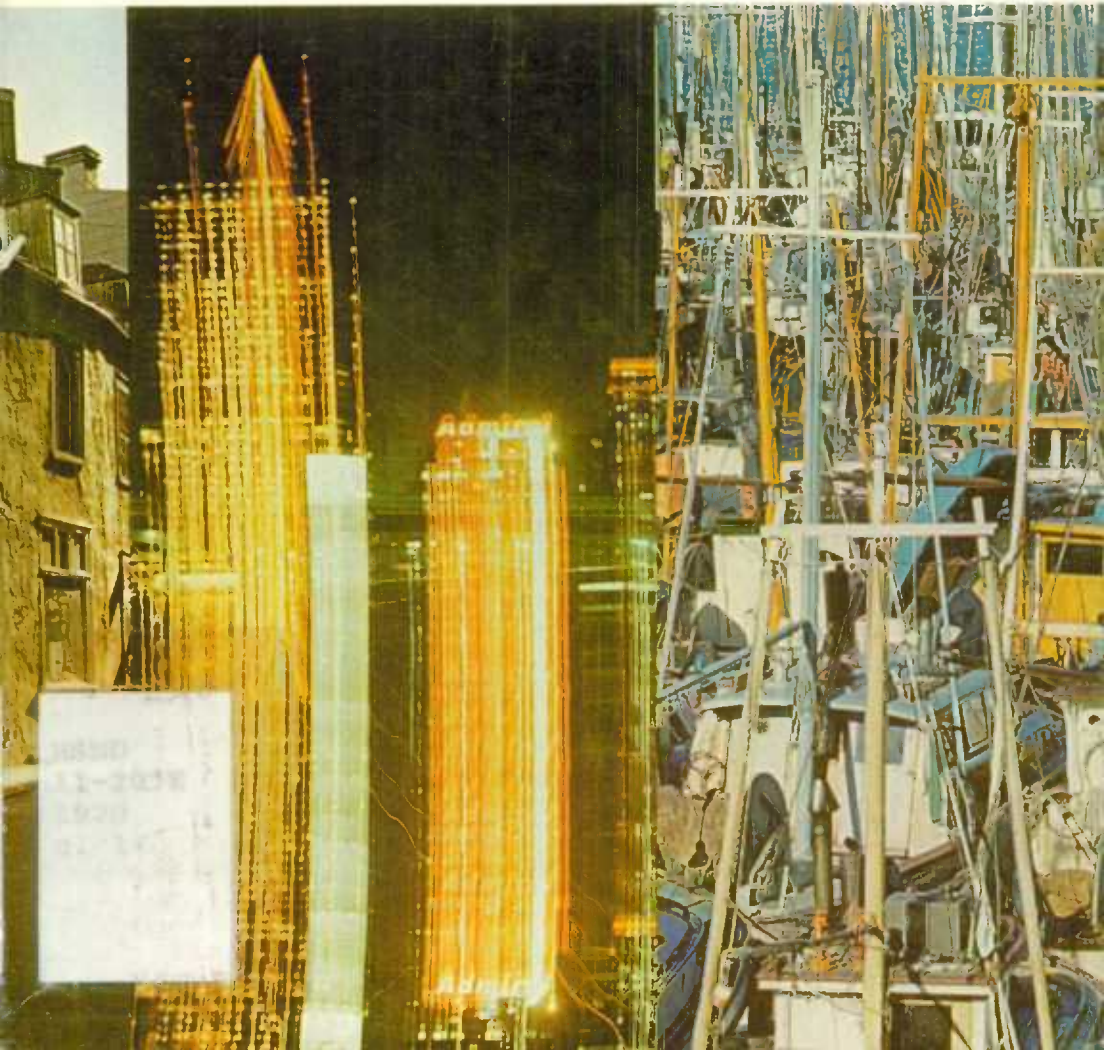
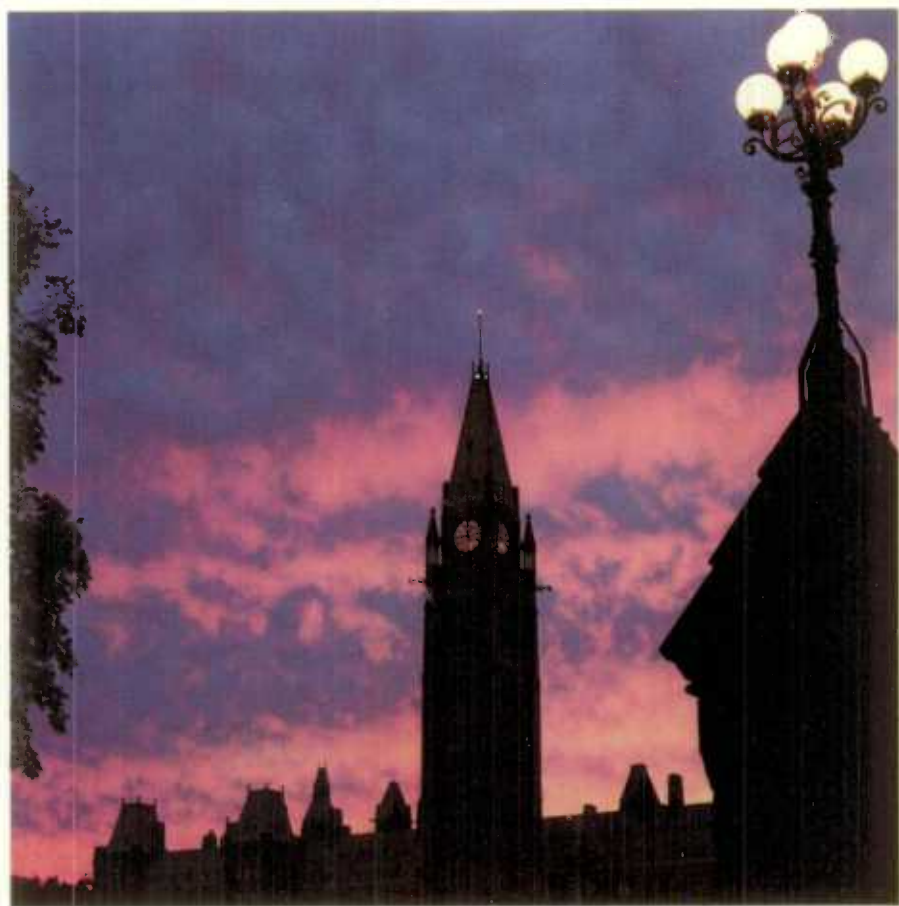


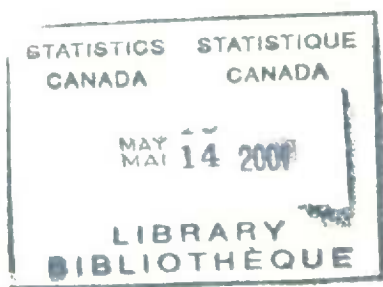
Canada 1970

English Edition





The Parliament Buildings, Ottawa.



CANADA 1970

The Official Handbook
of Present Conditions
and Recent Progress

Prepared in the
Year Book Division
Dominion Bureau of Statistics
Ottawa

Published under the authority of
the Honourable Jean-Luc Pepin
Minister of Industry, Trade and Commerce

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Foreword

Canada 1970 is the 39th annual edition of the official Canadian Handbook. It presents a view of life in this country and a summary of recent economic, social, and cultural progress. Textual and statistical material has been provided by various divisions of the Dominion Bureau of Statistics, by other government departments, and by special contributors, whose articles on Canada's geography, history, government, and educational systems are features of this edition. The illustrations have been selected from a wide range of governmental, commercial, press, and private sources, and maps were drawn by the Cartographic Division of the Department of Energy, Mines, and Resources.

The previous edition of the Handbook, although designated *Canada 1968*, appeared early in 1969. As the present edition is scheduled for publication at the very beginning of 1970, it was judged appropriate to designate it *Canada 1970*. In future, it is intended that the Handbook *Canada* will become available to the public at the beginning of the year for which it is dated.

Canada 1970 was planned and produced by Constance McFarland, Editor, and the Year Book Division staff, under the direction of Pierre Joncas, Director of the Division.

Halter E. Aufferet.

Dominion Bureau of Statistics,
June, 1969

Dominion Statistician

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The Land



Geography and Climate

Physical Geography

Canada can be thought of as a vast, saucer-shaped basin almost 3,500 miles in diameter, bordered by a mountainous rim on the west, east, and northeast, and with the "Hudson Sea" (including Hudson Bay, James Bay, and the Foxe Basin), a shallow depression set close to the centre of the enormous platform of the Canadian Shield, forming the saucer bottom. But the saucer is imperfectly cast, for the western rim, the so-called Canadian Cordillera, is higher and more massive than its eastern counterpart, and pieces of the rim are missing, notably in the northwest Arctic islands, but also in the south, where the international boundary slices across bedrock and landform belts which extend down into the United States.

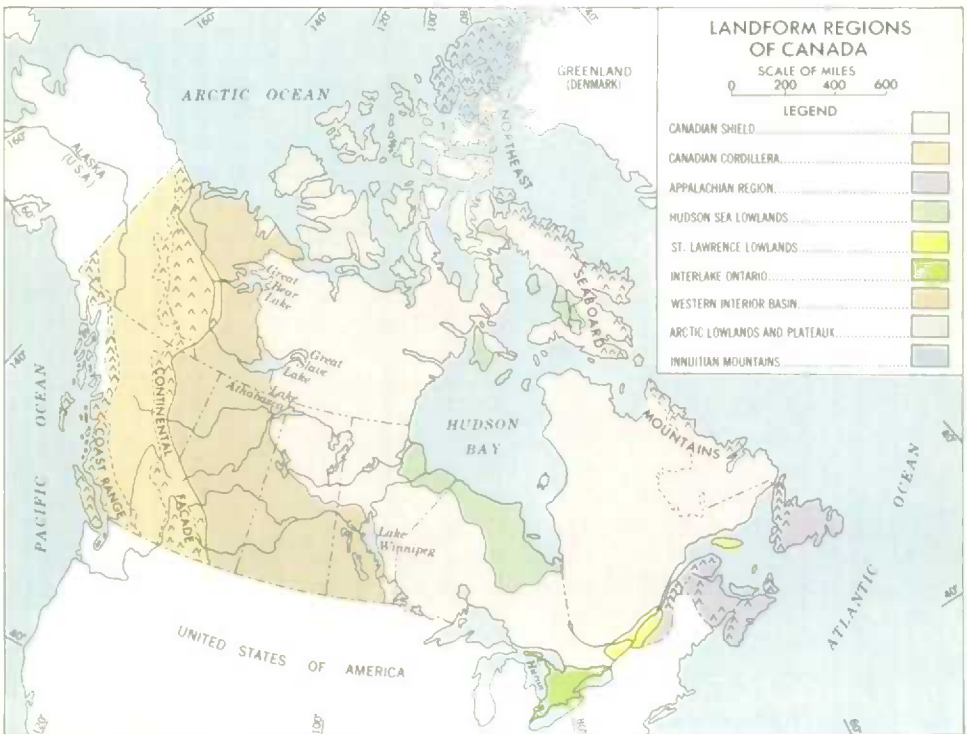
The Cordillera. The Cordillera, a 450- to 700-mile wide belt of rugged mountains and deeply dissected plateaus, extends from the American boundary 1,700 miles northward to the Beaufort Sea. Its maritime façade, the lofty Coast Range, with its rounded, dome-like summits, rises abruptly from the sea to elevations of over 13,000 feet in the Mount Waddington area, where cirque and valley glaciers are still found. Majestic fiords, deep rock-walled gorges scooped out by tongues of glacier ice and later invaded by the sea, extend from 50 to 100 miles back into the mountain wall, inhibiting the development of north-south road communications along the coast between Vancouver and Prince Rupert. Mining developments are common in the area, however, for the acid intrusive rocks which underlie the range are highly mineralized, especially along its eastern margins.

The rugged continental façade of the Cordillera, including the Rocky, Columbia, and Yukon-Mackenzie Mountains, stands high above the Alberta and Mackenzie plains. Between the boundary with Washington State and the 54th parallel there are at least 30 peaks over 10,000 feet in elevation, of which the highest is Mount Robson (12,972 feet), situated in the Rockies a few miles north of the Canadian National's transcontinental rail route. These ranges consist largely of sedimentary rocks such as limestones, which have been folded, faulted, upthrust, then glaciated, to form the castle-like peaks with sharp ridges and crestlines so typical of the Banff-Lake Louise area of Alberta.

The coal beds of the southern Rockies, which form part of these sedimentary sequences, have been exploited since the turn of the century, as have the rich silver-lead-zinc ores of the Columbia Mountains to the west.

Sprawling between the continental and maritime mountain belts of the Cordillera are wide, rolling tablelands and low mountains underlain by sedimentary and volcanic rocks. But the Cordillera also contains a number of long, extremely narrow fault trenches running roughly parallel to the general strike of the mountain ranges, that is, north-northwest to south-southeast. The Rocky Mountain Trench, 1,000 miles long and up to 15 miles wide, is a great natural corridor running from southern British Columbia to the Yukon and Alaska. It also is the source of most of the Cordillera's great rivers (for example, the Fraser, the Columbia, and the Peace), but road communications along it are still surprisingly poor. The Selkirk and Purcell trenches of south-eastern British Columbia are occupied in part by long, narrow water bodies (the Arrow Lakes, Lake Kootenay), but these trenches also contain several patches of excellent farmland. But most important of all is the Pacific Trench of southwestern British Columbia, sandwiched between the Coast Range and Vancouver Island, and containing the Cordillera's two largest cities — Vancouver and Victoria — most of its population, and much of its best farmland.

The Appalachian and Atlantic Regions. The uplifted rim of eastern and northeastern Canada presents a complex of landscapes vastly different from those of the Cordillera. The Appalachian Mountains of southeastern Quebec and the Atlantic Provinces are old, worn-down ranges with no permanent glacier ice. They consist largely of rolling and table-topped uplands whose summit levels range from 500 to 4,100 feet above sea level. Tightly-folded





Typical of autumn scenery in the Canadian Shield is this view of the Gatineau region in Quebec north of the nation's capital.

sedimentary rocks of Paleozoic age, mainly shales, sandstones, and limestones, underlie most of the area. In eastern Quebec the fold axes strike roughly parallel to the St. Lawrence, giving the region pronounced topographic linearity, especially along the south shore of the estuary, where narrow forest-covered or bare rock ridges alternate with shallow, sediment-filled valleys. The most rugged terrain of the Appalachians is found in Quebec's Gaspé Peninsula, where the 4,100-foot-high Shickshock tableland stands approximately 300 feet above the treeline and displays tundra vegetation and expanses of angular, frost-shattered rock.

The relief of the Atlantic Provinces is far more gentle. Here the rolling highlands and plateaus of New Brunswick, Nova Scotia, and Newfoundland form a semi-circle about a vast lowland zone almost entirely drowned by the Gulf of St. Lawrence but including Prince Edward Island, the Magdalen Islands, the Northumberland Strait Lowlands, and the St. George's Lowland of Newfoundland. Most of these emerged areas are less than 400 feet above sea level and are underlain by gently dipping Carboniferous and Permian sediments such as shale, sandstone, limestone, gypsum, and coal measures (for example, Cape Breton). Good farmland is found here, especially on the thick red soils of Prince Edward Island but also on the fertile marshlands of Nova Scotia's Annapolis Valley, laboriously reclaimed from the sea by the Acadians and later by settlers from New England. In contrast, the upland zones of the Atlantic region are underlain largely by more resistant rocks such as quartzites, granites, and gneisses (for example, the Caledonian Highlands of New Brunswick and the Atlantic Uplands of Nova Scotia). The soils, of glacial origin, are thin and stony, agriculture is marginal, and the population distribution is spotty.

The ragged Appalachian sea coast displays a surprising variety of types of shoreline: for example, the rectilinear fault scarp shorelines of northern Cape Breton; the rocky, island-studded coastlines of submergence of Atlantic Nova Scotia and northeastern Newfoundland; and the discontinuous offshore sand bars (enclosing vast lagoons) which festoon the Gulf of St. Lawrence from St. Peter's (P.E.I.) to Chaleur Bay, and which form the basis for much of the region's summer tourist industry.

Northeastern Canada. The seaboard rim of northeastern Canada comprises a series of narrow, high mountain chains extending from the central Labrador coast to northernmost Ellesmere Island. The 9,000-foot Innuitian Mountains of Ellesmere and Axel Heiberg consist, like the Rockies, of folded sedimentary rocks. However, the Torngats of Labrador and the Davis Mountains of Baffin Island are underlain by crystalline rocks of Precambrian age. All of these chains were heavily glaciated during the Pleistocene epoch, and the coastline is now deeply indented by long, U-shaped fiords. Many large snowfields, icecaps, and valley glaciers are still found in the Queen Elizabeth Islands of the high Arctic.

The Canadian Shield. The Canadian Shield, Canada's largest and most distinctive geological province, is a vast, rolling platform of resistant crystalline rocks covering an area of 1,771,000 square miles. Most of Quebec, Ontario, Manitoba, and the central and eastern Arctic are contained within the Shield, and the 1,300-mile-long Hudson Sea is set close to its geographic centre. The Shield is mainly made up of acid Precambrian rocks such as granites and gneisses, but interbedded volcanic and sedimentary sequences are found in northeast Ontario and western Quebec, and elongate belts of highly-folded sediments uphold ridge and valley relief in Labrador-Ungava (for example, the Labrador Trough). Most of the Shield's great mining camps are located in these sedimentary and volcanic belts, for example, Schefferville (iron), Chibougamau (copper), Timmins-Kirkland Lake (gold), Sudbury (nickel), and Elliot Lake (uranium).

During Paleozoic times, the Hudson depression and the external margins of the Shield were submerged under epicontinental seas, and a thin, discontinuous skin of sediments, mainly limestones and shales, was laid down on the Precambrian complex. Subsequent erosion has since stripped the Shield of this cover, but a few pockets of sediments have been preserved, notably in downfaulted blocks such as the Saguenay-Lac Saint-Jean depression. During the Pleistocene epoch the Shield underwent multiple continental glaciation; the last major ice advance occurred about 20,000 years before the present. The ice sheet probably originated as icecaps in central Labrador-Ungava, on Baffin Island, and in the Hudson Bay area. As climatic conditions worsened these caps thickened, expanded, coalesced, and expanded again to form a vast ice blanket over a mile thick. At its maximum extent, this blanket covered virtually all of Canada east of the Cordillera, with the exception of the north-west Arctic. The ice sheet greatly modified the surface topography of much of the Shield. The vast, ice-scoured rock plains of northern Labrador-Ungava, the cigar-shaped "drumlin" hills of central Quebec, and the sand and gravel meltwater ridges ("eskers") of Keewatin are but part of its legacy.

As the glaciers melted, a succession of huge freshwater lakes formed along the receding ice front. One of the largest was the now-extinct Lake Obijibway-Barlow, whose floor in part coincides with the Abitibi-Temiscaming region of Ontario and Quebec. Its fine clay and silt sediments have supported agricultural settlement in the so-called "Clay Belt." But the Shield remains liberally sprinkled with smaller freshwater lakes, some occupying basins scooped

out by glacial quarrying and others resulting from damming by glacial and meltwater deposits. These lakes form the basis of the southern Shield's thriving summer tourist industry, while the irregular profiles of the Shield's rock-floored rivers have allowed intensive production of hydro-electricity along its margins.

Fringing the Shield. The sedimentary basins of the St. Lawrence Lowlands, Interlake Ontario, the Western Interior, and the central and western Arctic fringe the Shield on the south, west, and north. These are comparatively flat-lying areas underlain by horizontally-bedded limestones, dolomites, shales, sandstones, and evaporites of Paleozoic (and in the west, of Mesozoic and Tertiary) age. The sedimentary cover is fairly shallow in Quebec and Ontario, but exceeds 10,000 feet in the Calgary-Edmonton area. Vast oil reservoirs have been found in the sedimentary sequences of the Western Interior, particularly in coral reef structures of Devonian age, and also in the Arctic islands, and smaller oil fields have been exploited for over a hundred years in southwestern Ontario. Coal measures, natural gas reservoirs, and potash beds are also exploited, especially in the west. The long search for oil and gas in Quebec's St. Lawrence Lowlands has so far been unrewarded, although small pockets of gas have been tapped on the north side of Lac Saint-Pierre.

The Canadian Prairies, Interlake Ontario, and the St. Lawrence Lowlands are primarily zones of glacial deposition, and so in some respects their landscapes are comparable. Rolling areas of thick, hummocky glacial deposits alternate with flat expanses once occupied by vast, late-glacial water bodies such as Lake Agassiz in Manitoba, Lakes Iroquois and Algonquin in southern Ontario, and the Champlain Sea (an arm of the Atlantic Ocean) in southern Quebec. Beach deposits, dune fields, sand deltas, and sharp bluffs mark their former shorelines, and in many areas their beds are scored by V-shaped ravines and gullies carved out by postglacial streams. In the Prairies, wide, flat-bottomed, steep-banked channels ("spillways") which served to drain the meltwaters of the stagnating ice sheet are prominent in the landscape, especially in southern Saskatchewan (the Qu'Appelle Valley). And dominating all three areas are lofty bedrock escarpments of structural origin, such as the 1,400 foot Manitoba escarpment, the scenic Niagara escarpment of southern Ontario, and the 500-foot-high Laurentide scarp of the Ottawa and Quebec City areas.

The Arctic. The landscapes of the central and western Arctic sedimentary basin are quite different from those of southern and western Canada. The region is made up of low islands and peninsulas, large and small, separated by a network of deep, wide channels and straits open to the sea. Most of these channels are drowned preglacial river valleys, deepened by ice erosion. Unconsolidated deposits are thin or non-existent, and features associated with climate, such as "patterned ground" and frost-shattered limestone and sandstone plains are common. In certain areas, myriads of shallow lakes rest on an impermeable layer of frozen ground ("permafrost") which exceeds 1,500 feet in thickness on some of the islands.

Human Geography

One of the most readily accepted geographical facts about Canada is that its inhabitants live near the American border. The most densely populated cities — Montreal, Toronto, Vancouver, Winnipeg, Ottawa, and Hamilton — are located within less than 100 miles of the most powerful country in the world. This general knowledge of population distribution needs to be more precisely defined in a longitudinal perspective. Is the Canadian population distributed evenly along the international border? Is western Canada as densely populated as eastern Canada? It would appear even more necessary to define where the Canadian population lives in relation to latitude. In fact, only at the time of the Second World War did Canada truly become involved with its last "frontier" — the North. And how does one define "northern" Canada?

The North and the South. In general, there are two different ways of defining Canada in relation to the North. From an administrative point of view, one may consider the Northwest Territories and the Yukon as being located in the North, and the provinces as being almost entirely in the South. This official but somewhat unsatisfactory way of looking at things leaves us with 40 per cent of the total area of Canada (the so-called Territories) and 43,000 of its inhabitants as constituting the North. Another way of dividing the country by latitude consists in defining an Arctic zone with 15,000 inhabitants and a sub-Arctic zone which includes some 1,500,000 inhabitants. The latter, the definition of which is based exclusively on summer temperatures, has the conceptual inconvenience of grouping such vastly different regions as Lake Superior and Great Bear Lake.

Using a personal interpretation of "northness" calculated on the basis of ten physical and human factors, we suggest drawing a base line running between the South and the North of Canada. The northness of this 30-mile wide geographical frontier, is equal to 200 "northern units." (For purposes of comparison the North Pole rates 1,000 and, Toronto, because of its winter, rates 35.) As the map shows, the transition zone crosses Newfoundland Island and the north shore of the St. Lawrence, passes north of Lake-of-the-Woods in Ontario, cuts across Saskatchewan to the east of Prince Rupert, takes in the Peace River in Alberta and British Columbia, and reaches the Pacific at the southern tip of Alaska.

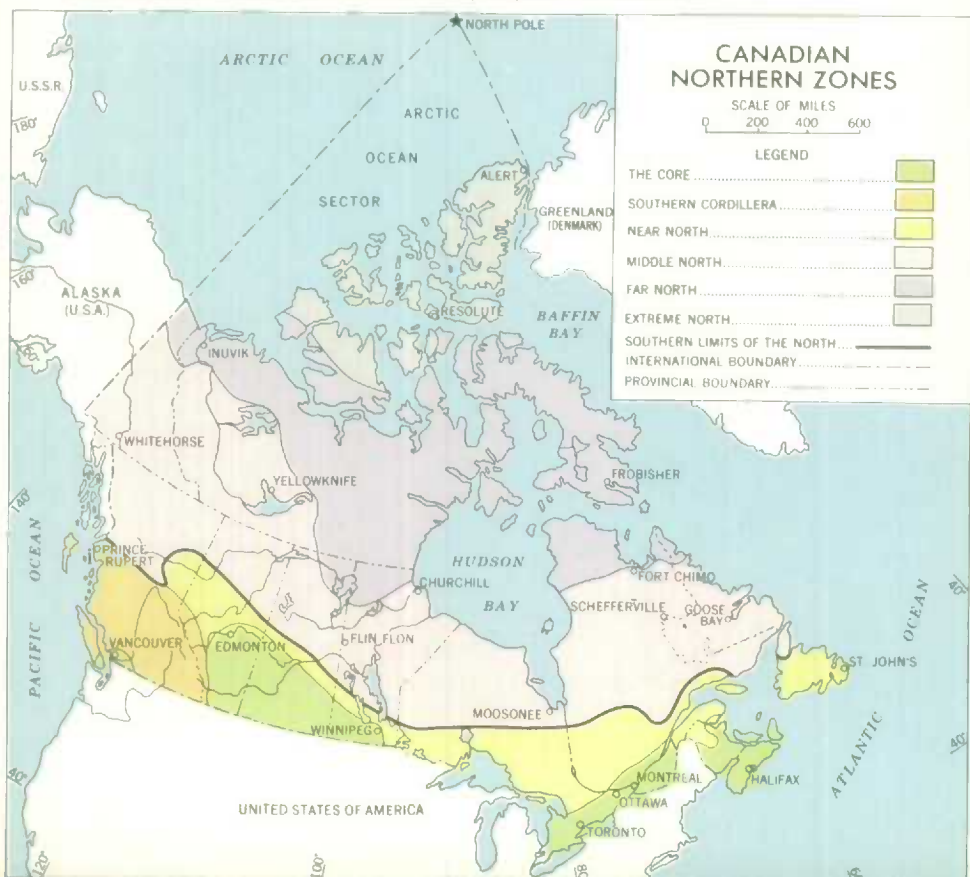
To the south of this broad geographic strip lies what is generally known as southern Canada and to the north lies the "Canadian North." As the table shows, the comparative populations of the two zones is quite unequal: one includes 19,786,380 inhabitants and the other only 228,500. Thus, 98 per cent of all Canadians live in southern Canada even though the latter represents only 27 per cent of the land area of the country.

Sub-Divisions: Southern Canada. It is clear that "southern Canada" includes regions as widely disparate as the Fraser Valley in British Columbia and the Avalon Peninsula in Newfoundland. Therefore, this base zone of Canada must be further sub-divided. From the point of view of economic structure the most inhabited areas of what is here called "the core" are easily defined. It is

made up of four distinct areas: (a) the three Maritime Provinces, (b) southern Quebec and southern Ontario, (c) southern Alberta (contraction of Alberta, Saskatchewan, and Manitoba) and (d) the Vancouver-Victoria axis. The core has a population of 16,698,228. Furthermore, Canadians are obviously far from being uniformly spread along the American border. Eastern Canada (to the east of Lake Superior), with almost 14,500,000 inhabitants, is far more densely populated than western Canada (west of Lake-of-the-Woods in Ontario) which has scarcely more than 5,000,000 people. As for the transitional belt between east and west, its population is less than 200,000.

Within southern Canada a further region is easily identified, that is, the southern half of the Cordillera (outside of the Vancouver-Victoria axis already mentioned). This mountainous region is located mostly in British Columbia, but extends as far as the eastern slope of the Rockies in Alberta. Fewer than 1,000,000 people live in the valleys between these mountain blocks.

Finally, aside from the evenly populated zones, scattered settlements of low density stretch across the land. This is the case in the interior of Newfoundland Island and the Lac Saint-Jean-Chibougamau-Abitibi triangle in Quebec, the northern rim of Lake Superior in Ontario, the pioneer fringes of Lake Manitoba, and along the Athabaska in Alberta. In these frontier regions, the climate is severe and agriculture is marginal. The mean "northness" of this strip exceeds 100 polar units but does not reach 200. Hence its name of "Near North," home to more than 2,000,000 Canadians.



Sub-Divisions: The Canadian North. The Canadian north is no more a single geographic region than is southern Canada. It is obvious that northness becomes more accentuated from south to north: the growing season becomes shorter; the snow carpet lasts longer; on Melville Island the earth is frozen to a depth of 1,600 feet. As one goes further north the forest gives way to more scattered trees, then to dwarf bush, which in turn leads to the rich tundra and then bare rock. However this gradation is uneven, hence the inadequacy of such specific criteria as degrees of latitude for marking the respective limits of the northern zones, of which there are three.

First, there is the Middle North whose characteristics are more and more easily identified in North America. This 500-mile-wide concave band stretches from Labrador to the Yukon and its northness ranges between 200 and 500 northern units. From an economic point of view, it was at one time the domain of the beaver, and today it provides the main routes of northward pioneer penetration – for example, the railway to Schefferville, the Alaska Highway, and the Mackenzie water route. The territorial capitals of Whitehorse and Yellowknife lie within this band of “medium northness.” As this area includes 210,546 inhabitants, it is clear that the North is unevenly populated and that it is the main northern zone of Canada. Most of its inhabitants are not native peoples and they live not in the Territories but in the northern parts of the provinces. There is no discernible demographic growth of any importance along the Alaska frontier.

The Far North, characterized by polar values of 500 to 800 units is very different from the Middle North. It stretches along either side of the strait separating the continent proper from the Arctic Islands and it has the advantage in summer of some navigation. This is an important factor because the area possesses very little in the way of land communication. The entire population is less than 18,000, of which the Eskimos form some 60 per cent. In an economic sense it is a deficit country. Expenditures by the government on defence, administration, equipment, and research are very much greater than private expenditures.

Finally, there is the Extreme North with more than 800 polar units (compared with the Pole itself at 1,000). It is even harsher. As the Eskimos no longer live in these islands, the zone cannot be considered an Eskimoland. With the exception of a few settlements, the territory is not continuously inhabited. The shores of the Arctic Ocean are clearly deserted. For an area of this size, the population density is one of the lowest in the world.

With 228,500 inhabitants, the Canadian North is more densely populated than Alaska but is about ten times less populated than the Asiatic part of the Soviet north. Over the last century, the population growth rate of the Canadian north has not been comparable with that of southern Canada. This latter zone, which is generally considered the best place to live, has thus become the “refuge” of the population. It would appear that the hard northern territories contribute to keeping the country’s residential core in the southern fringe.

