. of them now remain closed every evening in the week. Self-service selling, as a means of reducing labour costs and overcoming high labour turnover, has taken over completely with the supermarket and is being introduced in certain types of variety stores. This measure has, of necessity, been accompanied by better product packing and labelling, improved displays and more intelligent advertising. Competition has also been responsible for the practice of giving large discounts or high trade-in allowances on new home appliances, motor vehicles and furniture, or a bonus such as a gift of food with the purchase of a deep-freeze unit. Trading stamps which may be exchanged for premiums have

also been forced on the customer in many sections of the country. Similarly, credit has been more freely granted by merchants under a variety of plans, all of which are intended to induce or perpetuate customer spending.

Wholesale Statistics.—Only one section of wholesale trade is surveyed on a current basis; this covers wholesale merchants who take title to goods they sell and generally perform the duties of warehousing and delivery. Estimates of wholesale sales, obtained by the use of sampling techniques, are given for 1954-57 in the following table.

Estimates of Wholesale Sales, by Trade, 1954-57

Kind of Business	1954	1955	1956	1957
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Fresh fruits and vegetables.....	211.2	217.5	233.5	231.8
Groceries and food specialties.....	1,036.2	1,139.7	1,246.1	1,355.4
Meat and dairy products.....	171.1	164.2	173.5	172.3
Clothing and furnishings.....	80.9	86.5	89.5	86.4
Footwear.....	26.8	29.1	30.7	31.2
Textile and clothing accessories.....	174.2	183.6	199.3	203.1
Drugs and drug sundries.....	153.1	165.9	178.4	189.2
Household electrical appliances.....	150.1	167.9	168.6	165.6
Farm machinery.....	52.1	60.6	72.7	60.0
Coal and coke.....	179.0	178.4	202.9	195.7
Hardware.....	260.8	283.5	313.4	307.4
Construction materials, etc.....	546.7	655.3	710.0	682.7
Industrial and transportation equipment and supplies.....	462.2	571.9	764.8	738.6
Commercial, institutional and service equipment and supplies.....	89.3	99.0	107.0	109.9
Automotive parts and accessories.....	262.0	352.3	386.4	394.3
Newsprint, paper and products.....	249.5	264.2	292.4	297.8
Tobacco, confectionery and soft drinks.....	498.5	509.8	562.4	605.1
All other.....	1,458.8	1,620.1	1,987.9	1,917.6
Totals, All Trades.....	6,062.5	6,749.5	7,720.4	7,744.1

Retail Statistics.—The extent of retail trade is measured statistically on a monthly basis, and from that information annual estimates are compiled. Total retail sales in 1958 at \$15,190,800,000 were 2.5 p.c. higher than in 1957, continuing the generally upward trend of the postwar years. Food stores



Meat to be delivered direct to home freezers is cut and packaged to the customer's specifications in this Edmonton plant. About one in every three homes in the city is equipped with a freezer.

recorded the greatest increase, a gain of 7.7 p.c., while restaurant and motor vehicle sales were lower than in 1957. All provinces registered increases with the exception of British Columbia.

Retail Store Sales, by Type of Business and by Province, 1956-58

Type of Business and Province	Sales			Percentage Change 1957-58
	1956	1957	1958	
Type of Business	\$'000,000	\$'000,000	\$'000,000	
Grocery and combination stores.....	2,639.0	2,894.4	3,116.1	+7.7
Other food and beverage stores.....	1,044.1	1,081.5	1,110.5	+2.7
General stores.....	568.4	595.5	620.8	+4.3
Department stores.....	1,242.2	1,281.8	1,335.3	+4.2
Variety stores.....	274.5	295.8	315.4	+6.7
Motor vehicle dealers.....	2,541.7	2,483.4	2,339.9	-5.8
Garages and filling stations.....	821.6	939.2	961.6	+2.4
Men's clothing stores.....	230.1	235.4	235.3	1
Family clothing stores.....	214.8	217.7	221.0	+1.5
Women's clothing stores.....	247.3	257.0	266.4	+3.7
Shoe stores.....	129.1	136.3	145.8	+7.0
Hardware stores.....	290.7	302.4	316.3	+4.6
Lumber and building material dealers.....	483.5	457.8	490.2	+7.1
Furniture, radio and appliance stores.....	584.3	567.3	565.5	-0.3
Restaurants.....	508.2	527.6	521.6	-1.1
Fuel dealers.....	312.1	321.7	301.8	-6.2
Drug stores.....	329.0	357.6	373.2	+4.4
All other stores.....	1,837.1	1,874.2	1,953.9	+4.3
Totals.....	14,297.6	14,826.4	15,190.8	+2.5
Province				
Atlantic Provinces.....	1,211.2	1,233.9	1,277.3	+3.5
Quebec.....	3,322.2	3,521.4	3,596.1	+2.1
Ontario.....	5,498.6	5,663.4	5,829.7	+2.9
Manitoba.....	700.1	725.8	752.9	+3.7
Saskatchewan.....	812.3	854.8	898.0	+5.1
Alberta.....	1,159.0	1,211.0	1,238.6	+2.3
British Columbia (incl. Yukon and N.W.T.).....	1,594.3	1,616.1	1,598.2	-1.1

† Less than 0.5 p.c.

Statistics for chain stores are shown in the following table; figures for 1957 are the latest available. These stores, including all those operating four or more retail outlets, accounted for 20 p.c. of the total retail business in Canada.

Chain Store Statistics, 1952-57

Year	Stores	Retail Sales	Salaries of Store Employees	Stocks on Hand End of Year		Accounts Outstanding End of Year
				Store	Warehouse	
	Av. No.	\$'000	\$'000	\$'000	\$'000	\$'000
1952.....	7,766	1,924,873	154,642	172,886	55,215	77,475
1953.....	7,835	2,048,228	171,167	179,704	52,096	91,538
1954.....	8,136	2,146,635	181,509	191,049	57,814	102,747
1955.....	8,274	2,353,955	199,611	205,833	63,120	127,362
1956.....	8,559	2,647,055	221,136	232,392	72,183	143,357
1957.....	8,822	2,841,569	242,979	248,284	78,521	148,506

Canadians in 1958 spent \$5,167,000,000 for food which accounted for 21 p.c. of their income. This sum was handed to the retailer but, in diminishing amounts, found its way to the financier, the storage warehouse, the transport company, the processing plant and to the originator, the farmer. Thus the marketing of food is big business, involving many other industries and the work of many persons. To all of them, from the farmer to the storekeeper, the purchaser is supreme. Each product must be produced, processed, packaged and delivered in a manner to meet the consumer's requirements.



Beef is carefully aged under precise temperature control.



Packaging is one of the many forces shaping the domestic market for food products.



Retail sales by motor vehicle dealers, which include the value of new and used cars sold, amounted to \$2,339,900,000 in 1958 and stood second only to sales by food stores. The number of new passenger cars sold was about 19,000 fewer than in 1957, a drop of 4.9 p.c. However, the percentage of sales financed as well as the value financed showed much greater declines in the later year.

New Passenger Car Sales and Financing, 1952-58

Year	Sold		Financed		P.C. of Total Sales Financed	
	No.	Retail Value	No.	Retail Value	No.	Value
		\$'000		\$'000		
1952.....	292,095	725,168	124,879	194,422	42.8	26.8
1953.....	359,172	899,726	146,431	252,160	40.8	28.0
1954.....	310,546	797,554	126,099	230,900	40.6	29.0
1955.....	386,962	1,023,351	156,191	305,069	40.4	29.8
1956.....	408,233	1,128,640	190,109	408,993	46.6	36.2
1957.....	382,023	1,087,620	171,904	385,043	45.0	35.4
1958.....	363,304	1,069,130	145,260	329,600	40.0	30.8

Consumer Credit.—Credit has become an integral part of the distribution of goods and services and of the buying habits of a large percentage of Canadians. The extension of credit to consumers, even as the extension of credit

The motor court on the outskirts of town offers more casual, though not necessarily cheaper, accommodation for the traveller than the mid-town hotel.



to business men, is the quickest means by which they can expand their assets. It is, in effect, a form of compulsory saving and one of the important stimulants to industry.

Whether or not the securing of easy credit is an advantage to the individual, the fact remains that the amount of consumer debt increased more than 500 p.c. in the period 1946 to 1957, while retail sales, the source of most

The new \$14,000,000 addition to the Royal York Hotel in Toronto returns to this famous hostelry the title of largest hotel in the Commonwealth. It is particularly designed for convention accommodation and brings the total hotel capacity up to 2,400 guests. Its distinctive decor is a tribute to the history and traditions of Canada.



The Canadian Room—central point of the theme from which stems the pattern of decoration—seats 1,550 persons. The hotel is equipped to serve 25,000 meals a day.

of this credit, increased only 147 p.c. The following figures of credit outstanding do not include real estate credit or other avenues of credit such as that given by service trades, professionals, loans between individuals, and so on. However, personal cash loans from moneylenders and banks are shown.

Consumer Credit Outstanding (estimates of selected items), 1952-58

Date	Charge Accounts	Instalment Credit			Cash Personal Loans ¹	Total Selected Items
		Retail Dealers	Finance and Loan Companies	Total		
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1952—Dec. 31	309	243	373	616	396	1,321
1953— " "	339	284	520	804	489	1,632
1954— " "	363	322	497	819	568	1,750
1955— " "	374	377	605	982	722	2,078
1956— " "	389	409	769	1,178	789	2,356
1957—Mar. 31	315	417	751	1,168	764	2,247
June 30	327	424	810	1,234	779	2,340
Sept. 30	359	411	836	1,247	770	2,376
Dec. 31	382	444	795	1,239	781	2,402
1958—Mar. 31	339	414	763	1,177	794	2,310
June 30	348	418	797	1,215	852	2,415

¹ Exclusive of loans extended by credit unions.

The ratio of outstanding credit to personal disposable income at mid-1958 was about 10 p.c.—1.8 p.c. lower than at mid-1957. This lower proportion was mainly caused by the drop in motor vehicle sales and financing.

Sales finance companies carry the greatest share of instalment credit and their business is largely derived from the financing of motor vehicles. However an increasing number of retailers are selling their instalment contracts for household goods to finance companies for collection and many professions where credit exists are following the same plan.

Co-operative Associations

Co-operative activities in Canada, though widespread across the country, are dominated by marketing and purchasing organizations owned and operated by farmers of the Prairie Provinces. Of the membership of 1,363,000 in such organizations in 1957, more than 900,000 were in those three provinces. This regional concentration is perhaps accounted for by the fact that remoteness from markets presents a greater need for organized selling and also that a number of prairie marketing organizations grew with the agricultural economy of the area and did not have to displace established businesses. At the same time, farm co-operatives have also become quite important in Quebec and Ontario. The co-operative share of all farm marketings in Canada is about 30 p.c. and the sale of grains and seeds accounts for nearly one-half the total. Supplies valued at \$283,730,000 were sold by co-operatives in 1957, the largest items being feed and fertilizers, followed by food and petroleum products and vehicle accessories. The total business of marketing and purchasing co-operatives does not fluctuate greatly from year to year but averages around \$1,000,000,000 and the number of associations at something over 2,000.

Other groups of co-operatives are also important: co-operatives selling fish and purchasing supplies for fishermen, with a membership of close to 10,000 and business amounting to \$21,000,000 in 1957; service co-operatives providing housing, medical insurance, transportation and other services, with revenues of \$15,000,000; and co-operative wholesales, handling mostly farm products and supplies, with business amounting to \$93,000,000.



Price spreads between producer and consumer on fish and farm products have been under study by a federal Royal Commission since December 1957. Its findings will be made public in the autumn of 1959.

All the apples grown in the Okanagan and Kootenay Valleys of British Columbia—about 90 p.c. of the total for the province—are marketed through a central selling agency operated by the growers.



Prices

Wholesale Prices.—The level of wholesale prices, as measured by the general wholesale index, was slightly higher at the end of 1958 than at the end of 1957. Despite some short-lived gains early in the year, the downward tendency experienced during 1957 continued until the autumn of 1958 when the index rose from 226.9 in October to 229.1 at the end of December, three points above the 1957 December index.

Annual and Monthly General Wholesale and Special-Purpose Price Indexes, 1952-58

(1935-39=100)

NOTE.—All 1958 indexes and Canadian farm products indexes subsequent to July 1957 are subject to revision.

Year or Month	General Wholesale Prices	Raw and Partly Manufactured	Fully and Chiefly Manufactured	Canadian Farm Products	Residential Building Materials	Non-residential Building Materials (1949=100)
1952.....	226.0	218.7	230.7	250.2	284.8	123.2
1953.....	220.7	207.0	228.8	221.6	282.6	124.4
1954.....	217.0	204.8	224.2	213.6	277.5	121.8
1955.....	218.9	209.7	224.5	212.6	283.4	123.4
1956.....	225.6	215.8	231.5	214.2	292.9	128.0
1957.....	227.4	209.4	237.9	212.2	292.8	130.0
1958.....	227.8	209.3	238.3	218.5	290.2	129.8
1958—January.....	226.9	207.5	237.7	208.4	288.9	129.8
February.....	227.7	208.9	238.4	214.0	289.0	129.8
March.....	228.1	210.4	238.3	220.6	288.7	129.7
April.....	227.9	209.8	238.5	222.7	289.1	129.1
May.....	228.1	210.3	238.4	223.1	288.8	129.0
June.....	227.4	209.1	238.0	221.1	288.6	129.0
July.....	227.0	208.4	237.8	219.4	289.1	129.1
August.....	226.8	207.4	238.0	215.9	291.2	129.4
September.....	227.1	207.5	238.3	211.1	292.7	129.6
October.....	226.9	207.5	238.0	211.8	294.4	129.8
November.....	228.5	211.1	238.6	212.1	291.3	130.7
December.....	229.1	211.0	239.4	217.6	291.9	131.0

The animal products group recorded the most significant gain during 1958. Higher prices for livestock, steers and fresh and cured meats caused the index for this group to rise sharply from 239.9 in January to 259.0 in May. Between

May and October prices fell off but the losses were largely recovered by the end of the year. The non-ferrous metals group, which had declined steadily throughout 1957 and the first seven months of 1958, advanced in the last half of the year to reach 172.7, a figure only 1.9 p.c. below the 1957 average. Higher prices for copper, tin and zinc were the main contributors. The iron and iron products group remained steady until October when higher prices for scrap iron and steel caused the index to move about 1 p.c. above that of December 1957. The chemical products group also increased gradually to 184.7, about 1 p.c. over the year and the highest point since March 1952. Vegetable products remained practically unchanged. Lower prices for raw wool and raw cotton furthered the downward movement in textile products in evidence since mid-1957. The December index of 227.2 was 3.7 p.c. below the 1957 average. Non-metallic minerals moved lower between March and April but were fairly steady throughout the remainder of the year, ending about 1 p.c. below the December 1957 level. Wood products, recovering from lower prices in the mid-year, also ended the year only slightly below the 1957 average. Building material prices remained fairly steady during 1958; both the residential and non-residential indexes fluctuated slightly to end the year with small net increases.

Retail Prices.—The consumer price index, which measures the average percentage change in retail prices of goods and services bought by a large and representative group of Canadian urban families, advanced by 2.6 p.c. during 1958. The movement was gradually and almost continuously upward during the year, easing only slightly in July and December.

Although all five component groups recorded increases, food and other commodities and services again experienced the greatest gains, amounting to 3.0 p.c. and 3.8 p.c. respectively. Shelter continued its long uninterrupted trend to higher levels with an increase of 2.6 p.c., but more moderate changes were shown by the clothing and household operation groups.

Consumer Price Index Numbers, 1952-58

(Av. 1949=100)

Year or Month	Food	Shelter	Clothing	Household Operation	Other Commodities and Services	Total
1952.....	116.8	120.2	111.8	116.2	116.0	116.5
1953.....	112.6	123.6	110.1	117.0	115.8	115.5
1954.....	112.2	126.5	109.4	117.4	117.4	116.2
1955.....	112.1	129.4	108.0	116.4	118.1	116.4
1956.....	113.4	132.5	108.6	117.1	120.9	118.1
1957.....	118.6	134.9	108.5	119.6	126.1	121.9
1958.....	122.1	138.4	109.7	121.0	130.9	125.1
1958—January.....	119.4	136.6	108.8	120.8	129.1	123.4
February.....	119.9	136.9	108.8	120.8	129.5	123.7
March.....	121.3	137.1	109.5	121.1	129.6	124.3
April.....	123.4	137.6	109.8	121.3	130.1	125.2
May.....	122.7	137.9	110.0	120.7	130.6	125.1
June.....	122.7	138.3	109.7	120.6	130.7	125.1
July.....	121.4	138.4	109.9	120.6	130.4	124.7
August.....	122.6	139.1	109.6	120.5	130.6	125.2
September.....	122.9	139.4	109.5	120.8	131.5	125.6
October.....	123.4	139.6	109.9	121.3	131.8	126.0
November.....	123.2	139.8	110.4	121.5	133.1	126.3
December.....	122.2	139.9	110.5	122.0	133.4	126.2



The business area of Montreal is undergoing remarkable change—new buildings are rising in place of old, new thoroughfares are being created and older streets widened. Within the next few years, when present plans for the Ville-Marie project, the Windsor Plaza and other office buildings are completed, Montreal's heart will contain the largest concentrated group of imposing structures in the country—the city will have a new skyline.

Foreign Trade

THE magnitude, composition and direction of international trade are determined in any given period by many factors, among the more obvious and important of which are the quantity and quality of human and material resources available, the extent to which and the manner in which these resources are and have been employed, the state of political and commercial relations, and geographical and political ties. Although these factors are of general importance, their particular importance differs in different countries; thus, according to resource endowment, geographical situation and explicit commercial and political policy, international trade is of greater or lesser importance to various countries. The pattern of resource discovery and development has hitherto made Canada highly dependent on international trade, while geographical and traditional ties have seen the bulk of that trade take place with the United States and the United Kingdom.

As a sparsely populated country with a comparative abundance of natural resources, Canada exchanged the products of her farms, forests and fisheries in the early part of this century for primary products not obtainable domestically and for manufactured goods and equipment. With the growth in population (and thus of the domestic market) and the development of manufacturing industry, the structure of Canadian trade has changed somewhat and, as the composition of exports has become more varied, agricultural products (especially wheat) which were formerly pre-eminent have declined considerably in relative importance. But the pattern has not completely altered and Canada's manufacturing industry and export trade are still heavily based on the country's abundant supply of natural resources, and much of the relative decline in the importance of agricultural products has been caused by the increased importance of forest products (particularly newsprint paper) and mineral products (particularly non-ferrous metals, petroleum and uranium). While, too, Canadian manufacturing industry has grown greatly in the past fifty years, it is still necessary to import much capital equipment and a wide range of consumer goods. In 1957, about



German business information rolls off the press on Canadian newsprint.



Newsprint retains its place at the top of the list of Canadian exports. The value of this commodity leaving the country in 1958 was one and a half times the value of wheat which was in second place, and well over double the value of the third item which was planks and boards.

20 p.c. of Canadian exports originated on the farms, 30 p.c. in the forests and about 40 p.c. were of mineral origin. In the same year, some 77 p.c. of all imports were fully or chiefly manufactured goods and, although classification by degree of manufacture is somewhat ambiguous, this figure serves as a rough guide to the importance of capital equipment and complex consumer goods in Canadian imports.

Canadian trade in recent years has been largely influenced by the development of the domestic economy and consequently increased very rapidly in 1955 and 1956, declined slightly in 1957 and again, to a somewhat greater extent, in 1958. In the earlier years there had been a very marked development of domestic natural resources and basic industry and imports had risen to supply the equipment for development and to supplement scarce domestic resources. At the same time, higher export totals included increasingly significant quantities of iron ore, uranium and petroleum and thus

reflected the resource development. As foreign markets lost some of their earlier buoyancy, the creation of new capacity in the resource and basic industries was reduced in 1957 and imports, especially in the iron and steel group, also levelled off. In the same year, exports were actually somewhat greater than in 1956, partly on account of some unusual factors including the Suez crisis. In 1958, the gross national product was virtually unchanged in volume and, since the liquidation of business inventories and the reduction of business outlays for plant and equipment were major factors in this relative stability, imports were again lower than in the previous year. Exports also declined in 1958 but not greatly, and the maintenance of their relatively high total was due in some measure to a number of fortuitous circumstances which will be discussed more fully below. As imports have declined more sharply than exports since 1956, the import balance, which reached a peak of \$842,000,000 in that year, also fell and in 1958 was less than one-third of what it had been in 1956.

In recent years Canada has ranked fourth in total trade—following the United States, the United Kingdom and the Federal Republic of Germany—among the trading nations of the world. On a per capita basis Canada normally holds a leading place and in 1957 was second only to Belgium and Luxembourg.



The movement of Canadian wheat overseas improved in 1958 as a result of larger orders from the United Kingdom, Canada's best customer, and from India and the re-entry of the U.S.S.R. into the Canadian market. The high protein content of the 1958 crop, an important factor in the increased sales, indicates a return to the old-time standard of quality upon which the reputation of Canadian wheat was built.



A certain amount of semi-refined nickel from the Sudbury area is shipped in barrels to an International Nickel subsidiary in Wales where it is refined by a method other than the electrolytic process used in Canada for consumption by the European market.



Exports, Imports and Total Trade of Canada, 1953-58

(Millions of Dollars)

Year	Exports			Imports	Total Trade	Balance of Trade
	Domestic Produce	Foreign Produce	Total			
1953.....	4,117.4	55.2	4,172.6	4,382.8	8,555.4	-210.2
1954.....	3,881.3	65.6	3,946.9	4,093.2	8,040.1	-146.3
1955.....	4,281.8	69.5	4,351.3	4,712.4	9,063.7	-361.1
1956.....	4,789.7	73.4	4,863.1	5,705.4	10,568.6	-842.3
1957.....	4,839.1	95.3	4,934.4	5,623.4	10,557.8	-689.0
1958.....	4,830.4	98.1	4,928.5	5,192.4	10,120.9	-263.9

International Background. Important as domestic economic developments are, they are not the only determinants of Canadian trade—external economic conditions, especially in the United States, the United Kingdom and Europe, are also influential. It will, therefore, be useful to sketch the international background of the recent period before considering Canadian trade trends in greater detail.

At the end of the Second World War there was general expectation of a severe slump in the industrial countries. As it happened, however, the dominant characteristic of the first postwar decade was the strength and extent of growth factors, and recessions in 1948-49 and 1953-54 were both short-lived. World trade and production recovered quickly and surpassed prewar levels, and by the mid-1950's inflation was widely regarded as the most pressing economic problem. At the beginning of 1957, inflation was still the major concern and the world-wide investment boom, which had followed the period of readjustment at the end of the Korean War, continued. By the end of the year, however, the situation had changed and the general concern was again to stimulate rather than contain expenditure and production.

In the United States a sharp fall in output and employment began in the second half of 1957 and there was widespread inventory liquidation as the investment boom came to an end. By the middle of 1958 the decline had been halted as consumer and government expenditures strengthened; but private investment continued to decline into the third quarter of 1958 although there was some net recovery on earlier months. The effect of the United States recession on world trade and payments was less serious than might have been expected. The fall in American exports began much earlier and was much greater than that of imports—which did not decline until the beginning of 1958—and the trade surplus the United States normally has with other countries of the world was reduced. This, together with the nature of recent capital transactions, has meant that the decline in the remainder of the world's gold and dollar reserves as the result of transactions with the United States in the first three-quarters of 1957 has given way to a substantial increase.

In Western Europe, the levelling-off of industrial production spread to most countries by mid-1958 and in some countries—notably the United Kingdom and Belgium—there was some decline. Static industrial production in some countries, the United Kingdom and Denmark for example, resulted more from domestic credit and other policies adopted to protect foreign exchange positions than from cyclical or external factors. In volume terms the exports and imports of Western Europe as a whole were relatively stable, but lower prices affected the value totals (especially for imports) which for the first three-quarters of 1958 were lower than in 1957.

Other recent developments worthy of note are the widespread decline in the prices of primary commodities, the decision to increase the resources of the International Monetary Fund and the International Bank for Reconstruction and Development, the Commonwealth Economic Conference, and certain institutional changes that have taken place in Europe. The decline in the prices of the primary commodities was related to the North American recession, but growth in productive capacity, changes in stock-piling policy and changes in market structure were also important factors, especially in the non-ferrous metals. The underdeveloped countries of Latin America, Africa and Asia are frequently dependent on the demand for a few primary commodities for their export earnings and thus for their prospect of capital accumulation; the problem of how to maintain an equilibrium demand for these products has been the subject of much recent study.



In addition to the export of cattle for slaughtering, Canada does a good business in shipping thoroughbred stock abroad. Italian workers help unload a shipment of Ontario Holstein-Friesian heifers and calves which travelled by air to Naples.

The decision to increase the resources of the IMF and the IBRD was taken in October 1958 at the annual meeting of the Fund and Bank in New Delhi. The consequent increase in international liquidity coming, as it does, at the end of what has been an active period for the IMF is intended to strengthen the ability of the Fund to render emergency assistance to individual countries and should thus have a beneficial effect on world trade. The European Economic Community—comprised of the Benelux countries, France, Italy and Western Germany—came into being on Jan. 1, 1958, and at the beginning of 1959 the six countries were scheduled to take the first commercial step toward the creation of a common market among themselves by according to each other on a wide range of commodities a 10-p.c. reduction in tariff levels and a 20-p.c. increase in total quotas. Some of the tariff concessions have been extended on a one-year basis to all GATT countries including Canada. The Commonwealth Economic Conference was held at Montreal in September 1958 and produced proposals for more extensive aid to the less developed countries in the Commonwealth and more liberal trading within the Commonwealth, and foreshadowed further moves toward sterling convertibility. In December 1958, the United Kingdom, Norway, Sweden, Denmark and the Common Market countries announced simultaneously that their currencies had been made externally convertible and early in January



Montreal-manufactured snow loader in use in New York City.



Canadian 6-inch pipe at Mina al Ahmadi on the Persian Gulf.



Canadian lumber being unloaded at Belfast, Northern Ireland.

Mexican farmers receive a shipment of Canadian-made tractors.



1959 the Federal Republic of Germany announced that the mark had been made fully convertible. The move toward external convertibility—the right of non-residents to convert the appropriate currency earned in current transactions into gold, dollars or other currencies—especially in sterling does little more than recognize an existing situation as far as residents of the dollar area are concerned, but it is noteworthy as a step in the direction of full convertibility.

Leading Countries in World Trade, 1956 and 1957

NOTE—Countries ranked by total trade and total trade per capita in 1957. Sources of data: Trade—International Monetary Fund; Population—United Nations Statistical Office.

Country	Exports, f.o.b.		Imports, c.i.f.		Total Trade	
	1956	1957	1956	1957	1956	1957
VALUE OF TRADE (Millions of U.S. Dollars)						
United States.....	19,097 ¹	20,821 ¹	13,751	14,174	32,848	34,995
United Kingdom.....	9,290	9,684	10,881	11,412	20,171	21,096
Germany, Federal Republic of.....	7,358	8,575	6,617	7,499	13,975	16,074
Canada.....	5,288	5,467	6,270	6,346	11,558	11,813
France.....	4,541	5,111	5,558	6,170	10,099	11,281
Netherlands.....	2,863	3,098	3,725	4,105	6,588	7,203
Japan.....	2,501	2,858	3,230	4,284	5,731	7,142
Belgium and Luxembourg.....	3,162	3,186	3,272	3,432	6,434	6,618
Italy.....	2,145	2,540	3,174	3,626	5,319	6,166
Sweden.....	1,945	2,137	2,209	2,424	4,154	4,561
World Trade².....	93,610	100,300	98,117	107,300	191,727	207,600
TRADE PER CAPITA (U.S. Dollars)						
Belgium and Luxembourg.....	342	357	354	384	697	741
Canada.....	328	330	390	383	719	712
New Zealand.....	357	341	345	368	702	708
Switzerland.....	287	302	352	381	639	683
Venezuela.....	355	380	210	300	565	680
Netherlands.....	263	279	342	370	605	649
Sweden.....	266	290	302	329	568	619
Norway.....	223	234	350	363	573	597
Trinidad and Tobago.....	260	299	237	272	497	571
Denmark.....	249	262	294	303	543	566

¹ Includes military aid extended to other countries.
and eastern European countries not currently reporting trade.

² Exclusive of China, U.S.S.R.,

Canadian Trade Trends.—Following the marked expansion of 1955 and 1956, Canadian trade levelled off in 1957 and exports in that year were only slightly above the level of 1956, while imports were somewhat lower than in the previous year. In 1958 exports were little below the 1957 total, but imports were reduced by some 8 p.c. The most significant feature of the export situation in 1958 was its high level in the face of generally unfavourable world conditions and, in particular, the recession in the United States. As was to be expected, the value of exports of forest products and many minerals declined but, notwithstanding the relative importance of these products in Canadian exports, the aggregate reduction in value was little more than sufficient to offset very considerable value increases in a limited number of commodities, the more important of which were uranium, aircraft and parts, wheat, and beef cattle.