Population of Northern Zones, by Province or Territory, Canada, 1966¹

Province or Territory	Southern Canada				The North Proper				CANADA
	The Core	Southern Cordillera ²	Near North ²	Total	Middle North	Far North	Extreme North	Total	
Newfoundland and Labrador	0	0	448,487	448,487	44,909	0	0	44,909	493,396
Nova Scotia ...	756,039	0	0	756,039	0	0	0	0	756,039
Prince Edward Island	108,535	0	0	108,535	0	0	0	0	108,535
New Brunswick	597,911	0	18,877	616,788	0	0	0	0	616,788
Atlantic Provinces ...	1,462,485	0	467,364	1,929,849	44,909	0	0	44,909	1,974,758
Quebec	5,021,461	0	732,654	5,754,115	23,699	3,031	0	26,730	5,780,845
Ontario	6,275,819	0	669,816	6,945,635	15,235	0	0	15,235	6,960,870
Manitoba	756,870	0	146,059	902,929	60,112	25 ³	0	60,137	963,066
Saskatchewan .	860,396	0	76,855	937,251	18,093	0	0	18,093	955,344
Alberta	1,241,529	18,116	189,038	1,448,683	14,520	0	0	14,520	1,463,203
Alsama ⁴	2,858,795	18,116	411,952	3,288,863	92,725	25³	0	92,750	3,381,613
British Columbia ...	1,079,668	749,130	39,120	1,867,918	5,756	0	0	5,756	1,873,674
North West Territories ..	0	0	0	0	13,850	14,748	140 ³	28,738	28,738
Yukon	0	0	0	0	14,372	10 ³	0	14,382	14,382
CANADA	16,698,228	767,246	2,320,906	19,786,380	210,546	17,814³	140³	228,500	20,014,880

¹ Based on Census of Canada (Ottawa), 1966 by L.-E. Hamelin and Gilles Cayouette.

² Outside the Core.

³ Estimate.

⁴ Contraction of Alberta, Saskatchewan, and Manitoba.

Climate

The six general climatic regions of Canada are the following: Arctic, Northern, Pacific, Cordillera, Prairie, and Southeastern.

The Arctic climate includes the Arctic islands and that part of the Arctic coast north of the treeline. Along the coastal areas of the islands, temperatures vary from 65°F in summer to -65° in winter. Snowfall is light.

The Northern climatic area extends in a broad band from the Yukon Territory to Labrador and from the treeline south to the more settled areas of southern Canada. Average temperatures range from 50° to 60°F in summer to -10°F in winter. Rainfall and snowfall are abundant in the eastern portion but deficient in the northwestern section.

The Pacific climatic region embraces the islands and a narrow coastal belt of British Columbia. Temperatures rarely drop below zero in winter or rise above 90° in summer. This is the area of heaviest rainfall in Canada. Precipitation is heaviest in the winter.

The Cordillera is the most complex climatic region of Canada. Rainfall and

snowfall decrease eastward from the coast while temperature ranges decrease westward from the interior of the continent.

The *Prairie* climatic region includes most of the settled farmlands of Manitoba, Saskatchewan, and Alberta. Precipitation averages from 12 to 20 inches. Though temperatures have ranged from -60°F to 115°F , averages are from 5°F to 65°F . The *Prairie* region is well known for its cold, windy blizzards and for its contrasting warm chinook winds, which bring temperature increases of 40°F to 50°F within a few hours, usually to Alberta.

The *Southeastern* climatic region includes southern Ontario, southern Quebec, the Maritime Provinces, and Newfoundland. Temperatures range from 80° on the average in the more southerly parts in summer to -20°F to -30°F in the colder parts in winter. Rain and snow are abundant at all seasons of the year, from 30 to 50 inches per year.

This mosaic was photographed by the Essa 6 weather satellite from an altitude of 900 miles, on a relatively cloud-free day in July. The satellite orbits the earth every 114 minutes.



Forestry

Canada's forests are among her greatest renewable resources. Stretching across the continent in an unbroken belt 600 to 1,300 miles wide, they provide raw material for the great lumber, pulp and paper, plywood, and other wood-using industries so vital to the country's economy. In addition, the forests of Canada control water run-off and prevent erosion, shelter and sustain wildlife, and offer unmatched opportunities for human recreation and enjoyment.

Productive forests—those capable of producing usable timber—cover nearly 1 million square miles. Total volume of wood in these forests is estimated at more than 750 billion cubic feet. Four fifths of this wood is coniferous and one fifth is deciduous.

Three quarters of Canada's productive forest area is known as the Boreal Forest, stretching in a broad belt from the Atlantic Coast westward and then northwest to Alaska. The forests of this region are predominantly coniferous, with spruce, balsam fir, and pine the most common species. Many deciduous trees are also found in the Boreal Forest, with poplar and white birch being the most widespread.

The Great Lakes-St. Lawrence and Acadian Regions are found in eastern Canada south of the Boreal Region. Here the forests are mixed, with many species represented. Principal conifers are white and red pine, hemlock, spruce, cedar, and fir. The main deciduous trees are yellow birch, maple, oak, and basswood.

Entirely different in character is the Coastal Region of British Columbia. Here the forests are coniferous, and because of a mild, humid climate and heavy rainfall, very large trees are common—200 feet tall and more than 6 feet in diameter. This region contains less than 2 per cent of the country's forest area, but supplies almost one fourth of the wood cut. Principal species are cedar, hemlock, spruce, fir, and Douglas fir.

The coniferous forests of the mountainous regions of Alberta and the British Columbia interior are very mixed; distribution and characteristics of species depend on local climate, which ranges from dry to very humid.

Production in this area has expanded rapidly in recent years with the establishment of many new pulp mills.

The only true deciduous forests in Canada occupy a relatively small area in the southernmost part of Ontario, which is predominantly an agricultural district.

Forest Ownership and Administration

Eighty per cent of Canada's productive forest land is publicly owned. This condition was established by the British North America Act, which assigned to the various provincial governments the exclusive right to enact laws regarding management and sale of public lands within their boundaries, including the timber and wood on those lands. In the northern territories, which contain only about 8 per cent of the country's productive forest land,



the forests are administered by the federal government.

For many years the policy of both the federal and provincial governments has been to retain in public ownership lands not required for agricultural purposes. In some of the older settled areas of Canada, however, the proportion of privately owned land is high, especially in the three Maritime Provinces, where nearly two thirds of the productive forest area is privately owned. Thus, the administration and protection of most of Canada's productive forest area is vested in the various provincial governments, which make the forests available to private industry through long-term leasing and other arrangements.

The Forest Industries

About 3,500 million cubic feet of wood are cut each year from Canada's forests. Recent estimates indicate that this amount could be doubled without exceeding the maximum allowable cut from currently accessible forest land. About 90 per cent of Canada's annual wood crop is coniferous, while the remaining 10 per cent is deciduous.

Logging. In the last decade the mechanization of the logging industry has progressed very rapidly and even in Eastern Canada the horse is now rarely seen in the woods. It has been replaced by a variety of tracked or wheeled vehicles that can operate on difficult terrain in moving the wood from the cutting areas to driveable streams or trackroads for transportation to the mills. Even the chainsaw — a relatively recent step in the development of mechanization — may be on the way out as huge timber gathering machines take over. Thus, the traditional "lumberjack" is gradually being replaced by highly trained machine operators, mechanics, and so on. In British Columbia, particularly in the Coastal Region, logging has long been highly mechanized.

In 1966 the logging industry provided 61,791 man-years of employment and \$351,471,000 in salaries and wages. Employment is measured by man-years rather than by the total number of men engaged in logging for part of the year because this industry is rather seasonal. In addition, a great number of farmers and other individuals derived part of their income from cutting wood on their own land in operations that are too small to be included in the logging industry statistics.

The total production of roundwood (logs, pulpwood, fence posts, for example) in Canada, in 1966, amounted to an estimated 3,849,019,000 cubic feet of solid wood (3,175,302,000 cubic feet in 1961). In addition, millions of Christmas trees are harvested annually as well as some minor forest products.

The Wood Industries. This group includes the primary wood industries that convert roundwood into lumber, shingles and shakes, veneer and plywood, particle board and so on. It also includes the secondary wood industries that further manufacture part of the production of the primary wood industries into a great variety of products such as flooring, doors, windows, laminated structures, prefabricated buildings, boxes, barrels, caskets, and woodenware.



Log booms being towed down the Manicouagan River to a mill at Baie Comeau, Quebec.

A considerable part of the primary wood industries is concentrated in British Columbia which, in 1966, accounted for 69 per cent of the total production of lumber and railway ties, 95 per cent of the total production of shingles and shakes and 77 per cent of the total production of plywood in Canada. In the secondary wood industries, on the other hand, Quebec and Ontario account for over 61 per cent.

The wood industries, in 1966, provided 91,937 man-years of employment (82,085 in 1961) and paid \$429,116,000 in salaries and wages (\$292,700,000 in 1961). The value of goods manufactured and shipped by these industries was \$1,592,797,000 (\$1,036,179,000 in 1961). Of this, the sawmill and planing mill industry accounted for \$917,676,000 (\$619,515,000 in 1961), the veneer and plywood industry for \$240,794,000 (\$143,719,000 in 1961) and the sash, door, and millwork industry for \$233,766,000 (\$152,556,000 in 1961).

As in the past, lumber is one of Canada's important exports. Of the total production of lumber and ties, — 10,724 million board feet in 1966, — 6,137 million board feet or 57 per cent, valued at \$478,363,000, were exported. Major species are spruce (36%), Douglas fir (19%), and hemlock (19%). Hardwoods, mainly yellow birch and maple, accounted for less than 6 per cent of the total production.

Pulp, Paper and Allied Industries. This group includes the primary pulp and paper industry which converts roundwood and wood-residue from the

sawmills into pulp, paper, paperboard, and building board. It also includes the paper-converting industries which manufacture some of the production of the pulp and paper industry into a variety of paper products such as paper bags, folding and set up boxes, corrugated boxes, asphalt roofing, facial tissues, toilet paper, paper towels, paper plates, cups, and other containers, envelopes, a great variety of printing and writing papers, wrapping papers, and so on.

The pulp and paper industry is one of Canada's largest single industries, accounting for almost 4 per cent of the Gross National Product. It is a typical "natural resources industry," requiring enormous quantities of wood, clean water, and power. Much of the recent growth in the industry has taken place in British Columbia, particularly in the interior region, because large quantities of wood-residue from the sawmills are available here, as well as new hydro-electric power developments in the Columbia and Peace River basins. In addition, the Forest Service of British Columbia has recently adopted a policy of "close utilization": it encourages the cutting of smaller trees which formerly were left in the bush. The influence of this wave of expansion will show up particularly in the statistics for 1967 and following years. The utilization of wood-residue from the sawmills is increasing in eastern Canada also, although not to the same extent as in British Columbia, partly because of the smaller size of the eastern sawmills. Many of these are so small that they do not warrant the installation of debarkers and chippers for converting the slabs and edgings to wood chips for pulping.

The total production of wood pulp of all kinds in Canada in 1966 amounted to 15,958,000 tons — almost 17 per cent of the estimated world total. Of this production 11,699,000 tons were used by the pulp and paper industry itself to be further manufactured into a variety of papers, paperboards, building boards, and so on. Exports of wood pulp amounted to 4,096,000 tons; these were valued at \$520,067,000. The Province of Quebec accounted for 38 per cent of the total production of wood pulp in Canada, Ontario for 22 per cent, and British Columbia for 23 per cent.

The total production of paper, paperboard, and building boards in 1966 amounted to 11,895,000 tons, of which 8,530,000 tons were newsprint. Most of the newsprint — 7,821,000 tons, valued at \$968,224,000 — was exported. Canada has long been the largest producer of newsprint in the world, with approximately 43 per cent of the estimated total world production in 1966. Since the domestic consumption is relatively small, Canada looms even larger as an exporter of newsprint. Her exports accounted for 73 per cent of the estimated world total in 1966.

The paper converting industries include asphalt roofing manufacturers, paper box and bag manufacturers, and miscellaneous paper converters. Included in this group are establishments that use plastic film, metal foil, and so on, to produce articles similar to those manufactured of paper and paperboard. In 1966 this group included 489 establishments (442 in 1961), employed 37,893 persons (34,462 in 1961), and paid out \$192,432,000 in salaries and wages (\$153,295,000 in 1961). The value of goods manufactured and shipped was \$868,002,000 (\$570,683,000 in 1961).

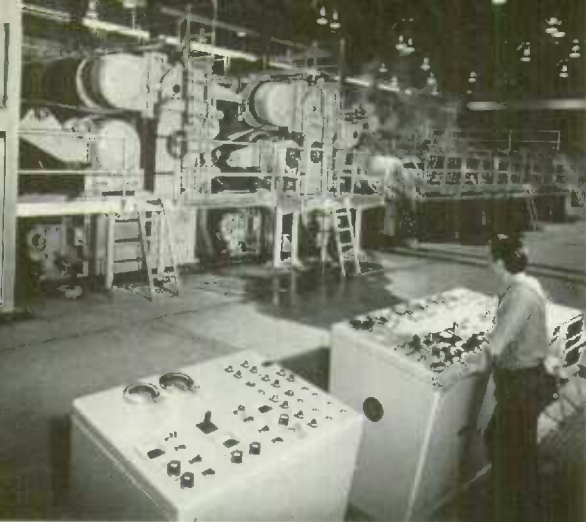


A giant spruce on the Queen Charlotte Islands, B.C., is felled with a chain saw.

Ninety tons of logs can be lifted in one bite by a grapple crane.



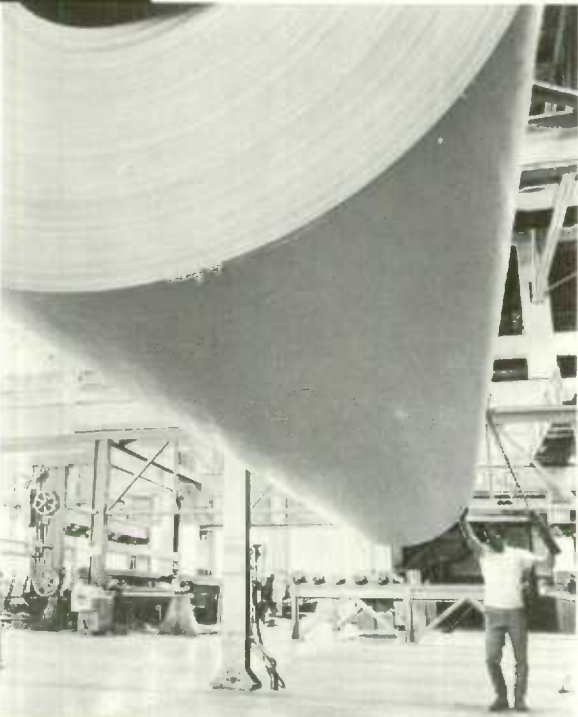
Formerly waste by-products from lumber milling, wood chips and sawdust are now turned into pulp at Elk Falls, B.C.



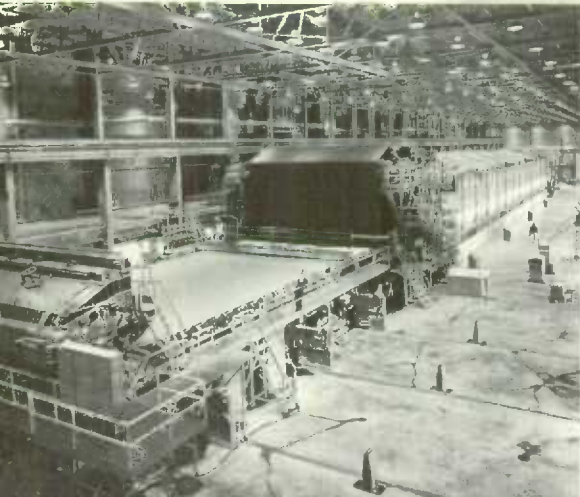
Paper in the making passes through a suction press, a grooved-roll press, and then into a pre-dryer section at Prince Albert, Sask.



In this newspaper-making machine at Saint John, N.B., the wet paper is gradually dried.



The massive roll is ready for shipment.



Forest Management and Research

Although Canada's forest resources are vast, they are not limitless. In addition to the 3,500 million cubic feet of wood used every year by industry, more than 2,000 million cubic feet are lost to harmful insects, disease, and forest fire. As well as carrying out more intensive forest management and reforestation to replace what man himself has taken from the forests, Canadians must therefore maintain the struggle against these major natural enemies.

During the past few years, wood cutting and processing techniques have vastly improved. Today, a greater amount of pulp and paper can be produced from a cord of wood than ever before. Much of what was previously discarded as waste material is now used to manufacture by-products of the major wood-using industries. Most of the improvements and innovations in wood harvesting and processing result from research on the part of the forest industries, while most of Canada's research into improved tree growth, protection and utilization is carried out by the Forestry Branch of the federal Department of Fisheries and Forestry. Forest research is also conducted by some provincial governments.

The Forestry Branch operates regional laboratories, field stations, and experimental areas in seven regions across the country, as well as a number of institutes in Ottawa and elsewhere. Extensive research, both basic and applied, is carried out on forest management, forest fire control, forest insects and diseases, and forest products. The Branch also is responsible for conducting forest surveys of federally administered lands and assisting other federal agencies with forest management matters. It also provides informational and educational material for the public on the production and wise use of the nation's forests.

The newest of eight tree nurseries in British Columbia, at Red Rock, will help the province produce 75 million seedlings a year by 1975.



Mining

Canada is richly endowed with mineral wealth; it ranks as the world's third largest producer of various minerals, following the United States and the Soviet Union. A great deal of Canada's history is closely entwined with mineral exploration and development, beginning with Frobisher's illusory search for gold in the 16th century. Coal in Nova Scotia and iron ore in Quebec were discovered and later mined in the 17th and 18th centuries. The Geological Survey of Canada, founded in 1842, encouraged the collection of information about Canada's minerals. In the next decade came the first gold rush — to Barkerville in the Cariboo district of British Columbia. Silver, zinc, and lead were subsequently found in the Kootenay district. Crews blasting a roadbed for the Canadian Pacific Railway in northern Ontario first revealed the riches in copper and nickel to be found there. The most famous event in Canadian mining history undoubtedly was the Klondike gold rush of 1896, but the discoveries in the 20th century of cobalt, silver, uranium, asbestos, and potash, for example, as well as more copper, nickel, and iron ore, have been more significant.

The remarkable progress of the Canadian mineral industry since World War II is shown by the increase in value of mineral production from \$499 million in 1945 to slightly more than \$1,000 million in 1950, \$2,476 million in 1960 and \$4,739 million in 1968. Metallic mineral production increased \$200 million to \$2,493 million, mineral fuels almost \$80 million to \$1,342 million, and industrial non-metallics \$50 million to \$459 million while structural materials were virtually unchanged at \$444 million.

A measure of the importance of mining to the Canadian economy are the figures involved: over \$1,000 million invested in mineral development in 1968; over \$3,100 million worth exported — almost a third of Canada's export trade; over 100,000 Canadians employed in the industry; about 260 mines operating. Cities such as Sudbury and Trail depend almost completely on the mineral wealth in the surrounding area, while Toronto and Calgary are financial centres for the mining and oil industry and many people employed in these cities depend on mining for their livelihood.

Ontario is the most important mineral producer with 28.3 per cent of the nation's production, led by the nickel and copper output of Sudbury. Alberta produces 22.8 per cent, most of which is oil and gas, and Quebec produces 15.5 per cent, of which asbestos, copper, and iron ore are the main minerals. Production in other provinces is less: British Columbia produces 8.3 per cent of the national total (copper, oil, zinc, lead, molybdenum), Saskatchewan 7.8 per cent (oil, potash), Newfoundland 6.8 per cent (iron ore), Manitoba 4.3 per cent (nickel), New Brunswick 1.8 per cent (zinc), Nova Scotia 1.3 per cent (coal), the Yukon and Northwest Territories .5 per cent (lead, zinc).

Metallic Minerals

Copper. Almost two thirds of the nearly 200 metal mines in Canada produce copper concentrates. In some mines, such as the New Bethlehem Copper Corporation mine at Highland Valley, B.C., copper is the main mineral. In others, nickel and copper are mined, as in the Sudbury district of Ontario. Lead, zinc, and copper are found together in New Brunswick, copper and

Geologists on a reconnaissance field trip in the Bathurst Inlet area on Canada's Arctic coast. Exploration for minerals and scientific studies of all kinds are at an all-time high throughout the Arctic.





A new silver-zinc-lead ore body in the Uchi Lake area of northwestern Ontario was discovered from the air. A transmitting wire loop is strung around the aircraft and receiving coils are housed in a "bird" towed beneath the aircraft.

zinc in Flin Flon, Man., and copper and iron ore on the Queen Charlotte Islands, B.C.

Canadian domestic prices for copper declined from 51¢ per pound to 45¢ per pound in July 1968 as a result of the resumption of production in the United States after a long series of strikes, but prices are still substantially above those of a few years ago. Canada is the fifth largest producer of copper concentrates in the western world, and as several new copper prospects are being developed, this position should be maintained.

Iron Ore. Canada's largest iron ore producers are located in Quebec and Newfoundland, along the Labrador-Quebec boundary. Five mines located in this area shipped more than 34 million tons of the 49 million ton total. Canada's producing capacity is 52 million tons per year (47 million long tons) of which almost 28 million is in the form of pellets. There are 19 iron-ore producers in Canada while four other companies produce iron by-products. In 1967, Canada was the world's fourth largest producer of iron ore.

Nickel. Canada produced 527 million pounds of nickel worth \$527 million and over 70 per cent of the western world's supply. By far the largest production comes from 18 mines in the Sudbury district of Ontario. The second largest producing area is in northern Manitoba where two mines at Lynn Lake and Thompson are large producers; three other mines, two in

Quebec and one in British Columbia, are small producers. In addition, several new mines are being readied for production between 1969 and 1971. Five of these are in Ontario and four in Manitoba. When these developments are completed capacity will exceed 700 million pounds per year.

Zinc. Production of zinc increased 3.5 per cent in 1968 to 1.3 million tons to maintain Canada's place as the world's chief producer. Thirty-six mines were in production in 1968. Of these the mines at Kimberley, B.C., Pine Point, NWT, Flin Flon, Man.-Sask., Timmins, Ont., and Bathurst, N.B., all had capacities of 5,000 tons or more a day. Prices of Canadian zinc remained stable during the year at 13.5¢ per pound.

Silver. Canadian mines produced 45.6 million troy ounces of silver, worth \$106 million, an increase of 20 per cent over 1967. This increase made Canada the number one producer of silver in the world from the third position she held in 1967. Canadian silver prices per troy ounce ranged between \$1.97 and the record high of \$2.77. All provinces except Prince Edward Island produce silver. Ontario is the largest silver producer (22.6 million troy ounces), followed by British Columbia (7 million) and Quebec (4 million). About 65 separate mines produce silver, most of which is a co-product with nickel, lead, zinc, and/or copper.



A three-boom jumbo drill is one of the latest developments in trackless mining.

Gold. The value of gold declined about 8 per cent in 1968 to 27 million troy ounces worth \$104 million. Output has been declining steadily for the last eight years because of declining reserves, rising costs, and the average price of \$37.71 paid by the Royal Canadian Mint.

In order to maintain gold production, the industry receives assistance from the government. Of the 35 lode gold mines operating, 30 were receiving assistance at the end of 1968. Five mines were closed during the year but two new mines were started. Ontario was the largest producing province, with 50 per cent of the total, followed by Quebec, 28 per cent, and the Northwest Territories, 13 per cent.



The nickel-mining boom town of Thompson, Man. Manitoba's mineral production increased from \$187 million in 1967 to \$208 million in 1968. Nickel contributed \$118.8 million to the 1968 total.

Lead. Lead production was 366,000 tons, 5 per cent greater than in 1967 and sufficient to maintain Canada's position as the third largest producer in the world. Pine Point in the Northwest Territories is the largest source of lead concentrates, followed by the Sullivan mine at Kimberley, B.C. Over 30 other mines in Canada produce lead concentrates. Prices of Canadian lead in 1968 ranged between 13¢ and 14¢ a pound at Toronto and Montreal.

Other Metallic Minerals. Canada is a producer of smaller amounts of several other metals including uranium, molybdenum, cadmium, and many others as shown in the accompanying table. Molybdenum and uranium in particular show promise of greatly increasing production in the coming years.

Non-metallic Minerals

Most of the so-called non-metallic minerals are used for non-metallic purposes, in fertilizers, chemicals, and so on. The leading minerals in the group are asbestos, sulphur, and potash. Most of the asbestos (151 million dollars worth) is mined in the Eastern Townships of Quebec. The asbestos industry has expanded rapidly: almost 10 per cent between 1967 and 1968.

Potash is a mineral produced in quantity only since 1963, and only in Saskatchewan. Seven mines are now in production, three of which opened during 1968. In addition there are three new mines being developed.



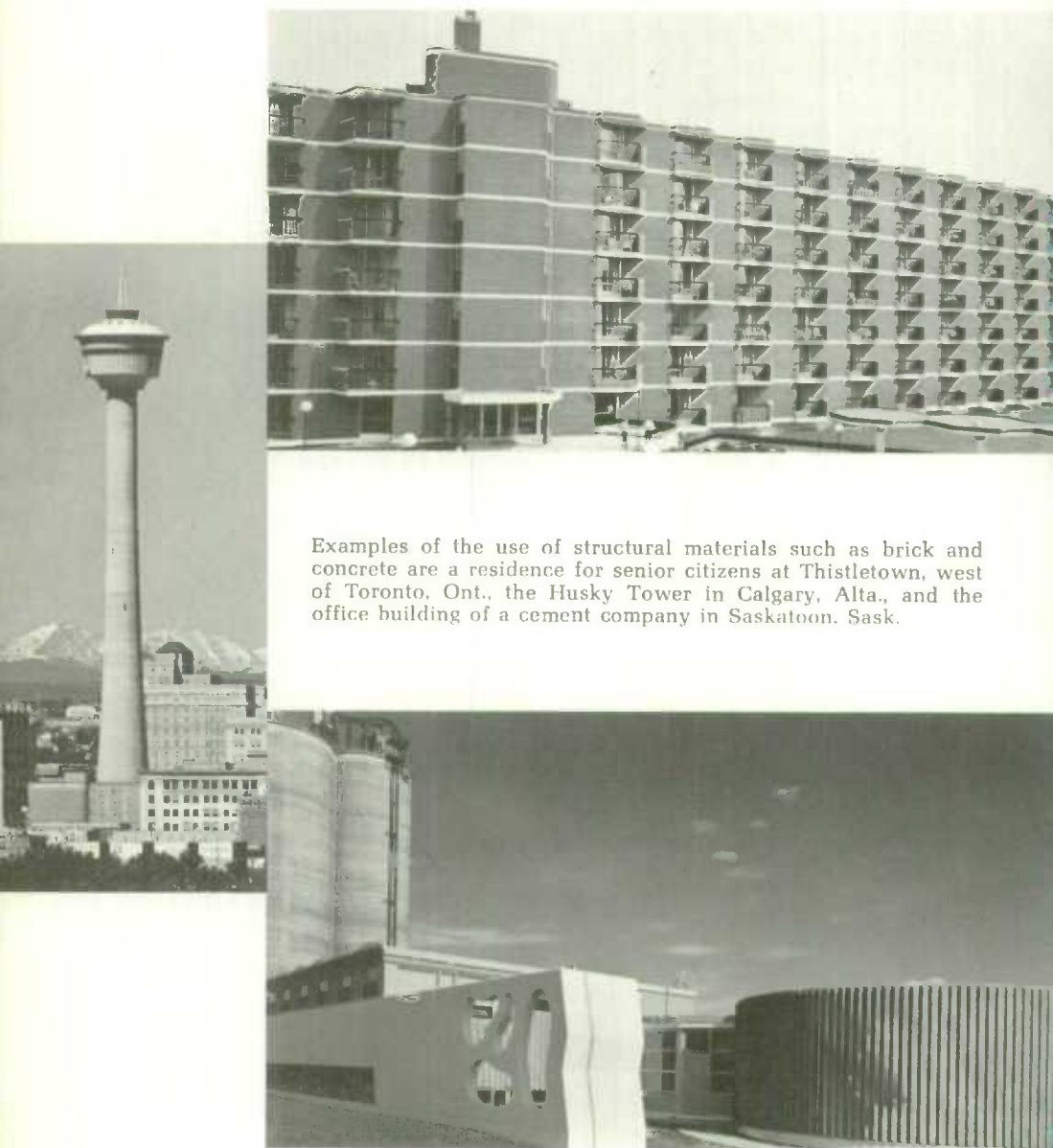
Production of asbestos at Baie Verte, Newfoundland. The largest known deposits of crysotile asbestos in the western world are found in the Eastern Townships of Quebec.

Sulphur is produced as a by-product of mining, natural gas, and petroleum operations. Sulphur which has been in short supply dropped from \$40 or more a long ton at the beginning of 1968 to nearly \$30 per ton at the end of the year. Total output was over 3.5 million tons, 2.5 million of which was produced in plants in Alberta processing natural gas.

Salt is produced in substantial quantities in Ontario and Nova Scotia and in smaller quantities in the western provinces. The value of this commodity was \$31.9 million, down 8.8 per cent. Gypsum valued at \$13.2 million was produced, mainly in Nova Scotia. Other important non-metallic minerals were sodium sulphate and silica.

Structural Materials

The structural materials are sand, gravel, stone, cement, clay products, and lime. Virtually all provinces produced these materials, much of which is used in local areas as sand and gravel.



Examples of the use of structural materials such as brick and concrete are a residence for senior citizens at Thistletown, west of Toronto, Ont., the Husky Tower in Calgary, Alta., and the office building of a cement company in Saskatoon, Sask.

Mineral Production of Canada, by Kind, 1967 and 1968¹

	1967		1968		
	Quantity	Value \$'000	Quantity	Value \$'000	
Metallics					
Antimony	lb.	1,267,686	672	1,124,000	596
Bismuth	lb.	668,476	1,919	639,866	2,435
Cadmium	lb.	4,836,317	13,542	5,437,917	15,288
Calcium	lb.	543,692	535	445,612	422
Cobalt	lb.	3,603,773	7,352	3,488,656	7,490
Columbium (Cb ₂ O ₅)	lb.	2,159,557	2,404	2,118,000	2,393
Copper	lb.	1,226,627,725	582,585	1,240,152,827	596,451
Gold	troy oz.	2,986,268	112,732	2,748,333	103,640
Indium	troy oz.	..	..	..	..
Iron ore	ton	42,317,800	470,122	49,373,329	555,913
Iron, remelt	ton	..	18,585	..	22,523
Lead	lb.	635,926,511	89,030	693,760,476	93,796
Magnesium	lb.	17,774,684	5,654	19,756,598	6,153
Mercury	lb.	..	—	..	..
Molybdenum	lb.	21,376,766	37,900	20,006,958	36,027
Nickel	lb.	497,294,289	463,140	527,697,695	527,005
Platinum group	troy oz.	401,263	34,669	464,400	44,025
Selenium	lb.	724,573	3,514	709,200	3,280
Silver	troy oz.	36,315,189	62,898	45,621,355	105,750
Tellurium	lb.	73,219	476	65,193	420
Thorium (ThO ₂)	lb.	117,383	214	139,191	269
Tin	lb.	437,804	622	335,147	553
Titanium ore	ton	—	—	—	—
Tungsten (WO ₃)	lb.	..	..	..	..
Uranium (U ₃₀₈)	lb.	7,476,228	53,022	7,400,000	38,482
Yttrium (Y ₂ O ₃)	lb.	172,551	1,594	111,326	935
Zinc	lb.	2,222,906,092	322,099	2,337,660,977	329,610
Total metallics .....	...	2,285,280	...	2,493,456	
Non-metallics					
Arsenious oxide	lb.	755,050	48	692,564	52
Asbestos	ton	1,452,104	165,119	1,596,011	190,088
Barite	ton	172,270	1,573	137,699	1,581
Diatomite	ton	..	..	..	..
Feldspar	ton	10,394	242	10,708	259
Fluorspar	ton	..	2,100	..	2,474
Gem stones	lb.	24,160	28	7,110	10
Grindstone	ton	10	3	—	—
Gypsum	ton	5,175,384	11,348	6,145,193	13,159
Helium	Mcf.	..	..	..	..
Iron oxides	ton	664	37	600	33
Lithia	lb.	436,894	266	—	—
Magnesitic dolomite, brucite	ton	..	3,516	..	2,719
Mica	lb.	..	..	..	..
Nepheline syenite	ton	401,601	4,753	325,463	3,929

Mineral Production of Canada, by Kind, 1967 and 1968¹ — concluded

Non-metallics — concluded				
Nitrogen	Mcf.	..	..	..
Peat moss	ton	280,731	8,006	288,219
Potash (K ₂ O)	ton	2,383,253	67,396	2,890,733
Pyrite, pyrrhotite	ton	377,941	1,703	320,090
Quartz	ton	2,610,740	5,530	2,621,326
Salt	ton	5,361,463	27,808	4,887,634
Soapstone and talc ²	ton	60,665	901	77,300
Sodium sulphate	ton	428,316	6,359	469,076
Sulphur, in smelter gas	ton	592,035	7,182	565,696
Sulphur, elemental	ton	2,499,205	68,614	2,585,513
Titanium dioxide, etc.	ton	..	23,737	..
Total non-metallics .....		...	406,269	...
Mineral fuels				
Coal	ton	11,148,716	82,760	10,973,753
Natural gas	Mcf.	1,471,724,535	198,431	1,642,636,000
Nat. gas by-products	bbl.	..	112,780	..
Petroleum, crude	bbl.	351,292,332	864,954	377,694,500
Total fuels .....		...	1,258,925	...
Structural materials				
Clay products (brick, tile, etc.) .....		...	44,357	...
Cement	ton	7,994,954	143,150	8,279,152
Lime	ton	1,422,899	16,567	1,365,988
Sand and gravel	ton	209,665,578	143,707	198,528,587
Stone	ton	80,636,102	100,416	74,683,885
Total structural materials .....		...	448,197	...
Grand total .....		...	4,398,671	...

¹ Preliminary estimate.

.. Figures not available.

² Includes pyrophyllite.

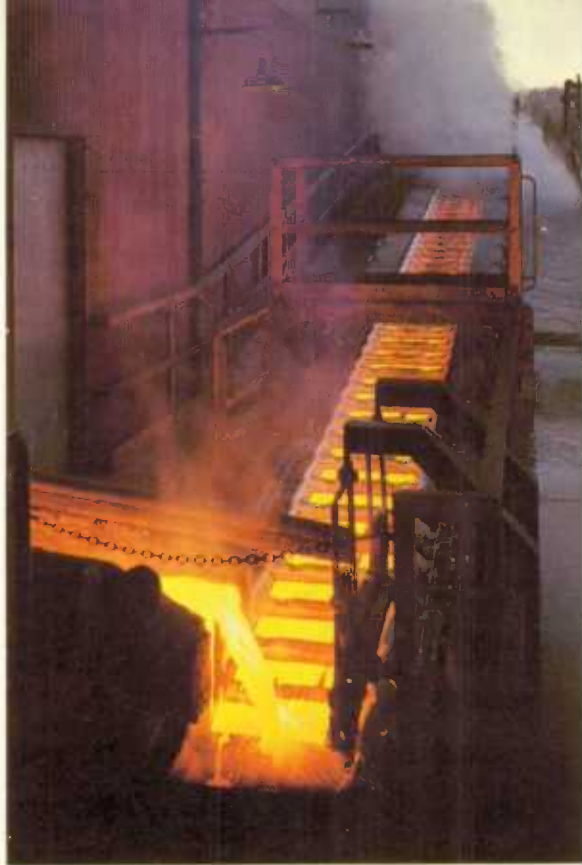
— Nil or zero.

... Figures not appropriate or not applicable.

Canada's Mineral Production, by Type and per Capita Value

Year	Metallic Minerals	Industrial Minerals Millions of Dollars	Fuels	Total	Per Capita Value
1950	617	227	201	1,045	76.24
1960	1,407	520	566	2,493	139.48
1964	1,702	687	999	3,388	176.14
1965	1,908	761	1,076	3,745	191.38
1966	1,985	837	1,151	3,973	198.49
1967	2,286	854	1,259	4,399	215.58
1968 ¹	2,494	903	1,342	4,739	228.28

¹ Preliminary



Casting operations at a by-product iron plant in Kimberley, B.C. Four companies produce by-product iron in Canada, with a combined output of about 2 million tons a year. This is a splendid example of conservation of resources, since the iron is recovered from what was formerly waste material.

Mineral Production of Canada, by Provinces, 1966-68

Provinces	1966		1967		1968 ¹	
	Dollars (Thou- sands)	Per Cent	Dollars (Thou- sands)	Per Cent	Dollars (Thou- sands)	Per Cent
Newfoundland	244,020	6.1	266,365	6.1	323,664	6.8
Prince Edward Island	2,757	0.1	2,606	0.1	1,432	0.1
Nova Scotia	85,417	2.2	77,226	1.8	58,399	1.2
New Brunswick	90,221	2.3	90,419	2.1	86,800	1.8
Quebec	762,945	19.2	734,142	16.7	731,373	15.4
Ontario	957,858	24.1	1,194,545	27.1	1,340,369	28.3
Manitoba	179,241	4.5	184,679	4.2	208,302	4.3
Saskatchewan	349,304	6.8	362,194	8.2	370,953	7.9
Alberta	846,679	21.3	973,327	22.1	1,080,421	22.8
British Columbia	331,143	8.3	379,986	8.6	391,366	8.3
Yukon	11,976	0.3	14,991	0.3	23,496	0.5
Northwest Territories	111,220	2.8	118,191	2.7	122,215	2.6
Totals	3,972,781	100.0	4,398,671	100.0	4,738,790	100.0

¹ Preliminary estimate.

Energy

Canada is one of the largest per capita consumers of energy in the world. It has abundant resources of coal, oil, gas, and uranium and has some of the world's largest hydro developments. Of great importance to energy is transportation and thus some of the world's longest and largest oil and gas pipelines and electric power transmission lines move energy to its markets. The output of energy minerals in Canada in 1968 was estimated at: 11 million tons of coal (\$61.1 million); 1,700,000 million cubic feet of natural gas (\$225.7 million), 387.6 million barrels of crude oil (\$933.4 million), and \$121.7 million worth of hydrocarbons — by-products of natural gas. In addition, 175,896 million kilowatt hours of electricity were generated, with a value of \$1,570.8 million at the point of consumption, that is, including the costs of transmission and distribution.

Petroleum and Natural Gas

Crude oil is Canada's most important mineral product. Output increased 7.4 per cent in 1968 to 377.6 million barrels (with a value of \$933 million), including some 5.7 million barrels from the Athabasca tar sands. Hydrocarbon by-products of natural gas which include pentanes, propane, and butane had a similar gain, with values of \$112.7 million in 1967 and \$121.7 million in 1968. Proved reserves of crude oil at the end of 1968 were 8,382 million barrels of conventional crude, 6,300 million barrels of synthetic crude oil recoverable by present methods from the Athabasca tar sands, and 1,636 million barrels of natural gas liquids.

In 1967 over \$1,155,706,000 was spent by the industry. Geological and geophysical expenditures were \$150,283,000, while exploratory drilling amounted to \$122,049,000 and development drilling to \$106,660,000.

The largest production of crude oil occurs in Alberta — 68.5 per cent of the total — followed by Saskatchewan, 23.7 per cent; British Columbia, 5.7 per cent; Manitoba, Ontario, New Brunswick, and the Northwest Territories combined, 2.1 per cent.

Total sales of refined petroleum products amounted to 459,626,408 barrels in 1968, comprised of 152,595,186 barrels of gasoline, 153,957,610 barrels of middle distillates, 99,684,891 barrels of heavy fuel oils, and 53,388,721 barrels of lubricating oils and grease, asphalt, and other products.

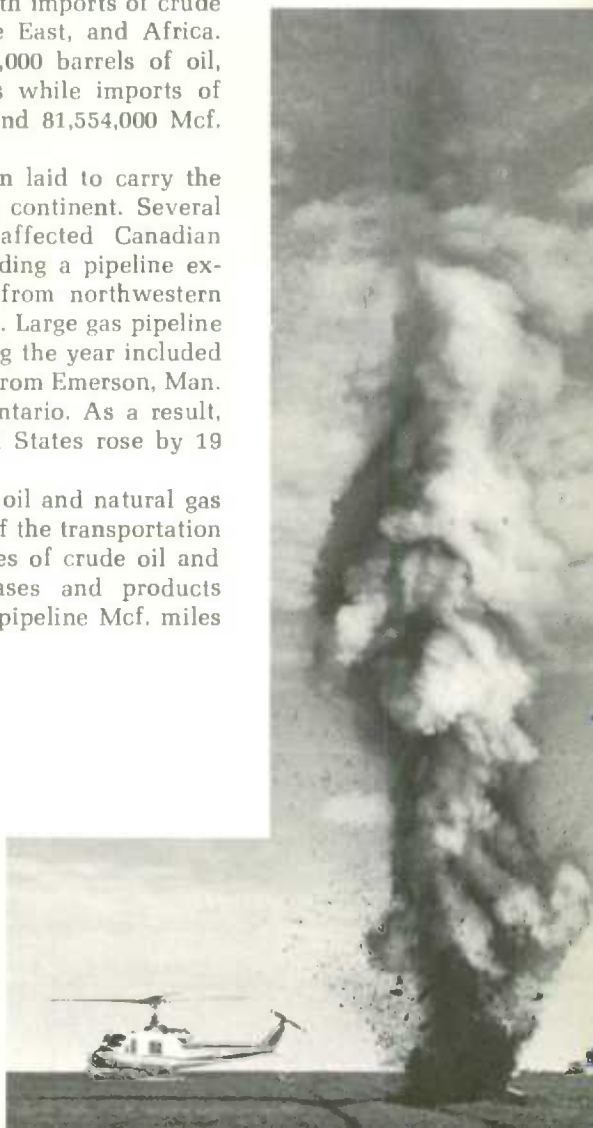
Natural gas production has expanded enormously: its average gain has been 15 per cent a year since 1960. Production in Alberta was greatest — over 1,300 million Mcf. (thousand cubic feet), followed by that in British Columbia, 250 million Mcf., and smaller production in Saskatchewan, Ontario, New Brunswick, Quebec, and the Northwest Territories. In 1968 sales of natural gas in all provinces again increased. Domestic consumption of natural gas was 765,786,814 Mcf. valued at \$490,767,434. Industrial consumers used 53.2 per cent, commercial, 18.8 per cent, and residential, 28.0 per cent.

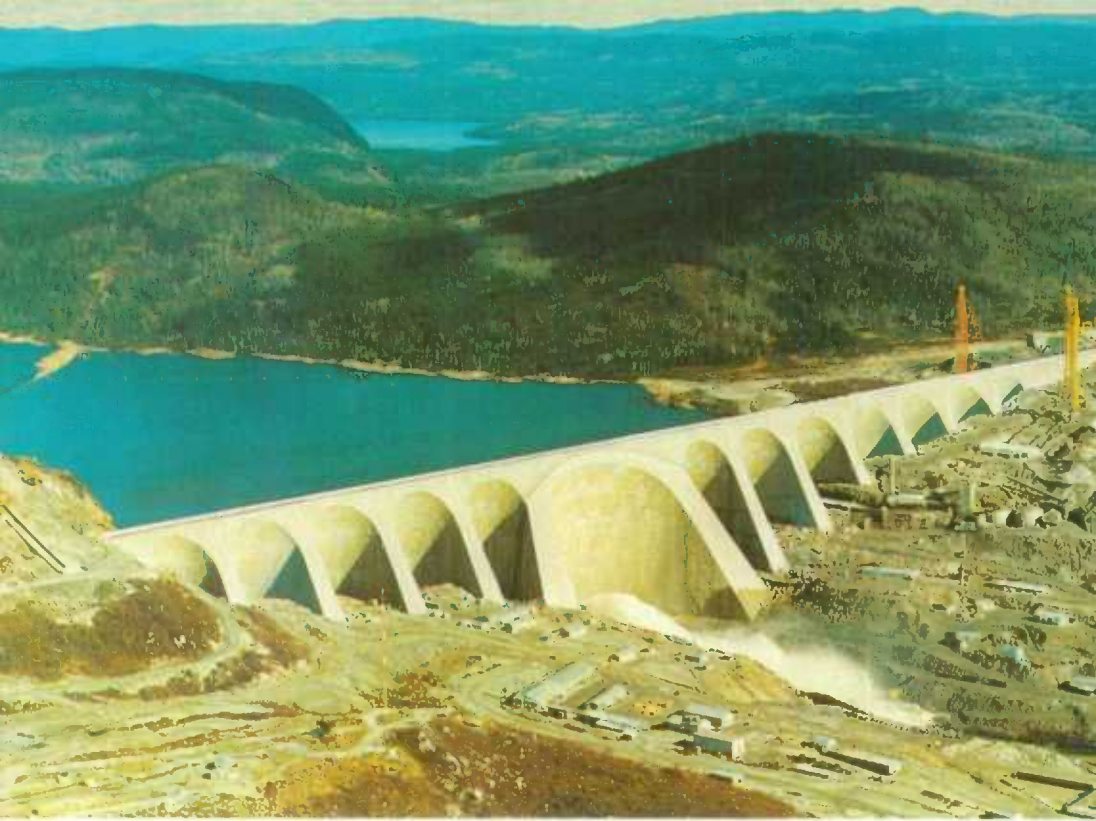
Canada exports large quantities of crude oil and gas to the United States and partially offsets these exports with imports of crude oil from South America, the Middle East, and Africa. In 1968 exports were about 168,983,000 barrels of oil, and 604,445,000 Mcf. of natural gas while imports of crude oil were 177,293,000 barrels and 81,554,000 Mcf. of natural gas.

Oil pipelines have necessarily been laid to carry the oil to markets in other parts of the continent. Several oil pipeline developments which affected Canadian production took place in 1968, including a pipeline extension to Chicago, and a pipeline from northwestern Alberta's Rainbow Lake to Edmonton. Large gas pipeline projects which were completed during the year included a pipeline through the United States from Emerson, Man. to Sault Ste. Marie and Sarnia in Ontario. As a result, exports of natural gas to the United States rose by 19 per cent to 1,651,489 Mcf. a day.

The shipping by pipeline of crude oil and natural gas now constitutes a major component of the transportation industry. In 1968, pipeline barrel miles of crude oil and equivalents, liquefied petroleum gases and products amounted to 282.6 billion while the pipeline Mcf. miles were 934,000 million.

A seismic charge goes off on Melville Island in the Arctic. The Canadian government and 20 companies have formed a consortium, Panarctic Oils Ltd., to explore about 63 per cent of the potentially oil- or gas-bearing Arctic lands.





Quebec's Daniel Johnson Dam at the Manicouagan-Outardes hydro development regulates the flow of the Manicouagan River. The dam, which is the largest multi-arched dam in the world, has a gross storage capacity of 115 million acre-feet.

Coal

Before 1945 coal was of major importance in most countries, including Canada, for use as a fuel for heating and transportation. Since that time, fuel oils and natural gas have replaced it and the importance of the Canadian coal industry has declined sharply.

The present position of the Canadian coal industry varies according to regional factors. The Maritime industry suffers from rising costs and shrinking resources and markets; Alberta and Saskatchewan, with low-cost, open-pit sub-bituminous and lignite mines, supply the growing demand of thermal-electric installations; Alberta and British Columbia have succeeded in obtaining long-term contracts to ship coal to Japan. As a result, an annual additional 8 million tons of production by 1971 is forecast.

Total Canadian production in 1968 was 11,000,000 short tons, a decrease of 3.4 per cent over production in 1967. Total value of production in 1968 amounted to \$61,100,000, down 26.2 per cent from that recorded in 1967. The large decrease in value reflects the discontinuance of subvention payments in Nova Scotia for part of 1968. Imports, 90 per cent of which go to Ontario steel mills and thermal-electric generating plants, amounted to 17,300,000 tons; exports to only 1,400,000 tons.

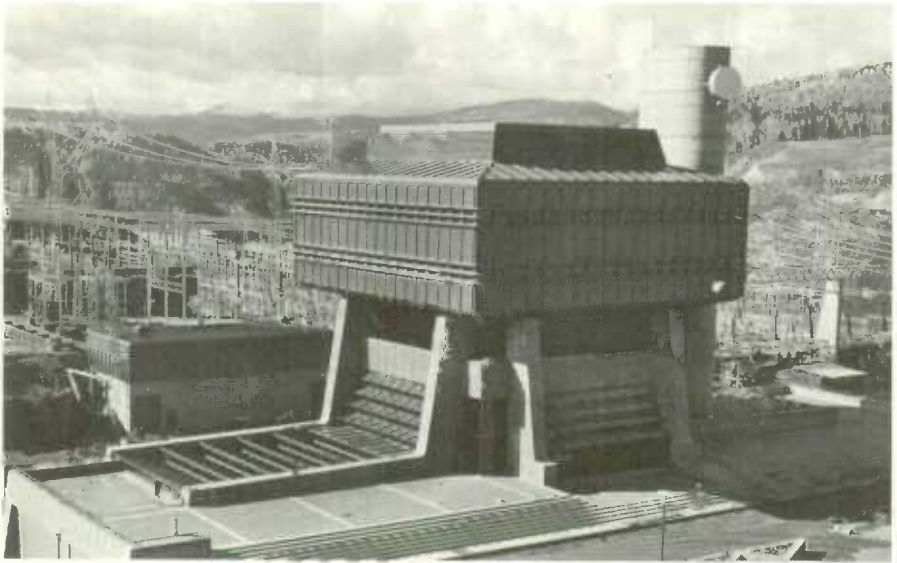
Energy

Canada's electric power development has grown steadily at a remarkable rate since the beginning of this century. A modest 133,000 kilowatts of generating capacity in 1900 had increased to almost 36,000,000 kw. by the end of 1968.

Although water power traditionally has been and still is the main source of electric energy in Canada, thermal sources some day will undoubtedly become the main supplier. The choice between development of a hydro-electric power site and construction of a thermal generating station must take into account a number of complex considerations, the most important of which are economic. The heavy capital costs involved in constructing a hydro-electric project are offset by maintenance and operating costs considerably lower than those for a thermal plant. The long life of a hydro plant and the dependability and flexibility of operation in meeting varying loads are added advantages. Also important is the fact that water is a renewable resource. The thermal

Manitoba's 437,000-kilowatt Grand Rapids hydro development on the Saskatchewan River was completed in 1968. The switchyard in the foreground can direct the generated power either to the province's industrial area in the south or to mining developments in the north-central region.





The Gordon M. Shrum Generating Station Control Building is the nerve centre for the three 227,000-kilowatt units brought on line in 1969 on the Peace River in British Columbia. In the early 1970's a total of ten units will be controlled from the centre.

station, on the other hand, can be located close to the demand area, with a consequent saving in transmission costs.

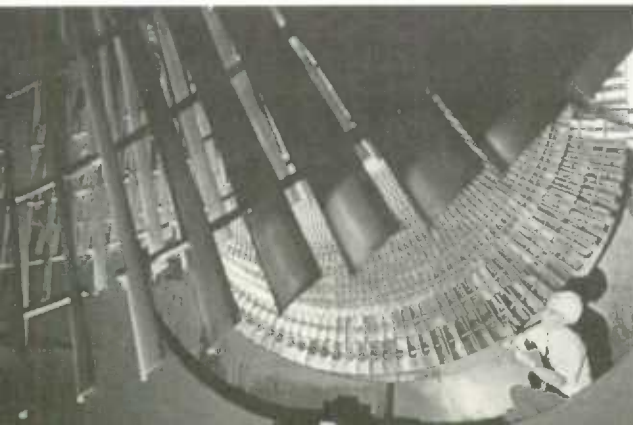
The marked trend to thermal development which became apparent in the 1950's can be explained in part by the fact that, by then in many parts of Canada, most of the hydro-electric sites within economic transmission distance of load centres had been developed and planners had to turn to other sources of electric energy. More recently, however, advances in extra-high-voltage transmission techniques are providing a renewed impetus to the development of hydro power sites previously considered too remote.

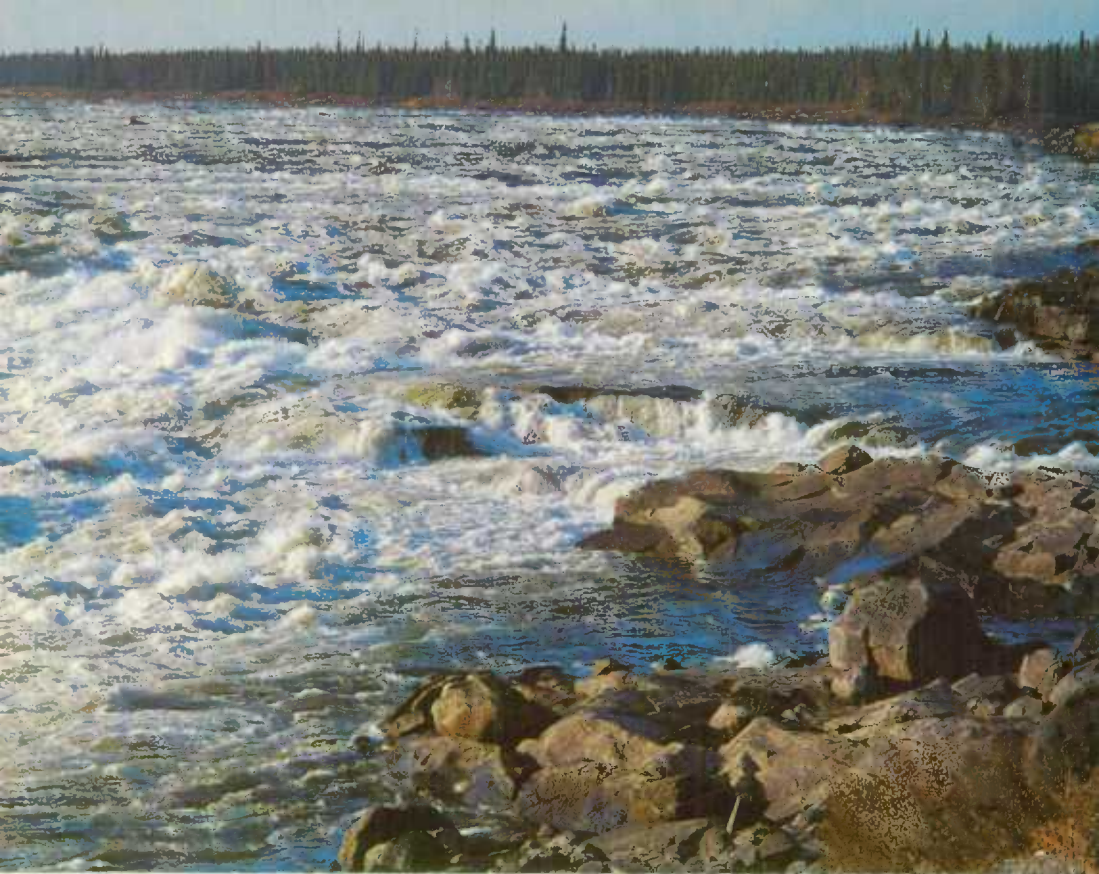
Water Power Resources and Developments. Substantial amounts of water power have been developed in all provinces except Prince Edward Island, where there are no large streams. The resources of *Newfoundland* are estimated to be considerable; topography and run-off favour hydro-electric power development. A large part of the installed capacity serves the pulp and paper industry. The water power of *Nova Scotia* and *New Brunswick*, small in comparison with that of other provinces, still is a valuable source of energy. The numerous moderate-sized rivers provide power for the cities and potential for developing the timber and mineral resources. *Quebec* is richest in water power resources, with over 40 per cent of the total for Canada, and has the most developed capacity. The largest single hydro-electric installation in Canada is Hydro-Québec's 1,574,260 kw. Beauharnois development on the

St. Lawrence River. Others are the Bersimis I development, with a capacity of 912,000 kw., and the 742,500 kw. Chute des Passes plant of the Aluminum Company of Canada, Ltd. Potentially largest will be Hydro-Québec's Manicouagan-Outardes project, to produce 5,800,000 kw. on the two rivers. Almost all of the sizable water power potential in Ontario within easy reach of demand centres has been developed, and planners are looking to more remote sites. Most of the hydro-electric power produced in the province comes from The Hydro-Electric Power Commission of Ontario, the largest public utility in Canada. Its chief stations are on the Niagara River at Queenston, with total generating capacity of 1,804,200 kw. Manitoba is the most generously endowed of the Prairie Provinces, with immense potential capabilities on the Winnipeg, Churchill, Nelson, and Saskatchewan Rivers. Saskatchewan's central and northern parts can eventually be supplied from the Churchill, Fond du Lac, and Saskatchewan Rivers. In Alberta, most of the developments are located on the Bow River and its tributaries. British Columbia ranks second in terms of available potential and developed water power resources, and is third in installed generating capacity. The current

Workmen install a giant rotor in a generator, part of a 150,000-kilowatt turbo-generator unit scheduled for initial operation in 1969 at the Trenton Thermal Station in Nova Scotia.

A workman inspects the turbine blades at the Pickering Nuclear-Electric Station near Toronto, Ont. This is one of four 540,000 kilowatt units scheduled for service in the period 1971-3.





The rapids above Churchill Falls, Labrador, where the world's largest underground powerhouse is being built. The planned capacity of this hydro-electric development is 5.25 million kilowatts. All the power not required by Newfoundland will be bought by Hydro-Québec.

**Installed Hydro- and Thermal-Electric Generating Capacity,
by Province, by December 31, 1968¹**

Province or Territory	Hydro	Thermal	Total
	Thousands of kilowatts		
Newfoundland	819	112	931
Prince Edward Island	—	77	77
Nova Scotia	163	543	706
New Brunswick	562	551	1,113
Quebec	11,035	762	11,797
Ontario	6,413	4,876	11,289
Manitoba	1,184	369	1,153
Saskatchewan	586	691	1,277
Alberta	616	1,435	2,051
British Columbia	3,531	1,515	5,046
Yukon Territory	18	15	33
Northwest Territories	35	26	61
Canada	24,962	10,972	35,934

¹ Preliminary.

development of the Peace and Columbia Rivers will provide immense power resources in the future. In the Yukon Territory and the Northwest Territories, water power is of especial importance in the development of mining areas, such as Mayo and Yellowknife. In the Yukon, most resources are on the Yukon River and its tributaries. Although not yet thoroughly surveyed, the rivers flowing into Great Slave Lake and the South Nahanni River which drains into the Mackenzie River have a considerable potential.

Conventional Thermal Power. About 88 per cent of all conventional thermal power generating equipment in Canada is driven by steam turbines and the remainder of the load is carried by gas turbine and internal combustion equipment. The table above shows that the provinces of Prince Edward Island, Nova Scotia, Saskatchewan, and Alberta depend on thermal stations for most of their power requirements and that New Brunswick has slightly more hydro than thermal power. Although Ontario at present has more hydro capacity than thermal, by the early 1970s the situation will be reversed. The abundance of Quebec's wealth of water power has so far limited the application of thermal power in that province to specific local use but here too there is growing emphasis on thermal development. Manitoba and British Columbia each have substantial amounts of thermal capacity but current development is still of hydro electricity.

Nuclear Thermal Power. Development of commercial electric power generation in thermal plants using the heat generated by nuclear reactors is one of the major contributions of Canada to energy resource technology. This development has centred around the CANDU reactor which uses a natural uranium fuel with a heavy water moderator. Heavy water as a moderator provides a high energy yield and ease in handling spent fuel. The first experimental reactor went into use in 1962 at Rolphton, Ont., with a capacity of 20,000 kw. Since then, three major nuclear projects have been undertaken. The first nuclear plant is situated at Douglas Point on Lake Huron. It consists of a single unit, completed in 1967, with a capacity of 200,000 kw. The second project is a four-unit 2,000,000 kw. capacity plant being built at Pickering east of Toronto. The four units are scheduled for service at the rate of one a year during the period 1970-3. Both the Douglas Point and Pickering plants use heavy water as a coolant. The third nuclear plant is to be a 250,000 kw. unit situated at Pointe aux Roches, Quebec, using boiling light water as a coolant.

Power Generation and Utilization. In 1968, Canada's generating facilities produced 175,424 million kilowatt hours of electric energy — 77 per cent in hydro-electric stations and the remainder in thermal stations. Energy imported from the United States exceeded by 472 million kwh. the energy exported, bringing the total available to Canadian users to 175,896 million kwh.

Industry uses about 58 per cent of the total energy made available in Canada, domestic and farm use accounts for 21 per cent and commercial customers 11 per cent. Average domestic and farm consumption continues to rise year by year, being 6,261 kwh. in 1967 and ranging from a low of 2,981 kwh. in Prince Edward Island to a high of 7,837 kwh. in Manitoba. The average annual bill for such use was \$90.71; for farm customers alone, it was \$145.08 for an average consumption of 8,548 kwh.

Agriculture

Agriculture has become more commercialized during the past decade, owing to technological improvements and the growing use of power equipment. A greater interdependence with the rest of the economy has resulted. Farmers today are using increased quantities of industrial products such as commercial fertilizers, weed killers, and insecticides. Huge expenditures are made for fuel oil and other products needed to operate mechanized equipment. The production of butter and the hatching of baby chicks have practically all been transferred from farms to creameries and commercial hatcheries. Many farmers buy prepared feeds which contain farm-grown grains and additives derived from other industries.

Technological advances in the biological and engineering fields have made possible the development of larger farms specializing in poultry, dairying, grain growing, potato growing, and so on. For the most part, these farms are still owned and operated by individuals. Between 1961 and 1966, the number of census farms (that is, farms of one acre or larger with annual sales of agricultural products of \$50 or more) declined by 10 per cent and the average size of farms increased markedly. Other indications of increasing size are the larger number of farms in the higher income classes and the pronounced rise in the value of capital invested in land, machinery, and livestock.

In 1966, the occupied area of farms in Canada amounted to 174 million acres of which 108 million are improved. There were 430,500 farms and the capital invested in land, buildings, machinery, and livestock amounted to \$19,224 million, an increase of \$6 million from 1961. On these farms are raised dairy and beef cattle, general livestock, poultry, grain, fruits and vegetables, and specialties such as tobacco and sugar-beets.

In the Atlantic Provinces the agricultural areas are relatively small and, except in Prince Edward Island where the proportion of cultivated land is high, only a small proportion is suitable for cultivation. The area of purely commercial farming in Newfoundland is quite small and chief activities

centre around dairying and poultry raising. Crops like cabbage, potatoes, and other root crops grow particularly well there. Mixed farming prevails on Prince Edward Island with major emphasis on potatoes, dairy products, and hogs.

Agriculture is diversified in the central region — Ontario and Quebec — yet there are also many farms specializing in dairying, poultry raising, tobacco and sugar-beet growing, and fruit and vegetable production. Cash crops such as corn, soybeans, and white beans are also important sources of income.

The chief characteristic of agriculture in the Prairie Provinces is the production of grain. However cattle and sheep ranching have long been established in southwestern Saskatchewan and southern Alberta, and sizable herds of cattle are to be found scattered through the grain-growing areas. Still the growing of wheat, coarse grains, and oilseed crops predominates on the majority of farms.

The mountainous topography of British Columbia limits farming to the coastal sections, the valleys and plateau regions of the interior, and the Peace River block in the northeastern part of the province. The mild, maritime climate of the coast and the concentration of people in cities have led to the development of specialized dairy, poultry, and small fruit and vegetable farms in this area. In the central interior, where the climate is more severe, there are several areas devoted to cattle and sheep ranching. In the Okanagan Valley, situated in the southern interior, fruit production predominates, particularly apple growing. In the Peace River block, agriculture has been limited to grain and forage seed production and stock raising.

The Canada Department of Agriculture

The Department of Agriculture is one of the oldest and largest departments of the federal government. Its main activities are research into the physical and economic problems of agriculture; grading and inspecting farm products; controlling diseases and pests; providing farm credit; and alleviating the effects of weather hazards and market fluctuations. The Minister of Agriculture is responsible for the administration of 32 principal Acts of Parliament and for the programming of five branches — Research, Production and Marketing, Economics, Health of Animals, and Administration.