Canadian radioactive cobalt on its way to the United States where it will be used to study the effects of radiation on lubricants, fuels and other petroleum products. ►

Canadian geophysical instruments go to China, preferred because of their lightness, rugged construction and simplicity of operation. These magnetameters are now used to detect and define mineral deposits on every continent. They may be hand-held or operated from a car, boat or aircraft. ▼



High explosives are shipped from Canadian plants to several Caribbean, Central and South American countries and to the Philippines and Formosa. ►



Exports of uranium, which are made under contract and go mostly to the United States (although significant quantities were shipped to the United Kingdom in 1958), increased by about \$149,000,000 or some 116 p.c. This increase was the only advance recorded among the leading non-ferrous metals and was sufficient to offset declines in exports of aluminum, brass, copper, lead, nickel and zinc. Exports of aircraft, which tend from their



Bananas from Central American plantations are only ten days en route to the Canadian consumer. Throughout the journey they are handled by specially designed equipment and ripened under controlled conditions. Here they are being cut from the stalks in small bunches, banded and placed in padded containers for shipment to the stores.

nature to move irregularly from year to year, rose by about \$69,000,000 to a total that was more than one and a half times greater than in 1957. Military aircraft exported to Belgium and the Federal Republic of Germany accounted in large part for the increase. Wheat exports, which ranked second in value among leading commodities, increased by \$66,000,000 or about 17 p.c. Higher sales in regular commercial markets, most notably the United Kingdom, contributed to the increase, but so also did Canadian-financed shipments to India and Pakistan, shipments to the Soviet Union in part fulfillment of a trade agreement signed early in 1956, and unusually large shipments to China.

Beef cattle exports increased by about \$42,000,000 and more than doubled; exports of cattle to the United States, which had begun to rise in the second half of 1957, increased greatly. There were also significant increases in exports of other leading commodities such as farm implements and machinery, canned fish (mostly to the United Kingdom and partly as a result of changes in trade policy), natural gas, planks and boards, barley, wheat flour, whisky and fresh and frozen fish. Of the exports that were lower in 1958 than in 1957, the largest relative and absolute decline was recorded for petroleum, exports of which were almost halved. Exports of newsprint paper though they declined by some 4 p.c.—somewhat more than forest products as a whole—were still greatest in value among leading commodities. Iron ore, which had increased considerably in 1955 and 1956 and somewhat less sharply in 1957, declined by almost 30 p.c., and exports of flaxseed, asbestos, pulpwood and non-farm machinery also declined significantly.

Principal Domestic Exports, 1954-58

NOTE.—Commodities ranked by value of exports in 1958.

Commodity	1954	1955	1956	1957	1958
	\$'000	\$'000	\$'000	\$'000	\$'000
Newsprint.....	635,670	665,877	708,385	715,490	690,209
Wheat.....	375,339	338,216	513,081	380,415	446,078
Planks and boards.....	324,724	385,313	326,445	281,681	292,013
Wood pulp.....	271,418	297,304	304,536	292,406	285,449
Uranium ores and concentrates.....	8,056	26,533	45,777	127,935	276,506
Aluminum, primary and semi-fabricated.....	182,392	210,971	234,806	229,386	222,442
Nickel, primary and semi-fabricated.....	182,154	215,169	222,909	248,253	212,580
Copper, primary and semi-fabricated.....	127,334	163,924	194,206	162,109	137,113
Aircraft and parts (except engines).....	28,442	19,906	49,545	39,910	109,113
Iron ore.....	39,719	99,814	144,443	152,281	107,674
Farm implements and machinery (except tractors) and parts.....	70,819	72,206	63,937	67,339	93,829
Asbestos, unmanufactured.....	82,566	94,804	99,895	107,058	90,745
Cattle, chiefly for beef.....	9,214	3,922	630	41,678	84,101
Barley.....	89,363	76,461	94,977	67,522	78,118
Petroleum, crude and partly refined.....	6,318	36,253	103,923	140,975	73,044
Fish, fresh and frozen.....	56,650	55,263	59,594	63,186	70,898
Whisky.....	59,156	60,862	68,660	66,994	70,276
Wheat flour.....	88,029	74,442	71,549	61,175	69,398
Zinc, primary and semi-fabricated.....	58,392	70,558	74,011	64,921	55,385
Machinery (non-farm) and parts.....	38,172	35,789	47,130	57,177	46,881

The import decline in 1958 was widespread and affected most main groups. The largest decline was in the iron and steel group in which non-farm machinery fell by about one-fifth but still remained the leading import

The ports of Canada have been kept busy with the unloading of European motor vehicles which have become increasingly popular on the Canadian market. Nearly 92,000 of them were brought in during 1958.



commodity; rolling-mill products, pipes, tubes and fittings, farm implements and machinery and automobile parts all declined significantly. Contrary to the general trend in this group, imports of passenger automobiles— especially from the United Kingdom and the Federal Republic of Germany— increased considerably. Petroleum, the second leading commodity import, fell heavily as did imports of unrefined sugar, green coffee, fuel oils and coal.



Canadians are neither great producers nor great consumers of lamb and mutton, annual consumption being about 2.7 lb. per person. Approximately 40 p.c. of the lamb used in 1958 was imported, mainly from New Zealand and Australia.

Principal Imports, 1954-58

NOTE.—Commodities ranked by value of imports in 1958.

Commodity	1954	1955	1956	1957	1958
	\$'000	\$'000	\$'000	\$'000	\$'000
Machinery (non-farm) and parts.	380,219	445,875	628,521	631,599	532,916
Petroleum, crude and partly refined.	212,737	229,779	271,291	305,557	278,540
Automobile parts (except engines)	180,433	246,505	284,788	260,075	240,526
Electrical apparatus, n.o.p.	207,539	226,715	257,292	249,328	240,112
Rolling-mill products (steel)	97,563	129,679	234,709	221,257	147,049
Automobiles, passenger	60,846	83,726	125,539	106,596	141,543
Engines, internal combustion, and parts	84,914	100,917	120,986	123,870	121,327
Tractors and parts	82,814	115,375	159,627	127,658	117,290
Aircraft and parts (except engines)	100,397	138,091	91,304	93,691	94,820
Pipes, tubes and fittings	59,680	50,290	123,088	147,727	88,371
Farm implements and machinery (except tractors) and parts	60,351	62,874	72,522	74,572	81,007
Tourist purchases	68,767	71,467	75,205	77,403	78,947
Coal, bituminous	70,445	74,453	96,516	90,692	67,067
Cotton fabrics	46,012	53,400	62,130	65,049	66,168
Paperboard, paper and products	43,558	52,690	61,954	62,027	65,478
Fuel oils	70,921	77,751	81,799	76,204	64,886
Non-commercial items	56,763	72,929	88,098	72,328	62,244
Sugar, unrefined	51,519	52,312	55,828	75,632	58,578
Coffee, green	64,211	57,010	62,657	59,120	55,252
Synthetic plastics, primary forms	34,893	41,072	47,092	49,747	54,891

The Hon. Gordon Churchill, Minister of Trade and Commerce (third from left), participated in the First Canadian-American Trade and Industry Conference, held at Chicago in November 1958 for the discussion of mutual trade problems and interests.



Trading Partners.—The leading country in Canadian trade is the United States, with which industrial materials are exchanged for manufactured goods and, to a lesser extent, chemicals, fuels and certain products such as cotton and citrus fruits which are not available in Canada. The United Kingdom ranks second to the United States, supplying manufactured goods and machinery such as industrial equipment and electrical apparatus, and receiving mainly grains, non-ferrous metals and forest products. A similar pattern of trade has been established with most of Europe and Japan, whereas Latin American and many Commonwealth countries are more interested in Canadian manufactured goods in exchange for primary commodities.

In 1957, the United States accounted for about 66 p.c. and the United Kingdom for about 12 p.c. of total Canadian trade. Europe (excluding the Commonwealth countries) was responsible for some 8 p.c., Latin America for about 6 p.c. and the Commonwealth countries (excluding the United Kingdom) for about 5 p.c.

The Commonwealth Trade and Economic Conference held in Montreal in the autumn of 1958 brought together representatives of 660,000,000 persons made up of many races in many stages of development. Their discussions—on trade, finance, development, education and communications—ended with a feeling of accomplishment and a strengthening of the aims of their co-partnership.



Domestic Exports to Leading Countries, 1954-58

NOTE.—Countries ranked by value of exports in 1958.

Country	1954	1955	1956	1957	1958
	\$'000	\$'000	\$'000	\$'000	\$'000
United States.....	2,317,153	2,559,343	2,818,655	2,867,608	2,828,398
United Kingdom.....	653,408	769,313	812,706	737,530	775,896
Germany, Federal Republic of...	86,890	90,751	134,098	151,939	201,863
Japan.....	96,474	90,893	127,870	139,152	104,891
India.....	17,689	24,669	25,714	28,991	79,110
Netherlands.....	39,777	47,689	54,559	69,849	74,924
Belgium and Luxembourg.....	54,987	53,384	57,852	60,402	69,702
Norway.....	43,813	47,031	57,682	55,548	55,985
Australia.....	45,768	58,482	47,747	48,883	52,755
Union of South Africa.....	39,883	56,026	64,616	48,441	50,035
France.....	33,799	42,563	53,156	57,506	45,173
Venezuela.....	30,973	30,756	34,335	39,844	43,655
Mexico.....	27,359	37,126	39,385	42,613	31,564
Italy.....	23,844	27,653	37,744	62,842	29,915
Switzerland.....	26,826	25,640	33,535	25,045	29,499
Brazil.....	45,096	11,520	13,026	25,798	21,169
Union of Soviet Socialist Republics.....	4,854	2,680	24,606	10,658	18,868
Cuba.....	17,455	13,910	15,371	16,889	17,595
Jamaica.....	11,552	12,907	17,222	19,487	15,741
Pakistan.....	8,970	6,202	10,502	11,395	15,384

Imports from Leading Countries, 1954-58

NOTE.—Countries ranked by value of imports in 1958.

Country	1954	1955	1956	1957	1958
	\$'000	\$'000	\$'000	\$'000	\$'000
United States.....	2,961,380	3,452,178	4,161,667	3,998,549	3,572,379
United Kingdom.....	392,472	400,531	484,679	521,958	526,650
Venezuela.....	167,594	187,277	208,401	248,145	209,590
Germany, Federal Republic of...	44,485	55,603	89,348	97,646	105,944
Japan.....	19,197	36,718	60,826	61,605	70,216
Arabia.....	2,225	6,986	24,712	44,317	68,023
France.....	22,046	25,016	32,600	36,383	41,091
Netherlands Antilles.....	20,582	30,722	38,119	39,269	39,804
Belgium and Luxembourg.....	25,077	29,051	52,728	44,066	36,022
Australia.....	24,657	26,295	26,310	28,728	32,920
Italy.....	15,006	18,502	24,967	33,012	32,820
Mexico.....	14,033	28,814	41,699	21,113	32,059
Netherlands.....	22,562	20,951	23,776	25,396	29,541
India.....	28,054	35,147	30,898	29,248	27,968
Jamaica.....	15,309	15,567	24,633	40,210	27,628
Brazil.....	31,623	30,747	34,832	35,325	27,497
Switzerland.....	19,151	19,365	22,301	24,660	26,968
British Guiana.....	20,482	18,307	20,498	21,003	20,644
Malaya and Singapore.....	19,586	28,810	28,558	27,356	19,904
Cuba.....	9,913	10,025	12,279	13,866	18,881

Canadian Balance of International Payments

In addition to foreign merchandise trade, Canada has a variety of other current exchanges of services and capital with other countries. All these economic transactions are presented in statements of the Canadian balance of payments. Exchanges of services and merchandise trade are included in the current account, while the capital account shows the direction and extent of movements of capital between Canada and other countries.

The freight carried on the inaugural flight of Britannia cargo-liner aircraft on CPA's Vancouver-Orient route included an 'electric brain' destined for the Sanwa Bank in Tokyo.



Copper concentrate being loaded at Cowichan terminal, Vancouver Island, bound for Japan. The vessel carried 8,000 tons.

Outstanding among the features of Canada's balance of payments during the 1950's are the deficits that have arisen from excess of imports of goods and services over exports of goods and services, and the capital inflows for private investment in industry. The capital inflows have been associated with growth and development and have, in turn, contributed to the current deficits by augmenting demands for imported goods and services. Deficits increased from \$334,000,000 in 1950 to \$1,400,000,000 in 1957, being then larger than in any earlier year and relatively comparable with deficits in some earlier periods of exceptional development in Canada. The period of



Most of Eastern Canada's requirements of crude oil are brought in from South America by tanker to Halifax and by pipeline from the Maine coast to Montreal. Despite the great increase in domestic production in recent years, petroleum still ranks second among Canadian imports.

greatest relative imbalance occurred in the latter part of 1956 and carried over into the first half of 1957. By the end of that year imbalance had fallen off from peak levels but continued in 1958 at levels higher than in any year before 1956. While the import balance on merchandise account fell in 1958, the deficit from all other transactions continued to rise to new heights.

The financing of recent large external deficits was accomplished with little or no strain on the Canadian balance of payments. The capital inflows which served this purpose were generally of a long-term character, and mainly took the form of direct investment in branches and subsidiaries in Canada by United States and other non-resident business firms, particularly in petroleum, mining and other resource industries. Direct and portfolio equity investment was buttressed at times by large increases in foreign-held funded debt in response to divergent interest rate structures in Canada and in the United States. New issues of Canadian securities sold abroad have been particularly heavy since 1956. Movements of short-term capital have also occurred on a comparatively large scale, but the inflows and outflows have, over time, tended to offset each other. The persistent long-term inflows of capital have kept the Canadian dollar at a premium on the world's exchange markets.

International Investment Position.—The substantial growth in the investment of foreign capital in Canada during the past decade has been the principal factor in increasing Canada's net international indebtedness from \$3,700,000,000 at the end of 1949 to \$11,000,000,000 at the end of 1957. At the latter point, Canada's gross external liabilities amounted to \$18,500,000,000, more than half of which represented foreign investment in Canadian enterprises controlled by non-residents. A substantial part of the remainder covered portfolio investment in Canadian corporations by non-residents. At the same time Canada's gross external assets were more than \$7,600,000,000, of which \$3,700,000,000 was represented by government loans to overseas countries, subscriptions to international financial

organizations and holdings of gold and foreign exchange. With a further rise in 1958, Canada's net foreign indebtedness is now more than three times larger than it was in 1949.

Dependence on external sources for some types of capital, together with the special advantages often associated with this capital, has led Canada to a degree of foreign ownership and control of industry unique in economic history. By the end of 1955 foreign investment accounted for 64 p.c. of the ownership of the Canadian petroleum industry and represented control of 80 p.c. The mining industry was also 60 p.c. foreign-owned and 62 p.c. foreign-controlled. Manufacturing other than petroleum refining was 47 p.c. foreign-owned and 52 p.c. foreign-controlled. The degree of foreign ownership and control varied considerably in different branches of manufacturing. Other areas of Canadian wealth such as utilities, merchandising, housing and social capital are, of course, Canadian-owned and controlled to a much larger extent than are the petroleum, mining or manufacturing industries.

A very substantial part of foreign capital in Canada now takes the form of equity investment and, as a result of the retention of earnings, foreign



Interlocking aluminum ingots ready for shipment. Although Canada's per capita consumption of aluminum is high, domestic manufacturers use only about 15 p.c. of Canadian production. Most of the remainder goes to the United States but important tonnages are also shipped to the United Kingdom, certain Western European countries and to perhaps thirty other markets throughout the world.

investments increase each year by some hundreds of millions of dollars more than the capital actually imported. Indeed, during the postwar years the earnings accruing to non-resident investors but retained in Canada to finance expansion have amounted to well over \$3,000,000,000. In addition, actual transfers of investment income have, in recent years, been well above \$500,000,000 annually. The significant part of the corporate profits in the Canadian economy which accrues to non-residents is a measure of the important place of foreign capital in the development of this country.



The Trade Commissioner is Canada's official business promoter abroad. All his duties revolve around the sale of Canadian goods and the finding of sources of supply for Canadian importers. The Assistant Commissioner at Johannesburg is shown examining Canadian wild mink pelts in the workrooms of a South African furrier.

The Department of Trade and Commerce

The services of the Department of Trade and Commerce and associated agencies of the Government contribute significantly to the development of Canada's commercial relations with trading interests in other countries. Perhaps paramount among such services are those of the Canadian Trade Commissioners whose offices in 46 countries are staffed with trained Canadian trade officials familiar with all aspects of foreign trade in the countries to which they are assigned as well as with the current Canadian industrial scene as a whole. They provide the latest information on potential markets for specific Canadian products and on the competitive conditions, exchange, tariff, shipping and labelling regulations which the Canadian exporter must meet. They also assist the Canadian importer in locating sources of supply for a wide variety of goods not indigenous to Canada.

Closely integrated with the Trade Commissioner Service and of vital importance in the promotion of foreign trade is the Department's Commodity Branch of specialists whose function it is to keep the Trade Commissioners advised of products available for export, to relay market news received from abroad to Canadian exporters, and to develop opportunities for promoting sales abroad of Canadian products.

The Agriculture and Fisheries Branch serves as a liaison in these fields with the Department of Agriculture, the Department of Fisheries, the Canadian Wheat Board and other government departments and boards concerned with marketing surplus Canadian products abroad. It also receives from the Trade Commissioner Service the latest information on government policy, production and market trends in those countries with which Canada competes on the world market, particularly in wheat, coarse grains, livestock, meats and dairy products. Canadian exporters of fisheries and agricultural products are assisted in finding markets in other countries.

The review of Canada's trade relations under trade treaties with other countries, the preparation of material for trade and tariff negotiations, participation in conferences and negotiations under the General Agreement on Tariffs and Trade, and the interpretation and clarification of foreign regulations for Canadian exporters are the principal services of the International Trade Relations Branch. The carrying out of a continuous review

and analysis of the general economic situation in Canada is the responsibility of the Economics Branch.

Assistance offered by the Government in the establishment of new industries in Canada and new lines of industrial production is co-ordinated by the Industrial Development Branch of the Department, while the Export Credits Insurance Corporation insures Canadian exporters against losses arising from credit and political risks involved in the export of goods.

The promotion of Canadian external trade is likewise a principal objective of the Canadian Government Exhibition Commission which is responsible for the construction and administration of Canadian Government exhibits at international expositions and trade fairs. The Trade Publicity Branch, on the other hand, conducts an educational and promotional program designed to inform the Canadian exporter and importer of the services of the Department and to stimulate a better appreciation by the general public of the significance of trade to the national welfare. It is actively engaged in promotional operations abroad, especially trade fairs in which the Department participates.

Trade fairs and exhibits show the world Canada's skills and products. The first trade fair in the West Indies sponsored by the Canadian Government, held in January 1959, attracted more than 100,000 persons.

Canadian playground equipment was well used. ►



An Ontario sheared beaver coat, dyed an off-white shade, was much admired at a Canadian fur fashion show held in Milan, Italy.



Banking

THE Canadian commercial banking system consists of nine privately owned banks which are chartered by Act of Parliament. Of these nine, six are large nation-wide institutions with branches in most provinces; two operate mainly in the Province of Quebec and surrounding areas, and one is a subsidiary of a Netherlands bank with three branches.

The authority under which the chartered banks operate is the federal Bank Act, first passed in 1871 and subject to revision every ten years to keep it abreast of changing trends. The Act sets out the requirements for incorporation and for internal regulation of the chartered banks, states what cash reserves they must keep, and sets forth a variety of rules governing the conduct of business with the public. The banks are authorized to accept deposits, make loans covering a wide range of commercial, industrial and agricultural activities, buy and sell securities, deal in foreign exchange and are prohibited from engaging in any trade or business other than banking. Provision is made for government inspection at least once a year. Within the limitations imposed by the Bank Act, the banks are free to guide their own affairs.

There has never been any geographical restriction on the operation of the chartered banks. Thus Canada has always had a relatively small number of large banks with significant capital and an extensive network of branches. At the end of 1958 there were 4,678 branch offices of Canadian banks (including sub-agencies), an increase of 1,268 in the past ten years. Foreign offices are maintained by most of the chartered banks in the principal money marts of the world and other offices are established in many foreign cities, mainly in the United States, the United Kingdom, the West Indies and South America.

The head office of a Canadian bank does not transact ordinary day-to-day business with the public; it buys and sells securities as part of the bank's investment portfolio, it advises branch managers on applications of credit when large amounts are involved, and maintains general administrative departments. The branches operate deposit accounts, make loans, pay out cash, deal in foreign exchange, and perform a variety of other services to the public, such as making collections, keeping safety deposit boxes, and so on. In these matters the branch manager has a considerable degree of independent authority, depending on his experience and the importance of his branch.

The functions of a central bank in Canada are performed by the Bank of Canada, a government-owned agency established in 1934 for the purpose of



One of Canada's northernmost banking offices is located at Frabisher Airport; it serves the Baffin Island transportation terminal used by civilian and military aircraft.



Canadian banks continue to grow with the nation. A great part of the banking business is done through the nation-wide institutions having branches, large or small, within convenient reach of most of the population. During 1958 new branches were opened at the rate of three a week.

regulating credit and currency in the best interests of the economic life of the country. Control of the money supply of the country, of which deposits at the chartered banks are a very large part, rests on the requirement that the chartered banks must keep a minimum amount of cash reserves in relation to their deposit liabilities. These reserves consist of Bank of Canada notes (the ordinary circulating paper money of the country) and of deposits at the Bank of Canada. The central bank may also buy and sell securities on the open market with a view to influencing the chartered banks' cash reserves and to maintaining orderly markets for government securities. Because of the influence of external economic conditions on the state of the Canadian economy, the central bank must give a great deal of consideration, in the formulation of its policies, to Canada's external position as well as to domestic conditions. The Bank is managed by a Board of Directors appointed by the Government.

The Industrial Development Bank, established in 1944, is a subsidiary of the Bank of Canada but operates as a separate entity. Its function is to supplement the activities of the chartered banks and other lending agencies by supplying the medium- and long-term capital needs of small enterprises;

it does not engage in the business of deposit banking. The lending field occupied by the chartered banks is the vital one of providing short-term working capital. Credit is extended to producers, industry, institutions, municipalities, corporations, governments and to tens of thousands of individuals for a multitude of purposes. Canada's banking structure, with the freedom it provides in the development of new branches in any part of the country, is particularly well adapted to a far-flung and expanding economy. The branch bank system facilitates development in new and remote communities by transferring the necessary savings from the more populous and wealthy areas to the places where the funds are needed. Moreover, the chartered banks assist in the marketing of output at all stages. Canada is the only country in the world which permits banks to make advances against the security of raw materials and to continue the security on the same document through to the finished product and the marketing thereof. The latest analysis of bank loans on Sept. 30, 1958, shows total loans in Canada (excluding residential mortgage loans under the National Housing Act) of \$5,140,228,000. Of this amount, \$3,759,022,000 was for agricultural, industrial and commercial purposes, and \$858,942,000 to individuals.

Statistics of the Chartered Banks of Canada, Dec. 31, 1958

Bank	Branches in Canada and Abroad ¹	Total Assets	Personal Savings Deposits	Total Deposit Liabilities	Loans and Discounts ²	Liabilities to Share- holders
	No.	\$'000	\$'000	\$'000	\$'000	\$'000
Bank of Montreal.....	767	3,360,208	1,527,822	3,129,509	1,360,222	175,566
Bank of Nova Scotia...	553	1,759,460	689,469	1,665,075	962,866	72,318
Toronto-Dominion Bank.....	514	1,660,855	800,014	1,560,980	743,078	80,055
Provincial Bank of Canada.....	352	311,816	174,983	294,773	144,812	12,229
Canadian Bank of Commerce.....	812	2,935,942	1,283,886	2,747,923	1,281,475	146,167
Royal Bank of Canada. Banque Canadienne Nationale.....	937	4,087,908	1,488,906	3,748,433	1,517,221	249,806
Imperial Bank of Canada.....	589	721,181	417,659	688,362	347,088	29,833
Mercantile Bank of Canada.....	308	963,701	459,020	895,995	440,502	44,918
	3	39,203	1,928	35,688	16,243	1,901
Totals.....	4,835	15,840,274	6,843,687	14,766,738	6,813,507	812,793

¹ Includes sub-branches and sub-agencies.
insured under the National Housing Act, 1954.

² Includes mortgages and hypothecs

In addition to their deposit and lending functions, the banks, through their widespread facilities inside and outside the country are in a particularly favourable position to assist in the trade of the country by providing information and assistance concerning markets, trade regulations, tax situations, foreign exchange, financial arrangements, and so on. There is no doubt that the services of the Canadian banks have contributed materially to the development of this country as a major producing and trading nation.

In addition to the chartered banks, there are several other types of savings banks in Canada: trust and loan companies; the Post Office Savings Bank in which deposits are a direct obligation of the Government of Canada;

Canadian banks are service organizations, their main functions being the safe-keeping of surplus funds and the provision of mortgage loans and short-term credit.

A walk-up teller's wicket is especially popular with mothers accompanied by small children.



Insured mortgages held by the chartered banks at the end of 1958 amounted to \$790,000,000.

Short-term credit available from the bank is a boon to the business man, acting as a source of current working capital.

provincial savings banks in Newfoundland, Ontario and Alberta where the depositor becomes a direct creditor of the province; two savings banks in the Province of Quebec established under federal legislation; and credit unions which are co-operative savings and loan organizations.



The credit union is by far the most important to the general population, since it is used by one Canadian in every eight. It is a self-help movement in which small savings of 2,085,000 persons have resulted in assets of \$846,000,000 or an average per member of about \$400. Loans are granted for provident and productive purposes from the accumulated pooled savings of the members. Credit unions have been organized in all provinces although membership is highest in Quebec where it exceeds 1,000,000. Ontario ranks second.

Investment

INVESTMENT plans, both private and public, call for capital expenditures in 1959 of \$8,300,000,000, which represents the total investment intentions of individual business establishments, institutions, house-builders, and all levels of government. An expenditure program of this magnitude would keep capital spending close to the high level of 1958. Outlays for construction are expected to be down slightly from the previous year, but expenditures for machinery will probably be about the same. Thus the 1959 investment program, though moderately below the all-time peak of 1957, will still comprise a larger percentage of gross national production than in any postwar year prior to 1956.

The trend in capital spending in recent years is shown in the following table.

Private and Public Capital Expenditures, 1950-59

Year	Construction	Machinery and Equipment	Total	Percentage of Gross National Product
	\$'000,000	\$'000,000	\$'000,000	
1950.....	2,453	1,483	3,936	21.9
1951.....	2,871	1,868	4,739	22.4
1952.....	3,434	2,057	5,491	22.9
1953.....	3,756	2,220	5,976	23.9
1954.....	3,737	1,984	5,721	23.0
1955.....	4,169	2,075	6,244	23.1
1956.....	5,273	2,763	8,036	26.6
1957.....	5,784	2,933	8,717	27.7
1958.....	5,955	2,462	8,417	26.3
1959.....	5,866	2,455	8,321	--

The 1959 expenditure program continues the shift from business investment toward spending for social capital but other changes also make their appearance. The 1958 investment program was framed against a background of declining demand for the products of a number of Canada's key industries and of growing excess capacity in these same industries—a situation not conducive to the undertaking of new expansion programs. However, during 1958 expenditures continued on a number of large projects started in previous years which helped to sustain the level of business investment, although, with less new work coming forward, such spending fell 15 p.c. below the record outlays of 1957. On the other hand, the provision of large amounts of public and private funds for mortgage purposes resulted in housing outlays 25 p.c. above those of the previous year. There was also substantial expansion in capital spending for institutions and for construction by all levels of government. In these fields, work on the large backlog of required projects was facilitated by an easier supply situation in the construction trades and lower interest rates.

The background of the 1959 capital program is quite different from that of 1958. The slowdown of business activity apparent a year ago has given way to a situation of generally strengthening demand. Though excess



The second stage of construction is nearing completion at the aluminum smelter at Baie Comeau on the north shore of the lower St. Lawrence River. The plant has been in operation since early 1958 but the new addition will increase its annual capacity to 90,000 tons.

capacity still exists in industry, the influences that militated against new expansion programs for most of 1958 have been modified and there are indications of a renewed interest in that field. The figures on actual spending planned do not fully portray the extent of the new expansionary influences since a much larger proportion of planned expenditure represents newly initiated programs as opposed to carryover of work from projects started in previous years.

In the forest and mineral products industries, outlays in 1958 were sustained by the continuing work on such large expansion programs as those for pulp and paper, uranium and cement which had been undertaken in the boom period of 1955-56. These developments have now been completed but new work coming forward is likely to be sufficient to fill the gap. On the other hand, in the field of fuel and power, the near completion of such large-scale



The prospect of harnessing yet another great power potential in the Canadian North moves step by step toward the construction stage. Surveys carried out in the Rocky Mountain Trench north of Prince George in central British Columbia indicate the possibility of producing a minimum of 4,000,000 h.p., which could be delivered to the Vancouver area at a cost considerably lower than that of any other existing or potential power enterprise in the province. The program would involve an area of 30,000 sq. miles, the building on the Peace River of the largest man-made dam in the world and the creation of a lake 260 miles long and 15 miles wide. Detailed engineering studies will be completed by the year-end.

undertakings as the St. Lawrence power development and the trans-Canada gas pipeline will mean that capital outlays in this group of industries will be considerably lower in 1959. In secondary manufacturing and transportation and communication, an approximately unchanged level of capital spending is indicated for 1959 and outlays for housing are likely to continue at a high level.

The major elements of added strength in capital spending in 1959 are expected to be in commercial and institutional building and government projects. The former represents a renewed rate of growth following a moderate decline in 1958 and reflects, in part, the upward trend in consumer spending. Institutional building construction and local improvements are facilitated by the ready availability of labour and materials. Although the cost of funds is higher than in 1958, new municipal debentures issued in the last quarter of the year indicate that funds are available.

Private and Public Capital Expenditures, by Sector and Province, 1957-59

NOTE.—1957 figures are actual expenditures, 1958 figures are preliminary and 1959 figures are forecasts.