Important to the work of the Department are the Canadian Wheat Board, now under the jurisdiction of the Minister of Industry, Trade and Commerce, and the Prairie Farm Rehabilitation Act (PFRA), whose administration was transferred to the Department of Regional Economic Expansion in 1967.

Agricultural Research

The Research Branch of the Department of Agriculture is the largest research organization in Canada. In 1967 some 1,600 projects were underway studying soils, plants, animals, pests, diseases, engineering, and food.

In 1967 almost 2,500 varieties of new ornamental plants were grown and evaluated. These included shrubs, and annual and perennial flowering plants. A protein-based foam which can protect plants from damage by frost was also developed and tested.

New Agricultural Frontiers

A new cereal, Triticale, has been developed which is of interest for animal feeding. It is a cross between wheat and rye and is a high-yielding grain which can be grown successfully in the Prairie Provinces.

The first feed wheat to be licensed in Canada, Pitic '62, was obtained from Mexico and studied intensively in Canada. While it will not make bread of good quality, and will therefore sell at a lower price, its high yield will make it economical as a livestock feed.

Research in livestock concerns cross-breeding to produce animals that are more resistant to disease, can use feed better, and hence are more economically raised for marketing.

The importation of cattle from France was continued in 1968. Animals must be quarantined in France for six weeks and in Canada for three months before being released to Canadian farmers. The main breed, the Charolais, is noted for its ability to produce beef at low cost and for its value in crossing with British breeds, notably the Hereford.

The Canadian Dairy Commission was established in April, 1967. It administers milk quotas for dairy farmers and provides subsidies for producers of manufacturing milk and cream.

The Production and Marketing Branch continued its incentive programs to promote the increase of purebred stock of high quality and quantity. Grants were awarded to many groups concerned with raising the standard of Canadian agricultural production or farm and processing practices.

A new hog valuation system was implemented January 1, 1969. It is the result of study and consultation between producers, packing houses, and provincial and federal organizations. The system, based on accurate measurements of fat and lean meat in hog carcasses, will encourage farmers to produce the type of product that consumers prefer.

The increase of air and ship transportation of agricultural products emphasized the importance of controls aimed at preventing the importation of new diseases and pests.

A national Farm Management Service based on computerized analysis of farm enterprises was in operation in Alberta in 1969. The program should be extended to all provinces by 1970. It will provide farmers with an analysis of their operating costs and returns and allow them to compare their results with national averages.

The Agricultural Stabilization Board offered price support amounting to \$666.6 million for 22 products during the ten-year period ending March 31, 1968.

Maximum loans available under the Farm Credit Act and the Farm Machinery Syndicate Loans Act were increased in 1968. The rate of interest was also increased in view of the increased cost of money in all areas.



Polythene piping to carry gas to farms is laid rapidly by plow trains. In the Lethbridge area of Alberta, farmers irrigate their fields 24 hours a day in the growing season, using irrigation pumps fueled by the inexpensive gas drilled in their province.

Farm Income

During 1967 production of agricultural products in Canada was 12.5 per cent below the record established in 1966. In fact, 1967 production was the fourth highest on record; it was exceeded only in the years 1963, 1965, and 1966. For the most part, the decline can be attributed to smaller grain crops in Saskatchewan and Alberta. It also reflects reduced output of potatoes and poultry, since the production of cattle, vegetables, and dairy products remained almost unchanged. Increased production was recorded for hogs, eggs, calves, and fruits.

Total cash receipts from farming reached a record \$4,379 million during 1967. Included in these receipts are cash income from the sale of farm products, Canadian Wheat Board payments on previous years' grain crops, net cash advances on farm-stored grains in Western Canada, and deficiency payments made by the Agricultural Stabilization Board. The most significant contribution to the gain in farm cash receipts was high payments to participants in the Canadian Wheat Board's pool, increased cash returns from the sale of dairy products, tobacco, barley, cattle, and calves, and larger payments under the dairy support program. In contrast, cash returns were lower from wheat, oats, rye, flaxseed, potatoes, hogs, and poultry products.

In addition to income from these sources, farmers also received supplementary payments amounting to \$6,137,000 compared with the \$41,345,000 received during 1966. These payments included those made under the Prairie Farm Assistance Act and other government assistance to farmers who

suffered losses as a result of adverse weather conditions. In 1966, these payments included substantial outlays for assistance to farmers in Quebec and Ontario who suffered from extreme drought during 1965.

Part of the increase in farm sales of agricultural products during 1967 was due to the sale of stocks of previous years' production. By the end of 1967, the value of field crops and livestock held on farms was about \$340 million below the value existing at the end of the previous year. This decline in inventory values can be attributed mostly to a substantial decline in crop production in Saskatchewan and Alberta in 1967. There were more cattle and hogs on farms at the end of 1967, but poultry had also declined considerably.

Farm production results not only in sales of agricultural products and additions to inventories but also in increased consumption by farm households. The value of produce consumed on farms together with the rental value of farm homes amounted to \$500,967,000 in 1967, compared with \$461,998,000 in the previous year.

Expenses involved in farming operations continued to rise in 1967 and reached a new high of \$3,222,174,000 as against \$3,006,753,000 a year earlier. The greatest absolute increase in farmers' outlays was for livestock feed, as a result of a continuing increase in the quantities purchased together with higher prices. The percentage cost of purchasing fertilizer and lime increased most in 1967: higher prices together with a marked gain in quantities used during 1967 pushed this expenditure 17 per cent above the levels of a year earlier. A significant exception to the general increase in farm expenses was a sharp drop in rental payments which occurred in Saskatchewan and Alberta as a result of smaller grain crops and a consequent reduction in share rental payments.



The strips of land originally partitioned by the seigneurs of New France are clearly seen from the top of Mont-Saint-Joseph, 2,000 feet above the coast at Carleton on the southern shore of Gaspé, Que.

Net Income of Farmers from Farming Operations 1965-7
(Thousands of dollars)

	1965	1966	1967
1. Cash income	3,802,232	4,238,688	4,379,038
2. Income in kind	429,674	461,998	500,987
3. Supplementary payments	12,762	41,345	8,137
4. Realized gross income (1 + 2 + 3)	4,244,668	4,742,031	4,886,142
5. Operating and Depreciation charges	2,719,859	3,006,753	3,222,174
6. Realized net income (4 — 5)	1,524,809	1,735,278	1,683,968
7. Value of inventory changes	44,707	205,374	—134,895
8. Total gross income (4 + 7)	4,289,375	4,947,405	4,751,247
9. Total net income (8 — 5)	1,569,516	1,940,652	1,529,073

Field Crops

Some 85,200,000 acres of improved land — four fifths of all the improved land in Canada — lie within the Prairie Provinces of Manitoba, Saskatchewan, and Alberta and it is from this region that a vast outflow of grains and oil-seeds originates. Some of the surplus harvest is used in other parts of Canada but much of it is exported.

Wheat is the largest single crop and because of the combined influence of climatic conditions, plant-breeding programs, and a most efficient grading system, Canadian high-protein wheat is especially important in the milling industry throughout the world. The semi-arid conditions of the prairie region

Harvesting wheat east of Russel, Man. The grain fields of the three Prairie Provinces stretch for 1,000 miles between northern Ontario and the Rocky Mountains.





Rapeseed is now the fourth most important crop in western Canada, occupying 1.4 million acres. New methods of processing have been developed which remove poisonous fractions from the meal and make it suitable for animal feed. A new variety has also been introduced that produces an oil superior to that from soybeans for salad and cooking oils.

make it possible to produce high-quality grains but they do have drawbacks, such as marked year-to-year changes in output. For example, drought was a serious factor in 1961 when only 283,394,000 bushels of wheat were produced. This was followed by more normal growing conditions in 1962 with production at 565,554,000 bushels and in 1966 a record 827,338,000 bushels of wheat were grown. In 1968 production totalled 649,844,000 bushels. Such vast changes in production put a severe strain on the grain handling and marketing facilities as well as on farm incomes. Much of Western Canada's farm legislation is designed to alleviate the most serious consequences of such marked fluctuations in output.

In addition, significant changes occur in the pattern of land use as producers attempt to adjust operations to market conditions. In 1949 27,387,000 acres of wheat were planted. This declined gradually to a low of 21,560,700 in 1957 but then increased to 30,000,000 acres in 1967 and 1968.

In some cases year-to-year changes in acreages and yield combine to produce dramatic shifts in output. For example, the acreage seeded to Durum wheat almost doubled between 1960 and 1961 but the average yield per acre was less than half that of the preceding year because of drought and, as a result, output declined. Between 1967 and 1968 the acreage increased by 80 per cent and the yield per acre increased by 22 per cent with the result that there was an increase of about 120 per cent in the total crop.

In other parts of Canada, the output of field crops is tied more closely to the livestock economy. Considerably more hay, pasture, and feed grains are grown. However, feed grain production is usually insufficient to meet feeding requirements and considerable quantities are moved from the Prairie Provinces each season to help meet these needs.

Prince Edward Island and New Brunswick devote much of their improved

land to potatoes. Surplus potatoes are shipped to other provinces and, depending on market conditions, to the United States and other countries.

Oilseed crops, which years ago were mainly confined to flaxseed, now form a significant proportion of the field crop output. Rapeseed, a crop first planted during the war to supply needed meal for cattle feed, margarine, cooking oil, and lubricants, is a valuable cash crop in the northern areas of the Prairie Provinces. Canada is now the principal world exporter of rapeseed and the Winnipeg Grain Exchange is the only organization in the world providing hedging and futures-trading facilities for this crop. Sunflowers were also introduced as a cash crop during the war, but the production of sunflower seed has remained relatively small. Mustard seed acreage has expanded in recent years, spreading from southern Alberta to Saskatchewan and Manitoba. Soybean growing is confined to Ontario; acreage sown to this crop increased rapidly during and after World War II but has been quite uniform for the past decade.

Wheat, the Major Export

In 1966-7, total exports of wheat, oats, barley, rye, flaxseed, rapeseed, and their products amounted to 619 million bushels and was some 9 per cent smaller than the 1965-6 figure of 679.5 million. However, the 1966-7 total exports exceeded by 40 per cent the ten-year average of 443.4 million and was 69 per cent greater than the long-term (1935-6—1964-5) average of 365.7 million bushels. Exports of wheat and flour in terms of wheat, 515.3 million bushels, were 12 per cent below the 584.9 million exported in the previous year but surpassed by wide margins both the ten-year average of 350.6 million and the long-term average of 283.4 million. Clearances of Canadian oats and oat products, 4.8 million bushels, were much less than the 15.9 million in 1965-6. The 58.5 million bushels of Canadian barley and its products that were exported were greater by 54 per cent than the 1965-6 level of 38 million. Rye exports also increased from 8.1 million bushels in 1965-6 to 10 million in 1966-7. Clearances of flaxseed, placed at 16.6 million bushels, were 12 per cent below the 1965-6 level of 18.9 million. Rapeseed exports, amounting to 13.8 million bushels, represented the largest movement on record for this grain; 13.6 million bushels were exported in 1965-6.

During 1966-7, exports of wheat and wheat seed, 482.7 million bushels, were 63.3 million less than the preceding year's total of 546 million. However, 1966-7 exports were 56 per cent greater than the ten-year average of 309.7 million. The Soviet Union continued to be the largest market for Canadian wheat with purchases of 93.2 million bushels in that year. However, Soviet purchases were down by more than 50 per cent from the amount taken during the 1965-6 season. The People's Republic of China established a new record by importing 90.5 million bushels of wheat, exceeding the high in 1965-6 of 74 million by 22 per cent. However, Canadian wheat shipments to Britain, 67.7 million bushels, were the smallest volume since 1953-4 and accounted for only 14 per cent of the 1966-7 exports. Other leading markets during 1966-7, with quantities in millions of bushels and figures for the preceding

year in brackets, were as follows: Japan, 60.2 (49.6); India, 42.0 (26.0); Federal Republic of Germany, 22.6 (22.9); Poland, 13.8 (13.3); Belgium and Luxembourg, 13.8 (10.7); Italy, 9.5 (7.7); Republic of South Africa, 9.4 (none); Pakistan, 7.6 (0.7); Cuba, 7.2 (11.4); and Venezuela, 5.0 (6.3).

The Wheat Board. The Canadian Wheat Board, a Crown corporation in operation since August 14, 1935, is the general agency for all wheat, oats, and barley produced in Western Canada and sold commercially in other parts of Canada or abroad. The farmer places these grains in annual marketing pools operated by the Board. He receives an initial payment at the time he delivers the grain to 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 an 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. At the same time, the division of participation payments steadies the flow of farm income and spreads it throughout the year.

Estimated Area, Yield and Production of Principal Field Crops, 1966 and 1967

Crop	Area		Yield per Acre		Production	
	1966	1967	1966	1967	1966	1967
	acres	acres	bu.	bu.	bu.	bu.
All wheat	29,692,500	30,120,800	27.9	19.7	827,338,000	592,920,000
Winter wheat ..	341,000	400,000	44.6	38.7	15,200,000	15,480,000
Spring wheat ¹ ..	29,351,500	29,720,800	27.7	19.4	812,138,000	577,440,000
Oats for grain ..	7,923,900	7,436,100	47.3	40.9	374,678,000	304,178,000
Barley	7,461,300	8,115,000	40.4	30.6	301,235,000	248,662,000
All rye	725,800	685,300	23.7	17.5	17,220,000	11,981,000
Fall rye	623,200	601,000	24.4	18.1	15,214,000	10,864,000
Spring rye	102,600	84,300	19.6	13.3	2,006,000	1,117,000
Mixed grains	1,766,600	1,668,200	46.1	45.8	81,443,000	76,427,000
Corn for grain ..	806,600	875,500	82.2	84.6	66,328,000	74,083,000
Buckwheat	54,600	75,500	21.3	17.1	1,164,000	1,292,000
Peas, dry	61,300	47,400	17.8	23.5	1,094,000	1,115,000
Beans, dry	118,000	86,000	24.8	16.7	2,932,000	1,435,000
Flaxseed	1,917,700	1,023,400	11.5	9.2	22,020,000	9,378,000
Soybeans	279,000	290,000	32.3	27.9	9,012,000	8,091,000
Rapeseed	1,525,000	1,620,000	16.9	15.2	25,800,000	24,700,000
			cwt.	cwt.	cwt.	cwt.
Potatoes	318,900	303,800	171.5	153.9	54,679,000	46,743,000
			lb.	lb.	lb.	lb.
Mustard seed ...	200,600	221,000	825	678	165,400,000	149,900,000
Sunflower seed ..	53,000	45,800	619	786	32,790,000	36,010,000
			tons	tons	tons	tons
Tame hay	13,154,000	12,902,000	1.98	1.97	26,049,000	25,385,000
Fodder corn	577,700	596,400	11.50	12.29	6,643,000	7,328,000
Field roots	15,100	13,700	12.91	12.48	195,000	171,000
Sugar beets	81,272	83,305	14.35	12.98	1,166,554	1,081,082

¹ Includes relatively small quantities of winter wheat in all provinces except Ontario.

Fruits and Vegetables



Picking strawberries on the Ile d'Orléans, near Quebec City.

The most important fruit grown in Canada is the apple. Commercial apple orchards are found in Nova Scotia, New Brunswick, southern Quebec, much of Ontario, and the interior of British Columbia, particularly in the Okanagan Valley. Tender tree fruits — pears, peaches, cherries, plums — are also grown in Ontario with the most important concentrations in the Niagara Peninsula and in Essex County. These same fruits as well as apricots are also grown on a large scale in the southern part of the Okanagan Valley in British Columbia.

In addition to tree fruits, strawberries and raspberries are cultivated commercially in the Maritimes, Quebec, Ontario, and British Columbia. British Columbia fruit growers also produce loganberries commercially in the Lower Mainland and on Vancouver Island. Grapes, too, are grown quite extensively in the Niagara district of Ontario and on a smaller scale in British Columbia. The native blueberry is found wild over large areas in Canada and is harvested in commercial quantities in the Atlantic Provinces, Quebec, and Ontario. A cultivated crop is grown in British Columbia.

Canada exports apples and blueberries. Most of the other fruit crops are usually below domestic requirements with imports making up the deficit. However, a considerable proportion of the fruits imported are brought in during the season when domestic supplies are off the market.

The total farm value of fruit crops grown in Canada in 1967 reached \$81.3 million. In the districts where the fruit crops are produced, their sales make up an important part of the farmers' income. The 1968 apple crop was

estimated at 19,959,000 bushels compared with 24,492,000 bushels in 1967.

An estimated 252,367 acres were planted to commercial vegetable crops in Canada in 1968. The farm value of production amounted to \$78.9 million in 1967. The area harvested for the principal canning crops — beans, corn, peas, and tomatoes — totalled 152,060 acres in 1968 compared with the previous year's 141,340 acres.

The production of field-grown vegetables in Canada is seasonal. During the winter when no domestic crops are being harvested, supplies of fresh vegetables are imported from the United States. At other times most domestic requirements are met from Canadian output. Some exports from Canada to the United States are made, particularly to large centres of population close to the border.

The processing industry plays an important part in the marketing of Canadian-grown fruits and vegetables. Over the years factories have been built in most of the important growing regions and considerable proportions of fruit crops and vegetables, particularly asparagus, beans, peas, corn, and tomatoes, are canned, frozen, or otherwise processed each season. Most of the vegetables for processing are grown under a system whereby the processor contracts annually with each grower for certain acreages.

In recent years the importance of freezing has been increasing although the amount of produce processed in this way is still much smaller than the volume canned.



Pruning fruit trees in the Okanagan Valley, B.C.



Fungicides help this farmer to protect his trees from disease and to produce top-quality fruit. The use of new, milder organic fungicides, such as ferbam, captan, glyodin and dichlone, has almost doubled the yield of apples.

Livestock

In 1966, according to the census of agriculture, 76 per cent of the 430,522 farms in Canada raised livestock, a decline of 5 per cent since 1961. Most of these farms had herds of cattle (73 per cent), while 36 per cent raised hogs, 32 per cent horses, and 5 per cent sheep. A big decrease occurred in the number of farms having milk cows: 52 per cent compared with 64 per cent in 1961. However, there have long been distinct areas of specialization based on land resources and climate—beef cattle on the prairies, in the foothills and plateaus of the western mountains, and in southern and western Ontario; dairy cattle in the Eastern Townships of Quebec and on the Quebec and Ontario farms along the St. Lawrence River; hogs in southern Ontario, Quebec, and Alberta. Only in Newfoundland, the Yukon, and Northwest Territories are farm livestock few and for this reason the figures given here exclude those areas.

Cash receipts from livestock and animal products in 1967 amounted to about 2,400 million dollars, constituting 55 per cent of the total cash receipts of farms. Cattle and calves contributed more to receipts than any other single farm enterprise and indications are that this trend will continue in future years. Hogs were the fourth largest cash earner after wheat, cattle and calves, and dairy products.



A herd of beef cattle by the South Saskatchewan River near Abbey, Sask.

In June, 1968, the total number of cattle and calves was estimated to be 12,566,000, down 2 per cent from June 1, 1967 and a further decline in the cyclical downswing that began in 1966. Milk cows declined by 8 per cent although in the big dairy province of Quebec numbers rose by 2 per cent. All categories had lower numbers, but beef heifers declined the most (11 per cent). Feeding of beef cattle in restricted areas has increased considerably and is most noteworthy in Alberta and Ontario. The rapid increase in the production in southern Ontario of corn, an increasingly important ingredient of silage, which in turn is increasingly used in forced feeding, has stimulated such feeding. The decline in foreign sales of grain will further encourage restricted feeding in the West. Cattle slaughtered in federally inspected plants in 1967 numbered 2,641,788, down about 2 per cent from 1966. The number of calves slaughtered was 738,815, down 4 per cent. Lower production and the great domestic demand for beef (due to Expo and centennial year) caused a big decrease (62 per cent) in beef cattle exports, which dropped to 128,524. Prices of choice slaughter steers have been above 1966 levels since May 1967, with a yearly average of \$28.80 at Toronto.

Hog numbers at June 1, 1968, stood at 5,862,000 down 5 per cent from June, 1967. In the three main hog provinces of Ontario, Alberta, and Quebec numbers decreased but they rose in the Maritimes. In 1967 the number of hogs shipped to inspected and approved packing plants, however, was the largest since 1959 and the third highest on record. Total 1967 marketings amounted to 8,186,356 or 19.3 per cent more than those of the previous year. All provinces participated in the increased output, but the principal gains were made in the western provinces. While the total value of hogs marketed in 1967 increased, this was entirely due to the larger volume, for the average price paid for all hogs declined.

The numbers of sheep declined further in 1968. On June 1, 1968, sheep and



Cheviot ewes on a farm near Welland, Ont.

lambs were estimated at 891,200, down 7 per cent from the previous year. However, there are some encouraging signs that the decline may be levelling off. In Eastern Canada, for the first time in many years, there was no decrease in the breeding herd; in Ontario the number of sheep 1 year old and over increased. Ontario also has the largest number of sheep and lambs, followed by Alberta. In 1967 sheep and lamb sales through public stockyards, directly to packing plants, and to exporters, came to 361,293. This was 4 per cent higher than in 1966 but still the second lowest on record.

Estimated Meat Production and Consumption, 1966 and 1967

Item	1966	1967	1966	1967
	<u>Beef</u>		<u>Veal</u>	
Animals slaughtered .....No.	3,232,700	3,139,300	1,123,300	1,056,700
Animals exported .....No.	402,874	175,561	106,037	86,292
Meat production .....'000 lb.	1,725,087	1,689,172	140,270	133,556
Total domestic disappearance ....'000 lb.	1,653,220	1,667,366	139,723	131,299
Per capita consumption .....lb.	82.5	81.8	7.0	6.4
	<u>Pork</u>		<u>Mutton and Lamb</u>	
Animals slaughtered .....No.	7,989,500	9,152,100	523,400	488,900
Animals exported .....No.	12,683	19,785	10,530	13,383
Meat production .....'000 lb.	1,027,172	1,180,254	23,085	21,145
Total domestic disappearance ....'000 lb.	953,847	1,098,600	69,487	73,303
Per capita consumption .....lb.	47.6	53.7	3.5	3.6
	<u>Offal</u>		<u>Canned Meat</u>	
Production .....'000 lb.	112,592	116,149	96,032	104,023
Total domestic disappearance ....'000 lb.	72,563	78,591	110,481	127,442
Per capita consumption .....lb.	3.6	3.6	5.5	6.2

Dairying

Dairying is common to practically all farming areas in Canada, but highly specialized production occurs in the more densely populated sections. About one third of the milk cows and of the total milk production in Canada are in Ontario and Quebec. In 1967 there were 2,668,000 milk cows on farms compared with 3,098,000 in 1957 (excluding Newfoundland).

While the national dairy herd was approximately the same size as a decade ago, increasing specialization in milk production has occurred. The number of farmers reporting milk cows decreased from 397,000 to 221,000 between 1956 and 1966, but farm output of milk increased about 7 per cent from 1,700 million pounds in 1957 to 1,800 million pounds in 1967. Selection, breeding, and management practices have resulted in an average annual increase of approximately 2 per cent in milk production from each cow during this period. The principal dairy breeds are Holstein, Guernsey, Jersey, and Ayrshire, but a considerable amount of milk production comes from dual-purpose breeds, purpose breeds.

Canadian farmers are selling a larger part of their total milk supply than they did a decade ago. Of the milk sold by farmers in 1967, 62 per cent was used for manufacturing purposes and 29 per cent for the fluid market. This

Dairy Production, by Economic Area, 1965-67

Economic Area and Year	Total Milk Production	Milk Used in Fluid Sales	Products Manufactured ¹				
			Butter		Cheddar Cheese	Ice Cream Mix	
			Creamery	Farm			
Thousands of pounds						Thousands of gallons	
Maritimes ...	1965	930,057	377,044	14,603	359	2,324	2,027
	1966	904,170	378,951	12,979	324	3,154	2,131
	1967	884,335	382,762	11,538	318	4,270	2,182
Que. and Ont..	1965	13,035,768	3,529,151	239,533	676	151,337	15,434
	1966	13,218,022	3,561,152	244,322	609	159,809	16,171
	1967	13,288,092	3,573,758	247,161	594	150,394	17,039
Prairies	1965	3,549,403	806,355	80,088	2,580	3,333	5,288
	1966	3,377,669	803,821	72,442	2,256	3,743	5,401
	1967	3,237,943	801,787	66,723	2,131	5,252	5,768
B.C.	1965	844,728	493,001	3,177	126	1,094	2,908
	1966	880,066	510,717	4,163	122	1,440	2,946
	1967	893,624	525,842	4,233	121	1,383	3,145
Totals	1965	18,359,954	5,205,551	337,381	3,741	158,088	25,857
	1966	18,379,927	5,254,641	333,906	3,311	168,146	26,649
	1967	18,303,994	5,283,929	329,885	3,164	161,299	28,134

¹ Not included in this table are: whey butter, with a production of 4,662,000 pounds in 1965, 4,983,000 pounds in 1966, and 5,347,000 pounds in 1967; other kinds of cheese, with 21,048,000 pounds, 26,624,000 pounds and 29,863,000 pounds, respectively; and concentrated milk products, with 706,167,000 pounds, 736,564,000 pounds and 759,878,000 pounds, respectively.

compares with 58 and 30 per cent, respectively, in 1957. Ten years ago, slightly less than 12 per cent of the total milk supply was retained on farms compared with 9 per cent in 1967. Milk delivered to the fluid milk market and to manufacturing amounted to 16,700 million pounds in 1967, 11 per cent greater than similar sales in 1957.

Dairy Products. Creamery butter, cheddar cheese, evaporated milk, and skim milk powder are the leading dairy products manufactured in Canada. Most of the cheddar cheese and a high proportion of the concentrated milk products are produced in Ontario and Quebec. Butter production is more widely distributed. The principal dairy products normally exported are cheddar cheese, special varieties of cheese, evaporated milk, whole and skim milk powder, and casein, while imports consist of special varieties of cheese and casein.

Per capita consumption of milk and its equivalent in dairy products was approximately 1,000 pounds per year from 1949 to 1957. It declined to 866 pounds in 1961 before moving up to 916 pounds in 1963 and down to 867 pounds in 1967.

The value to the farmer of milk produced in 1967 was estimated at \$694 million. Of this amount, \$629 million — 14 per cent of total cash receipts from farming — was derived from the sale of milk, cream, and butter.

Black turkeys on a farm near Steinbach, Man. Output of fowl and chicken meat increased by 36 per cent between 1961 and 1966.



Poultry and Eggs

The intense competition in the raising of poultry continues as new techniques in breeding, feeding, and housing are applied to increase production, and hence broaden the market and raise income. General farms have tended not to compete with poultry farms, particularly those specializing in the raising of broiler weight chickens and turkeys. The number of census farms keeping chickens decreased from 266,080 in 1961 to 176,823 in 1966 while chicken meat production advanced by 36.5 per cent. However, the number of farms with hens and pullets 6 months and over decreased from 223,700 to 143,115 and egg production dropped by 3.1 per cent. The number of census farms keeping turkeys declined from 36,698 to 21,309 but turkey meat production increased 48.2 per cent.

The seasonal variations in the number of eggs reaching market have largely disappeared, as the vagaries of climate have been eliminated and as poultry farms have been built in the neighbourhood of large cities such as Montreal, Toronto, Winnipeg, and Vancouver. Other districts where broiler and egg production is concentrated are the Annapolis Valley of Nova Scotia, Moncton in New Brunswick, and southwestern Ontario. Eggs and poultry are marketed under firm standards applied uniformly from coast to coast by the federal government's inspection service.

Summary of Supply, Distribution and Consumption of Poultry Meat and Eggs in Canada, 1967

Item	Total Meat	Fowl and Chicken	Turkey	Goose	Duck	Eggs
	Thousands of pounds ¹					Thousands of dozens
Stocks at January 1	55,432	24,350	30,296	238	548	4,590
Production ²	817,663	601,331	207,639	3,740	4,953	442,176
Imports	17,995	10,342	6,142 ³	—	1,511	19,654
Total Supply	891,090	636,023	244,077	3,978	7,012	466,420
Exports	509	361	65	83	—	1,045
Stocks at December 31	54,411	23,053	30,788	80	490	7,830
Domestic disappearance	836,170	612,609	213,224	3,815	6,522	457,545
Less used for hatching	—	—	—	—	—	23,488
Domestic consumption	836,170	612,609	213,224	3,815	6,522	434,057
	pounds					dozen
Per capita consumption	40.9	30.0	10.4	0.19	0.32	21.2

¹ Measurement of poultry meat is based on eviscerated weight.

² Production estimates do not include Newfoundland.

³ Includes an estimate of 4,840,000 pounds eviscerated weight equivalent of live turkeys imported for processing in Canada.

Furs

The early history of Canada was closely associated with the fur trade, which strongly influenced exploration and settlement. While the value of wildlife pelts is still important to the economy, especially of more northerly and sparsely settled areas, it has been surpassed by the value of pelts taken from animals raised in captivity. Fur farming developed in Prince Edward Island and spread to other provinces in the late 1800's. It was based principally on the production of fox pelts, particularly the silver fox. At its peak in 1939 the output of fox pelts from over 7,000 farms reached almost 250,000 with a value of nearly \$4 million.

In the meantime, mink production on farms had been developing and by 1940 the value of mink pelts from some 3,300 farms exceeded \$2,000,000. The number of fox pelts produced declined rapidly during the postwar period and since 1957 has averaged less than 2,000 pelts per year with few farms continuing in production. Mink pelt production, on the other hand, has been growing quite steadily with increasing specialization. Fewer farms, only 1,452, produced over \$22 million worth of mink pelts in 1966.

While mink has accounted for about 99 per cent of the value of fur farm pelts in recent years, chinchilla raising is increasing and there is local interest in some provinces in nutria production. Other animals, such as fisher, marten, lynx, and raccoon have been raised successfully on some fur farms, but the quantity of such pelts produced is very small.

Fur farms pay a nominal licence fee in most provinces and operate under the supervision of provincial government departments. Research on the breeding, feeding, housing, and general care of fur-farm animals is conducted at a federal experimental farm at Summerside, P.E.I.

Hair seal and Majestic White and Pastel mink are fashioned into winter coats. The seal hunt is rigorously supervised by the federal government.





On this mink ranch, breeding pens are on the right and pelting pens on the left.

Number and Value of Pelts Produced, by Kind, 1966-7

Kind	Number	Value	Average Value
		Dollars	
Wild:			
Squirrel	635,058	390,056	0.61
Muskrat	1,732,404	1,695,245	0.97
Beaver	371,533	4,731,570	12.73
Ermine (weasel)	133,592	130,873	0.97
Rabbit	50,672	21,457	0.42
Mink	88,614	1,017,947	11.48
Fox—White	34,126	536,052	15.70
Other	30,460	176,798	5.80
Lynx	13,038	362,103	27.77
Marten	55,042	498,537	9.05
Raccoon	33,911	106,857	3.15
Seal —			
Fur Seal—North Pacific ¹	12,830	672,782 ²	52.44
Hair Seal	153,980	1,373,096	8.92
Other (badger, bear, coyote, fisher, otter, skunk, wildcat, wolf, wolverine)	50,639	732,635	...
Totals	3,395,899	12,446,008	...
Ranch-raised:			
Chinchilla	19,133	227,357	11.88
Fox	804	30,029	37.35
Mink	1,804,784	22,397,717	12.41
Nutria ³	1,130	2,260	2.00
Total ⁴	1,825,851	22,657,363	...
Grand Totals	5,221,750	35,103,371	...

¹ Commonly known as Alaska Fur Seal.

² The value figures are the net returns to the Canadian Government for pelts sold.

³ Estimated at \$2.00 per pelt.