Sector and Year	Construction	Machinery and Equipment	Total
Sector	\$'000,000	\$'000,000	\$'000,000
Agriculture and fishing.....1957	93	341	434
.....1958	101	368	469
.....1959	101	375	476
Forestry.....1957	28	20	48
.....1958	20	13	33
.....1959	26	22	48
Mining, quarrying and oil wells.....1957	407	199	606
.....1958	267	95	362
.....1959	271	75	346
Manufacturing.....1957	520	959	1,479
.....1958	402	680	1,082
.....1959	341	702	1,043
Utilities.....1957	1,475	833	2,308
.....1958	1,411	724	2,135
.....1959	1,182	662	1,844
Construction industry.....1957	16	142	158
.....1958	16	117	133
.....1959	16	115	131
Housing.....1957	1,430	—	1,430
.....1958	1,781	—	1,781
.....1959	1,728	—	1,728
Trade—Wholesale and Retail.....1957	205	165	370
.....1958	191	154	345
.....1959	210	180	390
Finance, insurance and real estate.....1957	110	26	136
.....1958	149	30	179
.....1959	204	33	237

Trading on the Toronto Stock Exchange has its highs and its lows. A day's volume may be 400,000 shares or nearly 16,000,000, a peak reached on July 8, 1958.



**Private and Public Capital Expenditures, by Sector and Province,
1957-59—concluded**

Sector, Province and Year	Construction	Machinery and Equipment	Total
Sector—concluded	\$'000,000	\$'000,000	\$'000,000
Commercial services.....1957	68	116	184
.....1958	51	118	169
.....1959	51	121	172
Institutional services.....1957	407	47	454
.....1958	435	55	490
.....1959	486	64	550
Government departments.....1957	1,025	85	1,110
.....1958	1,131	108	1,239
.....1959	1,250	106	1,356
Totals.....1957	5,784	2,933	8,717
.....1958	5,955	2,462	8,417
.....1959	5,866	2,455	8,321
Province			
Newfoundland.....1957	68	32	100
.....1958	75	29	104
.....1959	63	29	92
Prince Edward Island.....1957	14	8	22
.....1958	21	12	33
.....1959	25	9	34
Nova Scotia.....1957	121	67	188
.....1958	123	61	184
.....1959	144	62	206
New Brunswick.....1957	108	51	159
.....1958	122	50	172
.....1959	155	57	212
Quebec.....1957	1,377	652	2,029
.....1958	1,434	604	2,038
.....1959	1,434	599	2,033
Ontario.....1957	2,067	1,199	3,266
.....1958	2,238	918	3,156
.....1959	2,092	930	3,022
Manitoba.....1957	258	113	371
.....1958	274	129	403
.....1959	318	138	456
Saskatchewan.....1957	278	177	455
.....1958	301	163	464
.....1959	288	162	450
Alberta.....1957	585	249	834
.....1958	680	231	911
.....1959	667	231	898
British Columbia.....1957	905	385	1,293
.....1958	688	263	951
.....1959	678	238	916

Construction Activity

Expenditures on construction in 1958 were higher than in any previous year and the 1959 program is expected to continue at about the same level. The most important increases are planned for commercial buildings such as shopping centres and office buildings, and for institutional structures such as

hospitals and universities. The building of roads and streets, sewers and waterworks, and other government projects is also expected to be very active. But increases in these areas will be offset to some extent by a sharply reduced program of pipeline construction and a somewhat lower level of activity in industrial building and in the provision of new power-generating facilities.

Residential construction will probably remain about the same level as in 1958, with somewhat fewer starts but more completions. An unusually large number of new homes were started in the late months of 1958 causing increased house-building activity in the early part of 1959.



New housing at Burnaby—part of Greater Vancouver—whose population has almost doubled since 1951, increasing from 58,000 to 100,000 in mid-1959.

The new air terminal building at Montreal is nearing completion. It is one of several major airport terminals currently under construction by the Department of Transport.



Construction costs are also likely to remain about the 1958 level. During that year construction wage rates moved upward while prices of building materials showed modest declines, though both tended to stabilize towards the end of the year. Actually, for some types of construction, costs were lower in 1958. There is a trend toward greater efficiency in construction through intensified mechanization and the consolidation of construction firms has been apparent. Also, bidding on construction jobs has become very competitive, resulting in lower bids and lower profit margins for some contractors.

Value of Construction Work Performed, 1950-59

NOTE.—1950-57 figures are actual, 1958 figures are preliminary and 1959 figures are forecasts.

Year	New	Repair	Total	Percentage of Gross National Product
	\$'000,000	\$'000,000	\$'000,000	
1950	2,453	827	3,280	18.2
1951	2,871	987	3,858	18.2
1952	3,434	1,010	4,444	18.5
1953	3,756	1,070	4,826	19.3
1954	3,737	1,105	4,842	19.5
1955	4,167	1,141	5,308	19.6
1956	5,272	1,182	6,454	21.4
1957	5,785	1,238	7,023	22.3
1958	5,956	1,275	7,231	22.4
1959	5,864	1,338	7,202	—

The Port of Toronto, already one of Canada's most active harbours, has been planning for many years to receive the sea-going world—anticipating the achievement of the St. Lawrence Seaway. This new terminal is part of the construction that will eventually give the harbour 24 miles of berthage and provide the necessary 27-foot draught for the larger vessels to be accommodated.



Montreal Harbour, too, is being equipped with additional facilities to cope with increased marine traffic. About one-third of a \$65,000,000 development program is being devoted to the construction of grain elevators and the installation of grain-handling equipment.



Value of New and Repair Construction Work Performed, 1957-59

NOTE.—1957 figures are actual, 1958 figures are preliminary and 1959 figures are forecasts.

Item	1957		1958		1959	
	New	Repair	New	Repair	New	Repair
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Building	3,151	735	3,344	755	3,456	780
Residential	1,430	383	1,781	407	1,728	426
Industrial	493	117	285	106	266	112
Commercial	560	96	612	97	686	98
Institutional	465	55	477	57	528	56
Other building	203	84	189	88	248	88
Engineering	2,634	503	2,613	520	2,408	558
Roads, highways and aerodromes	550	159	582	168	622	178
Waterworks and sewage systems	173	28	165	31	193	33
Dams and irrigation	81	5	46	7	45	6
Electric power construction	463	44	493	43	424	47
Railway, telephone and telegraph construction	245	161	246	161	296	182
Gas and oil facilities	700	40	639	39	438	43
Marine construction	145	13	143	13	106	14
Other engineering	277	53	299	58	284	55
Totals, Construction	5,785	1,238	5,957	1,275	5,864	1,338



Construction has been a most dynamic factor in the country's expansion—changing the face of the community, extending its boundaries, raising its skyline, providing for the social requirements of its people—changing land contours and erecting plant for resource, industrial and business development—employing new techniques, new materials and new equipment—and giving a good livelihood directly and indirectly to hundreds of thousands of persons.

Canada's Economy

in 1958

TOWARD the end of 1958 there were many signs of renewed economic growth in the free world and particularly in North America. At different stages during 1957 and early 1958 most areas of the world encountered some easing in the tempo of economic activity, particularly the United States. In that country business conditions underwent a relatively sharp set-back during the period from late summer 1957 to the spring of 1958 and, although subsequent recovery was rapid, over-all production was below that of the preceding year. This reduced activity in the United States along with lower factory output in a number of other industrial countries was reflected in a decline in world trade from the 1957 level.

As a major supplier to the United States and other manufacturing countries, Canada could not escape the adverse effects of this world-wide decrease in production. Demand for most natural resource products declined and the business capital investment boom came to an end. The sharpest declines in investment were mainly in the field of export-oriented resource development since much of the build-up in productive capacity in recent years has been concentrated in such industries. As investment in plant, equipment and inventories slowed down, imports of capital goods and industrial material declined sharply.

However, considering the severity of the adverse influences from abroad, the pace of economic activity in Canada remained remarkably strong. Weaknesses in some areas of demand were offset by increasing strength in others and business conditions in general continued favourable. The downward trend in production and employment in evidence in the closing months of 1957 was checked early in 1958. The tempo of production quickened as the year advanced and by the closing quarter was being reflected in a noticeable advance in consumer spending, an upswing in exports of goods and services and a modest accumulation of business inventories in place of the liquidation that had been adversely affecting production. Thus, though business outlays for plant and equipment were still falling, the year ended on a stronger note. The value of all goods and services produced during the year, expressed as the Gross National Product, reached an estimated \$32,509,000,000, the highest on record. This was a 2.3-p.c. increase over 1957 but, since most of that increase represented higher prices, the physical volume of output advanced by something less than 1 p.c. This gain may be compared with one of 9 p.c. in 1955, 7 p.c. in 1956 and a postwar average gain for the years 1947 to 1958 of 4 p.c.

The Changing Pattern of Demand.—An important factor having a sustaining effect upon general activity during 1958 was the high level of consumer spending supported by rising personal incomes. Consumer expenditure was about 5 p.c. higher than in 1957 but about half of that increase was represented by higher prices paid for most consumer goods and services, particularly food. It is of interest, however, that the rise in personal spending in real terms failed to keep pace with the growth of population so that real



Canada's uranium industry includes—in addition to the mining of huge ore bodies—the production of uranium oxide and refined metal as well as the fabrication of fuel elements. At the Crown-owned uranium refinery at Port Hope, Ont., production of oxide reached a rate of 15,000 tons a year by the end of 1958, representing 90,000,000 tons of ore.



Machining a 3,600-lb. uranium ingot, worth about \$50,000.



◀ NRU fuel rods ready for use—they consist of natural uranium sheathed in aluminum.

per capita consumption fell a little for the second successive year. This slight per capita decline was common to all categories of spending—durables, non-durables and services. Although more of the increased income flowed into savings during the spring and summer months, later in the year retail sales rose very sharply and the automobile market recovered strongly. The latter

accounted for a major part of the 4 p.c. increase in outlays for durable goods for the year. As a proportion of disposable income, personal savings increased from 7 p.c. to 9 p.c. in 1958, one of the highest ratios on record for a peacetime year.

Government expenditure was also an expansionary influence on the economy. Outlays were higher by all levels of government and the total increase amounted to 7 p.c. despite a substantial falling-off in federal defence expenditures.

Housing activity, which began to rise in the latter part of 1957, gathered momentum during 1958. Expenditures on house-building increased from quarter to quarter and for the year as a whole were 25 p.c. higher than in 1957. New records were also established in number of houses started and number completed, an activity supported by a greatly increased flow of mortgage funds from government and private sources.

Capital expenditures of other kinds showed varying trends. Business expenditures for plant and equipment fell by 13 p.c., the major part of the decline being in machinery and equipment. Much of the recent build-up in mineral and forest product industries had been completed by the end of 1957 and expenditure of this type was down substantially. On the other hand large outlays were involved in the late construction stages of the St. Lawrence Seaway and the trans-Canada gas pipeline and on several power developments. Expansion in the fields of trade, finance and other service industries continued at an undiminished rate and construction of government and institutional buildings also continued upward.

With an uncertain business outlook in the early part of the year, part of the demand for products was met out of stocks which were not replenished from current production. The shift from accumulation of business inventories in 1957 to liquidation in 1958 amounted to nearly \$600,000,000. However, toward the end of the year stocks were again being built up on a modest scale.

Commodity exports in 1958 were close to the level of the record year 1957, large increases in some commodities offsetting declines in others. Notable gains were made in exports of two new resource products—uranium and natural gas—as well as in wheat and flour, cattle and aircraft. Decreases occurred in many of the traditional export products, such as pulp and paper, copper, nickel, lead, zinc and asbestos, as well as in two new resource products—iron ore and petroleum. Imports into Canada were about 8 p.c. lower in 1958 than in 1957 as a result of the more moderate pace of industrial activity and reduced outlays for plant and equipment as well as the drop in inventories. About three-quarters of the decline was in imports of metal products which had risen rapidly during 1955 and 1956 when investment in plant and equipment was high. There was also a considerable drop in imports of fuels. At the same time, imports of many consumer goods remained at much the same level as in the preceding year. Nearly all of the reduction in total imports was accounted for by the fall-off in purchases from the United States. The sustained level of commodity exports together with lower imports resulted in a substantial decline in Canada's merchandise deficit. On the other hand, Canada's imbalance on non-merchandise items, such as tourist expenditures and interest and dividend payments, increased. Thus the deficit on current international account was cut from \$1,400,000,000 in 1957 to \$1,100,000,000 in 1958, one of the notable developments of the year.



Canadian beef moved into the United States in substantially heavier volume in 1958 to supplement drought-depleted supplies in that country. This movement was mainly responsible for the increase in farm income over 1957.

Production and Employment.—Quite divergent conditions existed in the various fields of production in 1958. Farm output was high, attributable to livestock rather than to crops. The latter output was about the same as in 1957 but production and sales of livestock rose in response to opportunities for export to the United States and to higher domestic prices.

In the industrial sector of the economy, losses in the commodity-producing industries as a whole were about balanced by gains in the service-producing industries. Among the commodity-producing industries, the impact of the business slowdown fell most heavily on forestry where production as a whole was substantially lower despite a better market for some important forest products. Greatly expanded output of uranium and natural gas in conjunction with sharply lower output of such products as nickel, asbestos, iron ore and petroleum held mining output at about the same level as in 1957. Manufacturing output fell off by nearly 4 p.c., mostly attributable to reduced output of durable goods; but during the course of the year manufacturing began to recover and by December the index was about 5 p.c. above its low point a year earlier. The only service-producing industries to be affected by the recession were the goods-handling group. Revenue freight car loadings, for example, were down by nearly 7 p.c.

The growth of the labour force had been exceptionally large in 1957 as a result of the high level of net migration and the upward trend in the proportion of the population either working or looking for work. In 1958, however, the increase was only 2.1 p.c. compared with 4 p.c. in the previous year. After the spring pick-up, employment followed the usual seasonal pattern, showing a firmer trend toward the end of the year. For the year as a whole, the number of persons without jobs and seeking work averaged 6.6 p.c. of the labour force, compared with 4.3 p.c. in 1957.

Income Flows.—In 1958 personal income rose more than national income and personal disposable income rose somewhat more than personal income. The main reason for the differing rates of increase was the decidedly sharp advance in government payments to persons. In addition, dividends paid in Canada were maintained despite a drop in corporate profits, and disposable income was further supported by a decline in direct personal tax collections. The increase in personal income was 6 p.c. and in personal disposable income

Although industrial employment in most areas and most industries was lower in 1958 than in 1957, average weekly wages and salaries were generally higher, resulting in an increase in personal income.



7 p.c., compared with a 3-p.c. increase in national income. Increased scales of old age pensions, family allowances and certain other items as well as higher unemployment insurance payments resulted in a 27-p.c. increase in transfer payments from government. Higher wage rates were mainly responsible for a 2-p.c. rise in labour income, the gain occurring in the service industries where there was a further expansion in employment. Forestry was the only major industry in which labour income fell sharply, but in mining and manufacturing it was slightly lower than in 1957. Net farm income, net income of non-farm unincorporated business, and personal investment income all advanced significantly.

Corporate profits, after dividends paid abroad, were 3 p.c. lower in 1958 than in 1957. Profits were particularly down for those industries producing goods for the export market and durable goods for the domestic market—specifically in the primary mineral, iron and steel, electrical apparatus and supplies, and petroleum and coal divisions of manufacturing. At the same time, higher profits were earned by industries producing foods and beverages, wood and paper products and chemicals and by most service-connected industries. Gains were quite pronounced and fairly widespread by industry in the closing quarter of the year.



The very moderate expansion in employment in 1958 was fairly well concentrated in the service industries, which have recorded a relatively high rate of growth in all postwar years.

National Income and Gross National Product, Selected Years 1939-58

(Millions of Dollars)

Item	1939	1946	1950	1955	1956	1957	1958
Income							
Wages, salaries and supplementary labour income.....	2,601	5,487	8,629	13,223	14,890	15,996	16,434
Military pay and allowances.....	32	340	137	394	424	476	491
Corporation profits before taxes ¹	521	1,269	2,118	2,570	2,908	2,547	2,475
Rent, interest and miscellaneous investment income.....	301	581	890	1,684	1,767	1,905	2,026
Accrued net income of farm operators from farm production.....	362	1,056	1,322	1,264	1,450	996	1,157
Net income of non-farm unincorporated business including independent professional practitioners.....	475	1,072	1,439	1,791	1,965	2,011	2,119
Inventory valuation adjustment.....	-56	-254	-374	-189	-238	-71	-29
Net National Income at Factor Cost.....	4,236	9,551	14,161	20,737	23,166	23,860	24,673
Indirect taxes less subsidies.....	734	1,270	2,000	3,237	3,636	3,848	3,858
Capital consumption allowances and miscellaneous valuation adjustments.....	637	998	1,913	3,266	3,642	3,994	3,923
Residual error of estimate.....	29	31	-68	-108	141	71	55
Gross National Product at Market Prices.....	5,636	11,850	18,006	27,132	30,585	31,773	32,509

¹ Excludes dividends paid to non-residents.

Gross National Expenditure, Selected Years 1939-58

(Millions of Dollars)

Item	1939	1946	1950	1955	1956	1957	1958
Personal expenditure on consumer goods and services.....	3,984	8,031	12,026	17,389	18,833	19,964	21,012
Government expenditure on goods and services ¹	683	1,796	2,344	4,792	5,386	5,738	6,150
Business gross fixed capital formation—²							
New residential construction.....	174	368	883	1,378	1,526	1,409	1,76
New non-residential construction.....	164	435	1,042	1,848	2,589	3,103	2,813
New machinery and equipment.....	254	585	1,423	1,984	2,659	2,823	2,324
Value of physical change in inventories—							
Non-farm business inventories.....	101	360	399	133	808	311	-276
Farm inventories and grain in commercial channels.....	181	-27	151	178	276	-101	-148
Exports of goods and services.....	1,451	3,210	4,183	5,764	6,365	6,394	6,289
Less: Imports of goods and services.....	-1,328	-2,877	-4,513	-6,443	-7,715	-7,796	-7,361
Residual error of estimate.....	-28	-31	68	109	-142	-72	-56
Gross National Expenditure at Market Prices.....	5,636	11,850	18,006	27,132	30,585	31,773	32,509

¹ Includes outlays on new durable assets such as building and highway construction by governments, other than government business enterprises; includes also net purchase of government commodity agencies.

² Includes capital expenditures by private and government business enterprises, private non-commercial institutions and outlays on new residential construction by individuals and business investors.

Source of Personal Income, Selected Years 1939-58

(Millions of Dollars)

Source	1939	1946	1950	1955	1956	1957	1958
Wages, salaries and supplementary labour income.....	2,601	5,487	8,629	13,223	14,890	15,996	16,434
Less: Employer and employee contributions to social insurance and government pension funds.....	-35	-149	-256	-476	-532	-589	-619
Military pay and allowances.....	32	340	137	394	424	476	491
Net income received by farm operators from farm production ¹	412	1,034	1,156	1,200	1,430	1,002	1,161
Net income of non-farm unincorporated business.....	475	1,072	1,439	1,791	1,965	2,011	2,119
Interest, dividends and net rental income of persons.....	570	817	1,268	1,840	1,908	2,013	2,129
Transfer payments to persons—							
From government (excluding interest).....	229	1,106	1,030	1,737	1,766	2,079	2,640
Charitable contributions by corporations.....	6	12	25	29	34	36	36
Personal Income	4,290	9,719	13,429	19,738	21,885	23,024	24,391

¹ This item differs from item five of the first table on p. 222 in that it excludes the adjustment to take account of accrued net earnings arising out of the operations of the Canadian Wheat Board.

Disposition of Personal Income, Selected Years 1939-58

(Millions of Dollars)

Disposition	1939	1946	1950	1955	1956	1957	1958
Personal Direct Taxes—							
Income taxes.....	62	711	612	1,297	1,496	1,693	1,553
Succession duties.....	28	54	66	127	146	126	126
Miscellaneous.....	22	31	62	75	90	98	112
Total Personal Direct Taxes	112	796	740	1,499	1,732	1,917	1,791
Personal Expenditure on Consumer Goods and Services—							
Non-durable goods.....	2,186	4,829	6,711	9,065	9,736	10,357	10,860
Durable goods.....	312	596	1,451	2,245	2,431	2,431	2,499
Services.....	1,486	2,606	3,864	6,079	6,666	7,176	7,654
Total Personal Expenditure on Consumer Goods and Services	3,984	8,031	12,026	17,389	18,833	19,964	21,012
Personal Saving—							
Personal saving excluding farm inventory change.....	140	878	583	652	1,079	1,295	1,703
Value of physical change in farm inventories.....	54	14	79	198	241	-152	-115
Total Personal Saving	194	892	662	850	1,320	1,143	1,588
Personal Income	4,290	9,719	13,429	19,738	21,885	23,024	24,391
Personal Disposable Income ¹	4,178	8,923	12,688	18,239	20,153	21,107	22,600

¹ Personal income less total personal direct taxes.

1959 — THE
ST. LAWRENCE
YEAR



The Jacques Cartier Bridge at Montreal, raised to permit the passage of larger ocean-going vessels, marks the beginning of the Seaway.

The new Seaway will be officially opened by Her Majesty Queen Elizabeth II on June 26, 1959.

A 20-mile channel with a minimum width of 200 feet extends from the Seaway entrance to the St. Lambert Lock.



The two adjoining powerhouses, one on either side of the International Boundary about two miles west of Cornwall, began large-scale production in September 1958—all 32 generators will be in operation in September 1959.



That turbulent waterway which served the progressive pursuit of trade since the middle of the eighteenth century—now completely harnessed, its rapids controlled or circumvented—is ready to keep pace with Canada's quickening economic pulse. Gigantic engineering projects, begun jointly by Canada and the United States in 1954, have transformed the 192-mile stretch of river between Montreal and Lake Ontario. Canals and locks have been built, existing passages deepened, control dams have been constructed and a great hydro-power project with a capacity of 2,200,000 h.p. now spans the river, bridges have been built or modified and harbour facilities extended, old towns have been flooded out and new model towns established to replace them, roads and railways have been relocated.

The power and navigation projects are integrated, each dependent upon the other, but they have been financed, built and are being operated separately. The cost of the former at \$600,000,000 was shared equally by Canada and the United States but Canada's share of the Seaway cost of \$471,000,000 was about \$340,000,000.

To a country such as Canada—still developing, still largely unexploited, still holding a great destiny in its hands—the possibilities of this ocean transport route are perhaps greater than man can foresee.



Control gates of one of the Seaway's seven new locks.



Two control dams have been constructed—the Long Sault Dam and the power plant combine to maintain the head of water required to operate the generators.



The upper-river control structure is the Iroquois Dam, by-passed by a new lock to lift shipping to the level of Lake Ontario. This is the area in which community rehabilitation has been most active.





Education	227
Scientific Research . . .	238
Health and Welfare . . .	246
Citizenship, Indians and Eskimos	262
Housing	270
Cultural Relationships . .	274

The Social Sphere

INEXTRICABLY interwoven with the economic life of the nation—with its physical resources and their develop-

ment, its industry and trade and finance—are the social relationships that have had their origin or genesis deep in history and tradition and have evolved in the particular political and material environment of the country. The individual within the family, in his day-by-day round of existence, is the basis of the social pattern and every facet of the mosaic concerned with his livelihood, his welfare and his cultural advancement is directed toward the common good and the enrichment of the national community. Every Canadian, through his representative governments, through his media of expression and through his voluntary community organizations has his place in setting the general level of life and every Canadian is the recipient of the benefits that have been provided by the many for his social and cultural advancement.

The awareness of responsibility in giving to the Canadian people the ultimate in educational facilities and in physical, mental and aesthetic advantages, always prevalent to some extent at the individual level, has been gaining momentum and that momentum is finding reflection in government action.

Education

On the first Tuesday of September, or thereabouts, the annual back-to-school movement begins for more than one-fifth of Canada's population, a movement that directly or indirectly affects almost everyone—children, parents, teachers, employers and shops of all kinds. To accommodate the pupils, more than 40,000 schools open their doors after a two-month vacation and teachers return to work. In the cities, transportation systems must accommodate thousands of additional passengers during the morning rush hours and return them in late afternoon. In the country, hundreds of school buses collect youngsters from the farms and transport them for anywhere from three to twenty miles to central schools and return them in the evening. Many children in both rural and urban areas walk, ride bicycles, drive their own cars or are driven to school. A few travel by boat and in winter others are taken by snowmobile. In northern Ontario about a hundred children at twenty railway sidings attend school in railway school cars. Some invalid children have school brought to them by visiting teachers, others receive some schooling in hospitals and sanatoria and hundreds, most of them in isolated areas, study their lessons by correspondence.

The largest group to join this back-to-school trek in 1957 were elementary and secondary pupils enrolled in some 30,634 public and separate schools. The usual age of entrance to grade 1 was six years. The four-year-olds, of whom there were not many, and most of the five-year-olds enrolled in the first or second year of kindergarten. The five-year-olds who would be six

during the first term entered primary classes, or grade 1. Most children aged six and seven were in school. Of those aged eight, more than 95 p.c. were enrolled and the percentage for succeeding years did not drop greatly until age 14 at which age 89 p.c. were still at school. From age 14 on, the percentage dropped year by year from 76 to 55, 37, 23 and 13 by age 19.

Those in the elementary grades entered just over 29,000 elementary schools of which almost 19,000 were one-room rural schools. The 536,670 secondary school students were enrolled in some 466 high schools, 386 junior high and 420 senior high schools, as well as 6,260 schools teaching both elementary and high school grades. Entrance to the junior high schools generally follows the completion of six elementary grades and entrance to the senior division is made three years later. However, the organization of schools varies from province to province, and even within a province, and may be an eight-four (eight elementary grades and four high school



These five-year-olds being initiated into school discipline and organized play in kindergarten will be among the approximately 350,000 children entering grade one in the 1959-60 school year. At the current rate of continuance, about 30 p.c. of them will complete their junior matriculation year.

grades), an eight-five, a six-three-three, a six-three-four, or a seven-four organization as in the Roman Catholic schools of Quebec. The four high school grades in Quebec were a part of the eight-year classical college course for those going on to university, but the trend is towards providing an alternative academic course paralleling the four-year or five-year courses in the high schools of other provinces for those planning to enter university.

About 75 p.c. of those who enter grade 1 manage to complete the first eight grades and of these some 65 p.c. enter high school. Failures and drop-outs reduce the percentage to 30 for those completing the junior matriculation year. At that stage some enter university, some begin training in nursing, business or trades, and about 12 p.c. remain in high school to complete the final year. The end of the elementary school is the parting of the ways for many students. Whereas the majority of those returning to school in the autumn continue in the regular academic high school stream, a minority

This new rural school in Nova Scotia accommodates 300 elementary-grade pupils, most of whom travel to and from home by school bus.



enter commercial, technical, agricultural or home economics schools and a still smaller number enter trade schools.

In addition to those in the public schools, the paths of some 100,000 other children lead them to the private schools where they become day pupils or boarders and pay an annual fee of anywhere from \$50 to well over \$1,200 depending on whether or not they live in, or whether the school is operated by a religious or other organization or run as a business concern, and on the courses offered. Outside of Quebec there were 1,212 such institutions in 1956-57.

Some two weeks after the first wave of autumn students enters school, those who wish to become teachers enter teacher-training institutions either separate from or an integral part of a university. The course is generally covered in one school year, except for those



Tenth-year students in a Montreal high school using a hand-made balance in their physics class. Most students entering high school remain in the academic field of study.

One of Metropolitan Toronto's new high schools, built to accommodate a 4,200-increase in student registrations in 1958 over the previous year.





Industry is becoming increasingly interested in furthering the education of promising young Canadians, particularly in the scientific and engineering fields, by providing fellowships for advanced post-graduate studies.

who intend to obtain their first degree in education, and those with junior matriculation who take a two-year course in Ontario. In 1956-57 there were 14,732 students in training for the teaching profession.

While faculties of education in many universities have trained secondary teachers for years, there has been a recent trend towards making the universities responsible for all teacher training. In British Columbia and Alberta all teacher training is an integral part of the university or affiliated colleges. All student teachers are enrolled in courses leading to a degree in education, but they may interrupt the course and take teaching posts at the end of any of the three or four years required. In Saskatchewan the teacher-training courses remain separate, but credit towards a university degree is given for the year at teacher-training college. In Manitoba the colleges remain separate—the main one at Tuxedo being a subsidized residential school—and the university faculty prepares secondary teachers as in Ontario. Candidates for Ontario elementary teaching certificates take one-year or two-year courses depending on whether or not they have completed four or five years at high school. Quebec has 115 teacher-training colleges for men and women, some exclusively for brothers or nuns of religious orders. Many of these are boarding schools and most of them require completion of eleven years for entrance. Quebec's Protestant teachers are prepared at Macdonald College. In Prince Edward Island and Newfoundland all teacher training is given at Prince of Wales College or at Memorial University where it is heavily subsidized. In Nova Scotia and New Brunswick steps have been taken to coordinate the work of teacher colleges with the universities.

The back-to-college movement occurs between the middle and end of September. In 1958 some 94,000 full time regular students enrolled in 35 degree-granting institutions, other than purely theological institutions, and 304 affiliated or independent colleges. Just over one-third of this number entered for the first time and one out of twenty were graduate students. Some 36,000 enrolled in arts and science courses which is the largest faculty, 14,550 in engineering, 4,850 in commerce and business administration, 4,384 in medicine, 2,738 in law and the remainder in more than 20 other courses. Another 75,000 or more students were enrolled in part-time courses, short

The university student has reached the stage of specialization and the graduates emerging each year are prepared to enter many fields in the professional world—in pure and applied science, in commerce, in agricultural and household science, in education and social service, in medicine, in law, in theology and in the arts.



Vocational training at the secondary level prepares young people to enter the working world at a fairly young age. Such training is often given in combination with academic studies in the provincial high schools or in trade and technical institutes outside the regular school system.



For the girls, commercial courses are by far the most popular.

courses, evening courses and extension courses. During the year 1955-56, some 12,978 students received first degrees, another 1,539 received masters degrees or licences and 266 received doctorates, not counting the 190 who received honorary doctorates.