⁴ Includes pelts not allocated by type.

Fishing

Parts of two oceans, and many rivers and lakes in 10 provinces, the Northwest Territories, and the Yukon comprise Canada's fishery. With such waters, the fisheries have been important from the beginning of Canada's history and continue so today. The year 1968 yielded a record catch of fish and shellfish: the estimated total landings for all species — both fresh and salt water — totalled 2,767 million pounds for which Canadian fishermen received \$184.7 million.

The 1968 story of increased production is in line with the general trend evident during the past 15 years. For example, in the decade ending in 1966, the volume of Canada's fish production rose 18 per cent. In the same period, returns to fishermen in dollars rose by 67 per cent. Better fishing techniques and more efficient vessels and gear may be credited with this increase.

The sea fisheries on both coasts yielded most fish; the catch was estimated at more than 2,640 million pounds with a landed value — the value to fishermen — of \$169.1 million. The freshwater fish catch was estimated at 122 million pounds which brought \$16 million to the fishermen. Estimated landings by Atlantic coast fishermen reached 2,389 million pounds for a landed value of \$113.8 million. Pacific coast fishermen landed an estimated 255.9 million pounds which brought them more than \$55.3 million.

As usual, lobsters were the most valuable single species caught on the east coast, while salmon was the biggest money-maker for British Columbia fishermen. Atlantic coast lobster landings in 1968 exceeded 37 million pounds and had an estimated landed value of \$25.1 million. Pacific salmon landings were more than 168 million pounds and had an estimated landed value of \$43.7 million.

While all types of Pacific salmon fishermen enjoyed good catches in 1968, the returns of the gillnet fleet were particularly high. Landings by salmon gillnetters were valued at \$20 million, nearly 40 per cent higher than their previous record year of 1958. The value of salmon reported by salmon seiners totalled nearly \$13 million, \$3.5 million higher than in 1967.

Halibut landings by British Columbia fishermen amounted to 28 million



Every October four-year-old sockeye salmon assemble near the Gulf of Alaska, swim south to the Fraser River, then 300 miles up the Adams River where they spawn and die. On the journey their blue-tinged silver bodies turn to scarlet.

pounds with a landed value of \$7.1 million, up about 10 per cent from 1967. Prices to fishermen averaged around 25 cents per pound and were unchanged from 1967.

Due to the low level of herring stocks, the reduction fishery was closed in 1968. Production was limited to bait and experimental fishing, with the value of landings amounting to only \$160,000.

Total landings of grey and ling cod and sole, and other groundfish, were up about 10 per cent over the previous year with landings to fishermen valued at around \$1.8 million. Landings of most species of shellfish were down from 1967 although shrimp producers did record a slight increase.

Two highlights in the Atlantic coast fishery in 1968 involved the almost phenomenal growth of the Queen crab fishery which paralleled spectacular increases in herring catches. The Queen crab, regarded more or less as a nuisance until three years ago, has become a money-maker for the fishermen and a table delight for gourmets as a result of the combined efforts of federal-provincial fisheries agencies and the fishing industry. From none in 1965, the landings in the following year reached 600,000 pounds. In 1967 the catch jumped to 2 million pounds, while the 1968 catch exceeded 9.3

million pounds, valued at more than \$886,000. This hardy, eight-legged crustacean is providing a new source of income for an increasing number of East Coast fishermen.

The growth of the Atlantic herring fishery has been nothing less than spectacular. It began when large purse seiners began to make heavy catches. This was followed closely by the introduction of mid-water trawl fishing sponsored by federal and provincial fisheries departments. Trawling gear has the special advantage of being able to catch herring in daylight when they are largely dispersed and usually found at greater depths than during darkness, when the purse seine is still the most effective way of fishing. The effectiveness of the mid-water trawl for herring was demonstrated last year by a 156-foot stern ramp trawler out of Riverport, N.S. In a week's fishing she landed 1,200 tons. The heaviest single catch by this vessel was 427 tons.

Another sector of the Atlantic coast fisheries showing rapid growth is the seaweeds industry. One seaweed in particular, Irish moss, has become of great economic importance to a number of fishing communities in the Atlantic area. In the past quarter century, the Irish moss harvest in the Maritime Provinces has grown from 1.5 million pounds, which brought \$30,000 to the fishermen, to more than 79 million pounds worth nearly \$2.5 million. To promote the growth of this industry, a Marine Plants Experimental Station has been built by the federal Department of Fisheries at Miminegash, P.E.I. Opened in 1966, this plant provides mechanical drying facilities for Irish moss harvested in the area. Within two years, two commercial plants were established nearby so that the station now devotes its attention to the general development of the marine plants industry for all Canadian regions where seaweed might be gathered. In addition to Irish moss, there are other seaweeds in the Atlantic Provinces which are used to some extent.

THE FISHERIES RESEARCH BOARD OF CANADA

Ancillary to the management and development function of the federal Department of Fisheries is the Fisheries Research Board of Canada, the oldest government-supported independent scientific Board in North America. It is the lineal descendent of a government research organization founded in 1898 and dedicated "to conducting basic and applied research of Canada's living aquatic resources, their environment and their utilization."

One of the major current commitments of the Board is to extensive research in the field of water pollution. The centre of the Board's activity in this field is the Freshwater Institute in Winnipeg, where data from many of the Board's laboratories in other parts of the country is collated. In conjunction with this field of research, the Board has a unit in the Canada Centre for Inland Waters in Burlington, Ont., and works in close co-operation with the Department of Energy, Mines and Resources, which is engaged in other areas of the pollution problem.

The basic purpose of the Board is to increase the knowledge, scope, value, and efficiency of the Canadian fisheries and other aquatic resources through

An eel fisherman at Saint-Michel, Que. This specialized fishery had a value in Quebec of \$224,000, for 595,000 lbs.



The spider crab used to be simply a nuisance that entangled fishermen's gill-nets. Now it is providing a new source of income for fishermen in the Gulf of St. Lawrence and a new gourmet food known as "Queen crab." This industry was developed by the Experimental Fishery section of the New Brunswick Department of Fisheries, with financial and technical help from the federal department.

scientific research. From this research comes assurance that Canadians will have abundant supplies of fish, mammal and invertebrate, from the sea and lakes, and that these stocks will be expanded. To accomplish this, the Board's scientists study the environment (including pollution), the resource (the availability, and abundance of fish and the effects of fishing), harvesting techniques, methods of increasing the resource and commercial products.

The Board's contributions to the development of new fisheries and to fish processing methods on both the Atlantic and Pacific coasts have contributed millions to the economy of the fishing industry. Its chilled sea-water research, for example, has been instrumental in saving untold dollars by preventing waste and by up-grading the quality standards of fish processing.

Board scientists have laid the basis for rational exploitation of our renewable aquatic resources. The introduction of rapid changes in the fisheries of Canada from relatively primitive fishing operations to integrated food industries have revolutionized the industry. The Board's contribution to the development of high quality fish meal and fish protein concentrates is world famous. The reputation of its scientists and of their work is second to none in the world of aquatic sciences.

A major contribution of the Board to the scientific development of Canada has been its interest in encouraging science-oriented young people in the fields of marine biology. Its programs of university grants and the inclusion of laboratory space for the use of graduate students in a number of the Board's ten stations from coast to coast has been generous.

The cod, which has brought fishermen of many nations to the "Banks" since the 16th century, is still an important catch of Atlantic fishermen. Here dried cod is stacked for shipment at Clark's Harbour, N.S.





The People



History

The Beginnings

At the dawn of the 16th century the European powers bordering on the Atlantic began the conquest of North and South America. Early attempts by France to found a colony in the St. Lawrence valley ended in failure. Not until the turn of the century were permanent settlements established on the shores of the Bay of Fundy and at Quebec. These colonies were merely fur trading posts and missionary bases. Private companies were responsible for their maintenance but the companies were interested only in quick profits. By 1660 the permanent settlers numbered less than 2,500.

In 1663 Louis XIV took over Canada and Acadia and made them overseas provinces of France. Capital, trained administrators, troops, and a large labour force crossed the Atlantic. During the ensuing decades French enterprise in North America expanded rapidly. Military and fur trading posts were established throughout the West. In 1700 a colony, Louisiana, was established at the mouth of the Mississippi, and settlements were made in the Illinois country and at Detroit. In 1713 France was obliged to cede part of Acadia and Hudson Bay to England, but it retained its hold on the West.

By this time Canada was self-supporting in food supplies and frequently had a surplus for export. Attempts to establish industries such as lumbering, shipbuilding, and iron works were not very successful. The fur trade remained the chief economic activity but the large military establishment maintained by France was the colony's major resource. In comparison with the common people of Europe the Canadians were well off. There was an abundance of free land and they paid no taxes, which obviated the necessity for elected assemblies.

In the 1740's French commercial expansion threatened England's dominance of overseas trade. The only way seen to curb it was war. After one inconclusive struggle (1744-48) hostilities again broke out in 1754. After six years of bitter fighting British sea power finally tipped the scales. In 1760

the French army was forced to surrender at Montreal. By the Treaty of Paris, 1763, France ceded New France to Britain; Louisiana she ceded to her ally, Spain. Canada's borders were now greatly restricted and the new province named Quebec.

Having acquired most of the French empire in North America, England had to decide what to do with it. In Acadia the original French settlers had been expelled during the course of the war. It was not feasible to treat the 70,000 Canadians in a like manner. A few hundred British merchants moved into the colony in the wake of the army and quickly gained control of the economy. This handful of "old subjects" demanded the same political rights as British subjects elsewhere in the empire. The governors of the colony, first James Murray then Guy Carleton, were opposed to this, regarding it as unjust to the bulk of the population, the French Canadians, who would be excluded on religious grounds and for whom they had come to have a high regard. Moreover, with trouble brewing in the old colonies to the south they were anxious to gain the loyalty of the Canadians. For these reasons, in 1774, the Quebec Act was passed guaranteeing the French Canadians freedom of religion, seigneurial land tenure, their old civil laws, government by appointed council, and the right to hold office.

In 1775 British fears were realized when an American army invaded Canada, seized Montreal, and laid siege to Quebec. The French Canadians declined to support the Americans, who were driven out the following year. Similarly, in Nova Scotia, the American settlers remained neutral and the region was retained by Britain. During the course of the war and afterwards,



An exact replica of the 53-foot ketch *Nonsuch* has been built in Devon, England, in celebration of the 300th anniversary of the Hudson's Bay Company. The voyage of Groseilliers and Radisson in 1668 to Hudson Bay led directly to the forming of the company in 1670.

thousands of Loyalists flooded into Quebec and Nova Scotia. Many of them, not wishing to settle amidst an alien population, took up lands along the south shore of Lake Ontario. To accommodate them, in 1791 the Constitutional Act divided Quebec into Upper and Lower Canada, each having a representative assembly, a legislative council and an executive council. British North America now comprised these two provinces and New Brunswick, Nova Scotia, Prince Edward Island, Cape Breton, Newfoundland, and Rupert's Land. The French Canadians retained the semblance of some of their old institutions but the motivating spirit of the old régime was gone. Unable to compete in commerce and industry on capitalist terms they turned to the land, the professions, and to their numerical superiority in the legislative assembly to retain some control over their own destinies.

W. J. Eccles



At the beginning of the 18th century the French built the largest fortress on the continent, Louisbourg, on Cape Breton. The Governor's wing of the newly-restored Chateau St. Louis was opened in September, 1969.

From 1800 to the Present

Upper and Lower Canada developed side by side only to be faced again in 1812 with invasion from the South. A final and peaceful partition of North America between the United States and Great Britain followed in a few years. Within each colony intense constitutional conflicts had erupted between the representative Assembly on the one hand and the non-elected Executive Council and Legislative Council on the other. In Lower Canada, tensions were heightened by ethnic difference and the French Canadians were led by Louis-Joseph Papineau. At the same time, in Upper Canada William Lyon Mackenzie was struggling against the oligarchy. In 1837, rebellion broke out in both colonies and was put down severely, particularly

in the Montreal area. The constitution was suspended in Lower Canada and Lord Durham was appointed by the government in London to investigate the political situation on the spot. In his report early in 1839, he recommended that the two Canadas be united into a single colony. Union became a reality in 1840. During the period of union, and notwithstanding constitutional agreements, some vestiges of administrative and even of political separation remained. By 1849, responsible government had effectively come into being, and through the following decade a number of legislative measures established the framework of the social and legal structure of Canada.

During the early 19th century, other British colonies in North America — Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland — flourished and had already acquired their own institutions of government and responsibility for the administration of their internal affairs.

Over the years, the dream of a federation of these colonies with the province of Canada frequently recurred, but it was only in June 1864 that the first tentative steps were taken that would ultimately lead to the British North America Act of 1867 which is now regarded as the formal part of the Canadian constitution. Economic necessity, fear of the United States, the need for an intercolonial railway, and a growing national spirit were the motivating factors. The representatives of the colonies who have become known to history as the Fathers of Confederation met at Charlottetown, at Quebec, and in London to draw up a series of resolutions which were enacted in a slightly modified form by the British Parliament in March of 1867. On July 1, 1867, the "Dominion of Canada" came into being; this designation was intended to identify a status half-way between that of a colony and of a sovereign state. It had a population, largely rural, of some 3,300,000, and comprised the four provinces of Ontario, Quebec, Nova Scotia, and New Brunswick. In 1870, Canada acquired from the Hudson's Bay Company the vast territory stretching north-westward beyond the Great Lakes, including a small colony already established along the Red River. The province of Manitoba was carved out of this territory in 1870. In 1871, British Columbia, which had developed on the shores of the Pacific, joined Confederation on the understanding that a rail link with eastern Canada would be constructed. The railway was completed in 1885. This westward expansion of Canada led to unrest among the Indians and Métis which culminated in the Riel Rebellion. Louis Riel, the leader of the insurgent group, died on the scaffold in 1885. In 1873, Prince Edward Island became the seventh province of Canada. In the West, a wave of immigrants who raised wheat and livestock greatly developed the region from which two new provinces, Saskatchewan and Alberta, were created in 1905. In 1949, Newfoundland joined the rest of Canada as the tenth province, thus completing the vast country which, with its Yukon and Northwest Territories, stretches to the North Pole and is home to more than 21 million people.

While all of this territorial expansion was taking place, the Canadian Confederation was also taking shape in response to a variety of events which frequently saw the provinces and the central government at odds. This was especially true in the case of Ottawa and Quebec because of the special

character of that province, where the vast majority of the population was French-speaking. Canada's first quarter-century was dominated by the strong personality of Prime Minister Sir John A. Macdonald. During this period, the provinces had been struggling to attain a measure of autonomy and, largely because of the efforts of the Premiers of Ontario (Sir Oliver Mowat) and of Quebec (Honoré Mercier), had succeeded by the time Sir Wilfrid Laurier came to power in 1896. Up to the outbreak of World War I, few problems arose between the two levels of government. The country enjoyed a boom resulting from the expansion of agriculture in the West and of industry in the East. Although not yet administering its international relations, the country still refused to subscribe to the British Imperial system.

The scope of its military and economic participation in World War I under Sir Robert Borden, who had taken over the reins of government in 1911, hastened accession to complete sovereignty for the Dominion. Canadian representatives signed the Treaty of Versailles in 1919 and Canada was also represented at the League of Nations. In 1926, the Balfour Declaration proclaimed the equal status of the dominions and of Great Britain, a principle given legislative form by the Statute of Westminster in 1931. Canadian independence has been constantly strengthened since that time and as a member of the Commonwealth, the country is a constitutional monarchy with the same sovereign as the United Kingdom. However Canada's chief formal link with London now is recourse to that Parliament for amendments to the British North America Act of 1867.

The federal government emerged from the 1914-18 War with a debt proportionately higher than that of the provinces. It was only in the support of a third party that the Government under Mackenzie King was able to hold the confidence of Parliament. The provinces plunged into an era of feverish activity in a number of fields new to them, but nevertheless within their jurisdiction — public health, highway construction, and industrial development. However, with the arrival of the depression the provinces, especially those in the West, suffered greatly. From 1930 to 1935 under the administration of R. B. Bennett and later under a new Government formed by Mackenzie King in 1935, the federal government came to the aid of provinces and municipalities but it soon became obvious that the concept of federalism needed redefinition to bring it up to date. In 1937 the federal government set up a royal commission (the Rowell-Sirois Commission) to enquire into constitutional problems. When its report was submitted in 1940, it recommended among other things that the federal authority take over provincial debts and be granted exclusive rights to broad areas of direct taxation, revenue then to be re-distributed in the form of grants to the provinces enabling the latter to provide all Canadians with equal services. These proposals were not entirely acceptable to the provinces but were implemented by a temporary agreement for the duration of the war.

Canada played a vital role in World War II both by its industrial production and by the participation of Canadian contingents on all fronts. The country was twice host to summit conferences of allied leaders at Quebec in 1943 and again in 1944. Canada emerged from the war full-grown and



At Battleford Historic Park in Saskatchewan, visitors can see one of the five posts from which the Northwest Mounted Police, created in 1873 with 300 men, maintained law and order as the West was settled.

independent, and in a position to work alongside the great powers in the international field.

The quarter-century following World War II also saw important domestic events. In Western Canada the tapping of underground resources added to the wealth provided by wheat. On the Pacific Coast, industrial development made British Columbia one of the richest provinces. In the East, Quebec and Ontario witnessed the opening of the St. Lawrence Seaway which allows transatlantic shipping to penetrate deep into the continent.

However, it would appear that one of the most delicate problems facing Canada is that of national unity. In the aftermath of war, Canada, born of two ancient European civilizations and the adopted home of new citizens from many nations, felt the need to analyze its own personality and to develop its own culture if for no other reason than to protect its distinguishing characteristics from the influence of its powerful neighbour to the south. Moreover, there remained the problems of duality arising from the presence of an English-speaking majority alongside a French-speaking minority that in turn represented the majority in one province.

Canada has made extensive use of Royal Commissions and its problems can often be traced through the reports of those commissions. In 1951, the Royal Commission on National Development in the Arts, Letters, and Sciences (the Massey Commission) made a number of recommendations on French as well as English cultural advancement. Among other things, it

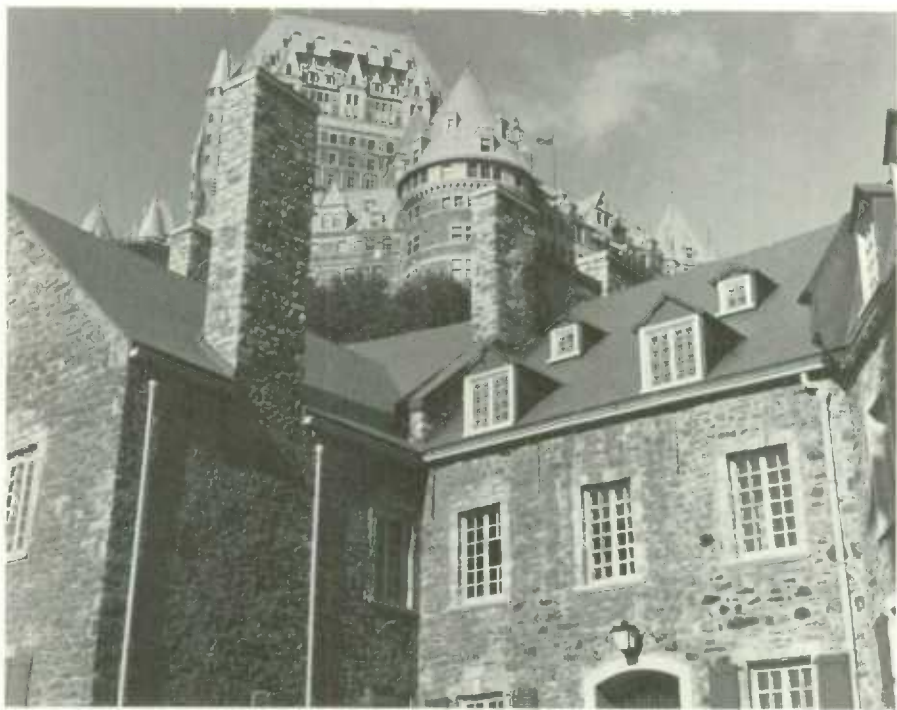
recommended the creation of a national library and of an arts council. In 1963, Prime Minister Pearson announced the establishment of a Royal Commission on Bilingualism and Biculturalism (the Laurendeau-Dunton Commission). This Commission has recommended policies which would not only permit both cultures to flourish but would make them freely accessible to all Canadians.

Although essentially a province like any other, from a legal point of view, Quebec nevertheless occupies a special place in the Canadian federal structure because most of the French-speaking population lives within its borders. Moreover, because of the rapid social, political, and educational developments which have taken place particularly since 1960—usually referred to as the “quiet revolution”—Quebec has adopted a modern outlook and regardless of its political direction has insisted on strong internal autonomy.

In order to adjust constitutional arrangements to the needs of the times, continuing consultations are taking place between representatives of Ottawa and of the provinces, including the conferences of February 1968 and February 1969. It is hoped that the outcome of these meetings will accommodate the interests and aspirations of all concerned.

J.-C. Bonenfant

The newly-restored Maison Chevalier in Lower Town, Quebec City, is an example of the fine architecture of New France. On the heights above stands the famous Chateau Frontenac hotel.



Government

Canada's political system is based on four major institutions which, despite the numerous changes that have occurred since 1867, still make up the infrastructure of Canadian public life. These institutions — the constitutional monarchy, the federal system, the British parliamentary system, and representative democracy — have all survived in the face of radical changes in Canadian society over the last century.

Canada today is a sovereign state even though the British North America Act which is the core of its constitutional form was a statute of the British Parliament. In practice, Canada makes its own laws, negotiates and ratifies its own treaties, and names its own ambassadors and other representatives abroad. The Supreme Court of Canada is the high court of appeal for Canadians. However, while the constitution can be amended only with the agreement of the Parliament of the United Kingdom, the latter acts only at the request of Canada.

Canada still retains strong ties with Britain and other Commonwealth countries, but relations with the United States are now most important in the realm of foreign affairs. In recent years, contacts with French-speaking countries have increased, especially in the field of international co-operation and these contacts are becoming more widespread. Canada has continued to support the activities of the United Nations and is an active member of the North Atlantic Treaty Organization (NATO) and the North American Air Defence Command (NORAD).

Canada today consists of ten provinces and two vast northern territories. The Canadian federal union was created on March 29, 1867, when the British Parliament passed the British North America Act. The "Canadian Confederation" as it was then known, was born on July 1, 1867, when four territories — Ontario, Quebec, New Brunswick, and Nova Scotia — united to form Canada. The four founding provinces were later joined by Manitoba (1870), British Columbia (1871), Prince Edward Island (1873), Saskatchewan (1905), Alberta (1905), the Northwest Territories (1870), the Yukon Territory (1898), and Newfoundland (1949).

The constitutional Act of 1867 granted control in matters of national

interest to the federal government: defence, trade, criminal law, postal services, banking, the armed forces, transportation, and foreign affairs. Provincial governments on the other hand were granted jurisdiction in matters of property and civil rights, education, and health, as well as matters of purely local interest.

The Canadian Constitution

Although it is only one of the written documents making up the Canadian constitution, the B.N.A. Act contains the major arrangements governing the organization of the government and the division of powers between the federal government and the provinces. Apart from this Act, other constitutional dispositions—those of custom, convention, and usage—are also important, for example the dominant role of the Prime Minister and the obsolescence of the right of disallowance. Further, a number of other British laws or declarations, such as the Statute of Westminster of 1931, are also part of the constitution, as are major pieces of Canadian legislation such as those dealing with the succession to the throne, royal titles, the status of the Governor General, the Senate, the House of Commons, the creation of new provinces, the founding of courts, the establishment of government departments, and the electoral system. A number of provincial statutes are generally



The Governor General and Mrs. Michener are welcomed by the Prime Minister of Guyana the Hon. L. F. S. Burnham, and the Governor General of Guyana, Sir David Rose, on their visit last year to Commonwealth countries in the Caribbean area.

considered part of the Canadian constitution. Certain court decisions and recommendations — those of the Judicial Committee of the Privy Council in London in questions of criminal law up to 1933 and in matters of civil law up to 1949 as well as those of the Canadian courts — all play an important constitutional role.

The Canadian constitution has no specific dispositions guaranteeing or encouraging the basic freedoms. Respect for basic rights such as freedom of speech, freedom of assembly, freedom of the press, freedom of religion, and other basic freedoms is based on both statutory and common law. Section 133 of the B.N.A. Act provides some protection to French- and English-language rights, and Section 93 makes provision for denominational schools in provinces where such schools existed at the time of the province's entry into Confederation. In 1960, the Canadian Parliament adopted the Canadian Declaration of Human Rights (SC 1960, c.44). However, this declaration is not entrenched in the Canadian constitution. At constitutional conferences held in February 1968 and again in February 1969, the federal government proposed the adoption of a Charter of Human Rights as a first step towards revising the Canadian constitution.

The Canadian Political System

THE FEDERAL GOVERNMENT

The Executive: The Crown. Under Section 9 of the B.N.A. Act "... the Executive Government and authority of and over Canada is ... vested in the Queen." The duties of the Queen in Canada are carried out by the Governor General. He gives royal assent to executive orders and laws passed by the Parliament of Canada. On the advice of his ministers he summons, prorogues, and dissolves Parliament in the name of the Queen. The Governor General is appointed by the Queen on the advice of the Prime Minister for a five-year renewable term. The political power of the Governor General has been greatly reduced over the last few generations, but the existence of the office assures a continuity of government.

Governors General since Confederation, 1867

The Viscount Monck of Ballytrammont.....	July	1, 1867
The Baron Lisgar of Lisgar and Bailieborough.....	Feb.	2, 1869
The Earl of Dufferin.....	June	25, 1872
The Marquis of Lorne.....	Nov.	25, 1878
The Marquis of Lansdowne.....	Oct.	23, 1883
The Baron Stanley of Preston.....	June	11, 1888
The Earl of Aberdeen.....	Sept.	18, 1893
The Earl of Minto.....	Nov.	12, 1898
The Earl Grey.....	Dec.	10, 1904
Field Marshal H.R.H. The Duke of Connaught.....	Oct.	13, 1911
The Duke of Devonshire.....	Nov.	11, 1916
General The Baron Byng of Vimy.....	Aug.	11, 1921
The Viscount Willingdon of Ralton.....	Oct.	2, 1926
The Earl of Bessborough.....	Apr.	4, 1931

The Baron Tweedsmuir of Elsfield.....	Nov. 2, 1935
Major General The Earl of Athlone.....	June 21, 1940
Field Marshal The Viscount Alexander of Tunis.....	Apr. 12, 1946
The Right Honourable Vincent Massey.....	Feb. 28, 1952
General The Right Honourable Georges-P. Vanier.....	Sept. 15, 1959
The Right Honourable Roland Michener.....	Apr. 17, 1967

The Executive: The Privy Council. Under Section 11 of the B.N.A. Act the administrative affairs of the Government of Canada are officially entrusted to the "Queen's Privy Council for Canada." Its members are appointed for life by the Governor General on the advice of the Prime Minister. It is made up of former ministers of the Crown, ministers currently holding office, and a certain number of others sworn in as members, including members of the royal family, former and present Prime Ministers of other Commonwealth countries, former speakers of the Senate and of the House of Commons, and provincial premiers, who were first included in 1967. At the beginning of 1969 there were 132 members of the Privy Council. In actual practice, the Privy Council as a whole never meets; its duties under the constitution are carried out, with few exceptions, by members of the Cabinet.

The Executive: The Prime Minister. The Prime Minister, whose office is not even mentioned in the B.N.A. Act, holds a position of exceptional importance in the Canadian political system. Although not directly elected by the voters at large, he must nevertheless be elected as a member in a federal constituency. By long-established custom, he is the leader of the party securing a majority, or at least the greatest number, of seats in the House of



One of the first visits Prime Minister Trudeau made after his election was to Canada's north. He is seen at Clearwater Fiord, Baffin Island, N.W.T.

Commons at a general election. He forms a government when requested to do so by the Governor General. In practice, the Prime Minister wields considerable power. He alone can, in fact, ask for the dissolution or convocation of Parliament. He chooses the members of his own Cabinet, the Lieutenant-Governors, the Speakers of the Senate and of the House of Commons, and the deputy ministers of the various federal departments. In the House of Commons, the Prime Minister, with the help of his ministers, directs the affairs of Parliament. Under his leadership, Cabinet is responsible for drawing up the budget, proposing any new expenditures and levying taxes from year to year.

Prime Ministers since Confederation, 1867

Rt. Hon. Sir John A. Macdonald	Conservative	July 1, 1867 — Nov. 5, 1873
Hon. Alexander Mackenzie	Liberal	Nov. 7, 1873 — Oct. 16, 1878
Rt. Hon. Sir John A. Macdonald	Conservative	Oct. 17, 1878 — June 6, 1891
Hon. Sir John J. C. Abbott	Conservative	June 16, 1891 — Nov. 24, 1892
Rt. Hon. Sir John S. D. Thompson	Conservative	Dec. 5, 1892 — Dec. 12, 1894
Hon. Sir Mackenzie Bowell	Conservative	Dec. 21, 1894 — April 27, 1896
Rt. Hon. Sir Charles Tupper	Conservative	May 1, 1896 — July 8, 1896
Rt. Hon. Sir Wilfrid Laurier	Liberal	July 11, 1896 — Oct. 6, 1911
Rt. Hon. Sir Robert Laird Borden	Conservative	Oct. 10, 1911 — Oct. 12, 1917
Rt. Hon. Sir Robert Laird Borden	Unionist	Oct. 12, 1917 — July 10, 1920
Rt. Hon. Arthur Meighen	Unionist	July 10, 1920 — Dec. 29, 1921
Rt. Hon. W. L. Mackenzie King	Liberal	Dec. 29, 1921 — June 28, 1926
Rt. Hon. Arthur Meighen	Conservative	June 29, 1926 — Sept. 25, 1926
Rt. Hon. W. L. Mackenzie King	Liberal	Sept. 25, 1926 — Aug. 6, 1930
Rt. Hon. Richard B. Bennett	Conservative	Aug. 7, 1930 — Oct. 23, 1935
Rt. Hon. W. L. Mackenzie King	Liberal	Oct. 23, 1935 — Nov. 15, 1948
Rt. Hon. Louis S. St. Laurent	Liberal	Nov. 15, 1948 — June 21, 1957
Rt. Hon. John G. Diefenbaker	Conservative	June 21, 1957 — April 22, 1963
Rt. Hon. Lester B. Pearson	Liberal	April 22, 1963 — April 20, 1968
Rt. Hon. Pierre Elliott Trudeau	Liberal	April 20, 1968

The Executive: The Cabinet. The Cabinet is, in effect, a "Committee of the Privy Council." Members of the Cabinet are chosen by the Prime Minister from among members of the House of Commons in a way to ensure representation of the several geographical and political regions of Canada as well as its principal ethnic, religious, and social interests. Traditionally, one or two senators are members of the Cabinet and are now usually ministers without portfolio. The Cabinet is charged with formulating and implementing the broad general policies of the government and passage legislation in both the financial and administrative spheres. Most Cabinet members are assigned responsibility for the work of one department of the Crown and are accountable to Parliament for its operation. Members of Cabinet are guided by two great principles — Cabinet solidarity and ministerial responsibility. While Cabinet solidarity may on occasion appear to be somewhat strained, it is generally conceded that this principle, which implies assent by all ministers to the decisions of the Cabinet as a whole, is one of the main features of the Canadian political system, not only in the federal field but in that of the provinces as well. Ministerial responsibility implies that the Government (or Ministry) should resign if it loses the confidence of the House.