Teaching personnel in 1958

instructing in the universities and colleges included some 6,500 full-time and 6,000 part-time employees.

Vocational Education.—It is more difficult to follow students enrolling for vocational training since many do not enter immediately after leaving regular classes, nor do they all enter at the same time of year. Also the courses offered vary from short courses of six weeks to courses lasting for two or three years, not to mention part-time apprenticeship courses. During 1956-57 some 44,000 persons participated in full-time day courses, 60 p.c. at high school level, 11 p.c. at post high school level and 29 p.c. in trade courses. The most striking increase in recent years is in post high school and advanced technical courses. The post high school technical institutes and trade schools are generally operated by the provincial government and those at high school level by the municipality concerned.

Some enter schools for agriculture or household science but in 1958 about 10,200 entered 132 private business colleges elsewhere than in Quebec and Newfoundland, figures for which are not available. In addition, 3,732 students took part-time courses and 13,078 took evening courses. Of the full-time students taking business courses, 23 p.c. were 16 years of age or under, 45 p.c. were 17 or 18, 20 p.c. were 19 to 25 and the remainder older. To instruct them, 369 full-time and 185 part-time teachers were employed.

Education of Indians and Eskimos.—Among the school children in Canada in 1957-58 were 38,680 Indian children attending 66 residential, 368 day, 31 seasonal and 11 hospital schools; they were taught by 1,132



For the boys, courses vary greatly from mechanical skills to draughting and commercial art.

teachers. About 17 p.c. of all Indian children attended regular schools and were part of a co-operative program of joint schools for Indian and non-Indian pupils within the provincial educational systems. Additional facilities have recently been provided for Indian, Eskimo and other children living in remote areas, especially in the Territories. Many of these people are nomadic which presents problems to add to those of communication and transportation. Often school buildings and residences must be transported to their communities by air.

Adult Education.—It is not only the children who go to school in Canada—it is estimated that perhaps 1,000,000 adults participate during the school season in one or more of a great variety of activities ranging from fundamental education to studies at university level and courses directed towards such ends as English or French for new Canadians, preparation to hold better jobs, do-it-yourself skills and an increase of knowledge whether for university credit or not. The courses are directed, sponsored or offered by departments of government, Crown corporations, municipal boards, universities and high schools and private agencies, including churches, workers' groups, the Wheat Pool, Women's Institutes and Homemakers, etc.

The most spectacular growth in evening classes has been in courses for business, industry and the professions, many of which have been given by the university collaborating with a business or other association. Perhaps



Registering for night classes in an Edmonton high school, a scene repeated in hundreds of other schools across the country.

65,000 adults are enrolled in short courses, evening courses, extra-mural and extension courses of the universities. Another 50,000 are taking part in various courses, conferences and activities sponsored or conducted from the provincial departments and twice as many in other activities conducted in the elementary and secondary schools.

It is not possible at present to indicate the number participating with any degree of regularity in Citizens' Forums and other educational programs of the Canadian Broadcasting Corporation and film showings of the National Film Board nor the amount of unorganized education obtained from the libraries but it is recognized that there has been a tremendous growth in adult education activity paralleling improvements in communication and transportation, and perhaps related to a higher level of living, greater mechanization and more leisure, and generally to the changing pattern of life.

Special Education.—While thousands of youngsters were enrolled in the regular classes of public, separate and private schools, there were others—some 42,430 pupils in 1953-54—who were not able to benefit from such education. Among these were 562 blind or partially sighted at schools for the blind and 411 in special classes; 1,586 deaf or near-deaf in schools for the deaf and another 331 in special classes; 1,720 were in hospital and 1,572 in sanatoria; another 592 were homebound and 558 were in open-air schools; 950 were orthopaedic or cerebral-palsied. In addition, instruction was given to 15,792 mentally retarded, 89 emotionally disturbed, 2,786 delinquent and 3,485 orphaned and neglected children. The teaching of these youngsters introduces many and varied problems and involves the efforts of some 1,900 teachers. The greatest problems arise in isolated rural areas where it is difficult to make provision for those who cannot be sent to special institutions.

School Administration and Finance.—Each of the ten provincial legislatures is responsible for providing educational facilities for its school population and determining what schooling shall be offered. In all provinces, except Quebec where the Provincial Secretary represents education on the floor of the Legislature, there is a Minister of Education appointed to serve at pleasure. He is advised by a Deputy Minister who is in charge of the Department of Education. Liaison is maintained between the Department and local schools by superintendents, inspectors and supervisors. The Department prescribes curricula, authorizes textbooks or lists of books, prescribes teacher training, inspects the schools, determines the school year, hours of instruction, age of compulsory attendance, and so on. It keeps abreast of the times and effects changes normally after consideration of reports of the inspectors and supervisors, through curriculum and other conferences and, when more drastic changes seem expedient or for general stocktaking, through setting up Royal Commissions. In 1957, Royal Commissions were appointed in British Columbia, Alberta and Manitoba and previously Royal Commissions in Ontario, Nova Scotia, New Brunswick and Prince Edward Island had reported on education, or education finance. The terms of reference for such a commission may be as broad as to include all phases of public education or be limited to school organization, school finance, school instruction and planning, teacher supply and training, special services, etc., or any combination of these.

At the local level, public and separate schools are administered by boards of local citizens elected from among the ratepayers or appointed by the

province to operate the schools according to the school law and regulations. They are generally responsible for providing school accommodation for all children of school age in the district, employing teachers and managing the necessary finances. Where larger units are established and in the cities, one or more superintendents, a business manager and others are often employed to give professional advice and perform specified services. Where there are larger unit boards, local boards may be retained with limited responsibilities.

In 1957-58 there were about 20,372 school boards and 585 official trustees. Of the board members, 4,770 were appointed and 64,830 elected. Included among the boards were 1,090 larger unit boards, 11,200 boards within the units and 8,085 independent boards. Some were elementary or secondary or both, some were public or separate, and a few boards made up an intrinsic part of the municipal council.

Federal legislation in 1957 provided for the establishment of a Canada Council for the encouragement of the arts, humanities and social sciences and

Post high school education does not necessarily take place in university.

Junior matriculation is the minimum educational requirement for entrance to any hospital school of nursing that graduates students eligible for registration.



The demand for skilled manpower in industrial fields has resulted in a much greater emphasis being placed on technical training beyond the high school level.





The University of Ottawa has added a new chemistry building to its science campus, which now houses Canada's second largest graduate school in chemistry. It contains some \$200,000 worth of the most modern of technical apparatus and its main laboratory alone can easily accommodate 200 students.

set aside \$100,000,000, half as an endowment fund for purposes of the Act, and half for building grants to institutions of higher learning over a ten-year period. The Council was authorized to set up a National Conference for UNESCO and a 26-member commission was formed in August 1957 with representatives from the Canada Council, the Department of External Affairs and national associations in education, science and culture.

The problems related to school finance have been increasing year by year because of the demands for more schools and teachers and because of higher costs. The total amount spent on formal education has therefore also increased and the provincial governments and municipalities, which collect the bulk of the amount, have felt the extra burden. Outside of Newfoundland, school boards generally prepare their budget for the year and submit it to the municipal authorities which levy and collect the difference between the amount needed and the amount to be received from grants and fees. Provincial grants are usually paid as a basic grant calculated on a prescribed minimum cost determined from number of classrooms, certificates of the teachers, average attendance, etc., with some attempt to equalize educational opportunity; and special grants to assist with transportation, music, arts and crafts, special classes, or other services. Provincial technical and trade schools are financed by the provincial governments with some of the proceeds from low fees. Municipal vocational schools are financed as are other municipal schools, except for the addition of federal grants for construction and maintenance.

Estimates for 1957 place the amount expended on elementary and secondary education at \$778,000,000, compared with \$240,000,000 ten years before, an increase of some 12.6 p.c. a year. Local education authorities provided about \$410,000,000 of the 1957 total; provincial governments, whose share is increasing most rapidly, about \$340,700,000; and the Federal Government \$25,000,000, expended largely for the education of Eskimo and Indian children and for vocational education.

Universities are financed from provincial and federal grants, fees, endowments and gifts, and special subscriptions for buildings. Expenditures for higher education have increased about 11 p.c. a year during the past decade and are probably about \$154,000,000, of which \$72,000,000 comes from provincial and \$44,000,000 from federal sources.

Statistics of Canadian Education, School Year 1956-57

Type of School	Schools	Teachers	Pupils
	No.	No.	No.
Provincially Controlled Schools—			
Elementary and secondary.....	28,884	122,829	3,258,809
Evening.....	—	—	209,281
Correspondence courses.....	—	—	46,975
Schools for the blind.....	6	94	576
Schools for the deaf.....	8	203	1,605
Teacher-training schools.....	133	1,020	15,723 ¹
Federally Controlled Schools—			
Indian schools.....	468	1,500	30,835
National Defence schools overseas.....	12	225	4,504
Northwest Territories.....	36	155	3,104
Privately Controlled Schools—			
Academic (Que. independents included).....	1,212	10,869	151,141
Business training schools ²	250	554 ³	46,346
Universities and Colleges—⁴			
Full-time university grade.....	283	7,180	78,100 ³
Extension, part-time, etc.....	—	7,210	98,300
Totals	31,292	151,839	3,945,299

¹ Includes 991 pupils in short courses.

² Day, evening and correspondence courses.

³ Excludes Quebec.

⁴ Excluding pre-matriculation courses.

Carleton, Canada's newest university, is becoming established in its permanent quarters on the outskirts of Ottawa, between the Rideau River and the Rideau Canal. The three buildings now completed will form the nucleus of a planned thirty-building campus, to be constructed as required. The University, which conferred its first degrees in 1949, now has an enrolment of about 1,750 full-time and part-time students.



Scientific Research

In Canada, as elsewhere in the world, production and industry move forward on the findings of the scientist and the research worker, and most of the advances in every field of modern activity can be traced back to the laboratory or the draughting table. The unique problems of this country—its climate, its topography and resources—have led to a typically Canadian organization of research. Federal government, provincial government and university organizations all have an interest in problems of industrial and social significance and though these institutions perform the bulk of scientific research within the country, many Canadian industrial establishments now possess very extensive research facilities and have become predominant in the solving of practical problems connected with their own activities. To compete, industries must today keep abreast of all scientific and technological advances wherever developed and adapt them to their peculiar requirements.

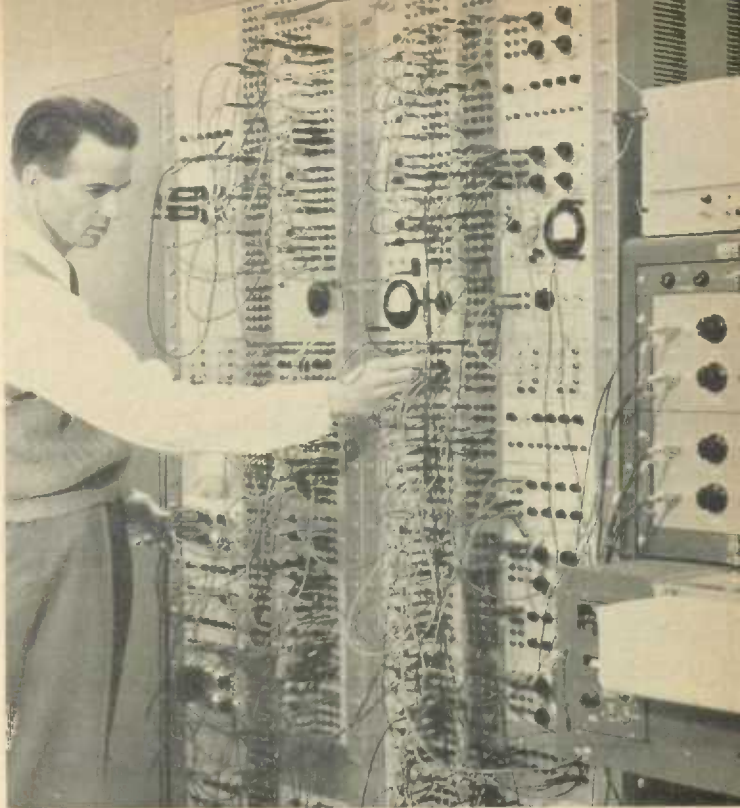
During 1958 one of the most dramatic illustrations of the close links that have been forged recently between research and engineering development in Canada was the removal of Ripple Rock in the Strait of Georgia, which required concerted long-range planning by provincial, federal and industrial interests. Perhaps more significant still was the stimulus that this practical project gave to fundamental research. The explosion, considered an artificial earthquake, lent itself to a series of complex experiments in which the Dominion Observatory, the Hydrographic Survey, the National Research Council, the Royal Canadian Navy, the University of Alberta and various commercial companies collaborated. These seismographic experiments were added to Canada's already extensive and far-ranging contributions to the International Geophysical Year. Officially concluded on Dec. 31, 1958, the IGY was but one of the many supra-national activities in the field of science taking place during the year where Canadian participation played a major role. For instance, the National Research Council's Postdoctorate Fellowship Scheme entered its twelfth year of operation, bringing to Canada an increasing number of young scientists from almost all countries of the civilized world. On the

other hand, more offers reached Canadian scientists to serve on missions for UNESCO, to participate in international expeditions and to help with the Colombo Plan, both as experts abroad and as mentors for Colombo Plan Fellows whose training requirements may range from learning how to build a nuclear reactor to studying the latest techniques of food and drug inspection.



Scientist at the Department of Transport Ionosphere Station at Resolute Bay, N.W.T., reads the actual value of the earth's magnetic field using equipment developed at the Dominion Observatory.

An engineer, working with an electronic computer, experiments with a mine-hoist problem. Actual conditions simulated on this equipment can be studied and customer's problems eliminated before equipment is designed, manufactured or installed.



International Congresses, held more and more frequently in Canada, also help greatly in the exchange of scientific information. For example, the International Botanical Congress scheduled for Aug. 19-29, 1959, in Montreal, will give many Canadians a unique chance to establish personal contacts with world leaders in varied scientific disciplines. Moreover, this meeting is expected to foster progress in Canadian agriculture, horticulture, forestry and conservation of resources; to leave its imprint on medicine and pharmacology; and to benefit all kinds of industry, ranging from such unexpected applications as may be found in road construction, home building, mineral prospecting, and even oil exploration to such obvious beneficiaries as the food processing, the brewing, and the milling industries.

Industrial Research.—Increasing interest of industry in research-development is shown by investment in new or extended research facilities, which amounted to \$12,800,000 in 1957. This represents more than 20 p.c. of the estimated value of all facilities used for research up to 1955. Indications are—from the size and number of industrial laboratories opened in 1958—that this rate of growth will be kept up for several years to come, which means, roughly speaking, that during the 1950's alone Canada will have experienced an industrial research expansion equivalent to that of the entire first half of the century.

Some 4,500 professionally trained scientists were employed by industry in 1957—the number having doubled in the short span of two years—as well as about 3,500 technicians.



Outstanding research in different fields has become associated with various universities. At McMaster, nuclear research is a specialty. A new reactor provides neutrons and gamma rays and radioactive isotopes for studies in the physical and biological sciences, engineering and medicine.

Total industrial research investment for 1958 amounted to approximately \$100,000,000, to which another \$50,000,000 should be added as the amount spent by industry on government research-development prime contracts. But just to avoid the impression that progress can be taken for granted and that "everything has always gone right by accident", it is important to note that decreases in research-development expenditures were anticipated in the mining, textile products, and "other" non-manufacturing industries to the extent of \$1,000,000, the bulk of which was in the mining industry.

These figures are based on a survey of 2,800 companies with 100 or more employees, prepared by the Dominion Bureau of Statistics in co-operation with the National Research Council.

University Research.—Many universities in Canada have launched long-term building programs that reveal both the grasp of and the reach for benefits yet to be derived from higher education in all fields. In these plans, biological, chemical, medical, physical and engineering sciences are not being overlooked. At the University of Ottawa, for instance, a million-dollar chemistry building has followed hard at the heels of a similar electrical engineering building, to be followed in turn by a million-dollar biology building. And on the brand-new campus of Carleton University, only a few miles away, the Henry Marshall Tory Building for Science and Engineering is nearing completion. In the Maritimes, St. Francis Xavier University recently opened a Chemistry and Physics Building; Dalhousie University is erecting the Sir James Dunn Science Building; Mount Allison and the University of New Brunswick have also greatly expanded their science teaching facilities.

But by far the most magnificent academic structure, both in conception and execution, is the new École Polytechnique on the campus of the University of Montreal. Built at a cost of nearly ten million dollars, it takes care of an enrolment of nearly 1,000 students; allowance is being made, at the same time, for the possible doubling of that enrolment within the next ten years.

Emphasis on buildings and their cost is, of course, merely a macroscopic and grossly materialistic measuring stick; increased salaries and improved research conditions for professors are considerations of at least equal importance; so is the provision of scientific apparatus, such as electronic computers for the University of Toronto, a wind tunnel for the University of British

Investigating efficiency of drill rods in the laboratories of the federal Department of Mines and Technical Surveys. Mines Branch research covers all problems involved in the search for, development, treatment and utilization of Canadian minerals.



Columbia, a nuclear reactor for McMaster University. The financing alone of these modern monumental teaching aids often involves separate contributions from various industrial firms and government agencies.

Government Research.—With the gradual unfolding of Canada's industrial research potential and with the flowering of science at Canadian universities, the growth curve of government research is beginning to level off. Notable among recent additions to government laboratories are: the new forest products laboratory of the Department of Northern Affairs and National Resources; the new testing laboratory of the Department of Public Works; the telecommunications laboratory of the Defence Research Board; the fire research laboratory of NRC's Division of Building Research; and, in the provincial field, a large laboratory and pilot plant of the Alberta Research Council. But the most significant indication of the maturity reached by Federal Government research in Canada is the complete reorganization of the Department of Agriculture: a new post of Assistant Deputy Minister (Research) has been created, as the administrative head of a Research Branch composed of seven research institutes—plant research, genetics and plant breeding research, dairy technology research, microbiology research, animal research, soils research, and entomology research.

Three of the Federal Government's research agencies enjoy a considerable measure of autonomy—the National Research Council, the Defence Research Board, and Atomic Energy of Canada Limited. Brief reports on their recent work follow.

National Research Council.—The largest and most diversified program of civil research in Canada is carried out by the National Research Council. Its laboratories, at Ottawa, Saskatoon and Halifax, are engaged in many investigations of interest to Canadian industry. Some are undertaken on the initiative of the Council itself in order to develop promising ideas of its own scientists; some are taken up on recommendation of the Council's associate committees, which include representatives from industry who are interested in particular problems; and others are undertaken in co-operation with individual companies. Routine test work is avoided except when the Council is asked to certify performance of equipment as an independent body.



The National Research Council laboratories at Ottawa provide modern and expanding facilities for a wide range of scientific and engineering studies. The latest addition to the building structures is a unique fire research laboratory completed in 1958.

Each problem presented to the Council is considered on its merits and dealt with in what seems the most practical way; those of national interest may be undertaken at the expense of the Council; the expense of company problems of less than national scope may be shared by the company and NRC; when facilities are not available elsewhere, specific industrial research may be undertaken by NRC on a fee basis, the results of which become the property of the company.

NRC operates a Technical Information Service the function of which is to help bridge the gap between the fund of technological know-how already available and the needs of companies with little or no research facilities. Currently it handles about 10,000 inquiries a year from all types of industrial establishments.

The TIS has a staff of professional engineers and scientists at Ottawa and also maintains field men in the main industrial centres of the country, most of whom are attached to the provincial research councils. Where a problem is of wide interest a report is prepared by the TIS for general distribution. More than 60 such reports, ranging from heat economy in textile mills to time and motion studies in mines, are now available. In addition, about 70 information notes have been published on questions of management with technical aspects. This TIS service is free.

The NRC also gives financial help to scientific societies in Canada as well as to international congresses meeting here; it advises the government on scientific matters; it provides direct aid to science in the universities. In 1958, out of the Council's budget of \$24,000,000, nearly \$5,000,000 were devoted to scholarships and grants in aid of research.

The Defence Research Board.—The formulation of broad general policies for defence research and development in Canada, together with the co-

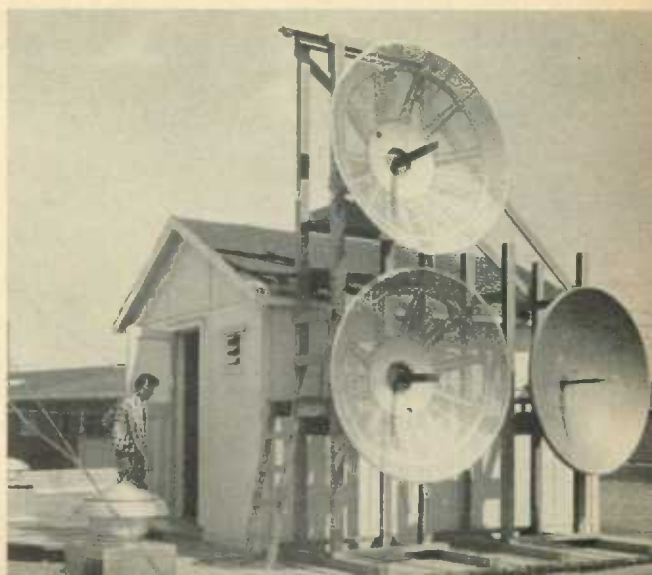
ordination of the defence research program in the universities and with industry and government agencies, is the responsibility of the Defence Research Board. The Board has been functioning since 1947 under the National Defence Act and is made up of a chairman, a vice-chairman, six ex-officio members and a number of appointed members.

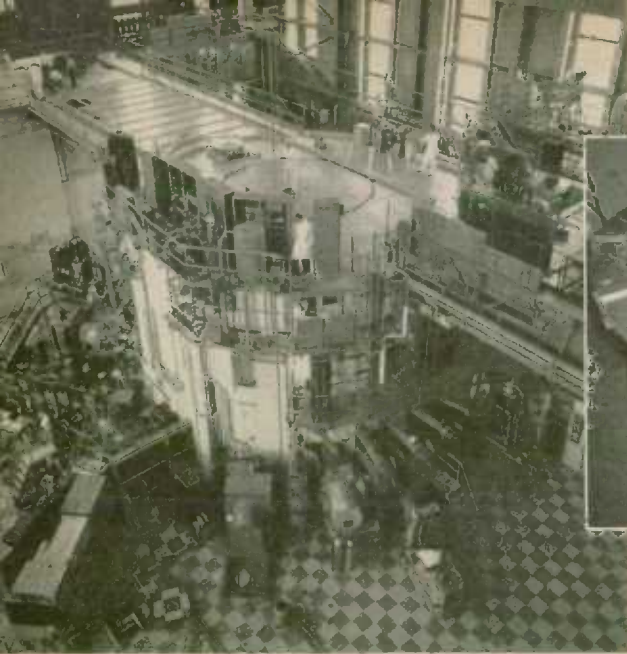
In addition to its Ottawa headquarters, the Board has an operational research group and eleven field research stations across Canada, as well as liaison offices in London and Washington. Its efforts are concentrated on defence problems of particular importance to Canada or on those problems for which Canada has unique resources or facilities. Existing research facilities are used wherever possible to meet the needs of the Armed Forces and new facilities have been built up only in those fields that have little or no civilian interest. All operations are co-ordinated with developments in the United Kingdom and the United States in order to eliminate any duplication of effort.

Atomic Energy of Canada Limited.—This Crown company operates Canada's atomic research establishment at Chalk River, Ont., about 130 miles northwest of Ottawa. The company has a nine-man Board of Directors that includes representatives of private industry, public and private power companies, and the universities, and is engaged in the development of technology for economic atomic power, fundamental research in the atomic energy field, operation of nuclear reactors and production of radioactive isotopes and associated equipment.

The company is collaborating with The Hydro-Electric Power Commission of Ontario and the Canadian General Electric Co. Ltd. in the building of an experimental atomic power station not far from the Chalk River establishment. Known as NPD (Nuclear Power Demonstration), this natural uranium heavy-water plant will send 20,000 kw. of electricity into Ontario Hydro distribution lines when it goes into operation in 1961. A preliminary design for a 200,000-kw. atomic power station is being produced at the Nuclear Power Plant Division in Toronto, staffed mainly by engineers from publicly and privately owned power companies. Power-producing organizations in various parts of the country are kept informed on atomic power through such direct participation in the program and through the Advisory

NRC equipment for testing radio-wave propagation. The research deals with the effects of weather on beyond-the-horizon scattering and, conversely, studies weather phenomena by means of radio waves.





NRX Reactor with research equipment around its base; the reactor is used for atomic power experiments, fundamental research and the production of radioactive isotopes for medicine, industry and agriculture.

Spectrometer used to study beta rays from radioactive nuclei produced in the reactors. Large circular coils carry electric currents which create an accurately shaped magnetic field.

Committee on Atomic Power Development, on which the various power producers are represented.

Four reactors were in operation at Chalk River during 1958: NRX (40,000,000 watts) which is used for atomic power experiments, fundamental research and the production of radioactive isotopes for medicine, industry and agriculture; NRU (200,000,000 watts) which produces plutonium, makes radioactive isotopes and has extensive facilities for research, engineering development and testing; ZEEP (100 watts) which is used to measure the radioactivity of fuel elements before and after they have been irradiated in one of the high-power reactors; and PTR (100 watts) which is used for testing the reactivity of fuel samples and the neutron-absorbing properties of other materials. Construction has begun of another low-power reactor, ZED-2, which will be in operation in early 1960 for testing atomic power station fuel rod arrangement in large power reactors. The two large reactors are fuelled with natural uranium and PTR with enriched uranium. Fuel for the two other low-power reactors varies with experiments.

The principal function of the Chalk River project is to carry out fundamental research and preliminary engineering development. It provides the data that utilities and manufacturers need for a nuclear power program and its activities cover a wide field of research in physics, chemistry, metallurgy and biology. Short-term investigations include those giving the basic information required for the work on the power reactors, and the longer-term work, though mainly the responsibility of physicists and biologists, also involves the chemistry of substances that have become important only since the development of atomic energy. A number of research groups

are making a co-ordinated attack on the problems of the preparation and processing of reactor fuel, and work continues on the study of nuclear structure. A new 10,000,000-volt Tandem Accelerator, installed in 1958, permits the conducting of research on heavy nuclei with an accuracy and efficiency not previously possible. Activities also include the control of radiation hazards, the development of decontamination methods, the study of uses of radioactive isotopes in biological research and the effects of radiation on living organisms.

Canada pioneered in the production of radioactive isotopes and the Chalk River project now produces a variety of isotopes for use in industry, agriculture and medicine. The high flux of NRX permits the production of relatively large quantities of Cobalt-60 for use in cancer therapy units, for which the demand is great. By the end of 1958 a total of 133 cancer treatment machines had been installed in 24 countries. The marketing of radioactive isotopes and associated equipment is handled by AECL's Commercial Products Division.

Canada has a permanent seat on the Board of Governors of the International Atomic Energy Agency, the function of which is "to encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world". Further international co-operation is conducted by Canada through bilateral agreements with other nations for the exchange of information, the supply of equipment and materials, and use of facilities.

Tree diseases are studied with the aid of isotopes.



One of the seven different types of isotope teletherapy equipment designed and built in Canada. More than 130 of these units are in use in clinics throughout the world.

A radiography machine used by agricultural scientists to grow plants in an atmosphere of radioactive carbon dioxide during studies of vitamins.



Health and Welfare

HEALTH itself is all embracing, touching each and everyone; ill health is costly; good health is priceless. Aware of this, the people of Canada have endeavoured to establish in this country a level of health that is high in comparison with that found in many areas of the world. Through their governments the people have set up sanitary controls over a great part of their natural and social environment, success having been most conspicuous in the field of diseases carried from one person to another by some human or non-human agent. Associated with this success have been important advances in water supply sanitation and pure food control, as well as advances in personal hygiene, the latter largely the result of health education. Through government aid and individual payments, the people have also added materially year by year to the resources available to fight illness and to maintain good health. Hospital beds, for example, were increased by one-third in the past ten years, the increase being most apparent in public hospitals providing general health services. To pay for the various health services and resources there have been established a number of prepayment and insurance schemes. The hospital schemes are largely government-administered and most of the medical programs are privately operated. Such schemes are intended to turn the sudden and often crippling burden of health care expense into a series of regular payments.

Health problems vary not only with the size but also with the age-sex composition and other characteristics of the population. Through immigration and through natural increase, the Canadian population has grown by almost 4,000,000 persons in the past ten years. And not only are there more people in the country but those people are living longer. The average age at death is now about 60 years, five years higher than it was a decade ago. The greater natural increase and the longer life-span are giving a growing importance to the health service demands of the younger and the older age groups. Some considerable success has been achieved in improving the health situation of infants and of their mothers. The infant death rate has dropped from 44 per 1,000 live births in 1948 to 31 in 1957 and the maternal death rate from 1.5 per 1,000 live births in 1948 to 0.5 in 1957; during the

same period the proportion of births taking place in hospital increased from 72 p.c. to 90 p.c. Also the death rate from infective and parasitic causes, per 100,000 persons under 15 years of age, declined from 59 in 1947 to 13 in 1956. However, the greater the success that attends the efforts to safeguard the life of young persons, and the life of mothers giving birth to children, the





The life expectancy of the young Canadian today exceeds that of his father by some ten years and that of his grandfather by some twenty years. In measuring the progress of humanity during the past century, technical and mechanical progress has been overshadowed in importance by the accomplishments in the fields of medicine, surgery, hygiene and nutrition.

greater the number of people entering older age groups where they are exposed to the chronic and degenerative diseases. In 1947, for example, cancer and circulatory system ailments were responsible for the deaths of 18 out of every 1,000 persons in the population 50 years of age or over but in 1956 these same diseases were responsible for the deaths of 20 out of every 1,000 persons aged 50 or over. The death rate from cancer of the respiratory system for males aged 50 or over increased from 58 per 100,000 in 1947 to 110 per 100,000 in 1956.