Members of Cabinet following the general election of June 25, 1968 are as follows:

Rt. Hon. Pierre Elliott Trudeau.....	Prime Minister
Hon. Paul Joseph James Martin.....	Government Leader in the Senate
Hon. Mitchell Sharp.....	Secretary of State for External Affairs
Hon. George James McIlraith.....	Solicitor General of Canada
Hon. Arthur Laing.....	Minister of Public Works
Hon. Allan Joseph MacEachen.....	Minister of Manpower and Immigration
Hon. Charles Mills Drury.....	Chairman of the Treasury Board
Hon. Edgar John Benson.....	Minister of Finance
Hon. Léo Alphonse Joseph Cadieux.....	Minister of National Defence
Hon. Jean-Luc Pepin.....	Minister of Industry, Trade and Commerce
Hon. Jean Marchand.....	Minister of Regional Economic Expansion
Hon. John James Greene.....	Minister of Energy, Mines and Resources
Hon. Joseph Julien Jean-Pierre Côté.....	Minister of National Revenue
Hon. John Napier Turner.....	Minister of Justice and Attorney General of Canada
Hon. Jean Chrétien.....	Minister of Indian Affairs and Northern Development
Hon. Bryce Stuart Mackasey.....	Minister of Labour
Hon. Donald Stovel Macdonald.....	President of the Queen's Privy Council for Canada
Hon. John Carr Munro.....	Minister of National Health and Welfare
Hon. Gérard Pelletier.....	Secretary of State of Canada
Hon. Jack Davis.....	Minister of Fisheries and Forestry
Hon. Horace Andrew Olson.....	Minister of Agriculture
Hon. Jean-Eudes Dubé.....	Minister of Veterans Affairs
Hon. Stanley Ronald Basford.....	Minister of Consumer and Corporate Affairs
Hon. Donald Campbell Jamieson.....	Minister of Transport
Hon. Eric William Kierans.....	Minister of Communications
Hon. Robert Knight Andras.....	Minister without Portfolio
Hon. James Armstrong Richardson.....	Minister of Supply and Services
Hon. Otto Emil Lang.....	Minister without Portfolio

Ministers carry out their duties with the help of Parliamentary Secretaries. Through an Act that received Royal Assent on June 4, 1959, the Government revived the system of parliamentary assistantships introduced during the Second World War. Working closely with a Minister, the Parliamentary Secretaries thus acquire invaluable experience that frequently leads to higher office. They are named for a term of one year.

The Legislature. In Canada, legislative power is vested in Parliament, which is made up of the Queen, an upper chamber known as the Senate, and the House of Commons. Ratification and sanction of all legislative measures requires the co-operation and approval of all three.

The Legislature: The Senate. The Senate in principle enjoys powers almost as wide as those of the House of Commons. It is made up of 102 members; 6 from each of the Western Provinces; 24 from Ontario; 24 from Quebec; 10 from New Brunswick; 10 from Nova Scotia; 4 from Prince Edward Island; and 6 from Newfoundland. At the present time the Yukon and the Northwest Territories have no representation in the Senate. The principal duties of the Senate are twofold: in the first place it acts as a court of review and as a brake on Government policy emanating from the House of Commons, and in the second it is intended to protect the interests of the provinces and the racial, religious and language rights of minorities. Officially, senators are named by the Governor General on the advice of the Prime Minister by virtue of an

Act appearing under the Great Seal of Canada. A recent Act (SC, 1965 c.4) set 75 years as the age at which any person appointed to the Senate after the coming into force of that Act will cease to hold his place in the Senate. Almost all private bills now originate in the Senate. A great deal of the work of the Senate consists of scrutinizing Bills, ordinarily aimed at changing laws of local interest, conferring rights on a person or a group or relieving them of certain responsibilities. As the consent of both Chambers is required before any Bill may become law, theoretically the Senate and the Commons have an equal voice, but in practice the Senate endorses almost automatically all Bills adopted by the House of Commons. Political representation in the Senate in April 1969 was as follows: Liberals, 61; Progressive Conservatives, 28; Independents, 2; Liberal Independent, 1; and there were 10 vacancies, for a total of 102. The Constitutional Conference of February 1969 accepted the principle of having a limited number of Senators nominated by the provinces.

The Legislature: The House of Commons. The House of Commons is the cornerstone of Canadian political life. It is the instrument through which the will of the Canadian people may be expressed by their elected representatives. Ordinarily, federal members are elected by the people on a one-man-one-vote system for a period of up to five years. The House, however, may be dissolved by the Governor General on the request of the Prime Minister. At the present time there are 264 members in the House of Commons: 7 from Newfoundland, 4 from British Columbia, 11 from Nova Scotia, 10 from New Brunswick, 74 from Quebec, 83 from Ontario, 13 from Manitoba, 13 from Saskatchewan, 19 from Alberta, 23 from British Columbia, and 1 each from the Yukon Territory and the District of Mackenzie. The position of the parties in the House in April 1969 was as follows: Liberals, 154; Progressive Conservatives, 72; New Democratic Party, 23; Ralliement des créditistes, 14; Independent, 1.

A Speaker, usually elected unanimously by the representatives of all political parties in Parliament, presides over the work of the House. To carry out his duties he must make numerous decisions regarding objections, motions, questions of privilege, or appeals on questions of procedure. Parliamentary procedure is governed by the Rules of the House. Committees of the House of Commons carry out an important part of the work. There are Standing Committees and special or sessional committees, the most important of which are: (1) the Committee of Supply, which looks after the voting of appropriations; (2) the Committee of Ways and Means which concerns itself with the levying of taxes; and (3) the Committee of the Whole House which carefully studies each clause of a Bill that concerns the people as a whole.

All Bills must pass through various stages before being adopted. In the Senate as well as in the House of Commons a Bill must be given three readings before receiving Royal Assent. Bills may be public or private, and differing procedures must be followed before laws of general or private interest may be adopted by Parliament.

Each Canadian citizen or British subject who has attained the full age of 21 years and meets certain residence qualifications is allowed to vote in federal elections.



The judges of the Supreme Court of Canada, with the Chief Justice, the Hon. Mr. John R. Cartwright.

The Judiciary. The federal government is empowered by Section 101 of the British North America Act to provide for the constitution, maintenance, and organization of a general court of appeal for Canada and for the establishment of any additional courts for the better administration of justice in the provinces, including those of civil and criminal jurisdiction. It may further define procedures to be followed in civil matters before such courts. Until 1949 the highest court of final resort was the Judicial Committee of the Privy Council in London. Its role of highest court is now played by the Supreme Court of Canada. Although the latter hears no cases except those under appeal, it may at the request of the Government advise on the constitutionality of any Act. The Chief Justice and the eight puisne judges of this Court are appointed by the Governor General in Council and remain in office during good behaviour. The Court sits at Ottawa and exercises general appellate jurisdiction in civil and criminal matters anywhere in Canada. The Exchequer Court of Canada is another federal court. It consists of a president and six puisne judges also appointed by the Governor General in Council. The Court sits at Ottawa but may sit anywhere in Canada as required. The jurisdiction of the Court extends to cases where claims are made by or against the Crown, cases involving patents and all admiralty cases.

PROVINCIAL AND TERRITORIAL GOVERNMENT

The Provinces. In each of the Canadian provinces a Lieutenant-Governor appointed by the Governor General in Council represents the Queen and governs on the advice and with the assistance of the Premier of the provincial Cabinet. The provincial Cabinet (or Executive Council) is accountable to the legislature of the province. Provincial legislatures are unicameral in that they consist of a single house of representatives. The Legislature is made up of the Lieutenant-Governor and the legislative assembly (known as the National Assembly in Quebec). Members are elected for a term of five years, but, in a fashion similar to that at the federal level, the Lieutenant-Governor may dissolve the Assembly on the recommendation of the Premier of the province.

Section 92 and 93 of the B.N.A. Act of 1867 specified 17 fields of provincial jurisdiction including modification of the provincial constitution (except as regards the role of the Lieutenant-Governor), the levying of direct tax within the province, the borrowing of money against provincial credit, the setting up of departments for provincial purposes, the establishment, maintenance, and administration of public prisons and other correctional institutions within the province, municipal institutions, establishment of licensing committees for alcoholic beverages, and the solemnization of marriages within the province. Under Section 93 the province has exclusive power to legislate in the field of education within the province and is also

The Legislative Building in Fredericton, the capital of New Brunswick.



empowered to pass legislation in the fields of agriculture and immigration but in the event of a conflict between the provincial and federal law, the federal law prevails.

Provincial Premiers (February 20, 1969)

Newfoundland	Hon. J. R. Smallwood	Liberal
Prince Edward Island	Hon. A. B. Campbell	Liberal
Nova Scotia	Hon. G. I. Smith	Conservative
New Brunswick	Hon. L. J. Robichaud	Liberal
Quebec	Hon. Jean-J. Bertrand	Union nationale
Ontario	Hon. John P. Roberts	Conservative
Manitoba	Hon. W. Weir	Conservative
Saskatchewan	Hon. W. Ross Thatcher	Liberal
Alberta	Hon. H. E. Strom	Social Credit
British Columbia	Hon. W. A. C. Bennett	Social Credit

The Territories. In addition to its ten provinces, Canada also possesses two territories, the Yukon and Northwest Territories. The Yukon has a local form of government headed by a Commissioner, appointed by the Governor General in Council. The Commissioner heads a seven-man Council which elects its chairman from among its membership. The Commissioner in Council is empowered to enact legislation on matters of local interest; the levying of local taxes, the sale of liquor, the conservation of game, the creation of employment within the Territory, the maintenance of municipal institutions, licensing, property, civil rights, marriage, and so on. The Commissioner of the Yukon is Mr. James Smith.

Under the terms of the Northwest Territories Act a nine-member Council headed by a Commissioner governs these vast territories which were established on September 1, 1905. The Commissioner in Council has powers similar to those exercised in the same fields by the Commissioner of the Yukon. The Commissioner of the Northwest Territories is Mr. S. M. Hodgson.



Since 1964, 11,197 public servants have taken language courses to become bilingual—6,697 in French and 2,500 in English. Government language schools are in Quebec, Montreal, Ottawa, and Toronto.



A session of the council for the city of Ottawa.

LOCAL GOVERNMENT

Under the Canadian Constitution the ten provinces are empowered to establish and govern their own municipalities. The municipal system varies greatly from one province to another. However, all municipalities are governed by a Council and generally speaking the mayor is elected by popular vote. Briefly, there are four types of municipalities: cities, towns, villages, and rural municipalities. Quebec and Ontario differ from the other Canadian provinces in having a second level of administration: the county. Alberta now has a limited number of rural municipalities as a great many have been consolidated. Today, Canada has just over 4,000 municipalities.

In the main, the municipality is responsible for the following services: police and fire, local courts and jails, roads, public health, and so on. Furthermore, municipalities are generally obliged to levy and collect taxes for local schools. Real property taxes are usually the main source of revenue for the municipality, but as this is often insufficient, cities and towns, in addition to levying municipal sales taxes and raising other sums of money through the sale of permits and licences, also receive grants from the provincial governments concerned.

Conclusion

The Canadian political system is not only rooted in traditional structures but also in a wide range of political institutions such as political parties, pressure groups, federal and provincial conferences, royal commissions of enquiry and Crown corporations. There is no doubt that royal commissions are playing an increasingly important role in re-orienting major policies affecting the life of the country. Finally the "continuing conference" launched in February 1967 to seek constitutional reform has already put forward concrete proposals. The task of amending the constitution and the political institutions of Canada will doubtless be long and difficult but it seems certain that the country is now moving firmly along the road towards constitutional reform.

Louis Sabourin

External Relations

The Department of External Affairs

The Department of External Affairs was established in 1909 to protect and advance Canadian interests abroad. The Minister responsible for the Department is the Secretary of State for External Affairs. The senior permanent officer (Deputy Minister) of the Department — the Under-Secretary of State for External Affairs — is assisted by the Deputy Under-Secretary and by four Assistant Under-Secretaries and is advised by the officers in charge of the various divisions. Divisional heads are each responsible for a part of the work of the Department and they are assisted by foreign service officers, administrative service officers, administrative trainees, and an administrative staff. Officers serving abroad are formally designated as High Commissioners, Ambassadors, Ministers, Counsellors, First Secretaries, Second Secretaries, Third Secretaries, and Attachés at diplomatic posts; and Consuls General, Consuls and Vice-Consuls at consular posts. Today Canada conducts its external relations with some 106 countries. The main functions of the Department of External Affairs are: (a) to supervise relations between Canada and other countries and Canadian participation in international organizations and to protect Canadian interests abroad; (b) to collate and weigh information on developments likely to affect Canada's international relations; (c) to correspond with other governments and their representatives in Canada; (d) to negotiate and conclude treaties and other international agreements; and (e) to represent Canada in foreign capitals and at international conferences.

The International Joint Commission reports to the Secretary of State for External Affairs of Canada as well as to the Secretary of State of the United States. The Secretary of State for External Affairs reports to Parliament for the Canadian Industrial Development Agency, discussed below.

Posts Abroad. At the end of December, 1968, Canada was represented abroad by the following diplomatic, consular and/or trade posts:

*Afghanistan (Pakistan)	Greece	Pakistan
*Algeria (Switzerland)	Guatemala	*Panama (Costa Rica)
Argentina	*Guinea (Senegal)	*Paraguay (Argentina)
Australia	Guyana	Peru
Austria	Haiti	Philippines
*Barbados	*Honduras (Costa Rica)	Poland
(Trinidad and Tobago)	*Hungary (Czechoslovakia)	Portugal
Belgium	*Iceland (Norway)	*Romania (Yugoslavia)
*Bolivia (Peru)	India	*Rwanda (Republic of the Congo)
Brazil	Indonesia	Senegal
Britain	Iran	*Sierra Leone (Nigeria)
*Bulgaria (Yugoslavia)	*Iraq (Iran)	*Singapore (Malaysia)
*Burma (Malaysia)	Ireland	*Somali Republic (Ethiopia)
Cameroun	Israel	South Africa
*Central African Republic	Italy	Spain
(Cameroun)	*Ivory Coast (Ghana)	*Sudan (United Arab Republic)
Ceylon	Jamaica	Sweden
*Chad (Cameroun)	Japan	Switzerland
Chile	*Jordan (Lebanon)	*Syrian Arab Republic (Lebanon)
Colombia	Kenya	Tanzania
*Congo (Brazzaville, Republic of Congo)	*Korea (Japan)	Thailand
Congo, Democratic Republic of the	*Kuwait (Iran)	*Togo (Ghana)
Costa Rica	Lebanon	Trinidad and Tobago
Cuba	*Lesotho (South Africa)	Tunisia
Cyprus	*Libya (Tunisia)	Turkey
Czechoslovakia	*Luxembourg (Belgium)	*Uganda (Kenya)
*Dahomey (Nigeria)	*Malagasy Republic (Ethiopia)	Union of Soviet Socialist Republics
Denmark	Malaysia	United Arab Republic
Dominican Republic	*Malta (Italy)	United States of America
Ecuador	Mexico	*Upper Volta (Ghana)
*El Salvador (Costa Rica)	Monaco	Uruguay
Ethiopia	*Morocco (Spain)	Venezuela
Finland	*Nepal (India)	*West Indies (Associated States)
France	Netherlands	Yugoslavia
*Gabon (Cameroun)	New Zealand	*Zambia (Tanzania)
*Gambia (Senegal)	*Nicaragua (Costa Rica)	
Germany	*Niger (Nigeria)	
Ghana	Nigeria	
	Norway	

*The resident Canadian Mission responsible for those countries marked with an asterisk is located in the country named in brackets.

Canada is also represented on International Commissions for Supervision and Control in Cambodia, Laos, and Vietnam, and a military mission in Berlin. It has Permanent Missions to the United Nations in New York and Geneva; the European Atomic Energy Community, the European Coal and Steel Community, and the European Economic Community in Brussels; the North Atlantic Council in Brussels; the Conference of the Eighteen-Nation Committee on Disarmament in Geneva; the Organization for Economic Co-operation and Development and the United Nations Educational, Scientific and Cultural Organization in Paris.

The Commonwealth. One of the main elements of Canada's foreign policy is the maintenance and development of a strong, viable Commonwealth. This unique association of twenty-eight independent states — Britain, Canada,

Australia, New Zealand, India, Pakistan, Ceylon, Ghana, Malaysia, Nigeria, Cyprus, Sierra Leone, Tanzania, Jamaica, Trinidad and Tobago, Uganda, Kenya, Malawi, Malta, Zambia, The Gambia, Singapore, Guyana, Botswana, Lesotho, Barbados, Mauritius, and Swaziland — continues to seek new areas of co-operation in order to develop its potential as a multiracial force in world affairs.

The Commonwealth Prime Ministers' meeting in 1964 recognized the need for a central, membership-oriented Secretariat that would serve as a focus for consultations and co-ordinate Commonwealth-wide co-operative programs. Accordingly in 1965, the Commonwealth Secretariat was established under Secretary-General Arnold Smith, a Canadian. The Secretariat's initial task was to catalogue existing Commonwealth organizations and programs with a view to integrating those that coincided with the Secretariat's terms of reference. The Secretariat of the Commonwealth Education Liaison Unit and the former Commonwealth Economic Committee were integrated in 1966.

During the past three years the Secretariat has done much that member governments have found useful. It publishes a continuing series of background papers dealing with topical international questions, and services Commonwealth consultative meetings ranging from Prime Ministers' meetings to meetings of Commonwealth experts dealing with a variety of technical subjects. It co-ordinates technical assistance including the recently established Commonwealth Technical Assistance Program, which was initiated at a meeting of senior officials in Nairobi in 1967, and collates and disseminates up-to-date information on the quality and quantity of economic assistance required and available within the Commonwealth. At the request of the British Government, the Secretariat was responsible for organizing a team of Commonwealth observers for the Gibraltar Referendum in September, 1967. Both sides in the Nigerian conflict availed themselves of the Secretary-General's offer of good offices; his patient and painstaking efforts came very close to securing agreement and demonstrated the considerable potential of his office for helping in similar situations.

Canada has supported the extension and development of the Commonwealth through action by the Secretariat and through bilateral contacts with other members. These ties give Canada a special relationship with this group of nations which, despite their diversity, share important values and traditions.

Canadian external aid for developing countries continues to be directed, in large part, to Commonwealth countries through the Colombo Plan, the Special Commonwealth African Assistance Plan (SCAAP), and the Canadian program for Commonwealth Caribbean assistance. Canada's total contribution under the Colombo Plan since its inception exceeds \$980 million. Canada aided Commonwealth countries in Africa through SCAAP to a total of \$59 million for the period from 1960 to the end of March 1968. Approximately \$59 million was made available to Commonwealth Caribbean countries from 1958 to the end of March, 1968. Canada is also an active participant in the Commonwealth Scholarship and Fellowship Plan, contributing \$1.3 million in 1968-9 and receiving 204 students for study at Canadian universities during the same period.



At the last Commonwealth Prime Minister's Conference, the heads of the Commonwealth were photographed with Her Majesty Queen Elizabeth II.

The French-Speaking Countries. The Canadian Government is in favour of closer and more numerous ties, and increased cultural and other exchanges, with those countries who share, with her, a common heritage of French language and culture. Many promising bilateral links have already been established with most of the thirty or so French-speaking countries of the world. These include cultural agreements with France, visits by parliamentarians, exchanges of scholars and civil servants, the establishment of embassies in French-speaking Africa, and expanded programs of co-operation with developing countries where French is spoken.

Awareness of the existence of a world-wide community of French-speaking countries finds expression, also, in the vigorous growth among those private and semi-governmental associations whose common denominator is the French cultural tradition; the most important of these are the *Association Internationale des Parlementaires de langue française*, the *Association des Universités partiellement ou entièrement de langue française* (AUPELF), the *Institut International de droit d'expression française* (IDEF), and the French-language broadcasting organization *Communauté radiophonique de langue française*. Canada intends to take an active part in any effort towards the establishment of an effective framework for broader co-operation between French-speaking states at all levels of governmental and private activity. In so doing, she acknowledges her own bicultural nature, fosters the growth of French culture within her borders, and contributes to the international spread

of her own version of that culture. Over the last few years, Canada's interest in the French-speaking countries of the world has represented a valuable aspect of her diplomatic activities; the vigorous policy adopted bears witness to the importance Canada attaches to this question.

NATO. During the course of 1968-9, the Canadian Government conducted a comprehensive review of its defence policy.

In April, 1969, the Prime Minister emphasized that the Government had rejected a non-aligned or neutral role for Canada, and said that the country would continue to participate in an appropriate way in collective security arrangements with other states. He indicated that as a result of the Government's reassessment of its defence priorities it had been decided that in the future greater emphasis would be placed on the protection of Canadian sovereignty, and the defence of North America in co-operation with the United States.

He affirmed that Canada would continue to be a member of the North Atlantic Treaty Organization, but noted that over the past twenty years there had been a remarkable recovery of the economic strength of the countries of Western Europe and a corresponding increase in their ability to provide necessary conventional defence forces and armaments deployed by the Alliance for the defence of Europe. In view of these factors, Mr. Trudeau announced that the Canadian Government had decided to bring about a planned and phased reduction of the size of the Canadian forces in Europe in consultation with its NATO allies.

NATO is, of course, more than a military alliance. Canada takes an active part in the deliberations of the North Atlantic Council, which provides the forum where Canada and its NATO partners can exchange information and views on political, economic, cultural and scientific developments of common interest. In particular, as the Prime Minister noted, it is the declared aim of NATO to foster improvements in East-West relations. Canada therefore participates actively in the Alliance's efforts to promote better relations between East and West, and to assist in achieving a peaceful settlement in Europe.

As a member of the Alliance, Canada is a regular contributor to the Organization's military budgets and the common infrastructure program. Under its Mutual Aid Program, Canada has also supplied some assistance to certain of its NATO allies through the provision of military equipment, aircrew training, and logistic support.

Finally, it should be noted that in addition to the forces which Canada maintains in NATO, Europe and the Atlantic area, it contributes forces for the Canada-United States region of NATO, through its participation in NORAD.

The United Nations. Firm support for the United Nations is an essential element of Canadian foreign policy. Canada has contributed over the years to the United Nations' efforts to keep the peace in various parts of the world, including the Middle East, Kashmir, the Congo, West Irian, and Cyprus. At present, Canada has members of its armed forces serving with the United



At its headquarters in Montreal, the International Civil Aviation Organization lays down standards and recommends practices for world aviation.

Nations Military Observer Group in India and Pakistan (17), the United Nations Truce Supervisory Organization (20), and the United Nations Force in Cyprus (approximately 590, the second largest contingent in UNFICYP). Canada has consistently advocated the strengthening of the peace-keeping capacity of the United Nations through advance planning at United Nations headquarters, and the adoption of stand-by arrangements by member states. In 1967-8 Canada completed its third two-year term as a member of the Security Council, having previously served on the Council in 1947-8 and 1958-9.

As a member of the Eighteen-Nation Disarmament Committee, Canada seeks to encourage and participate in the negotiation of international agreements to control the nuclear arms race, and to reduce and eventually eliminate nuclear weapons. The Non-proliferation Treaty is the most notable recent agreement of this type. Canada also promotes and participates in negotiations on complementary steps such as the reservation of the seabed for peaceful purposes and measures relating to non-nuclear weapons. The ultimate objective of disarmament negotiations remains the achievement of general and complete disarmament under effective international control.

Canada also participates directly in the work of the United Nations through its membership in various United Nations bodies, including all of the thirteen specialized agencies and the International Atomic Energy Agency (IAEA). The International Civil Aviation Organization (ICAO) with headquarters in

Montreal is the only specialized agency of the United Nations whose headquarters are located in Canada.

Canada is a member of a number of subsidiary bodies of the General Assembly, including the Committees on the Peaceful Uses of Outer Space and on the Peaceful Uses of the Seabed and the Ocean Floor beyond the Limits of National Jurisdiction, the Special Committee on Peace-keeping Operations and the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

Canada continues to participate in many of the more important subsidiary bodies of the United Nations in the economic and social field, such as the Economic Commission for Latin America (ECLA), the Committee for Program and Co-ordination, the Intergovernmental Committee of the United Nations/FAO World Food Programme, the Commission on Social Development, the Statistical Commission, the Commission on Narcotic Drugs, and the Committee on Housing, Building, and Planning.

Canada also serves on the Governing Council of the United Nations Development Program (UNDP), the Industrial Development Board of the United Nations Industrial Development Organization (UNIDO), the Executive Committee of the Office of the United Nations Children's Fund (UNICEF), the

Reading is taught with the help of television in this class in Jamaica. In response to an appeal from the government of Jamaica for textbooks and reading aids, Canadian UNESCO raised \$65,000 by private donations through its gift coupon program.



Trade and Development Board of the United Nations Conference on Trade and Development (UNCTAD) and the Executive Committee of the Office of the United Nations High Commissioner for Refugees (since the Second World War Canada has received over 300,000 refugees from overseas).

Canada maintains permanent missions to the United Nations in New York and at the European Office of the Organization in Geneva in order to follow events in both locations.

Among the 126 member states of the United Nations, Canada in 1968 ranked as the eighth largest contributor, paying 3.02 per cent or \$3.8 million of the United Nations' regular budget. By 1968, the Canadian Government had also absorbed about \$1.9 million in expenses incurred by maintaining the Canadian contingent with the United Nations Force in Cyprus (over and above maintaining the same forces in Canada). In addition, Canada makes voluntary contributions to such special United Nations programs as the United Nations Development Program (UNDP), the United Nations High Commissioner for Refugees (UNHCR), the United Nations Children's Fund (UNICEF), the United Nations Relief and Works Agency in the Middle East (UNRWA) and the World Food Programme (WFP). Canada's total assessment and contributions to the United Nations, its specialized agencies, and related bodies totalled approximately \$376.9 million during the period 1945-68, including about \$36.5 million in 1968.

The United States. Canada's relations with the United States are of vital importance both to Canadian growth and development and to Canada's position in the international community. History and geography have made the two countries neighbours and the demographic realities and economic patterns of today work to cement the friendship which characterizes relations between the two countries.

Co-operation on bilateral matters and on the international front have marked this unique relationship in the past. Experience has demonstrated a willingness on both sides of the common border to maintain and foster the spirit of sympathetic understanding to which the two countries have become accustomed in their dealings with each other.

Canada and the United States are both active members of the United Nations and its many specialized agencies. Both have also participated actively in NATO, GATT, OECD, and other important international organizations. There are also many bilateral bodies which facilitate Canadian-American co-operation. The Ministerial Committee on Trade and Economic Affairs regularly brings together members of the Cabinet in both countries for extensive discussions on the widest range of problems of both common and international interest. The Permanent Joint Board on Defence and the International Joint Commission are forums for the discussion of North American defence and problems related to boundary waters, respectively. In addition there are many joint committees and agencies which deal with particular specialized subjects.

The continual intermingling of Canadians and Americans as private individuals, which is permitted by the relatively free flow of people across the

shared border, reinforces the traditional friendship of the two countries.

In the last three months of 1968, the Honourable Lionel Chevrier visited some of the major cities in the United States on behalf of the Department of External Affairs. Mr. Chevrier gave a series of speeches on recent constitutional and economic developments in Canada and the importance of these to Americans. He also held several seminars with groups of university students. In the cities visited, Boston, New York, Dallas, New Orleans, Seattle, San Diego, Los Angeles, San Francisco, and Chicago, Mr. Chevrier had private meetings with community leaders and was able to brief them on Canadian affairs and American-Canadian relations. Mr. Chevrier also visited Canadian consular posts in these cities and prepared a report for the Secretary of State for External Affairs on Canadian information activities in the United States.

Europe. The Canadian Government has undertaken an extensive review of its policies concerning Europe in order to define priorities and to explore the most effective means of pursuing Canadian-European relations.

Canada's relations with Europe, which are deeply rooted in Canada's origins, spring from the common cultural heritage which the country shares with Britain and France. They also reflect our traditional links with the other European countries from which Canada's population is derived. These relations have been strengthened by Canada's substantial participation, on European soil, in the two world wars. Canada's relations with Western Europe have since developed steadily, under the impulse of major Canadian political, economic, defence, cultural, and technological interests in the area. Canada maintains many close bilateral relations with Britain and France in particular, as well as with most other West European countries, and has resident diplomatic missions in almost all of them. Traditionally, Britain and, to a lesser extent, several Western European countries have been among Canada's major partners in external trade and have been its chief source of immigrants. In the multilateral field Canada is today, with a number of Western European countries, an active member of NATO and the OECD, and also of wider international associations such as the General Agreement on Tariffs and Trade (GATT). As a result of its growing prosperity, dynamism, and unity, Western Europe will undoubtedly assume increasing importance in Canada's relations.

In recent years, Canada's relations with the communist countries in Eastern Europe have developed considerably. The large-scale Canadian wheat sales in the area after 1963 were followed by the growth of exchanges in many fields encouraged by the general relaxation of international tensions in Europe. Canada has resident diplomatic missions in Moscow, Prague, Warsaw, and Belgrade and has established diplomatic relations with Hungary, Romania, and Bulgaria through non-resident ambassadors. Recent developments in Eastern Europe, particularly the invasion of Czechoslovakia in August 1968, have posed questions about the rhythm of expansion of Canada's relations and exchanges with the countries of the area which can only be answered after the passage of time.



Through its Cultural Affairs Division, the Department of External Affairs arranges exhibitions of Canadian handicrafts, contemporary engravings, and Eskimo art, which travel around the world.

The Far East. Canada has over many years had extensive contacts, both official and private, with the Far East. There is an important Trade Commissioner's Office in Hong Kong and Immigration Officers are stationed there and elsewhere in the Far East. Canada is also a founding member of the Asian Development Bank and has provided a Director stationed at ADB headquarters in Manila.

In addition to normal diplomatic relations with Far Eastern countries, and to economic co-operation under the Colombo Plan, Canada has, since 1954, had extensive peace-keeping commitments in Cambodia, Laos, and Vietnam, where Canadian civilian and military officers serve with the International Supervisory and Control Commissions.

The Middle East. Since the Second World War the Middle East has been a focus of tension and conflict. During this period Canada has participated in the United Nations' efforts to promote calm and stability in the area. It has also contributed substantially to measures to alleviate want among the victims of recurring hostilities.

Canada provided observers to the United Nations Truce Supervision Organization (UNTSO) and was closely associated with the formation of the United Nations Emergency Force (UNEF). Canadian troops served with UNEF in Gaza and Sinai from its inception until its withdrawal in May, 1967. Canadian officers continue to serve with UNTSO, which is supervising the Arab-Israeli cease-fire.

Since the establishment of the United Nations Relief and Works Agency for Palestine refugees (UNRWA), Canada has been one of the leading contributors to that agency. The Canadian Government's contributions have taken the form of cash, food, and supplies aimed at relieving human suffering in the Middle East. In emergency situations it has also provided various forms of assistance through the International Red Cross.



Boxes of Canadian salted codfish are loaded aboard a freighter at Halifax, N.S., for shipment to victims of the Nigerian civil war. Some 5,000 tons of fish as well as 1,000 tons of potato granules and medical supplies were sent as a gift from various charitable organizations and provincial and federal governments.

Africa. While in the past there was a certain latent interest among Canadians in Africa and considerable commercial and missionary activity, Canadian relations with Africa have developed rapidly in the past ten years. This has paralleled the accession to independence of the majority of former colonial territories. The increasing voice of these newly independent states in world affairs, coupled with a recognition of their development problems and the importance of the political issues affecting the whole African continent, have sparked this evolution.

In a natural way direct relations were first established with the former British colonies as they became independent within the Commonwealth. Increasing contacts and diplomatic relations with the newly-independent French-speaking African states soon followed in recognition of the bi-cultural outlook of this country and the important role played by these countries in African affairs. Canada now has diplomatic relations with almost all the independent African states, and there are resident Canadian missions in eleven countries on the continent. Coupled with the development of bilateral diplomatic and commercial relations has been the elaboration of a significant program of Canadian aid to Africa. More than \$30 million of aid funds are directed annually to the African continent.