It is natural that people 65 years of age or over should have the highest rate of illness of any age group and should therefore make greater use of health services than any other age group. While the death of the young is



Extensive laboratory research in many fields is part of the service of the Department of National Health and Welfare in carrying out its responsibility of safeguarding the health of Canadians.

Study of the existence of biochemical differences between normal and malignant cells in tissue culture is a major activity of the Laboratory of Hygiene.



Tests for harmful residues and impurities in vegetables are made in the central Food and Drug laboratory at Ottawa. Five regional and two district laboratories are operated by the Food and Drug Directorate in their work of maintaining the safety, purity and quality of all foods, drugs, cosmetics and medical devices offered to the Canadian public.

more tragic and more serious in terms of years lost than the death of the mature, the family and social consequences of ill health and of death at any age cannot be minimized and the prolonging of the healthy life of older citizens is one of the most pressing of health problems today. In recent years the cost of health services has gone up considerably beyond that accounted for by general price increases mainly because the amount of available health service has been expanding in response to a growing public demand for such service. Health services become more complex with each advance in diagnostic and treatment facilities. Personal expenditures on medical, dental, hospital and nursing care and also on accident and sickness insurance and pre-paid medical care have increased by 141 p.c. in the past ten years. Expenditures on health by governments at all levels and by other agencies have

also increased substantially. Besides such direct expenditures for health, there are many indirect health costs that affect the country's economy. Disabling illnesses, for example, cause an annual loss of tens of millions of working days. Direct and indirect economic effects of health conditions do not begin to exhaust the social implications of good health and of ill health, for these implications affect each person and each activity in the social structure.

Health Services

Canada provides a comprehensive range of health and welfare services designed to assist the individual in meeting today's major social hazards. Pensions and allowances for the aged and disabled and for mothers when the breadwinner is lost, unemployment insurance and provincial social assistance programs contribute to maintaining income for those whose earning powers are lost or diminished permanently or temporarily. Hospital insurance in most provinces brings necessary hospital care within reach of all residents. Preventive health, rehabilitation and welfare services are available to large sections of the population. Gaps remain in the range of services available and in the areas to which they are provided but a basic structure of protection is being erected to provide a flexible and expanding approach to health and welfare needs.

Medical and hospital care are, in general, provided through the private physician and the community-owned or voluntary hospital; supporting public health services are a provincial responsibility, sometimes delegated to the municipality. In recent years, the role of government in health services has greatly expanded. Most provinces are now developing programs of hospital insurance and diagnostic services under a federal-provincial program, and preventive and other supporting services are well established in most areas of all provinces. Voluntary agencies also play an important role in health matters at the national, provincial and local levels.

The federal Department of National Health and Welfare is mainly responsible for federal participation in health matters, although important treatment programs are administered by the Departments of Veterans Affairs and National Defence. The National Research Council, Defence Research Board, and Department of National Health and Welfare make grants in

Free inoculation against communicable diseases, including Salk vaccine for the control of poliomyelitis, is available to all school children.





First grade classroom in the School for the Blind at Brantford, Ont. In 1958-59 there were 562 blind or partially sighted children at such schools and another 411 in special classes.

Blind high school students at Brantford play hockey, following the position of the noise-making puck by sound.



support of health research, and the Department of Agriculture has certain health responsibilities connected with food production.

The Department of National Health and Welfare administers control of food and drugs including narcotic control, quarantine and immigration medical services, international health work, and health services to Indians, Eskimos, sick mariners and other groups. It serves the provinces in an advisory and co-ordinating capacity and makes grants to certain national voluntary agencies. One of its most important roles is in the provision of financial assistance for the development of provincial health and hospital services, through the National Health Program, and for provincial hospital insurance programs, through the Hospital Insurance and Diagnostic Services Act of 1957, under which the Federal Government shares approximately half the costs with any province signing an agreement to provide a certain specified range of insured hospital services. By Jan. 1, 1959, seven of the ten provinces had hospital insurance schemes in operation under the program. British Columbia, Alberta, Saskatchewan and Newfoundland have had hospital insurance programs for a number of years.

The federal-provincial hospital insurance program provides for in- and out-patient services in hospitals, except for tuberculosis institutions and mental hospitals where the provinces already provide essentially free services, and in nursing homes or institutions providing custodial care only. Services

include accommodation and meals at the standard or public ward level; necessary nursing in hospital; laboratory, radiological and other diagnostic procedures, together with the necessary interpretations for maintaining health, preventing disease and assisting in the diagnosis and treatment of injury, illness or disability; specified drugs, biologicals and related preparations; use of operating room, case room and anaesthetic facilities including necessary equipment and supplies; routine surgical supplies; use of radiotherapy facilities where available; use of physiotherapy facilities where available; services rendered by persons paid by the hospital; and such other services as may be specified in a federal-provincial agreement.

Provincial health programs are administered through provincial and local health departments and by health units servicing counties or groups of municipalities. Most provinces operate laboratories and provide preventive and treatment programs for venereal disease, tuberculosis, mental illness, cancer and other conditions. In some provinces a commission has been set up to administer hospital insurance services.

The larger municipalities provide a range of basic health services including sanitation, communicable disease control, child, maternal and school health services, public health nursing, health education and vital statistics. They participate in the costs of hospital care and supply medical services to indigents. Services are often administered through local health units or districts.

Voluntary agencies engage in educational work and fund-collecting in the provision of preventive, treatment and rehabilitation services. Those operating on a national basis are generally organized into provincial divisions with headquarters in the capital city of the province. National agencies include the Canadian Public Health Association, the Canadian National Institute for the Blind, the Canadian Tuberculosis Association, the Canadian Arthritis and Rheumatism Society, the National Cancer Institute, the Canadian Mental Health Association, the Canadian Paraplegic Association, the Multiple Sclerosis Society of Canada, the National Heart Foundation, the Canadian Council for Crippled Children and the Canadian Hearing Society. The Canadian Red Cross Society is actively concerned in a number of aspects of health work and operates a blood plasma bank. The Victorian Order of Nurses and the St. John Ambulance Association provide nursing and emergency services.

Feeding young patients at the Charles Camshell Indian Hospital at Edmonton, Alta. This hospital, with its 568 beds, is the largest of 17 operated by the Federal Government for the treatment of natives living in Indian communities who are unable to afford independently procured attention.





The Princess Margaret Hospital in Toronto is the newest of eight cancer treatment and research centres in Ontario. It is expected that in its first year of operation 2,500 new cancer cases will be admitted for care and perhaps 15,000 patients will receive follow-up treatment. The top three floors are devoted to research in this the most challenging field facing medicine today.



Hospitals.—In 1957 there were 1,305 reporting hospitals of all types, 46 more than in the previous year. They had a rated capacity of 188,120 beds including bassinets, and accommodated an average daily population of 166,667 adults, children and newborn infants.

Two methods are used in classifying hospitals: according to the type of service provided—hospitals for general treatment and care, special hospitals such as those for chronic and convalescent patients, tuberculosis sanatoria, and mental hospitals; and according to the type of ownership—public hospitals administered by provincial, municipal, lay, or religious authorities, private hospitals, and federal hospitals operated for such groups as war veterans, members of the Armed Forces, Indians, and newly arrived immigrants.



A dramatic stop-heart operation is performed at the world-famous Montreal Institute of Cardiology; vital functions of heart and lungs are taken over by an intricate network of tubes, giving the surgeon precious minutes to repair the heart deformity.

Hospitals classified as "public general" and "public special" were, in combination, more numerous than any other type. In 1957 they accounted for 95 of every 100 hospital admissions of adults, children and newborn infants. They afforded an in-patient bed, at some time during the year, to four out of every 25 Canadians, and provided an average of 1.7 days of care for every adult, child and infant in the country.

Net expenditures of \$510,893,000 were reported by 950 public hospitals in 1957. Of this amount, general and special hospitals together accounted for 77.0 p.c., mental hospitals for 16.7 p.c. and tuberculosis sanatoria for 6.3 p.c. Cost per patient-day in these institutions ranged from \$3.70 for the mental hospitals to \$14.18 for general and special hospitals combined.

The third major health problem today concerns mental disease, in the treatment of which great strides have recently been made, both medically and through the introduction of much more unrestrained methods of custodial and out-patient care.



Statistics of Reporting Hospitals, classified by Type of Hospital and Type of Service, 1957

Item	General and Special	Mental	Tuber- culosis	Total
Public—				
Hospitals reporting.....No.	894	72	54	1,020
Bed capacity ¹"	102,074	54,367	13,203	169,644
Average daily population ²"	77,645	64,092	10,650	152,387
Admissions ²"	2,721,016	26,133	17,662	2,764,811
Hospitals reporting.....No.				
Expenditure.....\$'000	393,401	85,302	32,190	510,893
Cost per patient-day.....\$	14.18	3.70	8.54	9.36
Private—				
Hospitals reporting.....No.	232	5	—	237
Bed capacity ¹"	5,443	481	—	5,924
Average daily population ²"	4,071	411	—	4,482
Admissions ²"	73,092	2,118	—	75,210
Federal—				
Hospitals reporting.....No.	42	—	6	48
Bed capacity ¹"	11,586	—	966	12,552
Average daily population ²"	8,922	—	876	9,798
Admissions ²"	76,597	—	1,037	77,634

¹ Includes cribs and bassinets, newborn.

² Based on the patient-days of adults, children and



The conquest of communicable disease has permitted health authorities to direct more hospital and medical facilities toward the disabling diseases which are estimated to affect, in some degree, about 1,000,000 Canadians.

The new unit at the University of Alberta Hospital, Edmonton, has facilities for the medical treatment of all types of disability amenable to physical rehabilitation.

Rehabilitation Services

Progress made in the preventive and treatment aspects of health care has directed increasing attention to the social and economic problems resulting from

chronic diseases, disabling accidents and congenital handicaps. The earlier established comprehensive rehabilitation programs for injured workers, disabled war veterans and such groups as the blind and the tuberculous demonstrated that many of the handicapped could be assisted to economic independence or improved self-care. As the rehabilitation movement gained momentum, numerous agencies, usually under voluntary auspices, have been formed on behalf of additional disability groups, for example, crippled children and those suffering from arthritis and rheumatism, alcoholism, cerebral palsy, poliomyelitis, mental illness and defect, paraplegia and multiple sclerosis. There has also been a steady expansion in all provinces of specialized medical, vocational, employment and educational services to aid in the re-establishment of the disabled. To bring together the activities of the various organizations providing a rehabilitation service, co-ordinating bodies have been formed in a growing number of communities, and most of the provinces as well as the Federal Government have set up advisory committees on rehabilitation.

The Department of Veterans Affairs operates special centres for the treatment of various chronic conditions and assessment and rehabilitation units for geriatric patients. New rehabilitation programs have been established by the Indian Affairs Branch of the Department of Citizenship and Immigration for socially and physically handicapped Indians, and by the Department of Northern Affairs and National Resources for Eskimos who require re-establishment. The National Employment Service also provides a special job placement service for the handicapped. Under the National Health Program grants are made through the Department of National Health and Welfare to the provinces for the rehabilitation of the tuberculous and mentally ill, and for the extension of medical rehabilitation services and crippled children's programs. To support the provincial vocational rehabilitation programs, the Department of Labour provides matching grants for the co-ordination of services and for the vocational training of disabled persons.

Since 1954 provincial vocational rehabilitation programs have been organized to make available medical, social and vocational services to persons handicapped by mental or physical disability. In each province specialized medical rehabilitation facilities have been set up in general hospitals and, in most of the provinces, rehabilitation centres offer integrated services. Four of these are operated by provincial Workmen's Compensation Boards which have experimented in methods of physical and vocational rehabilitation. All provinces make some provision for the education of handicapped children such as the blind, deaf, the mentally retarded, and frequently the physically handicapped in general, either through the operation of special schools or by assumption of financial responsibility. Provincial and local branches of voluntary agencies, supported by service clubs and, in some instances, community funds, provide important treatment and rehabilitation services.

Income Security

All levels of government are concerned with the problem of maintaining income levels of persons who become or are liable to become dependent on the community. In addition, family allowances are designed to provide a special measure of aid to families with young children. Family allowances, old age

Toronto's "Rehab" City grows. Flanking Sunnybrook Hospital for veterans is the rehabilitation centre for the blind, behind which is now being constructed a \$4,000,000 hospital to serve the particular problems of the handicapped child.



security and unemployment insurance are administered by the Federal Government. Other major programs are the administrative responsibility of the provinces sometimes with federal assistance.

Family Allowances.—Children under 16 years of age who have been resident in Canada for one year are eligible for family allowances paid by the Federal Government from general revenue. They involve no means test and are not considered as income for tax purposes. Allowances are paid at the monthly rate of \$6 for children under 10 years and \$8 for children 10 to 15 years of age. An allowance of \$60 a year is paid on a quarterly basis for each child under 16 years of age supported by an immigrant who has landed for permanent residence in Canada or by a Canadian returning to Canada to reside permanently. This allowance is paid for a period of one year, until the child is eligible for the family allowance.

Old Age Security.—A pension of \$55 a month is paid by the Federal Government to all persons aged 70 or over who have been resident in Canada at least ten years. It is financed through a 3-p.c. sales tax, a 3-p.c. tax on net corporation income and, subject to a maximum limit of \$90 a year, a 3-p.c. tax on individual net taxable incomes.

The Provinces of Alberta, British Columbia and Saskatchewan make supplementary payments to recipients of old age security who qualify under a means and residence test. In Ontario and Manitoba supplementary payments may be made by a municipality under special provisions of assistance legislation. In other provinces and the Yukon, recipients of the pension are eligible for public assistance on the same basis as other persons.

Unemployment Insurance.—The Unemployment Insurance Act provides for a co-ordinated program of unemployment insurance and for an employment service, through offices of the Unemployment Insurance Commission across Canada. In general, all employed persons, with certain excluded occupations such as agriculture (with minor exceptions), domestic services and school teaching, are insured irrespective of length of residence if their annual earnings do not exceed \$4,800. Additional information giving rates of contribution and benefit as well as the operations of the service are given on pp. 146-147.

Federal-Provincial Allowances.—Assistance or allowances of up to \$55 a month are paid under the Old Age Assistance Act to needy persons who are aged 65 to 69 years; under the Disability Allowances Act to those who are totally and permanently disabled and who are 18 years of age or over; and under the Blindness Allowances Act to blind persons aged 18 or over. In each case there is a residence requirement of ten years, and the allowance is subject to a means test.

For old age assistance and disability allowances, total annual income may not exceed \$960 for a single person, \$1,620 for a married couple and \$1,980 for a married couple, one of whom is blind. For blindness allowances it may not exceed \$1,200 for a single blind person, \$1,680 for an unmarried blind person caring for a dependent child, \$1,980 for a married couple when one is blind and \$2,100 for a married couple when both are blind.

Programs are administered by the province; the Federal Government reimburses the province for half the old age assistance and disability allowances and for three-quarters of the blindness allowances.

All health and welfare services and assistance provided by governments, organizations and individuals have one aim—that every Canadian should live his life in the greatest degree of health and comfort possible in varying circumstances, and should reach his age of maturity in a state of physical, mental and financial well-being.



The Provinces of Alberta, British Columbia and Saskatchewan make supplementary payments, subject to an income and residence test, to recipients of blindness allowances, Alberta and British Columbia to recipients of old age assistance, and British Columbia to recipients of disability allowances. In Ontario and Manitoba supplementary payments may be made to recipients under all programs by municipalities, under special provisions of assistance legislation. In the other provinces and territories recipients are eligible for public assistance in the ordinary way.

Mothers' Allowances.—Allowances to certain needy mothers with dependent children are provided by all provinces. Assistance is granted to widows, mothers with husbands in mental hospitals, mothers who are deserted and, in nine provinces, mothers whose husbands are disabled. Some provinces provide also for mothers with husbands in penal institutions and for divorced, separated and unmarried mothers. To be eligible, an applicant must be caring for one or more children of eligible age, and must meet specified conditions of character or competence, need, residence and, in four provinces, of nationality. The maximum monthly allowances payable varies considerably by province.

In Alberta, under the Widows' Pensions Act, pensions of up to \$55 a month may be paid subject to certain conditions of need and residence, to widows aged 60 to 64 and to wives in this age group whose husbands are committed to mental hospitals or who have deserted them.

General Assistance.—Aid is provided in all provinces to persons in need who cannot qualify under programs designed for specific groups. Assistance is normally determined by the local authority and is given on the basis of a



In many areas of the country, networks of children's aid societies—voluntary agencies with local boards of directors—are officially responsible for the protection of children in problem circumstances within their districts. They provide foster and adoption placements and other child care service.

means test and, usually also, a residence requirement. In general the municipalities administer the program, with provincial governments assuming responsibility in unorganized territory. In Newfoundland, however, the provincial government administers all forms of assistance through district officers. In Quebec assistance has traditionally been given by religious and other voluntary organizations with the province and municipality providing most of the financial aid; some municipalities are now administering general assistance programs. Most provinces provide for reimbursement to municipalities for relief expenditures. Immigrants in their first year in Canada may receive aid through the local authority under an agreement made with the province whereby costs are shared by the provincial and federal governments, or they may be referred directly to the local office of the Department of Citizenship and Immigration.

Welfare Services

Families and individuals facing problems with which they require help increasingly may turn for assistance to municipal or provincial public welfare departments which, in addition to administering certain of the income maintenance programs already described, offer a number of other services for families, children and older persons. There are wide differences in the degree to which services have been developed. In some centres they include nursery

and day care programs, services to deserted wives, public housing, post-sanatorium rehabilitation programs, child welfare and old age services and the maintenance, supervision and licensing of welfare institutions.

A vital role in meeting the needs of families is also played by voluntary family welfare agencies of which there are some 75 in the principal centres throughout the country. These agencies, which often combine certain child welfare services with their family programs, were among the pioneer welfare agencies of Canada but, whereas their principal function for many years was the provision of material aid, emphasis today is largely on casework and counselling. Through casework they help families with marital or other personal problems, with budgeting and home management and in solving environmental problems such as housing. Family agencies also provide a referral service to assist persons unfamiliar with community services to find the help they require. The family agencies are generally organized to serve all sections of the community, though in larger centres there may be separate agencies serving particular religious groups. All are financed by voluntary means, usually through a community chest or federated fund.

In addition to family agencies, more specialized organizations such as Travellers' Aid are available in some centres to meet particular needs. Ethnic and fraternal associations frequently also make available to their special groups types of service similar to those of family agencies.

A type of service for families which operates in many Canadian communities is the provision of a substitute homemaker when illness or other such problem arises, making it possible to keep the family together as a unit during the emergency. A few day-care programs exist in some of the larger centres for children of working mothers.

Child Welfare and Protection.—Services for children, especially children suffering from parental neglect or those deprived of normal home life, were among the earliest welfare programs in Canada. Child welfare agencies, which are now to be found covering nearly all Canadian communities, increasingly emphasize casework designed to strengthen the family's capacity to care for its children. Where placement is essential, children may be made wards of child welfare agencies either temporarily pending the improvement of home conditions, or permanently where a return to the home is not envisaged. Action to transfer the guardianship of children from a parent to an agency is, in general, taken only on the authority of a court of law.

The National Blood Transfusion Service of the Canadian Red Cross Society is now supplying free of charge all blood used for transfusion purposes in most hospitals in Canada. The blood is provided by voluntary donors.





Senior citizens of Renfrew County who are in need of care and assistance are happily enjoying the comforts of Bonnechere Manor, a new attractive and efficient home provided by the County with the assistance of the Ontario Government.

Services are also offered to parents of children born out of wedlock. The unmarried mother is assisted in the social and legal problems involved in her difficulty. When the decision is to place the child, adoption is the plan normally made. Over 10,000 adoptions are completed in Canada annually.

Children in the care of agencies who are not placed for adoption are usually cared for in foster homes. A long-term trend away from custodial care in institutions continues, though specialized institutions care for children, such as those with emotional disturbances, whose problems cannot be met adequately in the normal foster home. Rapid expansion is occurring in community services for the retarded child and many centres have classes which offer training of the child without his removal to an institution.

Child welfare services are provided under provincial legislation and all provinces have some central authority. Except in Quebec, the program may be administered by the provincial authority itself or may be delegated to local children's aid societies, which are voluntary agencies with local boards of directors supervised and assisted financially by the province. Services are operated provincially in Saskatchewan, Prince Edward Island, Newfoundland, and to a large extent in Alberta, where there is also some delegation of authority to the municipalities. In Ontario and New Brunswick services are administered by a network of children's aid societies covering the entire province; in British Columbia, Manitoba and Nova Scotia, children's aid societies serve the more populated areas with the province providing direct services elsewhere. In Quebec child welfare services are provided by agencies and institutions under private, and largely religious, auspices with provincial grants toward child maintenance being administered by the Department of Social Welfare and Youth.

Services for the Aged.—A variety of welfare services are offered under both public and voluntary auspices to older persons in many communities. These include informational, counselling and referral services, friendly visiting, housing registries and homemaker services. Voluntary services are provided in several cities by family agencies and in a few by agencies organized specially to serve older persons. A large number of clubs and some centres have been established to provide recreational and social activities, ranging from games and group singing to extensive handicraft programs and lectures.

In recent years a number of specially designed low-rental housing projects have been built for older persons, particularly in Ontario and the four western

provinces. Generally these have been financed by a combination of federal low-interest loans, provincial grants and municipal and voluntary contributions. Welfare institutions are maintained to care for many older people who do not require hospital care. These are mainly operated either by municipal governments or by voluntary and religious organizations which generally receive some form of public aid. An effort is made in some provinces to place well older persons in small proprietary boarding homes. The aged who are chronically ill are cared for in chronic and convalescent hospitals, private or public nursing homes and in homes for the aged and infirm.

Veterans Affairs

The rehabilitation of Canada's war veterans has been, in the main, long since completed, but Canadian veterans are still eligible for various benefits to meet their continuing needs, including medical treatment, the payment of allowances, land settlement and home construction, welfare services and advanced education for the children of the war dead. Administration of these benefits is the responsibility of the Department of Veterans Affairs; the adjudication of awards and the payment of pensions is the responsibility of the Canadian Pension Commission. During 1957 payments under the Pension Act and the War Veterans Allowance Act were increased and the scope of both Acts extended. Other veterans legislation is under review.

During 1958 the decline in the number of World War I and earlier disability and dependants' pensioners was greater, for the first time, than the increase in World War II and later pensioners. As a result, there was a slight decrease in pensions in payment, which numbered 190,500 at the end of December. The amount of such pensions remained approximately the same at \$148,500,000. The number of recipients under the War Veterans Allowance Act increased by 5,700 during the year, numbering over 64,000 at the end of December. Expenditure for these allowances was \$54,000,000 for the year, and an additional \$1,967,000 was paid to recipients who qualified for grants from the Assistance Fund. By the end of the year \$19,000,000 out of a total of \$386,000,000 in re-establishment credit remained unclaimed.

To carry out its responsibilities under the Veterans Treatment Regulations, the Department operates 11 active-treatment hospitals, two convalescent centres and two homes for domiciliary care, with a total rated capacity of 8,935 beds at the end of 1958. Accommodation is available, under contractual and other arrangements, in public and private hospitals.

Veterans continue to receive assistance to settle on the land as farmers, small holders and commercial fishermen, and to build their own houses. The number so assisted to Dec. 31, 1958, was over 80,500, including about 2,200 who were building, or had built, their own homes. By the end of the year, 25,100 settlers had earned their conditional grants and there were about 56,000 active VLA accounts. Total public investment on behalf of the settlers was \$409,000,000, and at the end of 1958 approximately \$136,345,000 remained to be repaid.

Up to the end of 1958, 1,397 children had received assistance under the Children of War Dead (Education Assistance) Act. Welfare counselling services to veterans and their families continued during 1958 and, as in previous years, special efforts were made to find employment for seriously disabled veterans.

Citizenship, Indians and Eskimos

ALTHOUGH Canadian nationhood came into being with the achievement of Confederation of four British American provinces on July 1, 1867, and became transcontinental in extent within the next four years, eighty years were to elapse before its citizens possessed the recognized legal status of 'Canadian'.

In the interval between the two world wars and particularly after 1945, the people of Canada, representing diverse ethnic origins, began to view their accomplishments in the light of the highest international standards of industrial, engineering, scientific, military and political endeavour, and a strong sense of national consciousness and pride developed among them. It had been a long-standing source of irritation that while 'nationhood' implied the 'right of nationality' there was no such thing as a 'Canadian' and even when confronted by their own Census enumerators Canadians merely shared the common status of 'British subject' applied to all citizens in other parts of the British Empire or Commonwealth.

The passage of the Canadian Citizenship Act in 1946 was therefore motivated by the desire of the Canadian Parliament to provide a precise definition of 'Canadian citizen' and to gratify national pride by giving such definition a recognized legal status—an underlying community of status for all the people of Canada that would help bind them together as Canadians. Effective Jan. 1, 1947, the Act was based on three main principles: the definition of Canadian citizens, whether natural-born or naturalized; the provision that, while the "basic national status" was to be "Canadian citizen", all Canadian citizens were "British subjects"; and the "common status" provision that all persons who were British subjects under the laws of any other Commonwealth country were recognized by Canada as "British subjects". After the passing of an amendment in 1950 making the terms "British subject" and

"Commonwealth citizen" interchangeable for administrative and psychological reasons, there were in Canada three classes of citizens: Canadian citizens, citizens



Prime Minister Diefenbaker, first citizen of the land, chats with the growing generation in whose hands the future of this country rests.

Awards, in the form of beaver pins, were made in 1958 by the Canadian Citizenship Council to five Canadian women in recognition of distinguished services in the field of citizenship.



of other Commonwealth countries, and aliens who might apply for and be granted certificates of citizenship.

Natural-born Canadian citizens are those born in Canada or on a Canadian ship, or born outside Canada with a Canadian father, if birth is registered within two years. Immediately upon the implementation of the Citizenship Act persons who had already been naturalized and British subjects who had been resident in Canada for at least five years became Canadian citizens. British subjects fulfilling residence qualifications after 1947 are required to apply for certificates of Canadian citizenship.

For the citizen of another country, the first step to Canadian citizenship following his legal admission to Canada as a 'landed' immigrant, is to file a Declaration of Intention with the clerk of the court in the district in which he resides. This is followed by a final application placed three months in

A mixture of races is not unusual in a city school. In this kindergarten a small Negro girl sits with one of English background, a Japanese boy and an Italian boy. The teacher is a Japanese-Canadian.



advance of the completion of his five years of residence. Upon the lapse of the three-month waiting period (allowed for the filing of any objection), the applicant is called before the court for examination by a judge as to whether he has fulfilled the requirements of the Act respecting his legal entry, age, residence, good character, reasonable knowledge of English or French, and understanding of the responsibilities and privileges of Canadian citizenship. The decision of the judge is forwarded to the Department of Citizenship and Immigration where a certificate may be granted at the discretion of the Minister. The applicant's Oath of Allegiance is given before an open court and he receives his certificate of citizenship in an impressive legal ceremony.



Indians living on northern reserves where there are few opportunities for employment are encouraged to find work outside the reserve and many of them do so. These Indians, thinning young sugar beets on a farm near Taber, Alta., are from the Prince Albert reserve.

It is the increasing endeavour of Canadians to give the new citizens the sense of belonging to the community and to the nation, to make them realize that Canada considers itself the richer for their coming and finds strength in its ethnic and cultural diversity, that free political institutions, the freedom to speak and vote and work and worship as and where one wills, and the privilege of enjoying one of the highest standards of living in the world are an inheritance of great endeavour and sacrifice, that no people are blessed with the potentials for a more magnificent destiny, nor more reason to move forward confidently together.

The Indians and Eskimos

Two small segments of the population of Canada constitute, in point of time and origin, the most truly Canadian of the country's citizens—the Indians and the Eskimos. These groups have been of special governmental concern—the Indians since the early days of colonization when it became difficult for them to follow their traditional way of life, and the Eskimos in comparatively recent years as civilization has reached them in their northern habitat. The new awareness of the public generally in these their fellow citizens is perhaps a sign of the times. Modern economic development recognizes its social responsibilities to develop the potential of the human as

James Gladstone, a full-blooded Indian of the Blackfoot tribe and a successful Alberta rancher, whose example and counsel has long been an inspiration to his people, was called to the Canadian Senate on Jan. 31, 1958. His appointment was at once a milestone in Canadian history, a tribute to the role of the native inhabitants in the country's development, and an indication of the participation in Canadian affairs expected of Indian citizens in future years.



The Indians' traditional way of life now exists only in the isolated districts of the North where trapping is still their mainstay, but those living closer to and in the populated areas are gradually becoming part of the modern working and social world on the same level as other Canadians.

A system of scholarships assists ambitious and capable Indian students, including those aspiring to the nursing profession, to continue their courses of study.

Fifty delegates, representing eight Indian reserves, attended the third annual Homemakers' Convention held at Whitefish Lake Indian School in northern Ontario.



Mohawk Indians from the Iroquoian tribe have a built-in sense of balance and have won fame and fortune as high-level construction workers.





The first performance of the Theatre Guild of the Six Nations Reserve near Brantford, Ont., related a historic legend of "the coming of the Delawares" in a play written by one of its own members. The production was staged in a natural amphitheatre at Onedahgawah — the Great Pine Forest Theatre.

well as the natural resources of the land. Thus, it is aware of its responsibility toward the indigenous peoples who, without assistance, cannot successfully cope with changes too quickly forced upon them.

Indians.—When the white man first came to the North American Continent there were perhaps 200,000 Indians in what is now Canada. This number had greatly diminished through war and disease by the time peace treaties were signed whereby the Indians were assigned certain tracts of land scattered across the country which were to be used in perpetuity as their own. These reserves, 2,223 in number and 6,000,000 acres in extent, have now an Indian population of over 170,000, a population increasing by some 4,000 persons annually. These people are the *official* Indian people who are entitled to special consideration and assistance under the Indian Act and do not include those who have, throughout the years, become enfranchised and assimilated with the rest of the population. In the fiscal year 1957-58, 673 Indians were enfranchised and left the protection of the reserves to take their places as ordinary citizens in the non-Indian community.

The Indian Canadian has a cultural heritage different from Canadians of European descent, which has been perpetuated by isolated living. His concepts of time, money, social communication, hygiene, competition and co-operation are at variance with those of his fellow Canadians and often act as a stumbling block to social adjustment. It is the broad objective of the Federal Government, working through the Indian Affairs Branch of the Department of Citizenship and Immigration, so to educate and assist these people that they will become increasingly self-supporting independent members of the community and at the same time retain their identity as part of the human treasury of the country. They are gradually being given more responsibility in the handling of their own affairs. Band councils, mostly elected but sometimes still chosen according to tribal custom, may make by-laws on various matters of a local nature and exercise a control over the expenditure and management of their funds and property. Apart from special provisions of the Indian Act, Indians are subject to federal, provincial and municipal laws, the same as all other Canadian citizens. They receive, also, all the benefits of national social assistance.

The age-old pattern of Indian employment in hunting, fishing, trapping and farming, though it is still important, is changing and today, singly or in groups, Indians may be found in any one of a hundred occupations. Those living in the more southerly parts of Canada have made great strides in the transition to regular seasonal or year-round work off the reserves, in the woods industries, in mining, in agriculture, in construction and in industrial employment. Many live and work in towns and cities alongside their non-Indian neighbours and some have earned enviable reputations in the learned professions. But now, even in the isolated reserves of the northern areas the advancing frontiers of civilization, industry and defence are awakening the Indians to new ways.

The Indian himself realizes that times have changed, that the traditional economy of the reserves cannot meet the needs of a rapidly growing population, alert to a constantly improving standard of living. This realization is expressed in an increasing demand for more vocational and trades training and better general education. In the 1958-59 academic year, 36,223 Indian students were enrolled in elementary schools on and off reserves, and 2,613 were attending secondary schools, colleges and special courses. An employment service assists the increasing numbers of Indian young people leaving school to find suitable jobs in the non-Indian community and to make the necessary social adjustment for modern-day living.

Eskimos.—In the whole of Canada's vast northland live about 11,500 Eskimos, descendants of the last of the prehistoric immigrants from eastern Asia. The struggle for existence in a harsh land kept their numbers low but before the white man reached them they had evolved a most remarkable culture and were thoroughly at home in their environment. Most of them lived along the Arctic coast and subsisted on sea mammals—a few lived inland depending mainly on caribou. They are almost invariably a

Change was inevitable for the Eskimo, a primitive people living in a shrinking, searching world, and life for these children will bear little resemblance to that of their grandparents or even their parents.



good-natured, mentally alert people, skilful with their hands and having a definite sense of the artistic.

Contact with fur traders and whalers at the beginning of the century brought the first radical change to the Eskimo way of life—depleted the resources on which they depended, taught them the use of firearms and gave them a taste for different food. But the full force of western civilization is only now reaching the country of the Eskimos, and the people are ill-prepared to meet it. Most of them still live a semi-nomadic life tied to the seasonal pursuits of hunting, trapping and fishing, but defence measures are bringing people from the south and the mining industry is beginning to spread into the Arctic. Ships, aircraft, trucks, heavy machinery, buildings and imported food are becoming part of the North, and the isolation that has protected the Eskimos for so long is being rapidly shattered.

The Canadian nation, through the Department of Northern Affairs and National Resources and other agencies, has embarked on a program to discharge its moral responsibilities to see the Eskimos through this transition period. With other Canadians they share family allowances, old age security and assistance, and the blind, the disabled and the needy are provided for, but the objective envisaged for them is a high standard of health, good educational facilities and a full and valuable place in the development of the country to which they belong.

The health problem is paramount at present because the people have built up little immunity to certain diseases. Regular health surveys are made and, when treatment is required, the Eskimos are moved to hospitals in southern Canada. The problem of readjustment to northern life after prolonged stay in a different environment is taken care of by rehabilitation hostels.

Although, with the increase in the North of defence activities, transportation facilities and mining, it has become possible for some Eskimos to enter wage-earning employment, not all are able to take advantage of the opportunities now opening to them. Education is needed to give them the competence, the skills and the experience necessary to find a place in the new activities. A number of schools have been built throughout the Arctic to provide primary education, but because of the small and scattered pockets of population they can minister to only a small portion of the children. Hostels are therefore being established where children whose parents live far from the schools can board during the school term. Vocational training is provided at a number of settlements in the North and some Eskimos are taking technical courses in southern Canada.

The welfare and advancement of these people is very important to the future of the North and to the future of Canada. They will have advice and guidance from government officers in relation to their new wage-earning and self-employed occupations and to their social adjustment. Government financial assistance will be given to provide new employment opportunities, but the underlying principle governing all counsel and material assistance is that it be devoted to equipping the Eskimo to compete in the changing economy of the North, to regain his independence and eventually to take a place on equal terms with the white man in the life that develops in his homeland.

In a few short years the Eskimo has found himself mid-way between his traditional life and the life of the white man. The swift change has revealed the almost untapped capacity of the Eskimo to learn and to adapt himself to new methods of work and to new patterns of life.



▲ The Eskimo may now be a miner, as these four at Rankin Inlet on the west coast of Hudson Bay, an electrician, driver, carpenter, maintenance man or a handy man, gladly giving up his nomadic life for the stability of the paycheque and his family has moved along with him.



▲ A five-room pre-fabricated home with modern equipment leaves this Eskimo woman at Fort Chimo, Que., with enough spare time to earn fabulous pin money making Arctic garments for white people. Six years ago her life was traditionally Eskimo.

Education is the key to the transitional problems of the Eskimo and in the established settlements the young people and the children are busy with a whole new adventure in learning. They are taught to read, write and speak English, simple arithmetic, hygiene, native and other vocational skills, history of their own culture and an understanding of their immediate social world. Students who show special aptitudes in certain fields are sent for advanced study to southern communities. These girls are on their way to Calgary, Alta., where they will take a course in food preparation.



Housing

HOUSING is one of the nation's most valuable assets and house-building one of its largest industries—a most important feature of the well-being of the economy throughout the postwar period. At the end of the War the country's housing stock was greatly overburdened. Its growth had been impeded by depression and war and the demands on the existing supply of houses were intensified by the return of the veterans. Moreover, there were few contractors and construction workers with any substantial experience in house-building and many building materials were in short supply. By the 1950's, however, this bottleneck had largely disappeared and the introduction of new building techniques, greater use of power equipment and the emergence of large-scale merchant builders helped to increase the industry's capacity. Mortgage money was not a serious obstacle. Private lenders were anxious to make mortgage loans and through the National Housing Act, which with its amendments is the principal instrument of government policy in the housing field, prospective home owners were able to get fairly large loans on comparatively easy terms. The problem, then, was one of keeping pace with the demand created by an unprecedented growth in the country's population most of which has been focussed on the urban and near-urban areas. Canada has one of the highest birth rates in the world; the average age at which marriages take place has lowered in recent years and there has been large-scale immigration in the postwar period. In addition there has been a persistent drift of persons from rural areas to cities.

In every period of national expansion the large amount of new building irrevocably leaves its imprint on the community. The old is torn down to make way for the new, land uses change, and the pattern of each community alters. Two factors may be said to have determined the character of the current period of growth in housing—the long-term high-level mortgage and the automobile. The first has encouraged the building of single-family homes in large quantity and the second, by increasing people's mobility, has permitted the sprawling suburban development of one-storey homes that has become almost synonymous with postwar building. Although this development continues at a particularly active rate, there are signs of some change in the pattern.

Considerations of land supply and cost may well alter the character of home construction in suburban areas to two-storey



Houses, though mass-produced, may be distinctive and beautiful.



A well-planned housing subdivision in Winnipeg, Man. Typical of such developments, it contains mostly one-storey homes, but they are individual in type and size.

and multiple dwelling units, and distance from employment and transportation problems are encouraging the construction of the large multiple-storey apartment in the city centre.

Of the approximately 4,300,000 dwellings in the country, more than 1,250,000 have been built since the end of the War and one in every three has been financed with Federal Government assistance. The National Housing Act provides for insurance of mortgage loans made by private lenders—chartered banks, life insurance companies and other lending institutions—and sets maximum rates of interest that may be charged. By reducing the risk to the lender, it enables the borrower to get a larger loan and more favourable terms than he would otherwise be able to obtain. The Housing Act also authorizes the Government's housing agency, Central Mortgage and Housing Corporation, to make direct housing loans for such special purposes as the construction of low-rental housing and the building of rental units for primary industries.

The house-building industry during 1958 displayed a vitality unmatched in previous years. It was a year of all-time records. Starts were made on 163,000 homes compared with the previous high of 138,276 in 1955 and about



Terrace housing for miners in Elliot Lake. Six years from the first discovery of uranium in the area, a town has been built providing accommodation and services for 14,000 persons.

146,000 homes were completed, an increase of more than 10,000 over the previous record year of 1956.

The impact of housing in 1958 was felt throughout the economy. During the year, new housing accounted for one out of every five dollars of all capital spending in the country. The effect on employment was immense. On-site construction of new homes alone provided jobs for 200,000 Canadians and probably another 200,000 persons were employed in the associated industries—in the manufacturing of building materials, furniture, kitchen equipment and other household goods. Much of the activity in 1958 resulted from Federal Government participation in the housing field. The National Housing Act accounted for more than half the total number of houses started during the year. Government-insured lenders together invested about \$520,000,000 in 46,500 new homes, which was almost double the amount they committed in 1957. Direct federal assistance accounted for roughly a quarter of all new dwellings built in 1958. Between December 1957 and May 1958, \$500,000,000 was supplied to the Central Mortgage and Housing Corporation to carry out direct lending operations. During the year the Corporation invested \$388,000,000 in nearly 40,000 new homes compared with an investment of \$233,000,000 for 25,000 new homes in 1957. Nearly 30,000 of the homes built in 1958 with direct loans from CMHC were financed under the small home loans program which was initiated for the benefit of families of moderate income. By limiting the size of the home and by eliminating some designated special features, the building costs of these houses were held well below average.

The Corporation also made loans for nearly 7,000 rental units for families of low income or for old people. These dwellings, built under the limited-dividend section of the National Housing Act, were constructed by private developers and by non-profit organizations which received loans for terms of up to 50 years at comparatively low rates of interest.

During the year the Federal Government entered into agreements with various provincial governments to provide public housing for families of low income. Under these partnership arrangements, the Federal Government contributes 75 p.c. of the cost of the project and the province concerned the remainder. Construction was started on projects comprising a total of 1,632 units, most of which were in the larger metropolitan areas.

Side by side with the record production of houses started in 1958 was an increased public interest in the improvement of housing and the problems of urban growth. This took form in a number of specific projects. Redevelopment studies were under way in 11 cities during the year. These, following a

similar pattern to studies completed in earlier years by five other cities, were undertaken to provide information on which to base programs of redevelopment. At the beginning of 1958, such urban redevelopment projects were in progress in the cities of St. John's, Nfld., Halifax, N.S., Montreal, Que., and Toronto, Ont. The clearance of 26.5 acres of blighted land in Toronto's Regent Park South was completed in 1958. In Montreal the city had cleared about 10 of the 20 acres on the site of the Jeanne Mance redevelopment project. In Halifax, 12 acres of blighted land, which are destined for commercial purposes, were also under redevelopment. Halifax is the first city to make use of the provisions of the National Housing Act which permit re-use of land for purposes other than housing. The Federal Government will share in the proceeds of the disposal of the land and public housing will be provided in another part of the city under a federal-provincial partnership.

During 1958, grants under the National Housing Act were made for study in the fields of housing and urban development. Eleven fellowships were awarded to students taking planning courses in Canadian universities. Studies in sociology, geography and the growth of urban settlement were also being made with federal assistance. The Community Planning Association of Canada and the Canadian Housing Design Council, both of which received grants from the Federal Government, continued to promote the interest of private citizens and professional builders in planning and housing problems.

Within the next quarter-century, Canada expects to have to build about 3,500,000 houses for its growing population. The addition of these new homes will call for careful planning. In the past decade, most of the new housing stock has been built in 25 or 30 well-established metropolitan areas and probably most of the new housing will be built in the same places. Many cities, aware of this situation, have enlisted the aid of professional planners and are grappling with the problems of opening new residential areas on the outskirts and at the same time preventing or removing decay at the centre.

The redevelopment of Toronto's Regent Park, a former congested slum area, is now complete. Large multiple-storey apartment buildings and sprawling two-storey blocks are designed to give each of the 732 units sufficient light and air and are so situated as to provide ample park and playground space.



Cultural Relationships

CULTURAL relationships encompass a large and almost indefinable surge in the life of a nation—all those activities and interests that go beyond supplying the basic requirements of existence and give to it beauty, pleasure and meaning, and so interwoven with everyday life as to be inseparable. The range is limitless and developments in only a few fields that touch, to greater or lesser extent, the lives of most Canadians can be traced here.

The Arts

An audience that pays gratefully at the door as it comes in is one of the greatest blessings an artist can enjoy. This audience exists in Canada as it does elsewhere in the world, but even when its hand goes deep in its pocket there are many of the arts which it cannot fully support.

In 1958 the increasing demand for the arts in Canada and their own development and improvement was matched in some fields by rising costs of production and performance. But through the devotion and labours of many individuals and organizations the arts continued to flourish under harrassing financial conditions which might have brought many businesses into bankruptcy or caused their directors to resign in despair. Somehow deficits were met and debts were amortized—a little extra salary was found for the dancers, or perhaps the financial conditions of orchestra players were improved just enough to persuade the first oboe not to seek greener fields elsewhere. But such achievements were largely made possible by the voluntary work of committees which often receive little recognition, and whose satisfaction must come from the pleasure that audiences and visitors derive from what they see and hear.

It was partly to improve these difficult conditions that the Canada Council for the Arts, Humanities and Social Sciences was brought into being in 1957. The Council, consisting of twenty-one members, was established by Act of Parliament and provided with a capital of \$100,000,000. Half of this amount is being used for matching grants to assist Canadian universities with their building programs. The remaining \$50,000,000 is an endowment fund the interest on which, amounting to \$2,500,000 annually, is used to promote the arts, humanities and social sciences.

A noted ballerina bows out. Celia Franca, founder of the National Ballet of Canada, danced her last role at the end of the 1958-59 season in Toronto, turning from the stage to devote her whole attention to the advancement of the company.





The National Ballet has become "national" in more than name. Not only do its members come from many parts of the country but its performances are being seen by audiences from coast to coast, as well as in the United States and Mexico.

There are organizations in many countries that have similar aims to those of the Canada Council and that have been in existence for many years. But, although its objects may be similar, the Council differs essentially from almost all other bodies working in its field. It is not, for instance, a philanthropic institution of the kind that has been founded in the United States by the benevolent interest of private persons. The Act of Parliament establishing the Canada Council provides that it "is not an agent of Her Majesty". That is to say, it is not directly responsible to the government in power. It reports annually to Parliament through the Prime Minister but, because of its endowment, it does not have to look annually to Parliament for its funds. In this way it differs again from organizations in some other countries which are directly controlled by the government.

In 1958 the Canada Council completed its first year of work. Because of the interest the Council has aroused both in Canada and in countries

abroad, the vigorous growth of Canadian art in 1958 can in part be examined this year by a consideration of the work of the Council.

Music

One of the more encouraging signs of musical activity in Canada in 1958 has been the extension and development of the work of the major symphony orchestras. Evidence of this growth was provided, for instance, by the Montreal Symphony Orchestra which placed its eighty players under permanent contract for the 1958-59 season and gave ten extra concerts in addition to its subscription series. For the 1958-59 season the Canada Council made grants totalling \$181,000 to orchestras in Calgary, Edmonton, Halifax, Montreal, Ottawa, Quebec City, Toronto, Vancouver, Victoria and Winnipeg. Special grants were also made to five orchestras to enable them to commission works from Canadian composers to be played in their regular season next year.

For the previous season the Council had made grants of \$105,000, and the development which stems in part from these grants is notable. The orchestras themselves raised an estimated \$840,000 and the Council's contribution was therefore about one-eighth of the total budget. But attendance at concerts rose by about one-half from some 320,000 to an estimated 477,000. Great importance has been attached to children's concerts which almost doubled in number across the country. At the same time the orchestras were able to reach audiences which had not previously been privileged to hear them. Because of the great distances in Canada between centres of population, it would be extremely difficult and very costly for a large orchestra to travel widely. For this reason part of the Council's grants have been devoted by a number of orchestras to travel over regions lying within a reasonable distance from their home cities. Thus the Halifax Symphony Orchestra has visited Newfoundland and cities in Nova Scotia, the Vancouver Symphony Orchestra has travelled through British Columbia, and the Ottawa Philharmonic Orchestra has played in towns in the Ottawa Valley and along the St. Lawrence.

It should also be noted that part of the Council's grants has been used by some orchestras to provide extra rehearsal time to raise the standards of performance, and that in a number of cases it has been possible to increase the pay of the musicians. The orchestras still depend mainly upon the financial and other support of the communities they serve, and it is gratifying to see that this has not diminished as a result of assistance from the Council.



Les Petites Symphonies, conducted by Roland Leduc, performs for a radio audience.



The Ottawa Philharmonic Orchestra, under the direction of Thomas Mayer, began its very active and successful 1958-59 season before His Excellency the Governor General and a record audience, a sincere compliment to the Orchestra's outstanding performances of the previous year.

In addition to its regular full-complement subscription concerts, small groups gave noontime performances in unaccustomed places—in a corridor of the Parliament Buildings and in other government and office buildings. Concerts were also given in schools and in many nearby urban centres. In all, the Orchestra gave 55 performances during the season.



The two main centres for the performance of opera in Canada are Toronto and Montreal, though there are also groups presenting opera in a number of other cities. However, in 1958 the first Vancouver International Festival took place and one of the highlights was a performance of *Don Giovanni*, staged by Gunther Rennert and conducted by Nicholas Goldschmidt. At the Stratford Festival, Louis Applebaum conducted performances of *The Beggar's Opera* with Robert Goulet in the lead.

Montreal had perhaps less native opera than usual, one of the chief productions being Verdi's *Falstaff* presented in January by the Montreal Opera Guild under the direction of Emil Cooper. The newly formed Grand Opéra de Montréal gave eight performances of *Le Barbier de Seville* in March, with the production directed by François Bernier and conducted by Roland Leduc. There was also an entertaining performance on television from Montreal of

Offenbach's *La Grande Duchesse de Gerolstein*, and other television presentations of Ravel's *L'Enfant et les Sortilèges* and Honneger's *Jeunne au Bûcher*. Television productions of opera from Toronto were *Tosca* and *Eugene Onegin*. Radio performances included *Turandot*, Respighi's *La Bella Dormente* and Cimarosa's *Il Matrimonio Segreto*.

The Canada Council's assistance to opera in 1958 was given to the Toronto Opera Festival Association which had a successful season in the autumn with performances of *La Bohème*, *Un Ballo in Maschera* and *The Tales of Hoffman*. The grant was to enable a special touring company to give performances in many cities of Ontario, Quebec and the Maritime Provinces of Rossini's *The Barber of Seville* in English.

One of the most important events in the musical life of Canada was the formation under the Canadian Music Council of a Canadian Music Centre financed partly by the Canada Council and partly by donations from the Composers, Authors and Publishers Association of Canada Limited and BMI (Canada) Limited. The chief purpose of the new centre is to build up a central and comprehensive library of scores and tape recordings of the works of Canadian composers, subject to the preliminary scrutiny of a jury, and, by making this material readily available, to stimulate the performance of Canadian music.

The country was represented on Canada Day at the Brussels Universal and International Exhibition by the Hart House Orchestra, conducted by Dr. Boyd Neel, Dean of the Royal Conservatory of Music at Toronto. The soloists at the concert given in the Exhibition Auditorium were the pianist Glenn Gould and the soprano Marguerite Lavergne. On the following day a second concert was given by the Montreal Bach Choir and the orchestra with George Little and Victor Feldbrill conducting. Both appearances were largely financed by the Council. The Montreal Bach Choir also appeared at the Edinburgh Festival, and choral music continued to flourish at home in Canada. Six major choirs were assisted by the Council during the year.

It is natural in any country that musical organizations should develop and flourish in the larger metropolitan centres, and it has already been noted that a number of Canadian orchestras have been able to travel in a limited region near their home cities. More extensive travel has been undertaken by smaller musical groups and by soloists; these include the Hart House Orchestra, the Baroque Trio of Montreal and musicians performing for the flourishing *Jeunesses Musicales du Canada* which has now extended its circuits into Western Canada.

Ballet

The nation-wide tours of the National Ballet Company of Toronto during 1958, partly assisted by grants from the Canada Council, are evidence of the continuing and growing interest in the art of the dance in Canada. During 1958 the company performed before audiences in Canada totalling over 110,000 people and visited all but two of the provinces during the year. It also performed in twenty-one States of the United States to audiences of over 100,000, and during the early summer gave an extremely successful season of three weeks in Mexico City. In addition to its considerable repertoire, it has produced one new ballet called *Ballad* with music by Harry Somers and choreography by Grant Strate, and a new full-length version of *Coppelia*.



Les Grands Ballets Canadiens of Montreal is a relatively new professional company whose reputation for the talented performance of original ballets is growing rapidly. The company will perform at the United States Dance Festival in the summer of 1959 and will make its first Canadian tour in the autumn.

Youthful members of the Royal Winnipeg Ballet on a pioneering tour of smaller cities and mining towns in Manitoba and Saskatchewan which had never before been included in a ballet itinerary.



The Royal Winnipeg Ballet toured on a less extensive scale visiting centres in Manitoba and Saskatchewan and, of course, appeared in its home city. It has produced two new ballets and is now under the direction of Arnold Spohr, a Canadian choreographer. Les Grands Ballets Canadiens of Montreal, directed by Ludmilla Chiriaeff, has aroused particular interest with a series of performances for young people entitled "Initiation to the Dance". Although the company visited Quebec City, its other performances, which included the production of three new ballets, were given in its home city. The company has made a number of television appearances.



A historic powder magazine on St. Helen's Island, a few minutes from the centre of Montreal, has become a charming little theatre, uniquely providing a meeting ground for cultural and theatrical exchanges among the ethnic groups of the city. The theatre draws on Montreal's growing pool of talented actors and plays are presented in nine languages.

Scene from a German production "*Der Biberpeltz*" presented at La Poudrière in the autumn of 1958.



Theatre

The Stratford Festival, assisted by a considerable grant from the Council, held the limelight during the summer with performances of three Shakespearean plays. *I Henry IV* was given with Douglas Campbell as Falstaff, Douglas Rain as Prince Hal, and the American actor Jason Robards, Jr. as Hotspur. Particularly successful performances which gained great critical acclaim were given by Christopher Plummer and Eileen Herlie in *Much Ado About Nothing*. Both these plays were directed by Michael Langham. A third play, *A Winter's Tale*, was directed by Douglas Campbell, and the part of Perdita was played by Frances Hyland. Early in the year the Stratford Shakespearean Festival Foundation sent a company on tour which presented *Two Gentlemen of Verona* and *The Broken Jug* (a play by Von Kleist adapted by Donald Harron) in London, Toronto, Montreal and New York.



Ahead, Montreal's Le Théâtre du Nouveau Monde has won acclaim as a brilliant French-Canadian company. In its travels throughout Canada it is making its appeal as a talented bilingual group. "*The Time of the Lilacs*", by Marcel Dubé, was one of the company's 1958 successes.

The Crest Theatre gives Torontonians a varied fare of drama, comedy and musicals.



Additional life was given to the Festival by appearances of the Montreal-based Le Théâtre du Nouveau Monde which gave a presentation of Molière's *Le Malade Imaginaire*, directed by Jean Gascon. The largely English-speaking audiences did not attend in the numbers which this brilliant production deserved. However, the company has travelled widely in Canada during the year and its integrity and superb style have won it many new admirers. It has also performed in Brussels and Paris, presenting both Molière and a new Canadian play, *Le Temps des Lilas* by Marcel Dubé. The company performs this play in both English and French.

One of the more important events that took place in Canadian Theatre during 1958 was the opening in Montreal of Le Théâtre de la Comédie Canadienne under the direction of Gratien Gélinas. The beautiful theatre which seats 1,250 opened its doors for the first time in February with a presentation of Jean Anouilh's *L'Alouette* which was subsequently given a run in English. Three new French-Canadian plays by Marcel Dubé, Jacques Languirand and Roger Sainclair were given their first performances and two of them were repeated in English. In addition the theatre was host to the Vieux-Colombier company from Paris, to the Montreal Festival which was graced by the presence of HRH the Princess Margaret at a Bach Concert, to a festival of French Films and to the Canadian Players. Recognizing the importance of this new theatre, the Canada Council has made a grant to the organization to enable it to commission and present another new Canadian play by an author of its own choice during next year.

The repertory theatres in Canada's two largest cities continued under considerable financial difficulties. The Montreal Repertory Theatre came near to closing its doors in the early spring but weathered its financial crisis by means of a fund-raising campaign. Later in the year the Canada Council was able to give some assistance to the theatre, but its financial status still gives cause for concern. During the year the company presented nine plays, including works of Shaw and Shakespeare and a new Canadian play by Myron Galloway. During 1958 the Crest Theatre in Toronto presented eight plays which included a new Canadian play by John Gray, and works of Shaw and Chekov. The company had considerable financial difficulties and was able to open in the autumn only after a summer campaign for funds. A



The Stratford Festival continues to highlight the theatre in Canada—the twelve-week 1958 season, the most successful of its six-year history, drew an audience of almost 210,000. The 1959 presentation will feature two Shakespearean plays, "As You Like It" and "Othello", with added attractions of music, films and art and handicraft exhibits.

grant by the Council has enabled the company to commission a play which will be performed next year.

It was in 1957 that a phenomenon of the theatre first appeared like a comet in the Canadian sky. A satirical review, *My Fur Lady*, which had opened in February of 1957 as a student show at McGill University in Montreal drew such large audiences that, after an appearance at the Stratford Festival, Quince Productions took the show with a professional cast to tour the country from one end to the other. Through a large part of 1958 the pleasant sound of Canadians laughing at themselves was to be heard in packed houses. The tail of the comet disappeared over the horizon at the end of the summer, and this was a theatrical venture so successful that the box office receipts more than offset expenses. Other touring companies, however, needed the Council's assistance to offset their heavy travelling costs—two companies of the Canadian Players presented Shaw and Shakespeare in eighty-four communities during the year, reaching audiences of over 60,000, and the Earle Grey Players gave a five-week season of Shakespeare at Trinity College, Toronto, and toured productions of *King Lear* and *As You Like It* to fourteen centres in the Maritime Provinces and to a number of schools and universities in Ontario.

The Canada Council's assistance to the flourishing Little Theatre movement took the form of a grant to the Dominion Drama Festival which organizes the regional and national festivals held each year. The grant was to enable the festival organization to enlarge its publication *Theatre Canada* through which amateur theatres are kept informed of each other's work, and to enable some companies to travel with their scenery and costumes to take part in the final festival. Top honours in 1959 went to the White Rock Players' Club of British Columbia, and the runners-up were the University of Toronto Alumnae Dramatic Club and Le Guignol à Moustaches of Montreal.

The Visual Arts

The Canada Council gave a considerable number of scholarships during 1958 to assist painters, sculptors and other graphic artists to work and travel both in Canada and abroad with more freedom from financial worry. Twenty-six such artists were given assistance and the various purposes for which the grants were used included, for instance, a visit to Japan by the Vancouver painter B. C. Binning and a period of study in Limoges by Thérèse Brassard, a ceramist from Quebec City. In addition, the Council was able to arrange for Sir Kenneth Clarge, the chairman of the Arts Council of Great Britain, to visit Canada and give a number of lectures.

In the spring the Council announced a policy of special assistance to organizations working in the field of the visual arts. The policy was devoted particularly to the development of regional circuits for travelling exhibitions, the increase of art classes for children given by galleries, and for more extended lecture tours by experts and teachers on circuits organized by private institutions. Funds were also made available to the Toronto Art Gallery and the Montreal Museum of Fine Arts to assist the publication of picture catalogues of the more important items in their permanent collection.

In addition to these two galleries, grants were also made to the Victoria Art Gallery (which has recently opened a new wing), the Art Gallery of Vancouver, the Coste House operated by the Calgary Allied Arts Council, and the Winnipeg Art Gallery. Assistance was also given the Art Institute of Ontario, the Northern Ontario Art Association, the Banff School of Fine Arts, and the Alberta Society of Artists for a summer school. A new gallery was opened early in the year at Queen's University in Kingston.

One of the more important functions of Canadian galleries is the holding of annual exhibitions, either of regional or national significance, of the works of living Canadian artists. The Canada Council has assisted in this activity by offering matching grants of \$1,000 each to galleries to be used for purchase awards to be given by a jury to painters exhibiting in annual shows. Such a grant was used most successfully, for instance, by the Vancouver Art Gallery during the autumn to purchase works by Harold Town, Tony Urquhart and



The strikingly designed public rooms of the new wing to the Royal York Hotel in Toronto contain the creations of many Canadian artists in many media. The key position in the Alberta room is a mural in oils of the Bow River Valley, painted by A. Sheriff Scott.