In February and March, 1968, the Honourable Lionel Chevrier headed a seven-week official mission to French-speaking Africa to study the Canadian aid program in that part of the world. The Chevrier mission agreed, on behalf of the Canadian Government, to finance about 50 projects that will be implemented during the next three to five years at a cost of approximately \$40 million. Some of these projects include engineering and feasibility studies that will prepare the way for the allocation of additional funds in the coming years to the Canadian aid program to French-speaking Africa.

The mission marked an important step towards carrying out the Canadian Government's policy of establishing closer relations with the French-speaking world and of allocating to developing countries, by the early seventies, Canadian resources equivalent to 1 per cent of the country's gross national product, as recommended by the United Nations.

Latin America. Canada has completed the establishment of formal diplomatic relations with all the republics of Latin America and now has 14 resident diplomatic missions in the region. Its relations with these countries have increased appreciably during the past few years, politically, culturally, commercially, and diplomatically. Canada belongs to three inter-American organizations linked with the Organization of American States: the Pan-American Institute of Geography and History, the Inter-American Statistical Institute, and the Inter-American Radio Office. Canada regularly attends meetings of these organizations.

Canada has also been developing closer economic ties with Latin America. Since 1961, it has been a member of the United Nations Economic Commission for Latin America and has sent observer groups to the annual ministerial meetings of the Inter-American Economic and Social Council, which is an organ of the O.A.S. Trade Missions of Canadian businessmen and government officials to Latin American countries have been promoted. Of particular importance, the Canadian Government has directly facilitated Canadian exports to Latin America through long-term credits it has provided for the export of capital goods under the Export Credits Insurance Act. These credits now total some \$153 million. In December 1964, the Canadian Government signed an agreement with the Inter-American Development Bank by which Canada agreed to make available \$10 million to finance development projects in Latin America. Similar amounts were made available in each of the succeeding four years.

Official Canadian observers attend meetings of other inter-American organizations of which Canada is not a member, including the Pan-American Health Organization and the Inter-American Indian Institute.

Of perhaps greatest importance for future strengthening of Canadian ties with Latin America was the decision in 1968 to conduct a thorough review of Canadian policy toward this region. As a first step in this review, a ministerial mission was sent on a tour of nine Latin American countries during October and November, 1968. The mission was the largest of its kind ever sent abroad by a Canadian Government—five ministers and about twenty-five senior officials from governmental departments and agencies.

Canadian International Development Agency

In support of a world without want, ever-increasing quantities of Canadian capital, skills, and products are being put to work in the developing world to fight poverty, hunger, and disease. During 1968, many changes have occurred within the agency administering Canada's development assistance program. The name of the External Aid Office was changed to Canadian International Development Agency to reflect the notion of a partnership in international development.

Because of the increasing complexity of the new economics of development, a completely new organization was created: three new branches were formed, and task forces were appointed to make on-the-spot assessments of needs in strategic economic areas overseas where Canadian capabilities can best be brought to bear. During 1967-8, task forces were sent to East Africa, India, Vietnam, Pakistan, and Ceylon. Forty-nine new projects resulted from the Chevrier mission to French-speaking countries of Africa.

Today Canada's aid is more than triple that of four years ago. In the 1967-8 fiscal year, allocations included \$50 million for grants; \$75 million in food aid; another \$1.31 million in debt forgiveness; \$90 million in development loans; \$37.9 million in export credits, which, while not "aid" are extended on beneficial terms to developing countries. The bulk of Canada's economic assistance to less-developed countries is granted under direct partnership arrangements between Canada and the individual overseas governments.

In 1967-8, approximately 85 per cent of Canada's bilateral aid was allocated to eleven countries or regions. This reflects the government's policy of concentrating its aid in those areas of special interest to Canada where it can have the greatest impact. The balance of the aid was given to a number of countries which also benefited from Canada's contribution to multilateral aid-giving agencies.

The administration of Canada's assistance program has been divided by regional groupings: the Colombo Plan for south and southeast Asia; the Commonwealth Caribbean Assistance Program for the Caribbean area; the Special Commonwealth Africa Assistance Plan for Commonwealth African countries; a program for independent French-speaking African states; and development aid to Latin American countries.

The oldest and largest of the aid programs is the Colombo Plan, under which Canada has made available \$840.3 million in assistance since 1951, mainly to India, Pakistan, Malaysia, and Ceylon. Allocations totalled \$126 million in the 1967-8 fiscal year. Assistance included mainly food, fertilizers, commodities, locomotives, spare parts, the completion of two power projects, a steam generating plant, transmission lines, an airport near Colombo, a natural resources survey in Malaysia, and \$3 million of vocational school equipment to a technical teacher's training college.

In Commonwealth Africa, bilateral aid reached \$19.5 million in grants and loans to 14 countries, much of it for educational and technical assistance. For example, more than \$1.3 million was spent in a five-year period to build and staff a trades training centre in Accra.



Canada Hall, University of the West Indies, Trinidad, was built by Canada.

A student from Zambia is studying at the New Brunswick Institute of Technology, under the auspices of the CIDA.



Canadian aid to the French-speaking African states has grown rapidly in recent years, from \$8.1 million to \$12 million in the past year. In Tunisia, for instance, Canada allocated \$1.7 million for technical assistance including the dispatch of a medical team to assist in the establishment of a children's hospital.

Canadian allocations to the Caribbean totalled more than \$17 million in 1967-8, 30 per cent over the previous year. Much of this money went to projects encouraging regional development: for improvements in air transport, water supplies, school construction, and agricultural production.

Aid to Latin America through the Inter-American Development Bank has included assistance for extensions to a port in El Salvador; a series of studies in forestry, irrigation, highways, land use, and tenure; and an expansion of Chile's State Technical University.

Large-scale projects have remained a feature of the Canadian aid program, representing approximately 85 per cent of total allocations. Aid to education is also a major concern. More than 2,600 overseas students and over 800 teachers and experts serving abroad were financed by the Canadian program in 1967.

Canadian Executive Service Overseas

CESO, after a little more than a year of existence has organized itself, studied needs in many emerging nations, dispatched 32 volunteers to assist in a variety of enterprises in a dozen different countries, and has 22 more men awaiting completion of formalities before proceeding on assignment abroad.



Russell Johnson, aged 67, is building and installing a sawmill on the Zomba Mountain, Malawi, Africa. The equipment was paid for by the CIDA.

Canadian Executive Service Overseas is a non-profit corporation whose board of directors includes the presidents or chairmen of about 100 of Canada's largest industrial companies, banks, merchandisers, and so on. Its staff is a small group of men who have retired from senior appointments in Canadian industry — presidents or vice-presidents — and are contributing their skill and knowledge as semi-volunteers. The corporation operates as part of Canada's foreign aid program in co-operation with, and having the support of, the Canadian International Development Agency and the Department of External Affairs. Its function is to help others to help themselves — to bring the experience and know-how of senior Canadian specialists to bear on organizational or technical problems in enterprises striving for success in emerging nations overseas. The volunteers are usually men who are at or near retirement age, who are willing to serve abroad for varying periods of time that run from two to a maximum of six months. These volunteers all have successful careers behind them in industry or in one of the profes-

sions, plus a known ability to cope with the unusual and to work with people. Some are men still active in their careers, whose companies are willing to make them available for such assignments in the interests of self-development.

The most fertile field for CESO activity is in areas where there is some commercial activity, however embryonic. Projects undertaken and in prospect cover a wide range of business activity and enterprise. Some are medical, in which case CESO works in close collaboration with the Canadian Medical Association. Others are based on engineering; the development and construction of roads, the generation and distribution of electricity, or the design and construction of fishing vessels are a few examples. Other fields are as varied as pulp and paper manufacturing or fish canning, merchandising or accounting. The assignments have taken accomplished Canadians to Africa, South America, and the Caribbean so far.

The results are threefold: building a friendship for Canada around the world, creating an opportunity for men in emerging nations to have a sense of achievement and an opportunity to make a reasonable livelihood, and enriching the experience of the volunteers.

Canadian University Service Overseas

CUSO — an independent, non-profit Canadian organization — recruits, selects, trains, and sends professionally and technically qualified people to work for two years in more than 40 developing nations, under the plans and priorities of those countries' governments and agencies. It is a "middle-level manpower" technical assistance program, not a relief, religious, or emergency aid program. The 1300 CUSO personnel serving abroad this year work under contract to overseas governments and agencies at approximately counterpart, not Canadian, salaries. CUSO's contribution aims at complementing the development efforts of the countries concerned, to fill the gap which cannot be bridged by local effort and manpower. Self-help programs in the countries where CUSO volunteers work make aid a temporary instrument. CUSO's aid is therefore self-liquidating.

Assigned in response to specific requests from overseas, CUSO personnel represent a wide variety of professional and technical skills: they are teachers (particularly of mathematics and science), doctors, nurses, physiotherapists, lab technicians, agricultural, forestry, and fishery experts, engineers, accountants, technicians, mechanics, and so on. An increasing demand for technical assistance has resulted in 30 per cent of all current assignments' being filled by men and women who have obtained their qualifications from institutes and colleges of technology.

How CUSO Operates. CUSO began in 1961 with the start of the United Nations Development Decade. Since then Canadians have used it as a means of demonstrating their desire to become involved in international development. CUSO today is represented by over 80 local committees at universities, colleges, and technical institutes across Canada. Each committee is responsible for publicity, recruitment, and initial selection of candidates in its area.



CUSO volunteer Steve Woolcombe is teaching in India.

CUSO receives a substantial part of its finances from the federal government; the balance comes from groups, individuals, corporations, foundations, and the thousands of Canadians who participate through the "Miles for Millions" marches. Further support comes from Canadian universities who provide free office space, equipment, and staff man-hours for the local committee; from pharmaceutical and other companies which donate free drugs and medical supplies; from newspapers, magazines, radio, and television which run recruiting advertising free of charge.

CUSO's field staff maintain the vital link between the host country's employers, CUSO personnel, and the Ottawa secretariat. They are directly responsible for the administration of the CUSO program overseas and work in close co-operation with government departments and agencies.

Terms of Service. Assignments are for two years and may be extended. There is no upper age limit. All personnel are provided with return transportation and medical and life insurance. Language and area studies and specialized professional training where necessary are covered in orientation programs before assignment.

CIDA adviser Brian Grover, an engineer, is in charge of the waterworks in the coastal provinces of Kenya.



The Population

The first post-Confederation census of Canada was taken in 1871. Subsequent censuses have been made every ten years. While the immediate purpose is to enable Parliament to pass a Redistribution Act to revise the federal electoral divisions, the returns also provide Canadians with interesting data concerning the population of Canada.

On June 1, 1966, a quinquennial census of Canada was carried out and 20,014,880 people were counted. Of these, 10,054,344 were males and 9,960,536, females. The estimated population of Canada on October 1, 1968, was 20,857,000 — an increase of approximately 842,000 or 4.2 per cent since the June 1, 1966, census. The rate of population growth in Canada since the last census, at 1.8 per annum, is the slowest in the postwar years, owing to a birth rate which has steadily declined from 28.2 in 1957 to 18.2 in 1967. In the same period the death rate dropped from 8.2 (1957) to 7.4 (1967), one of the lowest in the world.

Immigration to Canada averaged 154,000 in the 1950's and 128,000 from 1960 to 1967. Losses due to emigration between the censuses of 1961 and 1966 averaged 77,000 a year, and were 63,000 during 1967 and 1968.

Varied Rates of Growth. Sharp differences in the growth rate by province since the 1966 census are revealed by population estimates in 1968. The fastest-growing provinces have been British Columbia and Ontario, whose populations have risen by 7 and 5 per cent respectively since June 1, 1966. In contrast, the rate of population growth has been slowest in Nova Scotia and Saskatchewan, at 0.5 per cent. These two provinces recorded losses of population between 1966 and 1968 because of net migration — the balance of emigration over immigration. Despite some net emigration of population, Newfoundland recorded a 3-per cent growth in population since 1966, as this province had the highest rate of natural increase.

Losses through net migration over this period were highest in Saskatchewan — estimated at 17,000. Other provinces that lost population were Nova Scotia (12,000), Manitoba (11,000), and New Brunswick (8,000). Since 1966,



In mid-March, 1969, Canada's population rose to 21 million, as registered on the population clock at the Dominion Bureau of Statistics, Ottawa.

Ontario has experienced the largest estimated net gain in population due to migration (close to 200,000), followed by British Columbia (100,000), Alberta (20,000), and Quebec (18,000).

According to the intercensal population estimates, 2,001,000 (10 per cent) of Canada's population in June 1968 resided in the Atlantic Provinces; 5,927,000 (29 per cent) in Quebec; 7,306,000 (35 per cent) in Ontario; 3,457,000 (17 per cent) in the Prairie Provinces; and 2,007,000 (10 per cent) in British Columbia. The estimated population in the Yukon and Northwest Territories was 46,000.

Elements in Population Growth, Canada and Provinces, 1966-8

Province or Territory	Popula- tion 1966	Births	Deaths	Immi- gra- tion	Actual Increase		Net Migra- tion	Estimated Population June 1, 1968
					No.	p.c.		
	'000	No.	No.	No.	'000		No.	'000
Canada	20,015	751,043	304,091	418,362	730	3.6	282,000	20,744
Nfld.	493	27,024	6,245	1,908	14	2.8	— 6,800	507
P.E.I.	109	4,165	2,056	281	2	0.9	— 1,100	110
N.S.	756	28,916	13,187	4,383	4	0.5	—11,700	760
N.B.	617	24,860	9,934	2,448	7	1.1	— 7,900	624
Que.	5,781	206,942	78,969	84,926	146	2.5	18,000	5,927
Ont.	6,961	257,214	110,402	223,296	345	5.0	198,200	7,306
Man.	963	34,849	15,682	16,128	8	0.8	—11,200	971
Sask.	955	36,638	14,884	7,073	5	0.5	—16,800	960
Alta.	1,463	61,421	19,192	26,275	63	4.3	20,800	1,526
B.C.	1,874	65,911	32,928	51,259	133	7.1	100,000	2,007
Y.T. and N.W.T.	43	3,103	612	385	3	7.0	500	46

The Urban Population. At the turn of the century, almost two thirds of the people of Canada lived in the country and only one third in urban areas. By 1966 this situation had reversed itself: 14,726,759 people — 74 per cent of the total population — now live in urban areas, that is, communities of more than 1,000 population. Close to two thirds of the urban population are in cities of 100,000 population and over. Almost two thirds of the rural population live in small villages and settlements; the rest live on farms.

Rural and Urban Population, Canada and Provinces, 1966

Province or Territory	Total Population	Rural			Urban		
		Farm	Non-farm	Total	100,000 and over	30,000 to 99,999	1,000 to 29,999
Canada	20,014,880	1,913,714	3,374,407	14,726,759	9,469,304	1,786,220	3,471,235
Nfld.	493,396	8,455	218,252	266,689	—	92,636	174,053
P.E.I.	108,535	30,841	37,947	39,747	—	—	39,747
N.S.	756,039	45,251	271,881	438,907	293,874	—	145,033
N.B.	616,788	51,504	253,059	312,225	—	175,705	136,520
Que.	5,780,845	493,567	762,164	4,525,114	3,052,509	527,410	945,195
Ont.	6,960,870	481,695	885,735	5,593,440	3,676,125	919,866	997,449
Man.	963,066	159,872	157,146	646,048	500,258	—	145,790
Sask.	955,344	279,642	207,375	468,327	247,019	33,417	187,891
Alta.	1,463,203	277,598	178,198	1,007,407	711,369	37,186	258,852
B.C.	1,873,674	85,197	377,984	1,410,493	988,150	—	422,343
Y.T.	14,342	62	7,492	6,828	—	—	6,828
N.W.T.	28,738	30	17,174	11,534	—	—	11,534

Estimated Population of Major¹ Metropolitan Areas June 1, 1967, Compared with 1966 and 1961 Censuses

Metropolitan Area ²	Estimated Population June 1, 1967	Population Census	
		June 1, 1966	June 1, 1961
Calgary	347,000	330,575	279,062
Edmonton	412,000	401,299	337,568
Halifax	201,000	198,193	183,946
Hamilton	463,000	449,116	395,189
Kitchener	197,000	192,275	154,864
London	215,000	207,396	181,283
Montreal	2,489,000	2,436,817	2,110,679
Ottawa	508,000	494,535	429,761
Quebec	419,000	413,397	357,568
Regina	134,000	131,127	112,176
St. John's	101,000	101,161	91,654
Saint John	103,000	101,192	95,563
Saskatoon	120,000	115,892	95,564
Sudbury	118,000	117,075	110,799
Toronto	2,233,000	2,158,496	1,824,589
Vancouver	923,000	892,286	790,165
Victoria	177,000	173,455	154,152
Windsor	217,000	211,697	193,365
Winnipeg	514,000	508,759	476,543

¹ With 100,000 population or over in the city proper at the 1961 Census.

² Areas as of 1966 Census.



Baby-sitting is no problem for this Eskimo mother while she plays bingo.

For the 1966 census, 19 metropolitan areas were delineated. The population residing in these areas totalled 9,615,440 — 48 per cent of the total population of Canada at that date. An evidence of the rapid expansion of the population in metropolitan areas is the fact that these 19 areas recorded an increase of 1,244,000 (15 per cent) in the five-year period between the 1961 and 1966 censuses, and another 3 per cent in the year 1966-7.

Births. Some significant facts revealed by the 1966 census were the striking increases in the population aged 15-19 and 20-24 and the decrease in the population under 5 years of age. These trends reflect changes in the birth rate of Canada. The increases in the age groups 15-19 and 20-24 are the results of the high birth rates after World War II. The birth rate was about 20 per 1,000 population in the late 1930's, rose to about 24 during 1942-5, and 27 in 1946. It reached a high of 28.5 in 1954 and remained around 28 until 1957. The children born in the early 1940's had reached ages 20 to 24 by 1966 while those born in the late 1940's were 15 to 19 in 1966. However, since 1957 there has been a steady decline in the birth rate to 18.2 in 1967, the lowest on record. This drop in births since 1957 is reflected in the smaller increase in those aged 5 to 9 in 1966-8, and the actual decrease in numbers of children under 5 compared with those in 1961.

The total number of births in 1967 was 370,894. Provincial birth rates varied from a low of 16.9 in British Columbia to a high of 25.7 in Newfoundland. There are about 1,049 males born every year for every 1,000 females.

Of the more highly developed countries of the world, only Israel, New Zealand, Australia, Japan, and the Netherlands exceeded Canada's birth rate in 1967. Comparable rates for certain other countries were as follows: Norway, 18.0; U.S.A., 17.9; Switzerland, 17.7; United Kingdom, 17.5; France, 16.8; Finland, 16.5; Sweden, 15.4.

Excluding Newfoundland, of the total of 358,050 babies born in 1967, 355,826, or 99.4 per cent, were delivered in hospitals. This compares with less than 40 per cent before World War II and with over 67 per cent at the end of the war. Over 99 per cent of the births occurred in hospitals in each of the provinces.

The large increase in the population 15-19 and 20-24 years will affect university enrolments and the numbers of persons seeking employment. It will increase the number of marriages and perhaps, increase the births in Canada, if not the birth rate. But the smaller numbers of children under 5 gradually aging into the 5-9 group will reduce the numbers entering kindergarten and the primary schools.

The effects of the low birth rates during the 1930's and early 1940's and the losses during World War II among the population aged 25-34 and 35-44 have been counterbalanced by immigration and these two groups showed increases of 0.1 and 6.4 per cent respectively, between 1961 and 1966. The older age groups have shown increases slightly above the growth rate for all ages combined.

Another aspect of the different rates of growth of the age groups is the increasing population in the working ages 15-64 compared with the dependent population under 15. In 1961 this ratio was 172 persons of working age for every 100 dependent children, in 1966 the ratio was 180 and rose to 192 in 1968.

Marriages. The marriage rate, unlike the birth rate, has been rising steadily since 1963 when it stood at 6.9 per thousand population, the lowest since 1934.

Population by Age Group, Canada, 1968, 1966, and 1961

Age Group	1968 Estimate	1966 Census	1961 Census	Percentage Increase		Percentage Distribution		
				1966- 68	1961- 66	1968	1966	1961
Total	20,744,000	20,014,880	18,238,247	3.6	9.7	100.0	100.0	100.0
Under 15	6,565,500	6,591,757	6,191,922	-0.4	6.5	31.7	32.9	34.0
0-4	2,030,000	2,197,387	2,256,401	-8.2	-2.6	9.8	11.0	12.4
5-9	2,330,700	2,300,857	2,079,522	1.3	10.6	11.2	11.5	11.4
10-14	2,204,800	2,093,513	1,855,999	5.3	12.8	10.6	10.4	10.2
15-64	12,573,800	11,883,575	10,655,171	5.8	11.5	60.6	59.4	58.4
15-19	1,968,000	1,837,725	1,432,559	7.1	28.3	9.5	9.2	7.8
20-24	1,658,700	1,461,298	1,183,646	13.5	23.5	8.0	7.3	6.5
25-34	2,621,700	2,483,491	2,481,107	5.6	0.1	12.6	12.4	13.6
35-44	2,576,100	2,543,172	2,389,885	1.3	6.4	12.4	12.7	13.1
45-54	2,173,500	2,078,179	1,878,504	4.6	10.6	10.5	10.4	10.3
55-64	1,575,800	1,479,710	1,289,470	6.5	14.8	7.6	7.4	7.1
65+	1,604,700	1,539,548	1,391,154	4.2	10.7	7.7	7.7	7.6

In the 1966 census the marital status of the 13,423,123 persons who were 15 years and over was shown. Of these, 3,764,833 (28 per cent) were single, 8,723,217 (65 per cent) married, 870,297 (6 per cent) widowed, and 64,776 (0.5 per cent) divorced.

Since men are somewhat older when they marry, 31 per cent of males over 15 were single, compared with 25 per cent of females over 15. Partly for the same reason 10 per cent of females were widowed and only 3 per cent of males. Additional reasons for the larger number of widows (674,650) than of

widowers (195,647) at the 1966 census are the heavier mortality rates among males and the higher rate of remarriage.

The following table shows the estimated number of males and females by age group and marital status at June 1, 1967, with comparative data from the 1966 census. The table reveals an increase of 147,000 in the single population and of 214,000 in the married population since the 1966 census, reflecting the rising numbers and proportion of population in the 15-24 age group. In 1967, there were 165,879 marriages in Canada, the highest number on record, with a corresponding rate of 8.1 per thousand; this is a result of the postwar baby boom. Half of the girls married by the time they reached 21.2 years; for young men, the corresponding age was 23.6.

Estimates for the widowed and divorced are not shown separately for 1967. Their combined numbers show a small increase of about 3,000 for the males and an increase of 24,000 for females.

**Population 15 Years and Over, by Marital Status, Sex and Age,
Canada, 1966 and 1967**

Marital Status	Total 15 years and over			15-44		45-64		65+	
	T	M	F	M	F	M	F	M	F
1966									
Total	13,423,123	6,681,497	6,741,626	4,180,511	4,145,175	1,784,430	1,773,459	716,556	822,992
Single . . .	3,764,833	2,100,917	1,663,916	1,838,006	1,412,680	183,422	166,420	79,489	84,816
Married .	8,723,217	4,359,554	4,363,663	2,323,217	2,671,628	1,541,270	1,370,256	495,067	321,779
Widowed	870,297	195,647	674,650	8,463	39,930	48,305	220,685	138,879	414,035
Divorced	64,776	25,379	39,397	10,825	20,937	11,433	16,098	3,121	2,362
1967									
Total . . .	13,811,500	6,873,400	6,938,100	4,320,300	4,266,200	1,826,600	1,826,800	726,500	845,100
Single . . .	3,912,100	2,179,800	1,732,300	1,915,200	1,476,600	184,300	168,900	80,300	86,800
Married .	8,937,100	4,467,400	4,469,700	2,383,400	2,729,200	1,582,700	1,414,800	501,300	325,700
Widowed	962,300	226,200	736,100	21,700	60,400	59,600	243,100	144,900	432,600

Birthplace. Almost 85 per cent of the Canadian population at the 1961 census was born in Canada. The foreign-born, numbering 2,844,000, reported a wide variety of countries of birth. Just over 1,500,000 or more than half of these were post-World-War-II immigrants. Between June 1, 1961, and December 31, 1967, some 888,041 additional immigrants arrived in Canada.

In the following table the distribution of these recent immigrants by country of birth is compared with the birthplaces of the total foreign-born population of Canada at the 1961 census. (Birthplace was not asked in the 1966 census.)

The proportion of immigrants from continental Europe continues to be almost half of all immigrants, although the percentage for certain European countries has changed considerably. More than double the number of immigrants have arrived from Portugal and Spain than were here in 1961. As many came from Greece as were here in 1961, while the 1961-7 immigrants from northern and eastern Europe were only a fraction of those enumerated in Canada in 1961.

Population by Mother Tongue, 1951 and 1961

Mother Tongue	1951	1961	Percentage Increase 1951-61
Canada	14,009,429	18,238,247	30.2
English	8,280,809	10,660,534	28.7
French	4,068,850	5,123,151	25.9
Chinese	28,289	49,099	73.6
Finnish	31,771	44,785	41.0
German	329,302	563,713	71.2
Indian and Eskimo	144,787	166,531	15.0
Italian	92,244	339,626	268.2
Japanese	17,589	17,856	1.5
Magyar	42,402	85,939	102.7
Netherlands	87,935	170,177	93.5
Polish	129,238	161,720	25.1
Russian	39,223	42,903	9.4
Scandinavian	106,848	116,714	9.2
Slovak	45,516	42,546	— 6.5
Ukrainian	352,323	361,496	2.6
Yiddish	103,593	82,448	—20.4
Other	108,710	209,009	92.3

Languages. In the 1961 census about 80 per cent of the population reported they could speak English, and 31 per cent French. Only 12 per cent or 2,231,000 were able to speak both English and French. In all provinces except Quebec, English was spoken by a high percentage of the population. In the latter province the percentage speaking English was 37. French was spoken by 87 per cent of the population of Quebec and by 38 per cent of the population of New Brunswick. In all other provinces the percentage speaking French was less than 10.

No ethnic group reported as much as one third of its number speaking English and French. The population of French origin recorded the highest proportion of bilingual persons (30 per cent), the Jewish next (18 per cent), followed by the Italian group (11 per cent). Only 4 per cent of the group from the British Isles spoke both English and French.

These differences appear to be related to the geographical distribution of the basic English and French ethnic groups in Canada. Since over three quarters of the population of French origin live in Quebec, the ability of ethnic groups in other provinces of Canada to speak French is quite low. In Quebec itself, however, one third of the British group, 36 per cent of the German, 62 per cent of the Italian, 37 per cent of the Jewish, one third of the Dutch, and between 30 and 40 per cent of several smaller ethnic groups reported they could speak French.

Families. The estimated number of families in Canada on June 1, 1967 (excluding the Yukon and Northwest Territories), was 4,608,000, an increase of 90,000 in the year since the census of 1966. The average size of family was 3.9 persons in 1967 or about the same as in 1966. The largest families were

found in Quebec and the Atlantic Provinces with 4.2 persons, and the smallest in British Columbia with 3.6 persons.

About one quarter of all families in the Atlantic Provinces and Quebec compared with about one third of the families in British Columbia had no children at home. In contrast, in the Atlantic Provinces almost 14 per cent of the families had five or more children at home compared with only 5 per cent in British Columbia. In Quebec 12 per cent of the families had five or more children, while the percentage was 6 in Ontario and 8 in the Prairies.

Immigration

On June 1, 1961, there were 2,844,263 Canadian residents who had been born elsewhere. Between that date and July 1, 1968, an additional 937,779 immigrants entered this country.

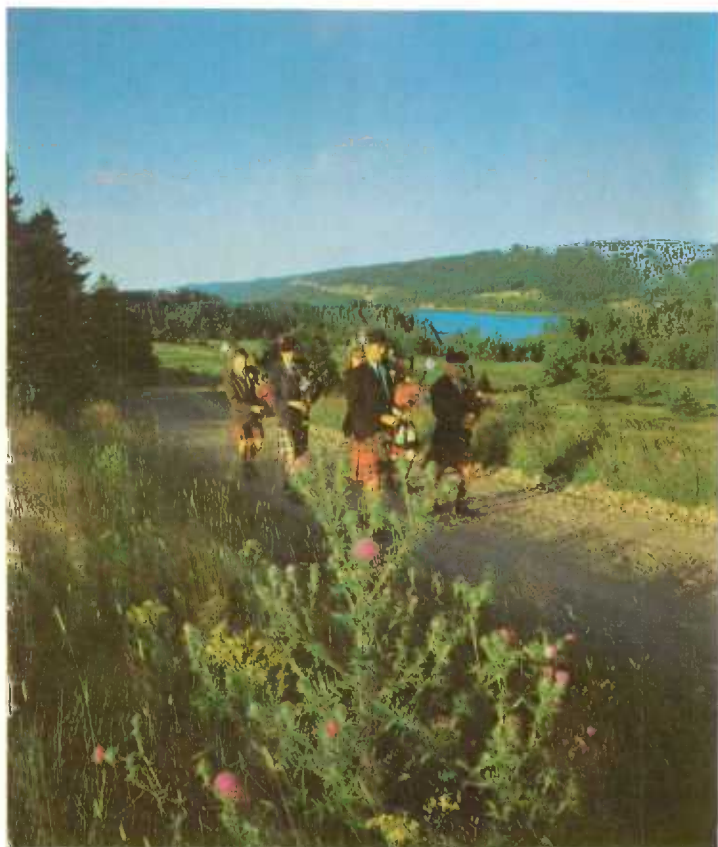
In 1967, Canada's Centennial Year, 222,876 immigrants were admitted, a 14.4 per cent increase over the previous year's figures, and the sixth largest number in any year of the nation's history. Although immigration in 1968 declined by 17.5 per cent to 183,974, the total is still the fifth highest in the past 20 years. The largest group came from Britain, then from Italy, the United States, Germany, Greece, France, and Portugal. More than 83 per cent settled in Ontario, Quebec, and British Columbia.

New Canadian immigration regulations were enacted October 1, 1967, following the publication of Canada's first White Paper on Immigration in 1966. One of its provisions was to make the Immigration Appeal Board an independent body whose decisions may be appealed only to the Supreme Court of Canada.

Success in meeting the selection standards contained in the new regulations makes it possible for applicants of any nation to enter Canada if they see in this nation opportunity for them. The regulations are non-discriminatory by race, colour, country of origin, or religion, and are applied universally. Among the important criteria are education, skills and professional training, the opportunities for employment at their destination, and a knowledge of English or French. The personal assessment of the applicant by the interviewing counsellor is also very important.

Since 1966, the settlement of inmigrants has been assigned to the Manpower Division of the Department of Manpower and Immigration. However, the Immigration Division continues to administer the Immigration Act and regulations, as well as the Assisted-Passage Loan regulations. While its objective is generally to implement federal government policy respecting immigration movements, its broad terms of reference include finding workers with occupations in strong or specific demand in Canada; facilitating the admission of workers who meet the selection criteria; assisting citizens and residents to establish their relatives and dependants; alleviating the international refugee problem, where possible, by waiving normal selection criteria.

The Immigration Division also provides universal, non-discriminatory service overseas to those seeking admission to Canada as immigrants, subject to the wishes of each country concerned. It provides counsel to independent



A pipe band, St. Ann's, Cape Breton, N.S. According to the 1961 census, 10.4 per cent of the population was of Scottish descent.

applicants or their relatives about working and living conditions in Canada. Further, it makes arrangements in Canada for the reception, early placement in employment, and adjustment of immigrants. The division encourages Canadian students abroad to return to Canada. Finally, it devises improved systems and procedures for identifying and dealing with people who should be denied admission to Canada, or who ought to be removed from the country, compatible with the principles of the White Paper and the Immigration Act, and taking into account the national interest generally.