Canada has exhibited works of art at the Biennale at Venice since 1952 but in 1958 the Canadian showing, housed in a new Pavilion of novel design executed in steel, glass and wood, aroused widespread interest and admiration. It contained the works of the painter Morrice, who died in 1924, and of three contemporary artists—the painter de Tonnacour, the sculptor Anne Kahane and the engraver Jack Nichols.



Anne Kahane's growing reputation is based mainly on her carved figures, single or group. Though generally small in scale, they have a rugged simplicity that is very impressive and her conception of design is genuinely original. Her special medium is wood.

Herbert Tiltel, exhibited in the annual show of the Canadian Group of Painters held under the Gallery's auspices. In addition the Council has offered six galleries grants to enable them to commission works by Canadian sculptors of their own choice for display in their buildings.

The National Gallery of Canada was once again the centre of lively controversy in Parliament and in the press when the question as to whether or not certain European old masters should be purchased aroused public opinion from coast to coast. A good deal of excitement was caused by the original choice of works to be exhibited in the Canadian pavilion at the International Exhibition in Brussels but the criticism lessened considerably when European critics generally approved of the Canadian exhibits. Interestingly enough, the critics felt that the Canadian works were far from being avant-garde as judged by international standards.

In addition to the major exhibition at Brussels which also included the fine crafts, Canada had a most active year in the international field. A new and exciting Canadian pavilion was established at Venice and for its inaugural exhibition, the works of J. W. Morrice, Jacques de Tonnacour, Jack Nichols and Anne Kahane were chosen. Press reports from Venice were enthusiastic, both about the handsome pavilion and about the Canadian show there.

Other Canadian exhibitions sponsored and organized by the National Gallery of Canada were shown in Holland, Germany, Switzerland, Yugoslavia, Mexico and the United States. At home the National Gallery took the initiative in calling a major regional conference in April 1958. Representatives of all galleries, universities and circulating agencies in Western Canada met at Regina where plans were made to create a unified program for the circulating of exhibitions in Western Canada. The new National Gallery building at Ottawa is expected to be completed late in 1959.

During the year there was a good deal of co-operation between Canadian artists and industry and commerce. As a result, significant murals were commissioned from coast to coast. Three of the important commissions included the mural for Gander Airport in Newfoundland by Kenneth Lochhead who created on a wall 70' by 12' a symbolic expression of air travel; a large mosaic by B. C. Binning for the new Imperial Bank Building in Vancouver having as its theme the resources of British Columbia; and a dynamic expressionist mural painted by Harold Town for the Robert H. Saunders-St. Lawrence Generating Station in Ontario. Other significant public commissions were given to André Bieler of Kingston, George Swinton of Winnipeg, Mario Merola of Montreal, and Robert Murray of Saskatoon.

Fewer outstanding exhibitions were held in Canada in 1958 although very active programs were carried out by the major public galleries in Ottawa, Toronto, Montreal, Winnipeg and Vancouver. Of special interest was the centennial exhibition organized by the Vancouver Art Gallery which surveyed the art of British Columbia during the past century. During the year, Canadian galleries and museums acquired many significant items for their permanent collections. The National Gallery of Canada acquired notable Canadian and European works including paintings by Simon Vouet, Isaac Ouwater, Picasso and Morrice; Winnipeg added an excellent Henry Moore to its collections; the Royal Ontario Museum, an outstanding piece of Shinto sculpture, 10th



A Vancouver sculptor working with welded steel and enamel.



A French-Canadian artist whose wood carvings of Canadian wildlife have gained international recognition.

Century A.D. Other important additions were made to the collections of the Art Gallery of Toronto and of the Montreal Museum of Fine Arts.

Honours won by Canadians in the visual arts in 1958 included a Guggenheim award to Shadbolt, the Vancouver painter, and an honourable mention to Riopelle in the Guggenheim competition in New York. In this competition, Canada received a special honourable mention for the highest balanced quality for a sectional group.

Festivals

When Canadians are at last released from the long grip of winter, they like to travel widely over their country when they can do so in some comfort. For this reason festivals of the arts, which are held mostly in the summer, are perhaps of special importance in Canada. The high cost to the artist of travelling great distances between centres of population is overcome, at least in part, by the audience itself which visits the festivals as a part of its summer holiday. It is a relaxed and pleasant audience which does not have to get up early in the morning and is in a mood to enjoy itself.

In 1958 Les Festivals de Montréal, under the presidency of Robert Letendre, presented its twenty-second season in the month of August. It was assisted by the Provincial Government of Quebec, the Greater Montreal Council of Arts and by the Canada Council. One of its more important presentations was eight performances of Molière's *Le Tartuffe* in which a group of French-Canadian actors were joined by Fernand Ledoux, of the Comédie Française, in the title role. There was also a film festival which presented five masterpieces of the French cinema. The music given during the month included an all-Bach concert directed by Alexander Brodt, a performance of Brahms's *A German Requiem* and concerts by the Montreal String Quartet.

Mention has already been made of the plays and operas performed at the Stratford Festival. In addition to these major presentations the quiet town on Ontario's Avon River, now enhanced by one of the most beautiful and original theatres in the world, was host to other attractions. Foreign artists included Marcel Marceau and the New York Pro Musica. Of particular interest was the appearance, with the Festival Singers, of the young Canadian bass-baritone Donald Bell.

Three years of planning and work by the Vancouver Festival Society under the presidency of William Mainwaring, with Nicholas Goldschmidt as artistic director, brought into being the first Vancouver International Festival timed to coincide with the centennial of British Columbia. The Canada Council was able to give the Society considerable financial assistance towards a large budget strongly supported by local financing. In addition to six performances of *Don Giovanni* with George London, Leopold Simoncau, Joan Sutherland and Pierrette Alarie in the leading roles, there were concerts by the Festival Orchestra conducted by Bruno Walter and recitals by such distinguished Canadian artists as Lois Marshall, Maureen Forrester and Glenn Gould. The Canadian tenor Jon Vickers appeared in performances of Verdi's *Requiem*. A new play was commissioned for the Festival and given its first performance—*World of the Wonderful Dark* by Lister Sinclair. The National Dancers of Ceylon, a film festival and an exhibition of Dutch drawings

Vancouver's bold adventure into the festival world in the summer of 1958 was an outstanding box office and artistic success. This First International Festival brought together for three weeks of meritorious performance celebrated artists from across Canada and from many countries throughout the world. The 1959 Festival, following the same pattern, will open on July 11th.



◀ Scene from the premier of "The World of the Wonderful Dark" by the Canadian playwright-intellectual, Lister Sinclair.



Glenn Gould, brilliant young Canadian pianist, during his performance at the Festival. ▶

▶ One of the most exciting events of the Festival was the performance of Mozart's opera "Don Giovanni", directed by Dr. Gunther Rennert of Germany and starring celebrated soloists.



◀ Part of the jazz session was provided by the Oscar Peterson trio.



The National Dancers of Ceylon gave spectacular nightly performances. ▶



and watercolours from the sixteenth to the twentieth century were among other attractions adding lustre to a new star in the Canadian summer sky.

Writing

In the field of non-fiction a number of important works appeared in 1958. Of particular significance to Canadians was the first volume of the biography of William Lyon Mackenzie King by the late R. MacGregor Dawson. One of the more important members of the School of Seven, A. Y. Jackson, published his autobiography *A Painter's Country*. And since *British Columbia: A History* by Margaret Ormsby might be considered a biography of a province, it should be mentioned with the *B.C. Centennial Anthology*—both timed to pay tribute to British Columbia's hundredth birthday.

Joyce Hemlow's *A History of Fanny Burney*, published in Toronto by the Oxford University Press, has been recognized by critics as an important contribution to the scholarship of the eighteenth century. Other publications of non-fiction include Alan Gowan's *Looking at Architecture in Canada* and works by A. R. M. Lower, Willson Woodside, Pierre Berton, and Farley Mowat. Finally, after six years of work, 1958 saw the completion of the ten-volume *Encyclopedia Canadiana*, a comprehensive work of reference produced by John E. Robbins and staff. The year also saw the publication of *350 ans de théâtre au Canada français* by Jean Béraud, which is the first volume of *L'Encyclopédie du Canada français*.

A number of novels appeared during the year. Two first novels, *Search for Amelia* by D. K. Findlay and *Execution* by Colin McDougall were well received, and considerable critical attention was given to *Agaguk*, a novel of Eskimo life by Yves Thériault, *Avec ou sans amour* by Claire Martin, Robertson Davies' *A Mixture of Frailties*, and Ralph Allen's *Peace River Country*. Anne Hébert, whose novel *Les chambres de bois* was published during the year, was awarded the Duvernay Prize for her contribution to French-Canadian literature. It is pleasant to note that the New Canadian Library series which first appeared in 1957 produced four reprints of Canadian works during 1958. Four new titles were also added to the collection of *Classiques Canadiens*.

Perhaps the most important publication of English language poetry was James Reaney's *A Suit of Nettles*. Mr. Reaney has also written the libretto of a one-act opera *Night-Blooming Cereus* for the composer John Beckwith, and this work was given its first performance early in 1959 by the Canadian Broadcasting Corporation. Two collections of poetry appeared during the year: *Twelve Modern French-Canadian Poets* edited by G. R. Roy, and *Anthologie de la poésie canadienne-française* made by Guy Sylvestre. In addition, Ralph Gustafson edited a new *Penguin Book of Canadian Verse* replacing the 1942 edition which is out of print. An important addition to criticism is a group of biographical and critical essays *Ten Canadian Poets* by Desmond Pacey of the University of New Brunswick. Because it is written by a poet, mention may be made of a charming collection of French-Canadian fairy tales collected by Dr. Marius Barbeau, retold in English by Michael Hornyansky, and published under the title *The Golden Phoenix*.

Winners of the Governor General's Awards were Jay Macpherson (poetry) with *The Boatman*, Gabrielle Roy (fiction) with *Rue Deschambault*,

translated into English as *Street of Riches*, Thomas Raddall (academic non-fiction) with *The Path of Destiny*, Bruce Hutchison (creative non-fiction) with *Canada, Tomorrow's Giant*, and Kerry Wood (juvenile) with *The Great Chief*. Awards from the Canada Foundation for creative writing were given to Daryl Hine, Jean-Guy Pilon, Marcel Dubé and John Marlyn who also won the Beta Sigma Phi prize for his first novel *Under the Ribs of Death*. Winners of other awards and medals during the year were Eric Nichol, Elisabeth Wallace, John Hayes, Hélène Flamme, Gustave Lanctot and Gladys Taylor.

Literary reviews and magazines continued to flourish despite financial adversity, and university quarterlies and other publications provided important outlets for creative writing. *The Fiddlehead* has made plans to publish prose as well as poetry, and *The Tamarack Review* has been described by the London Times Literary Supplement as "a literary periodical with the zest of the little magazine, the stability of a quarterly, and the cheerfulness that suggests responsible judgment".

A handsomely produced and illustrated book on Canadian arts at the half-century was edited by Malcolm Ross under the title *The Arts in Canada* and published in the latter part of the year. The two quarterly publications *La Vie des Arts* and *Canadian Art*, both assisted by a grant from the Canada Council, have continued to flourish—the latter in a new and enlarged format.

Although the Canada Council has given a number of grants to individual writers to assist them with their work, it is in the process of working out a suitable policy, which will soon be in effect, for assistance in the publication of fiction, poetry and criticism and of literary magazines.

UNESCO

The Canada Council is also responsible for promoting and co-ordinating Canadian activities related to the United Nations Educational, Scientific and Cultural Organization and for this purpose it set up the Canadian National Commission for UNESCO in August 1957. Besides being a clearing house of

Stone carvings at the Royal Ontario Museum are explained to students of the University of Toronto's department of East Asiatic Studies.





The new library at Assumption University in Windsor, Ont., is typical of the revised thinking in library accommodation—the bright open rooms with large windows displaying to the passer-by the storehouse of knowledge and pleasure available within.

information and being responsible for Canadian participation in the UNESCO program, the Council acts as an advisory body to the Department of External Affairs which is responsible for Canada's relations with UNESCO.

The inaugural meeting of the Commission was held in February 1958 and it embarked at this time upon a program to familiarize its membership and the Canadian public with UNESCO and its activities. The Commission has initiated its program of assistance to Canadian voluntary organizations wishing to participate in UNESCO-sponsored international conferences of importance in the cultural relations field.

The National Commission was invited to participate in two International Film Festivals. Through the co-operation of the National Film Board and the Canadian Film Institute, Canada submitted entries to an International Presentation of Films for Children at the Brussels World Fair and at the International Film Festival held in conjunction with the UNESCO Tenth General Conference.

The major project to be undertaken by UNESCO in the field of cultural relations is that of promoting the Mutual Appreciation of Eastern and Western Cultural Values. This project will stretch over a period of ten years and is planned to involve peoples at all levels in encouraging the mutual understanding of oriental and occidental cultures. A National Advisory Committee has been set up to co-ordinate Canadian activities which may range from symposia of academic experts in oriental or occidental philosophy to displays in art galleries and translations of representative works in literature. Under this project, Dr. Rose Renshaw of Montreal is studying the structural characteristics and stylistic features of music in India on an India-UNESCO Fellowship.

A survey by Ross McLean examining Canada's resources for participation in the East-West major project has been published by the National Commission under the title *Canada and Asia*.

Cultural Organizations

With the exception of the recently created Canada Council, the most important organizations in Canada engaged in the encouragement and promotion of cultural activities are financed and directed by private enterprise. Serving as centres of interest and inspiration for musicians, painters, dancers, dramatists and others working in the arts, these organizations have grown notably in the past ten years and now make their influence felt at the national, provincial and municipal levels. The Royal Canadian Academy of Arts is the oldest national prestige organization; an election to its full membership is regarded as the highest honour open to Canadian artists. A number of the country's most important professional cultural organizations, including the following, maintain membership in the Canadian Conference of the Arts (formerly the Canadian Arts Council): the Royal Architectural Institute of Canada, the Canadian Authors Association, La Société des Écrivains Canadiens, the Federation of Canadian Artists, the Canadian Music Council, the Canadian Handicraft Guild, Canadian Guild of Potters, Canadian Group of Painters, Canadian Society of Painter-Etchers and Engravers, Sculptors Society of Canada, Canadian Society of Graphic Arts, Canadian Society of Landscape Architects and Townplanners, the Arts and Letters Club, the Canadian Ballet Association and the Canadian Society of Creative Leathercraft. The privately financed Canada Foundation is one of the country's main promoters of cultural activities.

Libraries

Public libraries in Canada are enjoying a boom, as their services and facilities expand to meet the needs of an increasing population and a growing demand for books. During the period 1950-57 more new public libraries

Children's libraries are very widely used. Special programs for the young, such as this story hour in a Toronto branch, stimulate their interest.



Formality is not important in the Vancouver public library — it wants children to know the delight of books without too many regulations.



Bookmobiles, operated by the Northwestern Regional Library Co-operative, bring reading material to people living in the scattered mining and pulp and paper towns of north-western Ontario. The service covers a territory of 212,000 sq. miles, though many of the small communities within it have established or are organizing their own permanent libraries.

were established in centres of 10,000 population or over than in any other decade in Canadian history, and similar expansion is taking place in the smaller centres. The following figures for the larger centres show that the previous peak was reached between 1900 and 1920 when many public libraries were founded with assistance from the Carnegie Foundation.

Record of the Establishment of Libraries in Larger Centres

Period of Establishment	Municipal	Association	Regional and County Co-operative	Open-Shelf and Travelling	Total
	No.	No.	No.	No.	No.
Before 1860.....	5	1	—	—	6
1860-69.....	2	—	—	—	2
1870-79.....	2	1	—	—	3
1880-89.....	10	—	—	—	10
1890-99.....	6	—	—	1	7
1900-09.....	14	—	—	2	16
1910-19.....	18	1	—	3	22
1920-29.....	10	1	—	1	12
1930-39.....	3	—	7	—	10
1940-49.....	11	5	11	—	27
1950-57.....	22	8	9	1	40

In the period 1951-56, the population of Canada increased by nearly 15 p.c. but public libraries increased the number of their volumes by 34 p.c., their borrowers by 54 p.c. and their circulation by nearly 42 p.c. To the children goes much of the credit for the greater activity—the boys' and girls'

departments reported an increase of 85 p.c. in circulation for the five-year period. New public library buildings are being planned and built as fast as funds will permit. At the same time, all types of libraries are faced with an acute shortage of professional librarians to staff present services, not to mention extended facilities.

Libraries serving the public include tax-supported municipal organizations, association libraries privately controlled and operated on a non-profit basis, regional and, in some areas, travelling and open-shelf libraries organized by provincial government departments and universities to serve scattered population groups. In 1957, 123 of the 150 centres with populations of 10,000 or more had some form of public library service, and hundreds of smaller centres and rural areas were served by various types of libraries. In most of the provinces a provincial government agency, under the Department of Education, supervises, advises and grants funds to public libraries, which are chiefly supported by local taxation.

University libraries are also expanding. New library buildings are being planned and built with the assistance of grants from the Canada Council, private bequests and public subscription. Government, professional, business and technical libraries serve groups working in special fields and provide resources essential to study and research.

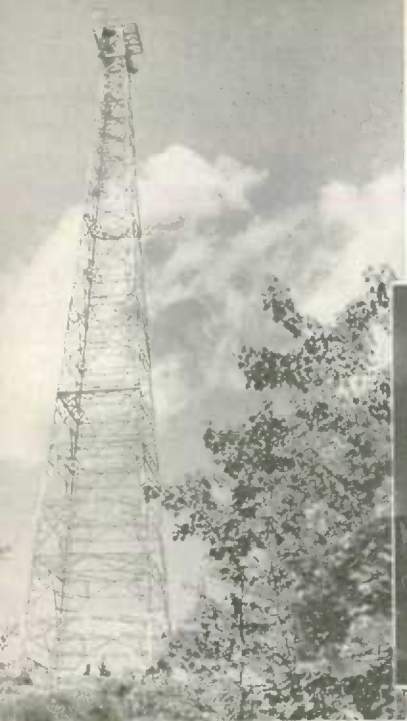
The Canadian Library Association, a national organization of librarians, library trustees, publishers, and other individuals interested in libraries, acts as a clearing house for library information, and sponsors a directory, Young Canada Book Week, Canadian Library Week, annual conferences and workshops, and numerous other projects.

Summary Statistics of Libraries in Canada, 1957

Type	Libraries	Population Served	Book Stock	Current Operating Expenditure	Full-time Staff
	No.	No.	No.	\$	No.
Public (municipal and association).....	870	8,415,540	9,861,349	11,241,757	1,873
Public (regional).....	29	2,066,263	1,173,463	980,045	163
Public (travelling and open-shelf).....	8	2,298,358	436,982	290,248	65
University and college.....	263	86,500 ¹	8,644,500 ²	3,995,800 ²	814
Federal government ³	109	—	1,869,323	266,673 ⁴	446
Provincial government ³	115	—	1,437,804	238,912 ⁴	290
Professional, business ⁵ and technical.....	168	—	1,003,682	212,525 ⁵	405
Totals (unduplicated)...	1,562	12,423,981	24,283,407	17,073,591	4,022

¹ Full-time student enrolment at university level, not included in total. ² Estimated. ³ Year ended Mar. 31, 1957. ⁴ Books only, 69 libraries reporting. ⁵ Books only, 102 libraries reporting.

The National Library.—The National Library, awaiting the provision of permanent quarters, has two major projects—the publication of *Canadiana*, a monthly catalogue of books and pamphlets relating to Canada, and the compilation and servicing of the National Union Catalogue. The micro-filming of catalogue cards in all the major libraries in Canada is nearing completion and many libraries throughout the country are turning to the



The longest television network in the world makes it possible for Canadians across 4,200 miles of territory from coast to coast to enjoy instantaneous visual communication, to share in their own homes a community of interest and participate in events of national importance.



National Union Catalogue for help in locating books in other libraries. The National Library acts as the agent for the Library of Parliament and receives two copies of every book copyrighted in Canada under the Copyright Act.

Radio and Television

Canada's present broadcasting system, a combination of public and private enterprise, has been shaped by the peculiar needs of the country. During the 1920's when the excitement of the new medium of radio spread through Canada as it did through other countries, many private radio stations were licensed to operate in Canada, but difficulties soon made their appearance. Through questions of inadequate coverage in some regions, the lack of a national service of Canadian programs and the insufficient opportunities for Canadian talent, there emerged the typical Canadian problem of high costs in a country of vast distances and small population. The solution was eventually found in the establishment of a partnership of public and private stations in one national system.

The Canadian Broadcasting Act passed in 1932 provided for the appointment of a Canadian Radio Broadcasting Commission having two main functions—the regulation and control of all broadcasting in Canada and the conducting of national broadcasting operations. The Commission was replaced in 1936 by the Canadian Broadcasting Corporation, modelled more closely on the lines of a private corporation. Through the years radio broadcasting developed under the administration of this Corporation, which provided, directly by its operations and indirectly by its control of the operations of others, an adequate and diversified service free from partisan influence.

Not long after the close of the Second World War the events of twenty years of radio broadcasting began to repeat themselves in the field of television and, after much consideration, the same procedure with suitable adjustments was adopted for the development of that medium. Television came to Canada officially in September 1952 as a combination of public and private enterprise.

The public system of broadcasting in Canada resulted from the natural desire and the need for a high standard of broadcasting that would express the varied facets of Canadian life and would interpret the different regions of the country each to the other. The conviction was that these aims could best be served by placing the control of broadcasting in the hands of an independent public corporation acting as a trustee for Canadian listeners and viewers. The general principles of this system have been approved by fourteen Parliamentary Committees and three Royal Commissions, the most recent of these being the Royal Commission on Broadcasting (chaired by Robert M. Fowler). As a result of the findings of the Fowler Commission, a new Broadcasting Act was proclaimed on Nov. 11, 1958.

Under the new Act the Canadian Broadcasting Corporation is relieved of its regulatory and control powers but continues to act as the agency engaged in the operation of publicly owned stations and national networks in the production and distribution of a national program service throughout



Musical variety programs, such as "Showtime", are particularly popular with the viewing public.



Dramatic presentations occupy almost 45 per cent of television programming time and have brought into the limelight many talented stars.



Sports broadcasts, particularly of play-off games, draw record audiences.



Though radio continues to be the outstanding vehicle for music, there are some fields, particularly opera and ballet, in which television brings added enjoyment.

Canada. The Corporation consists of a President, a Vice-President and nine other directors appointed by the Governor in Council and is accountable to Parliament through a designated Minister. At the same time, the Act authorized the establishment of a Board of Broadcast Governors, responsible to Parliament for the direction and supervision of all broadcasting in Canada. It consists of three full-time members and twelve part-time members also appointed by the Governor in Council.

Facilities.—All the privately owned television stations and many of the privately owned radio stations operate in partnership with the CBC in distributing national radio and television services over five networks—in radio, the Trans-Canada, French and Dominion networks and, in television, the English and French networks. The networks are operated by the CBC. Network radio service is available to approximately 95 p.c. of the population, while 90 p.c. is within range of Canada's national television service.

As of Jan. 1, 1959, there were 26 CBC radio stations and 10 CBC television stations; 149 privately owned radio stations and 40 privately owned television stations. In addition there were 36 CBC shortwave stations (10 national and 26 international) and eight privately owned shortwave stations; five CBC and 25 non-CBC frequency-modulation stations; and 60 CBC low-power relay transmitters. Two TV stations, in addition to those mentioned above, are managed by the CBC and use United States facilities, under international agreement, at Goose Bay (Labrador) and Harmon Field, Nfld. These serve United States and Canadian military personnel as well as Canadian civilian population.

CBC income is derived from revenue from commercial programs, with the remainder made up from parliamentary grants. Income of privately owned stations is derived from commercial operations.

Radio Program Service.—Canada's system of broadcasting is designed to overcome the problems posed by great distances, a scattered population, and seven of the world's 24 time zones. Programs are planned regionally and nationally on CBC networks, and provide a substantial amount of Canadian production as well as outstanding programs from other countries. They offer a wide range of material including programs of substance and a good measure of straight entertainment.

Through CBC facilities, schools across Canada are provided with at least 30 minutes daily of broadcast programs specifically planned by Departments of Education to meet classroom requirements. In addition, national school broadcasts, prepared with the advice of the Departments of Education and teachers and financed by the CBC, are heard on Fridays. Canada's agricultural population is served by the most complete service of farm broadcasts in the world, including the weekly National Farm Radio Forum, which has about 8,500 members across Canada. Citizens' Forum provides a national platform for discussion of topics of current interest. Programs of interest to women are scheduled for afternoon listening, there are special children's programs for out-of-school listening, and time is allotted regularly for religious programs. Free-time political broadcasts arranged with the various parties are heard both nationally and regionally. The special CBC Wednesday Night program offers a full evening of the finest in drama, music, talks, poetry and recitals.

The CBC interviews King Hussein in Amman, Jordan, during a tense political crisis. Giving Canadians the Canadian view on international situations is part of the news service of the CBC.



Television Service.—Canadian television began in 1952, when the CBC's first television stations, CBFT and CBLT, were opened at Montreal and Toronto respectively. As of Nov. 1, 1958, there were 10 CBC stations: at Vancouver (CBUT), Winnipeg, (CBWT), Toronto (CBLT), Ottawa (CBOT) and French-language (CBOFT), Montreal (CBFT) and English-language (CBMT). Halifax (CBHT), Goose Bay (CFLA-TV) in Labrador, and Harmon Field (CFSN-TV) in Newfoundland. At the same date 51 private stations including eight satellite stations were in operation—at six points in British Columbia, five in Alberta, six in Saskatchewan, one in Manitoba, 16 in Ontario, 11 in Quebec, two each in New Brunswick and Newfoundland and one each in Nova Scotia and Prince Edward Island.

This development brought Canadian television within range of 91 p.c. of the population. Actually, more than 75 p.c. or over 3,000,000 Canadian homes are equipped with TV. Television stations from St. John's, Nfld., to Victoria, B.C., are joined by microwave relay network facilities, leased by the CBC from the Trans-Canada telephone system. The Newfoundland extension was completed in June 1959.

Today Canada is second in the world in terms of 'live' television production and in terms of number of television transmitters in use. CBC television has developed a program schedule covering the wide range of entertainment achieved in its sound broadcasting, and based on the same objectives. On

A large film library is maintained by the CBC, even though its live-production output is greater than that of any other network in the world.



the English network 59 p.c. of the schedule is made up of Canadian programming and on the French network more than 75 p.c. is Canadian-produced. These programs include weekly drama series, leading sports events, children's series, news, variety, discussions, and many other types of programs. The majority of Canadian television productions are 'live' from studios at Toronto and Montreal, but regional and national shows are also produced in studios at Vancouver, Winnipeg, Ottawa and Halifax. Some programs shown on the CBC network are fed directly from United States networks via the microwave relay and some film features from other countries are also offered. Three separate experiments in television for school children have been undertaken by the CBC School Broadcasts Department in collaboration with the provincial Departments of Education. The results are under study.

CBC International Service.—The International Service is financed wholly by funds voted by Parliament. The main program and production headquarters are in the Radio Canada Building at Montreal and two powerful 50,000-watt transmitters at Sackville, N.B., are linked with the studios at Montreal by a landline 600 miles long. Altogether the shortwave broadcasts of the International Service are listened to in some 30 countries. The programs are broadcast in 16 languages: English, French, German, Dutch, Danish, Swedish, Norwegian, Italian, Spanish, Portuguese, Czech, Slovak, Polish, Russian, Ukrainian and Hungarian. Countries having poor reception for geographical reasons, such as Austria and Greece, receive transcribed programs. The International Service endeavours to give listeners in other lands Canadian views on international affairs and a picture of Canadian life, with special reference to cultural, social and economic development.

National Film Board

The importance of the non-theatrical film, filmstrip and still photograph as a medium of information was recognized by the Federal Government in 1939 when the National Film Board was established. Since that time the Board has become well known in Canada and abroad as a national documentary film producing and distributing organization whose function it is to interpret Canada to Canadians and to the people of other nations in an interesting and factual manner. That it has done so with distinction is



*National Film Board
artist rehearses colleagues
for the multi-lingual intro-
duction to a new film.*

Scene during the production of a Canadian history film *"The Voice of the People"*.



evidenced by the fact that more than 200 awards of Canadian and international significance have been made to NFB productions.

During the year ended Mar. 31, 1959, the Board created 129 new films, and 96 language versions and revisions of existing subjects, a total of 225 films. In addition 13 newsclips, 40 newsreel stories, and seven picture-stories for television were produced.

NFB productions are shown throughout the world in commercial theatres, on television wherever it is in operation and to non-theatrical audiences at home and abroad. Non-theatrical showings in Canada reached an audience of 13,829,713 in 1957-58 and, in addition, an undetermined number of people saw NFB films purchased by film libraries, schools, industries and other organizations. During the year 7,660 films were sold, 4,799 in Canada and 2,861 abroad; and 17,213 filmstrips were sold, 14,296 in Canada and 2,917 in other countries.

Abroad, Canadian films are distributed through many channels—through posts of the Departments of External Affairs and Trade and Commerce, through deposits with state and local film distribution agencies, and through exchange agreements with various foreign governments. The reported total of the non-theatrical audience of Canadian films abroad in 1957-58 numbered 21,008,919.

There were 7,484 bookings of NFB films by theatres in Canada and 16,459 abroad. Hundreds of films from NFB's non-theatrical film library are accessible to television stations in Canada and elsewhere. During 1957-58 there were 10,081 telecasts of these films—5,866 in Canada and 4,215 abroad, principally in the United States and the United Kingdom.

The National Film Board is an agency of the Federal Government whose executive consists of the Government Film Commissioner who is Chairman of the Board, and eight other members, three of whom are appointed from the public service. Members of the Board, other than the Chairman whose tenure of office is five years, are appointed for three-year periods. The office of the Commissioner and certain headquarters personnel are located in Ottawa but the Board functions from its new plant in St. Laurent, Que.



Peggy's Cove, N.S.

Travel in Canada

CANADA is a land of contrasts. Its wide diversities in climate, in physical appearance and scenery, in activity and solitude, and in culture hold an infinity of attraction for the vacationer and traveller. Wherever his interest may lie—in the long stretches of sunny seaside beach, in the mountain resort, in the solitude of the private camp, in the mountain stream alive with trout, in rolling comfortably along broad highways through the ordered countryside or the spectacular mountain pass, in re-living the stirring events of history, or discovering ways of life different from his own—all are part of the Canadian scene.

Most of the vacation travel in Canada is by automobile and most of the travellers come from the United States. There are several popular border-crossing points both east and west, but the great majority of automobiles enter in southern Ontario during the summer months. They head for many vacation areas in the province—for the blossom-laden Niagara peninsula, for the Shakespearean Festival at Stratford, for the islands of Georgian Bay or the lake-strewn Muskoka resort district, or they may continue northward through unspoiled forests dotted with a million lakes where fish and game abound. Many of them follow the shores of the St. Lawrence, that extensive inland waterway which has played such an important role in the history of both Canada and the United States with its almost incredible reminders of battles fought between them more than a century ago, and now the great monument of co-operation today in the Seaway and power project, an engineering feat that has held the interest of the world during the period of its construction. A few miles north of the St. Lawrence

is Ottawa, the Capital of Canada, quiet and graceful in its park setting high above the river from which it took its name, the Parliament Buildings dominating the skyline and miles of flower-fringed driveways winding throughout its confines.

The road leads onward to the Province of Quebec with its charm of a bilingual culture set against a background of ancient customs and traditions. Its cities include both the oldest and the most modern communities in Canada. Mount Royal, shell of a long-dead volcano, has given its name to Montreal, a



*Percé, on the east-
ern coast of the
Gaspé Peninsula,
with its famous
offshore Rock.*

*The woods and
lakes of the
Ontario land-
scape near
Dorset in the
Muskoka dis-
trict, north of
Toronto and
east of Geor-
gian Bay.*



The Laurentian Mountains north of Montreal call to the vacationer the year 'round. The precipitous mountain slopes—green-clad in summer and a blaze of glory in autumn—in winter provide the best skiing in Eastern Canada.



distinctive modern metropolis of well over a million population and the largest bilingual city in the world. Quebec, Capital of the Province, is the only walled city on the Continent. It has grown old gracefully with its medieval battlements, gables, dormer windows and narrow, winding streets, and harks back to the days when the voyageurs and missionaries carried civilization and the fleur-de-lis deep into the wilderness that was North America.

Crossing the province is an unforgettable experience. Mountains and dales, rolling valleys and grass-covered lowlands, tranquil lakes and cascading rivers alternate in an exhilarating panorama. The atmosphere of the Laurentian Mountain district, with its knobby precipitous hills hanging with small colourful chalets, is completely its own and few spots can surpass in beauty the Gatineau, Lièvre and St. Maurice Valleys, the Monteregian Hills or the magnificent panorama of the widening St. Lawrence from the Gaspé drive, one of the most beautiful of Eastern Canada.

The journey continues eastward to Canada's Maritime Provinces, where the tempo of life is perceptibly slower. New Brunswick offers a delightful combination of sea beach and rugged cliffs, of dense woodland and river shore, of snug little towns framed in purple hills. It has more than its share of natural curiosities—the Reversing Falls at Saint John, the Tidal Bore on the Petitcodiac River, the Magnetic Hill at Moncton and the grotesque rock sentinels at Hopewell Cape. Its six hundred miles of sheltered coastline are dotted with seaside resorts, and its 12,000,000 acres of timberland provide cover for black bear and red deer making this one of the Continent's best hunting areas. The Restigouche has been termed the world's greatest salmon stream and many other lakes and rivers teem with fighting game fish.

Cradled in the Gulf of St. Lawrence east of New Brunswick is the Province of Prince Edward Island, the birthplace of Canadian Confederation. The Island's population is overwhelmingly British in origin with a minority of French Acadian stock. Charlottetown, its Capital, has neither great wealth nor real poverty, and slums are unknown. The Island is a mosaic of

rich green farmlands patterned by small wooded sections and small quiet villages. Dotted along the seaside are long, uncrowded beaches where the warm waters of the Gulf of St. Lawrence wash the gently sloping sand. Surf-bathing and other summer sports are enjoyed everywhere and excellent fishing for salmon and speckled trout can be found in many of its lakes and streams. Temperatures for swimming along the coast are from 70 to 75 degrees.

Canada's third maritime province, Nova Scotia, is steeped in history and legend. Practically every village has a story carried on from the early days of settlement. Port Royal Habitation on the Bay of Fundy shore is located on the site of the first white settlement on the Continent north of Florida and North America's first social club, the Order of the Good Time, was founded there by Samuel de Champlain in 1606. Nova Scotia's charm is in its rugged Atlantic shoreline, its picturesque fishing villages and many sandy beaches.



Pleasant for the tourist is the garden province of Prince Edward Island.

New Brunswick's fine roads lead through a charming and restful countryside.



Apple blossom time in the Annapolis Valley is an annual delight. Wildlife is very plentiful for the hunter, and for the fisherman there are hundreds of trout and salmon streams. The world's most fertile swordfish and tuna waters lie off Nova Scotia's 1,965-mile coastline.

Ferry service links the mainland with Newfoundland, Canada's newest and most easterly province. The history of this Island, which has long been an isolated territory and whose inhabitants are the direct descendants of its first settlers, forms a fascinating part of the record of discovery and settlement of the Western World. Its Capital, St. John's, is one of North America's oldest cities and boasts one of the finest land-locked harbours on the Continent. Picturesque little fishing villages cling to the Island's craggy coastline, with names that run from romantic Heart's Desire to Horse Chops. The western portion of the Island is covered with lakes and fast-flowing rivers, set in great areas of sprawling timberland. There is an abundance of salmon and sea trout in the Island's waters and of moose, black bear, caribou, fox and lynx in its forests.

In the western half of the country, the greatest influx of vacationists crosses the international border in southern British Columbia, that great majestic province with its chains of snowy mountain peaks rising from lush green meadowlands, park-like valleys, tumbling rivers, clear glacier-fed lakes and magnificent stands of timber. Canada's mildest climate is found along the ocean-washed shores of the southern mainland and of Vancouver Island, where the average winter daytime temperature is 42 degrees above zero. Most of the province's population lives in the southwest corner. Vancouver, that great bustling metropolis which is the commercial and cultural centre of the West, is one of the most modern and beautifully situated cities in the country. Its month-long International Festival is a highlight for patrons of the arts. The province is a great vacation area—a sportsman's paradise for game and fish. Rocky mountain sheep and goats, deer, elk, bear, moose, caribou, wolves and cougars find cover in the spruce and pine forests, and the rivers and streams abound in Kamloops and Rainbow trout, Tyee and Coho salmon.

Modern highways have superseded pack trails across the Canadian Rockies and admit the traveller to the spectacle of the most magnificent mountain scenery in the world. The Alberta resorts at Banff, Jasper and Waterton Lakes, all situated on the eastern slopes of this sea of mountains, attract visitors from all parts of the globe. With the snow-capped peaks of the Rockies as a backdrop, the lesser mountains and hills of Alberta's cattle country appear, offering the visitor a completely different prospect—from the weird formations of the Badlands to the pre-glacial life of the Cypress Hills. Dude ranches are popular and the celebrated Calgary Stampede is a byword of the central West. From the booming city of Edmonton may be reached the Alaska Highway which begins at Dawson, B.C., and runs through a land of mystery and enchantment—through densely forested mountainous regions, past silent, tree-lined lakes, along spruce and birch-clad river valleys where the only sign of habitation is small outposts, mining projects and highway construction camps. It is an exciting, rugged land, almost untouched by the hand of man, rich in scenic beauty and a sportsman's dream—a journey to the top of the world.

Eastward from Alberta, the grain-heavy acres of the fenceless farmland of southern Saskatchewan and Manitoba roll to the horizon in every direction, the air blown clear and clean with the prairie winds. Northward lies forest and lake country and new adventure for the fisherman. The vacation possibilities in this whole region are inexhaustible. Manitoba is particularly well known to hunters, both for big game and waterfowl. Each autumn thousands of migrating ducks and geese pass through the Delta Marshes on their way south from Arctic breeding grounds.

More than 250,000 miles of surfaced highways, ranging from two-lane gravel roads, to four-lane, boulevarded super-highways, link Canada from the Atlantic to the Pacific Ocean, from the sunny southern tip of Ontario to the far northwest. Automobile ferries connect Vancouver Island, Newfoundland and Prince Edward Island with the Canadian mainland.

The Trans-Canada Highway, one of the great vacation touring routes of the world, is well on its way toward completion and motorists can now travel from one extremity of Canada to the other over the present highway system. Along its 4,500-mile length, besides a variety of scenery to match the finest in the world, may be found convenient, comfortable accommodation ranging from deluxe hotels to less costly motels and tourist homes, and Canadian hospitality at every turn of the road.

The federal and provincial governments have undertaken an extensive program to provide numerous overnight camp grounds and picnic sites along the Trans-Canada Highway across the provinces: small day parks with picnic facilities located close to the highway, and overnight parks 50 acres or more in extent with camping facilities, some of which will be established up to 15 miles from the Highway. Thus the summer attractions of this great country are multitude, but Canada is in reality a land of year-round



Where the Klondike and Yukon Rivers meet — near Dawson City in Yukon Territory.

The snow-capped peaks of the Alberta Rockies are a never-ending source of wonder.



Vacations for everyone from everywhere—happy carefree days spent in favourite spots and in favourite pastimes.



Dinner over a camp-fire at Sabourin Lake, Ont.



Shopping for handwoven woollens at St. Andrews, N.B.



Salmon fishing at Finlayson Arm, Vancouver Island, B.C.

interest. Each season has its own particular charm. Though spring, autumn and winter have yet to attract the tourists in the same number as summer, the winter season is becoming highly popular. To skiing, which yearly entices thousands of devotees to snowy mountain slopes, has been added the attraction of winter carnivals, ice fishing and other such events. Multi-million-dollar investments in accommodation and fast, efficient transportation have contributed to this development, particularly noticeable in the Laurentian region northwest of Montreal, in other parts of Quebec, and in Ontario, Alberta and British Columbia.

National and Provincial Parks

Many areas of scenic and other interest have been set aside to be preserved in their natural state for the enjoyment of all those who love the out-of-doors—some of them wilderness areas far removed from civilization and others easily accessible by highway, rail or air and provided with comfortable moderate-priced or luxurious living accommodation and sport facilities of every kind. The first national parkland was created in 1885 around the hot mineral springs at Banff in the Alberta Rockies, a park that has since been extended to cover 2,500 sq. miles of astounding beauty and has become internationally famous as a vacation resort. Seventeen other scenic areas across the country have since been allocated as national parks, together



...nning at Camp Fortune, ski lodge north of Ottawa.



Sun and sand near Shediac, N.B.



Cool journey across Harrington Lake, Gatineau Park, Que.

Happy Alberta hunters with a good bag of Canada geese.



having an area of more than 29,000 sq. miles. The latest addition is a wilderness area of 156 sq. miles on Bonavista Bay in Newfoundland, the new Terra Nova Park. Two large parks are mainly big-game preserves where herds of buffalo and other animals find sanctuary. National park names and areas are as follows:—

<u>Park</u>	<u>Area</u>
	sq. miles
SCENIC, RECREATIONAL AND ANIMAL	
Wood Buffalo, Alta. and N.W.T.	17,300.0
Jasper, Alta.	4,200.0
Banff, Alta.	2,564.0
Prince Albert, Sask.	1,496.0
Riding Mountain, Man.	1,148.0
Kootenay, B.C.	543.0
Glacier, B.C.	521.0
Yoho, B.C.	507.0
Cape Breton Highlands, N.S.	367.2
Waterton Lakes, Alta.	203.0
Terra Nova, Nfld.	156.0
Mount Revelstoke, B.C.	100.0
Fundy, N.B.	79.5
Elk Island, Alta.	75.0
Prince Edward Island, P.E.I.	7.0
Point Pelee, Ont.	6.0
Georgian Bay Islands, Ont.	5.4
St. Lawrence Islands, Ont. (acres)	171.7

<u>Park</u>	<u>Area</u>
	acres
HISTORIC	
Fortress of Louisbourg, N.S.	339.5
Signal Hill, Nfld.	243.4
Fort Lennox, Que.	210.0
Fort Beauséjour, N.B.	81.3
Fort Prince of Wales, Man.	50.0
Halifax Citadel, N.S.	36.9
Fort Battleford, Sask.	36.7
Fort Anne, N.S.	31.0
Port Royal, N.S.	20.5
Grand Pré, N.S.	14.0
Alexander Graham Bell Museum, Baddeck, N.S.	14.0
Lower Fort Garry, Man.	12.8
Fort Langley, B.C.	11.0
Woodside, Ont.	11.0
Fort Wellington, Ont.	8.5
Fort Malden, Ont.	5.0
Cartier-Brébeuf Park, Que.	5.0
Fort Chambly, Que.	2.5
Batoche Rectory, Sask.	1.2
Sir Wilfrid Laurier's Birthplace, St. Lin, Que.	0.5



"Flapjacks" for Rocky Mountain trail riders.



Unearthing bones of dinosaurs among the "hoodoo" of the Drumheller Valley of Alberta.

Lucky people—unlucky lobster—in a Nova Scotia seaside village.

In addition, twenty areas of national historic importance have been designated as national parks, most of them in the Maritime Provinces, Quebec and Ontario where the early struggles for possession took place and evidences of old forts and settlements remain. Indeed, these scenic and historic parks are Canada's greatest single tourist attraction. All previous attendance records were broken in 1958 when close to 5,000,000 visitors were recorded. The parks are administered by the Department of Northern Affairs and National Resources. A warden service protects the forests and wildlife and maintains constant vigilance for the safety and comfort of visitors.

Hundreds of other historic sites have also been marked or acquired by the Historic Sites and Monuments Board, commemorating events or personalities who have played a distinctive part in the shaping of the nation. Their attendance records in 1958 showed more than 670,000 visitors.

Gatineau Park, a 75,000-acre area immediately north and west of the Capital City of Ottawa, deserves mention as the popular summer and winter playground of the Capital area. It, too, is being preserved in its natural state and developed as a park and game sanctuary. A 45-mile scenic driveway, now under construction, will open up this beautiful hill and lake country making accessible its many beaches, trails, campsites, fishing spots and excellent winter skiing areas.

Seven of the provincial governments have established provincial parks. Though many of them are as yet undeveloped, some of the larger parks, especially in British Columbia, Quebec and Ontario, are well served with

tourist accommodations and organized recreational facilities. The total area of provincial parkland is about 57,463 sq. miles, located as follows: Quebec, 36,264 sq. miles; British Columbia, 13,151 sq. miles; Ontario, 5,199 sq. miles; Saskatchewan, 1,705 sq. miles; Manitoba, 968 sq. miles; Alberta, 121 sq. miles; and Newfoundland, 55 sq. miles. In Manitoba, park developments are being carried out in three of the province's forest reserves having a combined area of 5,386 sq. miles.

Canada's Visitor Industry

Tourist travel has become one of Canada's major industries. It is the third ranking source of export income, surpassed only by newsprint and wheat, and has grown to such an extent over the past two decades that the



Dinosaurs, which 90,000,000 years ago roamed what is now southern Alberta, appear again in a Calgary park. Many life-size models dramatize the region's prehistoric past.

standard of living of every Canadian is affected to some extent by the progress it makes each year. The typical dollar from tourism has a primary distribution as follows: between 31 and 32 cents of each dollar is spent on food and beverages; over 23 cents for lodging and 16 cents for transportation; seven cents of the travel dollar is spent on handicrafts and souvenirs; 12 cents for other merchandise and about 10 cents for other miscellaneous items. This income is then redistributed through all channels of commerce and taxation in the country. Gasoline taxes, for instance, paid by visiting motorists help build more and better highways, while income derived from fish and game licences does its share in conserving those resources. Because of its tremendous returns, the competition in the field of travel is intense and Canada is today faced with the stiffest international rivalry yet encountered, as European countries and Canada's North and South American neighbours vie for

visitors. To stimulate travel to Canada, the Federal Government and the ten provincial governments each maintain an active bureau, backed by the transportation companies and by regional and local private interests.

The volume of travel between Canada and other countries was slightly higher in 1958 than in 1957, totalling 56,100,000 visits compared with 56,000,000 in the previous year. Visits to Canada by residents of other countries numbered 28,572,200 as against 28,656,100 in 1957, but Canadians, who have become the most travel-minded people in the world, reciprocated with 27,553,800 visits to other countries compared with 27,329,300 in 1957.

Expenditures by visitors to Canada in 1958 were somewhat lower than the peak established the previous year; they were estimated at \$352,000,000, down about 3 p.c. At the same time, Canadians spent about \$544,000,000 travelling outside their own country, 3.6 p.c. more than in 1957. As a result, the debit balance on travel account was the highest on record, amounting to \$192,000,000 as compared with \$162,000,000 in 1957.

The greatest exchange of travel is, of course, with the United States, and border crossings were slightly higher in 1958 at 55,952,400 than they were in 1957. Visitors crossing into Canada numbered 28,530,700 down 88,700 from 1957, and the number of Canadians crossing into the United States was 27,421,600 compared with 27,209,400. A substantial part of this movement across the continent-wide border is of a local nature connected with international commuting and other local visits. The proportion of short-term travel between the two countries, which reflects the extent of commuting crossings, has shown little change over many years; it remains at approximately 85 p.c. for both Canadians and Americans. Only about 15 p.c. of the visitors crossing to the United States from Canada or vice versa stay more than 48 hours. Convenient communications as well as the proximity to the border of large groups of population of both countries—particularly in the Ontario area—and the fact that neither passports nor visas are required, facilitate this short-term movement.

Estimates show that, though the number of United States visitors to Canada was about the same, they spent 5 p.c. less money in 1958 than in 1957—\$309,000,000 compared with \$325,000,000. The decrease was mainly accounted for by lower expenditures per visit for non-automobile traffic. On the other hand, though the number of Canadian visits to the United States increased less than 1 p.c., the amount of money spent was 2 p.c. higher, advancing from \$403,000,000 in 1957 to \$413,000,000 in 1958. It has been estimated that about 18 p.c. of tourist expenditures by Canadians in the United States is for retail purchases. The retail spending by Canadians in Buffalo, for instance, is double that of United States residents visiting the Niagara Falls area, and the situation in the Detroit-Windsor region is similar. The currency exchange situation between Canadian and American funds during the past few years has also had its effects on tourist expenditures in the two countries. The very fact that Canadian currency was at a premium of from 3 to 6 p.c. in terms of American funds has given further encouragement to retail purchases in the United States by Canadian citizens, and has had the opposite effect on American purchases in Canada.

A new record was established in the number of visits to overseas countries by Canadians during 1958. Canadians returning from overseas, exclusive of those travelling through the United States, numbered 132,100 and the



Jasper Lake, Alta.

*"Give me the hills and wide water
Give me the heights and the sea;
And take all else, 'tis living
And heaven enough for me."*

money they spent amounted to \$129,000,000 an increase of 6 p.c. over 1957. Non-resident travellers—other than immigrants and persons entering Canada by way of the United States—arriving in Canada direct from overseas countries numbered 39,700, an increase over the 1957 figure of 3,100. Expenditures of these visitors were estimated at \$40,000,000 compared with \$38,000,000 in 1957. Travel to Canada from overseas countries is expected to increase as the restrictions on travel allowances are eased. British tourists intending to visit Canada are now permitted a £100 allowance in dollars, and the potential tourist trade from other countries is very great. The fact that immigration to Canada has boomed in recent years and a surprising number of people in countries like Holland and Italy have relatives now living in Canada will, in all likelihood, increase visits to this country in the next few years.

The balance of payments on travel account between Canada and other countries for 1953 to 1958 were, in millions of dollars:—

<u>Item</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>
Account with the United States—						
Credits.....	282	283	303	309	325	309
Debits.....	307	320	363	391	403	413
Net.....	-25	-37	-60	-82	-78	-104
Account with Overseas Countries—						
Credits.....	20	22	25	28	38	40
Debits.....	58	69	86	107	122	129
Net.....	-38	-47	-61	-79	-84	-89
Account with A.I. Countries—						
Credits.....	302	305	328	337	363	349
Debits.....	365	389	449	498	525	542
Net.....	-63	-84	-121	-161	-162	-193

Newfoundland, a land born out of a love for ships and the sea, a rugged land of undeniable charm and a fascinating past, a land only now emerging from long isolation—a land to be discovered.



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Index

	PAGE		PAGE
Age of population.....	16	Consumer price index.....	184
Agriculture.....	78-97	Co-operative associations.....	182
— government and.....	94-7	Crops, field.....	85-8
Area, land.....	56	Cultural organizations.....	291
— water.....	56	— relationships.....	274-99
Arts, festivals.....	286-8		
— the.....	274	Dairying	91-2
— visual.....	283-6	Deaths.....	18
Asbestos, production of.....	73, 76	Debt, government.....	34
Atomic energy.....	243-5	Defence Research Board.....	242-3
		Department of Trade and Commerce.....	202-3
Ballet	278-9	Diplomatic posts abroad.....	42
Bank, Industrial Development.....	205-6	Disabled persons, allowances.....	256-7
— of Canada.....	204-5	Domestic trade.....	174-84
Banking.....	204-7		
Births.....	17-8	Economy in 1958, Canada's	217-25
Blind, allowances for the.....	256-7	Education.....	227-37
Building construction.....	215	— adult.....	233-4
— industry.....	270-3	— elementary and secondary.....	227-8, 236, 237
Butter and cheese.....	92, 117	— statistics of.....	237
		— vocational.....	232
		Electric power statistics.....	132-3
Cabinet, Federal	26	Employment in 1958.....	137-42
Cables and telegraphs.....	169-70	Engineering construction.....	215
Canada and Canadians.....	1-19	Eskimos.....	233, 264-9
— Council.....	235-6, 274-91	Expenditure, capital.....	208-12
Canada's Natural Heritage.....	45-59	— federal.....	33-4
— visitor industry.....	309-12	— gross national.....	222
— world relations.....	38-43	— personal.....	223
Canadian balance of international payments.....	198-201	— provincial.....	35-6
— Broadcasting Corporation.....	294-8	Exports.....	189, 192-5, 198
— posts abroad.....	42	External relations, Canada's.....	48-43
— Press.....	172-3		
— Wheat Board.....	88	Family allowances	256
Canals.....	158	Farm credit.....	95
Capital expenditures.....	208-12	— income.....	82-5
Census, population information.....	10-5	Federal-provincial allowances.....	256-7
Chartered banks.....	204-6	Festivals, arts.....	286-8
Child welfare and protection.....	259-60	Field crops.....	85-8
Citizenship.....	262-4	Finance, government.....	30-8
Civil aviation.....	161-4	— federal.....	31-4
— international agreements.....	163-4	— municipal.....	36-8
Climate.....	58-9	— provincial.....	35-6
Commonwealth affairs.....	39-40	Fisheries.....	98-103
— Economic Conference.....	191	— agreements, international.....	102
Communications.....	166-73	— statistics of.....	102-3
Construction.....	212-6	Foreign trade.....	186-203
— housing.....	270-3	Forest industries.....	62-7
— hydro-electric.....	124-32	Forestry.....	60-7
Consumer credit.....	180-2	Fruit and vegetables.....	93-4
		Fuels.....	74-5, 76

Index—Continued

	PAGE		PAGE
Gas pipelines	164	Labour unions	145-6
Government and agriculture	94-7	Land and water areas	56-8
— federal.....	23-7	Libraries	291-3
— local.....	28	— statistics of.....	292-3
— provincial and territorial.....	27-8	Literature	288-9
— and World Relations.....	21-43	Livestock	89-90
Governor General	25	Lumber	63-4
Grain, production of	85-7		
— marketing of.....	85, 88	Manufactures	110-23
		— employment in.....	115, 117, 120-1
Harbours	158-60	— provincial distribution.....	117-21
Health and welfare	246-61	— salaries and wages in.....	115, 117, 120-1
— services.....	249-53	Marriages	17-8
Highways, roads and streets	153-5, 215	Metals	69-73, 76
Hospitals	252-3	Metropolitan areas	15
House of Commons	25-6	Milk	91-2
Housing	270-3	Minerals, industrial	73-4, 76
— Act, National.....	270-3	— production.....	75-6
Hydro-electric construction	124-32	Mining	68-77
— Atlantic Provinces.....	126	Mothers' allowances	257
— British Columbia, Yukon and		Motor transport	156
Northwest Territories.....	130-2	— vehicles.....	117, 155-6
— Ontario.....	128-9	Municipal finance	36-8
— Prairie Provinces.....	129-30	Music	276-8
— Quebec.....	126-8		
Immigration	18-9	National debt	34
Imports	189, 192, 196, 198	— employment service.....	147
Income, farm	82-5	— Film Board.....	298-9
— national.....	220-2	— Gallery.....	284-5
— personal.....	220-1, 223	— Income.....	220-2
— tax.....	31-3	— Library.....	293
Index numbers of employment	142	— product.....	222
Indians	232-3, 264-7	— and provincial parks.....	56, 306-9
Industrial development	105-47	— Research Council.....	241-2
— Development Bank.....	205-6	NATO and Canada	41-2
— research.....	239-40	Natural gas pipelines	164
Insurance plan, federal-provincial		— increase in population.....	18
hospital.....	250-1	Newsprint	64-7
— unemployment.....	146-7		
International activities, Canada's	38-43	Oil pipelines	164-5
— air agreements.....	163-4	— production.....	74-5, 76
— fisheries agreements.....	102	Old age assistance	256-7
— geophysical year.....	238	— security.....	256
— investment position.....	200-1	Overseas telecommunication	169-70
— payments, balance of.....	198-201		
— service, CBC.....	298	Paper-using industries	67
Investment, private and public	208-16	Parks, national and provincial	56, 306-9
		Parliament of Canada	23-7
Judiciary	28-9	Pensions, widows'	257
		Personal income	220-1, 223
Labour	134-47	Pipelines	164-5
— force.....	135-7	Population pattern	10-9
— legislation.....	134-5, 142-5	Ports	158-60
— organization.....	135, 145-6	Postal service	170-2
		Poultry and eggs	92-3

Index—Concluded

	PAGE		PAGE
Power generated.....	132	Telecommunications.....	166-70
— water.....	124-32	Telegraphs and cables.....	169-70
Press, British United.....	172-3	Telephones.....	166-9
— the.....	172-3	Television and radio.....	294-8
Price index, consumer.....	184	Theatre.....	280-2
Prices.....	183-4	Tourist trade.....	309-12
— retail.....	184	Trade and Commerce, Department of.....	202-3
— wholesale.....	183-4	— domestic.....	174-84
Private and public investment.....	208-15	— distribution channels.....	174-7
Provincial finance.....	35-6	— foreign.....	186-201
— parks.....	56, 307-9	— international background.....	189-92
— and territorial government.....	27-9	— leading trading partners.....	197-8
Public finance.....	30-8	— retail.....	177-80
— health and welfare.....	246-61	— tourist.....	309-12
Pulp and paper.....	64-6, 117	— trends, Canadian.....	192-6
		— wholesale.....	177
Radio and television.....	294-8	Transportation.....	149-65
Railways.....	150-2	— and Commerce.....	149-216
Rehabilitation services.....	254-5	Travel in Canada.....	300-12
Research, agricultural.....	94-5		
— atomic energy.....	243-5	Unemployment insurance.....	146-7, 256
— Board, Defence.....	242-3	UNESCO.....	289-90
— Council, National.....	241-2	Unions, labour.....	145-6
— Government.....	241	United Nations, Canada and the.....	40-1
— industrial.....	239-40	United States, relations with.....	42-3
— scientific.....	238-45	— trade with.....	192, 197, 198
— university.....	240-1	Universities and colleges.....	230-2, 236, 237
Resources, primary.....	60-103	Urban centres, manufacturing in.....	121
— agricultural.....	78-97	— population.....	14-5
— fishery.....	98-103	— transit services.....	152-3
— forestry.....	60-7		
— mineral.....	68-77	Vehicles, motor.....	155-6
— water power.....	124-32	Veterans affairs.....	261
— water.....	56	Vital statistics.....	17-8
Retail trade.....	177-80	Vocational education.....	232
Roads and highways.....	153-5, 215		
		Water power.....	124-32
St. Lawrence power project.....	128	— resources.....	56
— seaway.....	158, 219, 224-5	Welfare services.....	258-61
School administration and finance.....	234-7	Wheat, imports and exports of.....	87
Scientific research.....	238-45	— production.....	86-7
Senate.....	26-7	— marketing.....	88
Shipping.....	156-7	Wholesale trade.....	177
Slaughtering and meat packing.....	117	Wood-using industries.....	67
Structural materials, production of.....	74, 76	Woods operations.....	62-3
		Workers, women.....	136-7
Taxation, federal.....	31-4	Workmen's compensation.....	145
— income.....	31-3	World relations, Canada's.....	38-42
— municipal.....	36-8	Writing.....	288-9
— provincial.....	35-6		

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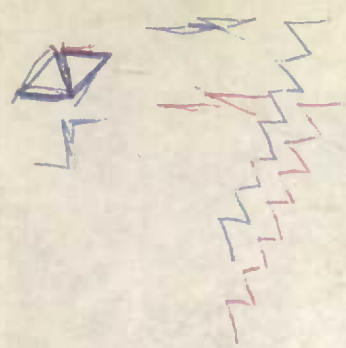
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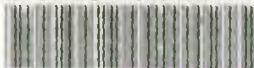
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