In Canada, the Immigration Division operates through 90 regional offices. Overseas, it has offices in 29 countries, including Australia, Austria, Belgium, Britain, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Ireland, Israel, Italy, Jamaica, Japan, Lebanon, the Netherlands, Norway, Pakistan, the Philippines, Portugal, Spain, Sweden, Switzerland, Trinidad, the United Arab Republic, the United States, and Yugoslavia.



**Foreign Born by Country of Birth and
Period of Immigration**

Country of Birth	Before 1946	1946-50	1951-61	1962-67	Total
Britain	605,297	103,692	260,726	217,231	1,186,946
Other Commonwealth Countries	11,273	5,155	31,459	46,847	94,734
United States	213,879	13,644	56,385	69,852	353,760
European Countries	480,728	175,665	811,665	400,143	1,868,201
Asiatic Countries	23,133	4,584	30,044	37,375	95,136
Other Countries	2,837	1,244	12,853	73,272	90,206
Total	1,337,147	303,984	1,203,132	844,720	3,688,983

Citizenship

On January 1, 1947, the Canadian Citizenship Act came into effect, establishing for the first time a distinct Canadian nationality. The Act provided a legal definition of a Canadian citizen — a person who was born in Canada or who was naturalized in Canada — and also made it possible for non-Canadians residing in Canada or people who immigrated here to apply for Canadian citizenship.

Over the years the Canadian Citizenship Act has had several amendments. There are many complexities, but the basic qualifications for citizenship are: to be at least 21 years of age, to have an adequate knowledge of English or French, to possess a knowledge of the responsibilities and privileges of citizenship, to have a good character, to complete a period of residence in Canada, normally a minimum of five years, and to intend permanent residence in Canada. There is a special dispensation for minors. Any individual may obtain accurate information concerning his own qualifications or status from a Court of Canadian Citizenship.

Any superior, circuit, county or district court, any district magistrate in the province of Quebec, some magistrates' courts in Newfoundland, and any court or person designated by the Governor in Council may act as a court for the purposes of the Canadian Citizenship Act.

To reduce the large number of citizenship cases which were occupying the time of the normal law courts, the Government, commencing in 1955, created special Courts of Canadian Citizenship operating full time. There are now thirteen such courts, at Halifax, Moncton, Montreal, Ottawa, Toronto, Hamilton, London, Sudbury, Winnipeg, Regina, Edmonton, Calgary, and Vancouver.

People from many lands have brought their skills to Canada: a baker from Denmark, a dental technician and an electronics technician from the Netherlands, and a jeweller from Germany.

In addition, a number of persons have been designated to officiate occasionally in remote areas and to see applicants who cannot easily reach the normal courts.

A British subject or an alien living in Canada who wishes to become a Canadian must formally file an application for citizenship. A British subject may send his application directly to the Registrar of Canadian Citizenship in Ottawa, but an alien must file an application with a court. After the application has been "posted" for three months the prospective citizen appears before the court for an examination of his qualifications. The decision of the court is forwarded to the Secretary of State, who is the federal cabinet minister responsible for the administration of the Canadian Citizenship Act. If the decision is favourable and a certificate of Canadian citizenship is granted by the Minister, it is forwarded to the Clerk of the Court who informs the applicant of the date and time he is to appear before the court to take his Oath of Allegiance, renounce his previous nationality, and receive his certificate of citizenship.

A married woman must apply for Canadian citizenship on her own behalf. Children are not automatically granted citizenship with their parents. An application on their behalf must be filed by their parents with the Registrar of Canadian Citizenship. A Canadian citizen may apply for a certificate, or a miniature certificate, as proof of his citizenship.

From 1947 to 1968, 1,032,888 Canadian citizenship certificates were granted, including 60,055 in 1968.

The Citizenship Branch

The Citizenship Branch of the Department of Secretary of State has responsibilities in promoting inter-group understanding and community involvement, and strengthening Canadian identity and unity. The Branch maintains Regional Offices in seventeen centres across Canada and works closely with voluntary agencies and organizations involved in the integration of minority groups into the life of the community.

These responsibilities are discharged by the Branch through seven program areas. The inter-community relations program is concerned with the development equally of both official language communities in all parts of Canada and especially where they exist as minorities. The citizenship development program focuses on the observance of national holidays and the promotion of direct participation in social and political processes. It offers assistance to community organizations and voluntary groups in training and orienting citizens.

The travel and exchange program aims at developing responsible citizens and a sense of Canadian unity and identity through domestic and international travel. Youth Services promotes youth organizations and programs, as well as training and orientation projects to improve the skills of youth leaders.

Research and consultation are provided under the immigrant participation program to national voluntary agencies who help immigrants to adjust rapidly. Under this program, it administers and extends existing agreements with



The traditions of their old homeland are preserved by Canadians at festivals each year in many parts of the country. Here Slovak girls dance at Cap-de-la-Madeleine, Quebec.

provincial governments for instructing immigrants in the official languages of Canada.

Canadians of Indian ancestry are given technical advice and financial support for group projects, to encourage their full participation in the life of Canadian society. The Indian participation program also supports native friendship centres in urban areas and promotes voluntary actions which develop increased self-reliance.

The human rights program assures technical and support services, in co-operation with the Department of External Affairs, for Canadian involvements in United Nations programs. It also provides support to the Canadian Commission on Human Rights and to voluntary organizations engaged in educational programs related to human rights.



At the Canadian Indian Centre in Toronto, Ont., free classes in the Ojibway language are given weekly.

Indians

Canada's Indian people share a rich diversity of cultures, which stem from six major cultural groups and areas. These are the Algonkian in the eastern and central woodland; the Iroquoian in southeastern Ontario; the Mackenzie River system in the woodland north of the Churchill River; the Plains area on the Prairies; the Plateau area in central British Columbia and the Yukon; and the Pacific Coast area in British Columbia. There are ten linguistic groups with 54 related languages and dialects. The largest group is the Algonkian.

From these diversified people have come many of the foods which are common to all North Americans today and they have left us a rich heritage of place names and words in common use. The cultures are not gone, however, and today more Indian people are turning to carving, handicrafts, and fine arts to preserve and extend the influence of their cultural heritage.

Indian people were for many years isolated from much of Canadian life, partly by the fact that their communities are often in remote areas, and partly because of the barriers raised by separate educational systems and other institutions. Most Indians have their homes in reserves of land set aside for the use and benefit of the Indian people. However, these barriers are breaking down fast as the Indian population increases and acquires more formal education. There are now over 230,000 Indian people living in Canada, and their numbers are growing by 3 per cent a year. Half of the Indian people are under

sixteen years of age and more of this youthful population is now enrolled in schools than ever before. There are now over 70,000 Indian children and young people attending school, more than half in schools operated by provincial and local authorities. The rest get their schooling in federally operated schools. Over 4,500 attend kindergarten to help them overcome the handicaps created by language and cultural difficulties. Today many Indians live in towns and cities and there are Indian lawyers, businessmen and skilled Indian workmen in many industries.

In June, 1968, an Indian was elected to the House of Commons and there is renewed interest by the Indian people in bettering their lot. During 1968 fifteen public meetings were held in various parts of Canada at which spokesmen for each of the Indian bands discussed the proposed revisions to the Indian Act and outlined their views of what they thought such an Act should contain and how their people would best be served. Most asked for more authority for their band councils to manage the affairs of their communities and for more power in dealing with their land. The land is made up of 2,274 reserves covering 6 million acres. It is set aside for the use and benefit of the Indian people and is held in trust by the Canadian government. Contrary to popular belief, the Indians are not "wards of the government" and most of the involvement of the federal government with their business stems from the trust status of the land.



The Mohawk Indians of Caughnawaga, near Montreal, Que., are famous for their work on high steel constructions.

Eskimos

Canada's Eskimo population of over 14,000 persons lives in scattered camps and settlements of 25 to 1,500 people, mainly in the Northwest Territories but also in Arctic Quebec, Labrador, and northern Manitoba. A few families still live in hunting camps and take their living from the land by hunting and trapping much as their ancestors did, although motorboats have replaced kayaks and umiaks and the snowmobile is replacing the dog sled. However about 98 per cent now live in settlements in permanent modern housing. Most of today's young people have never seen a real snowhouse, or lived in one.

The modern Eskimo pays monthly rent for his three-bedroom house (payments are scaled to his income), sends his younger children to the local school, shops at the local store, usually a co-op or a Hudson's Bay Company store, and visits the local nursing station for regular medical care.

The Eskimo sees education as the key to free participation in the modern world. About 95 per cent of Eskimo children and teenagers of school age attend school. Most northern communities have schools up to grade six. Secondary, pre-vocational, and vocational education is available at schools in the western Northwest Territories and at Fort Churchill, Manitoba, where young people from out of town live in hostels, and return to their homes for the summers. After 1971 a new academic and vocational training centre will be opened in Frobisher Bay in the Eastern Arctic.

There are more jobs for trained Eskimos than there are people available

Canada's northernmost Eskimo settlement is at Grise Fiord, on Ellesmere Island. The Eskimos live in government-built three-bedroom houses.





A hunter waiting for seal at the floe edge in northern Hudson Bay.

to fill them and many adults hold regular jobs. They work as special constables for the Royal Canadian Mounted Police, assist at nursing stations, clerk at Hudson's Bay Company stores, or work for other government agencies. The Department of Indian Affairs and Northern Development alone employs about 400 in its Arctic District.

In 1968, there were 27 co-operatives in the Northwest Territories employing Eskimos at every level from managers to clerks. In that year, they earned over \$535,000 in wages, salaries, and sales of their produce to co-operatives. As regular employment for wages raises the standard of living, more and more southern goods such as radios appear in Eskimo homes.

But the Eskimo cherishes his old cultural values. Most Eskimo parents teach their children Eskimo syllabics even before they are old enough for school and Eskimos are prolific letter writers. Still, up till now there has been little written literature in the vernacular other than religious material produced by the churches, newsletters, educational materials, and a department-produced magazine, *Inuttitunt*. However, in 1968 the first syllabic book of a new literature series was printed, *The Autobiography of John Ayaruag*. Other Eskimo writers will record the folk stories, poems, and the lives and history of their people.

When the government first became involved in the north there were urgent problems of disease, malnutrition, high mortality rates, poor housing, and so on. The most pressing needs have been met, and the early authoritarian leadership has given way to a more democratic leadership by consensus. Eskimos have learned how to involve themselves in this process of decision-making. Now there is an Eskimo Advisory Board in almost every settlement, some very strong and articulate, others slowly making their way to success. Departmental policies come under the scrutiny of Regional Eskimo Advisory Councils. The elected members represent the views of the people in their home settlements. Meetings, held in regional administrative centres, are in Eskimo with translation services provided for government officials who do not speak the language. The advice of R.E.A.C. members helps shape future departmental policies.

Health and Social Welfare

The Federal Health Department — 1919-69

During 1969 the Department of National Health and Welfare celebrates the 50th anniversary of the first federal health department formed in 1919. Named the Department of Health (Canada), it united all federal health services and provided for a laboratory of hygiene and new divisions of venereal disease control and child hygiene. An advisory body, The Dominion Council of Health, was also established.

Initially, Canada had few health duties assigned under the British North America Act — for maritime quarantine of immigrants, the operation of marine hospitals for sick seamen, and for the census and collection of vital statistics. Under the same statute the provinces were given responsibility for hospitals, asylums, and charitable institutions. As part of its charge to look after Indians, the federal government has always been concerned with health services for them.

Public demands on the services of the federal department have mounted steadily since its inception. It now employs more than 7,150 people in 328 establishments in Canada and abroad. National laboratories test and standardize various products such as biologicals, drugs, and foods to ensure their safety and purity, while other divisions are engaged in research, testing, and control activities in such areas as radiation protection, air pollution, water resources, and disease surveillance. In addition, there are field units in every province and throughout the Yukon and Northwest Territories, as well as in Europe and Asia where much of Canada's immigration medical work is done.

From the start, the Department has served as a national co-ordinating agency in health matters and has helped strengthen the health programs of the provincial governments through financial and technical assistance. In the international health field, the Department acts on behalf of Canada in meeting our commitments to the World Health Organization and other specialized United Nations agencies engaged in health programs. It also co-operates with

the Canadian International Development Agency in arranging for the training of health personnel from other countries.

Recent Developments. Undoubtedly the most dramatic events of the past years have been the operations for transplantation of the human heart performed by medical teams in Montreal and Toronto, beginning in May 1968.



A key moment during a heart transplant operation performed by the surgical team of the Montreal Heart Institute, headed by Dr. Pierre Grondin. The donor's heart is prepared before the surgeons place it in the recipient's chest.

Of most widespread concern is the growing problem of the abuse of drugs. Intergovernmental health conferences have agreed on intensification of educational programs, since law enforcement has been unable to curb the dangers. The federal department has added a new consultative section to its Mental Health Division. Two government bills were introduced in Parliament to facilitate the control of hazardous substances and restricted drugs. Also, one of the amendments to the Criminal Code introduced in 1968 seeks to better control impaired driving.

In November 1968, the Department published the first of a series of periodic reports listing the nicotine and tar content of every brand of cigarette sold in Canada. In December 1968 the House of Commons committee on health initiated study of this report, of recommendations of the Minister, the Honourable John Munro, and of four private members' bills aimed at prohibiting or limiting cigarette advertising and at warning the public of health hazards associated with cigarette smoking.

The boards set up by the International Joint Commission of Canada and the United States to reduce the pollution of the Great Lakes and the international section of the St. Lawrence River submitted their second interim

report to the governments in 1968. The Department of National Health and Welfare participates in these investigations, and also is responsible for the program to control water pollution on federal properties.

Mental Health. Mental health services in Canada are organized as part of provincial health services and by voluntary agencies. Less emphasis is now placed on "custodial care" in mental hospitals; increased attention is being given to intensive psychiatric treatment. More out-patient and day-care facilities are being established by community mental health clinics and psychiatric departments of large general hospitals. Special centres for the study and treatment of alcoholism, drug addiction, criminal psychopathology, emotional disorders in children, and other disabilities are being established in one province after another. Care and training of the severely mentally retarded is still mainly arranged in large provincial institutions, although many communities now have adult training centres and residences for the retarded.

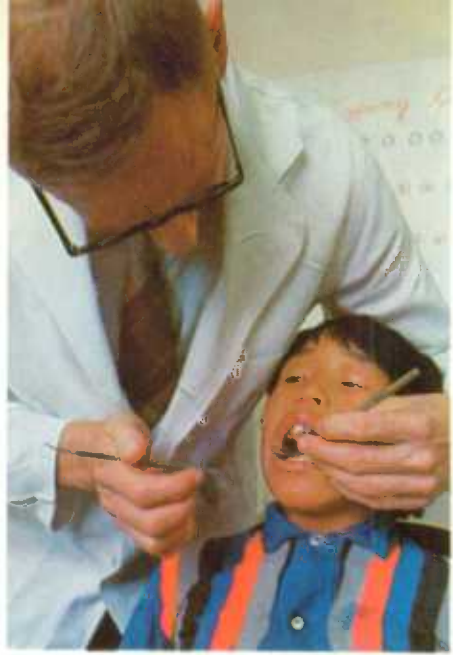
The activities of federal and provincial governments and organizations such as the Canadian Mental Health Association, the Canadian Association for the Mentally Retarded, the Canadian Medical Association, and the Canadian Psychiatric Association have helped to remove some of the stigma associated with mental illness.

Maternal and Child Health. Public health nurses employed by the local health services provide preventive health services to mothers, infants, and children through clinics, home and hospital visits, and school health services. All provincial health departments have established maternal and child health consultant services that co-operate with the public health nursing services. In five provinces, these services also undertake studies in maternal and child care, including hospital care, and assist in the training of nursing personnel. The federal Child and Maternal Health Division assists in this work by suggesting desirable standards of services and programs, distributing educational materials, and by studying current problems.



Vaccination and innoculation prevent many childhood diseases.

A dentist at Resolute, N.W.T. The federal department provides dental, medical, and health care for all residents of the Northwest Territories.



Nutrition. Provincial health departments and some city health departments employ consultants in nutrition to extend technical guidance and education to health and welfare agencies, nursing homes, and other care institutions and hospitals. They also provide counselling on diet to selected patient groups and conduct nutritional surveys and other research. The Nutrition Division of the federal health department provides advisory services to promote good eating habits by Canadians.

Dental Health. Provincial dental health programs have been largely preventive, but increasing emphasis is now being given to dental care. A number of provinces also send dental teams to remote areas and subsidize resident dentists who will practise in areas lacking such services. The four western provinces have dental care schemes for welfare recipients. Other activities of the public dental health programs are directed to training dentists and dental hygienists, conducting dental surveys and extending water fluoridation. The Department of National Health and Welfare makes available research and consultative services and educational materials.

Community Health Services. Public health services include environmental sanitation, control of communicable diseases, and child, maternal, and school health services. Local health agencies, both official and voluntary, are also developing services for the disabled, including home care. Co-ordinated community programs for the mentally ill and retarded, handicapped children, and chronically ill are making available a greater range of health, educational, and social services. Among the new types of health services instituted by the local health agencies are family planning clinics and screening programs for those with chronic conditions and for elderly persons. More efforts are also being directed to reducing pollution of the cities and to preventing motor accidents.

Provincial health departments support these activities with grants to the

city health departments, health units, and voluntary agencies and by supplying technical consultant services. They also operate the mental and tuberculosis hospitals, and services for cancer, alcoholism, and other specific diseases, and the provincial laboratories. In other fields including vital statistics, occupational health, health education, the control of air and water pollution, health research, and the training of health personnel, the official provincial health agencies are chiefly responsible.

Health activities of the federal government have broadened, especially in the areas of food and drug control, pesticide control, and the environmental health problems caused by air, water and soil pollution and radiation hazards. The Environmental Health Centre in Ottawa carries out special studies and supplies technical advice on programs to prevent occupational diseases and atmospheric pollution, and in the developing field of aerospace medicine. Other federal health responsibilities include the provision of comprehensive health services to Indians and Eskimos and to war veterans, and grants-in-aid to the provinces for the extension of public health services.

Rehabilitation. Rehabilitation programs are established for injured workers under provincial workmen's compensation, for war veterans through the Department of Veterans Affairs, and for handicapped children by numerous voluntary and public agencies. The federal department, through its National Health Grants program in effect since 1948, has promoted the development of provincial rehabilitation services. All provincial health departments have utilized these Health Grants as well as provincial funds to extend rehabilitation services and personnel in hospitals and rehabilitation centres, tuberculosis sanatoria, and mental hospitals, and to establish specialized clinics for a variety of disabling conditions. Since January, 1966, the department has also administered the nation-wide prosthetic services, initially established to supply artificial limbs for injured veterans.



Being fitted at the prosthetic workshop at the National Defence Medical Centre, Ottawa.

In co-operation with the federal Department of Manpower and Immigration, provincial health or welfare departments also administer vocational rehabilitation programs for disabled adults who can be restored to gainful employment. Canada's Manpower Centres employ special officers to place the handicapped in suitable employment. Others are assisted through a growing network of sheltered workshops mainly sponsored by voluntary groups. Handicapped children benefit from the special educational facilities available in all provinces.

Health Insurance and Resources. A reflection of the growing concern with health services and their increasing costs is the resolution passed by federal and provincial Ministers of Health at a conference held in Ottawa late in 1968. This resolution called for the establishment of a federal-provincial committee to advise on ways and means of keeping costs of health services at a reasonable level. Task forces reporting to the committee are now analyzing the economics of hospital services, medical care, and public health services.

Medical Care Insurance. The increase in private and public medical care insurance plans in Canada has relieved the majority of Canadians from having to pay direct for the total cost of physicians' services. At the beginning of 1967, about 68 per cent of Canada's population was estimated to have some insurance protection against the costs of necessary medical care under voluntary insurance plans. When private and public plans are considered together, the total with some form of protection is about 82 per cent.

The Medical Care Act of 1966, which became effective on July 1, 1968, provides for federal contributions of approximately one half of the cost of programs by participating provinces and territories. This legislation has a built-in equalizing effect such that the low-cost (that is, presumably the less wealthy) provinces will recover something more than one half their cost in



At the Laboratory of Hygiene, in Ottawa, a technician performs a routine examination of bacterial surface growth in a Roux flask.



The gamma-ray therapy unit in the Dr. W. W. Cross Cancer Clinic Hospital, in Edmonton, Alta., has the most modern equipment, such as a TV monitor in the ceiling.

federal contributions, and high-cost provinces something less than one half.

Since July 1, 1968, the date of implementation of the Medical Care Act, the plans in operation in the provinces of Alberta, British Columbia, Manitoba, Newfoundland, Nova Scotia, Ontario, and Saskatchewan have qualified for federal contributions. Other provinces have legislation under consideration or are consulting with federal health officials.

Hospital Insurance. The federal-provincial hospital insurance program, now established in all of Canada's provinces and territories, covers virtually all the population. The system of federal grants-in-aid to the provinces to meet about 50 per cent of the cost of specified hospital services is set out under the federal Hospital Insurance and Diagnostic Services Act of 1957.

In order to participate in the program, each province is required to make standard or public ward hospital care and other specified in-patient benefits, including laboratory and radiological diagnostic services, available to all of its residents under uniform terms and conditions. The provinces may also optionally provide insured out-patient hospital services; these vary considerably from province to province. The methods of financing and administering the provincial plans, as well as certain details concerning eligibility for benefits, rest with the provinces.

Federal legislation applies only to services provided by approved active treatment, chronic, and convalescent institutions, and related facilities, and specifically excludes mental hospitals, tuberculosis sanatoria, and custodial care institutions.

Health Resources Program. The Health Resources program is concerned with the manpower resources needed to provide Canadians with comprehensive health services.

Under the Health Resources Fund Act of 1966, the federal government instituted a 15-year program to foster the construction of facilities for education in the health professions and to expand health research. Payments from the fund, which amounts to \$500 million, may cover up to 50 per cent (or in special cases more than 50 per cent) of the cost of planning, constructing, renovating, acquiring, and equipping the facilities. Land and interest costs

and all operating expenses are excluded. By December 31, 1968, federal payments from the fund totalled \$52,539,207, and projects involving an outlay of nearly \$91,863,485 of federal funds had been approved.

In addition to the assistance provided to aid the construction of new facilities for health education and research, the Health Resources Program is also concerned with employing the human resources in the health professions most usefully. Manpower studies will examine aspects of the supply, distribution, training, and use of professional and technical people in the health services to increase the effectiveness and develop the health resources of Canada.



X-ray shadows are projected on a TV screen in this "image intensification unit." Below, a patient is flown to hospital, under the supervision of public health nurses of the Department of Health and Welfare's Northern Health Service.



Social Welfare

TYPES OF PROGRAMS

Canada's social welfare system is made up of four basic types of programs.

Social Insurance. As the term implies, these programs involve the payment of premiums or contributions in return for certain benefits. In the case of Workmen's Compensation programs, first introduced in Ontario as early as 1914, contributions are paid by the employer. The employee is thereby entitled to medical care and income support in the event of injury or disability resulting from certain industrial diseases incurred on the job. In the event of death, benefits are provided for his widow and dependent children. In the case of the Canada Pension Plan, which along with the comparable Quebec Pension Plan was initiated in 1965, contributions are required of both employers and employees. (Self-employed persons are required to make double contributions.) Employees are thereby entitled to a retirement pension, or benefits in the event they should have to stop work because of physical or mental disability, and benefits for their survivors. In addition to employer-employee contributions, social insurance programs may involve contributions by government. This is the case with the Unemployment Insurance program which was introduced in 1940 and which provides employees with cash payments when they are temporarily out of work. Social insurance programs are administered through departments or agencies such as a board or commission.

Social Assistance. Together with the charitable activities of voluntary groups, this is the oldest form of welfare measure. A distinguishing feature of social assistance programs is that benefits are based on some measure of need. Under the "means" test, a maximum benefit rate is set, along with the amount of other income and assets a person may have before his benefit is reduced below the maximum rate. Under the "needs" test, which has largely replaced the "means" test, essentially the same approach is followed but there is greater flexibility; not only income but also budgetary requirements are taken into account.

For many years, social assistance was provided by voluntary and religious organizations as well as by local and provincial governments. Beginning in 1927, however, the federal government entered the picture by offering to share the costs of such assistance for certain groups in the population—initially, the aged, and later the blind (1937), the severely disabled (1955), the unemployed (1956), and unemployables and other social assistance cases (1957). In 1966, the federal government, in collaboration with the provinces, introduced the Canada Assistance Plan which was designed to integrate all of these programs under one measure and also to extend federal financial support to areas such as health and welfare services, administrative services, child welfare, and mothers' allowances.

Universal Flat-Rate Benefits. In the case of these programs, the factor of need does not enter the picture: a person is entitled to a standard payment



Both young and old benefit from the federal government's universal flat-rate allowances.

simply by belonging to a specific group in the population and meeting certain residence requirements. Examples of this kind of program are Family Allowances which were introduced in 1944, Youth Allowances which were initiated in 1964, and Old Age Security Pensions which came into effect in 1952. While the latter program is financed from a portion of personal income taxes, sales taxes, and corporation income taxes which have been earmarked for this purpose, there is no direct relationship between an individual's contributions and the benefits he receives. An interesting point about the Old Age Security program is that it replaced social assistance as the main way of supporting the income of persons 70 years of age and over; the concept of social assistance for the aged was continued only for persons aged 65 to 69. However, this too, is now being gradually abandoned as the eligible age for Old Age Security is reduced from 70 to 65 — the latter age to become effective Jan. 1, 1970. From that date, therefore, persons reaching the age of 65 will be entitled to the flat-rate pension regardless of need.



Private organizations in Canada provide services for special needs. Examples are the Canadian National Institute for the Blind's new Training and Guidance Centre in Ottawa, the St. John Ambulance Brigade's 12,000 members who provide first aid, and the Kiwanis' Crippled Children's Camp near Joliette, Que.



Guaranteed Income. Known as the Guaranteed Income Supplement, this program was introduced in 1967 and is payable to recipients of Old Age Security pensions who have little or no outside income other than these pensions or the supplement. The idea behind this approach, which some advocate should be extended to the whole population, is that a test of a pensioner's income (assets are not taken into account) be used to determine his eligibility for, and the amount of his benefit payment. In this way, all persons receiving the Old Age Security pension are guaranteed a minimum annual income without the Government's incurring the substantial additional expense involved in providing higher benefits to everyone.

EVOLUTION OF THE SOCIAL WELFARE SYSTEM

A number of important influences have affected the development of Canada's social welfare programs. These include the tradition of the English poor law and of charity provided by religious institutions and voluntary agencies. Over the years, charitable activities have continued to expand and now constitute a unique and valuable supplement to government programs.

Then again, there is the dramatic transformation of our country from a predominantly rural-agricultural to an urban-industrial society. Coupled with the additional social stresses engendered by two world wars, this has brought increasing need and demand for intervention by government — and particularly, because of their greater financial resources, by provincial and federal governments.

Finally, there is the fact that Canada is a federal state and that our constitution — the British North America Act of 1867 — does not give a clear picture of the respective jurisdictions of provincial and federal governments in the social welfare field. This is understandable since the Fathers of Confederation could hardly have foreseen the development of social welfare programs in the modern sense. The main guidance provided by the British North America Act is that the provinces should be responsible for charities and charitable institutions.

What has evolved in actual practice is that the federal government has assumed responsibility for broad and high-cost programs of social welfare such as Family Allowances and Old Age Security. In some cases, where there has been a question of federal jurisdiction, a constitutional amendment has been obtained. This was done in the case of such programs as Unemployment Insurance, Old Age Security, and the Canada Pension Plan. The federal government has also made provision for the social welfare needs of groups for which it has statutory responsibility, that is, Indians, Eskimos, servicemen, and veterans. The provinces, for their part, have assumed responsibility for Workmen's Compensation and for the provision of general welfare services. (The actual delivery of these services is often undertaken by local authorities, with financial support provided by the provincial governments.) Apart from these arrangements, the federal and provincial governments have embarked on various joint ventures under which the federal treasury shares a portion of the costs with the provinces, who have responsibility for administering the

programs. An outstanding example of this kind of co-operative undertaking is the Canada Assistance Plan, under which the federal government shares one half of the costs.

COVERAGE AND EXPENDITURES

About seven million children in three million families were receiving benefits from Family Allowances (\$6 per month for children under 10 and \$8 per month for children aged 10-15) at March 1969, at an annual cost to the federal treasury of approximately \$560 million. An additional 600,000 young people aged 16 and 17 were receiving Youth Allowances (\$10 per month) at an annual cost to the federal treasury of \$72 million. (The latter figures include persons covered under the Quebec Schooling Allowances program and federal tax abatement on their behalf.)

Under the Old Age Security program, an estimated 1.5 million persons, 66 years of age and over, were receiving benefits in March 1969, with annual federal expenditures running at some \$1.3 billion. As a result of the cost-of-living adjustment provision built into the program in 1965, the amount of the pension paid during 1969 was raised to \$78 per month. Of the total number benefiting under the Old Age Security program, an estimated 794,000 persons (or 52 per cent) were also receiving the Guaranteed Income Supplement which, again because of the cost-of-living adjustment, has an upper limit of \$31.20 during 1969. (Only persons with no income or with only a small income other than their Old Age Security pensions or the supplement are eligible for the full amount of the supplement; where persons have other income, the amount of their supplement is reduced by \$1.00 for each \$2.00 of such income.) Thus in 1969, a person could receive a combined Old Age Security pension and Guaranteed Income Supplement amounting to as much as \$109.20 per month. The estimated annual cost of the Guaranteed Income Supplement program for the fiscal year 1968-9 was \$239 million.

With respect to social assistance programs, substantial progress has been made towards integrating these measures under the Canada Assistance Plan. This is apparent from the fact that in 1968-9, the plan benefited more than one million persons, with the federal share of cost running to nearly \$400 million. While rates of assistance are set by the provinces, the only criterion of eligibility is need. Covered under the plan are social assistance payments to all persons who are in need whether as a result of disability, old age, unemployment, death of the breadwinner, or some other cause. Health care and welfare services are also assisted under the Plan.

Turning to social insurance programs, the newest and most comprehensive social insurance program is, of course, the Canada Pension Plan which, together with the comparable Quebec Pension Plan, covers over 90 per cent of the labour force. This plan is being implemented in phases. Contributions began in January, 1966. Retirement Pensions became payable in January, 1967. As in the case of Old Age Security pensions, the minimum eligible age is being reduced annually from 68 in 1967 to 65 in 1970 and after. Incidentally, at age 70 or over, a person can receive a Retirement Pension without, in fact, retiring. Survivors' Benefits went into effect in February, 1968, and Disability

Pensions are scheduled to commence being paid in May, 1970. In addition, since the amount of Retirement Pensions is related to contributions, the rates at which these pensions come into pay are gradually increasing until 1976 when they will have reached the full scales provided under the plan. Survivors' and disability benefits, however, are payable at their full rates as soon as they are brought into effect.



Provinces and municipalities provide services such as supervised homes for older people, rehabilitation for injured children, and glaucoma testing.





Canadians march through Mons again, 50 years after the first Armistice day.

Veterans Affairs

After being available to World War II veterans for a quarter of a century, four benefits of Canada's Veterans Charter — purchasing veterans' insurance, using re-establishment credits, claiming gratuities for overseas service, and establishing eligibility under the Veterans' Land Act — terminated on October 31, 1968. By that date, over 150,000 veterans not already established had qualified for VLA. They will have until March 31, 1974, to actually apply for VLA loans.

Veterans benefits are administered by the Department of Veterans Affairs, the Canadian Pension Commission, and the War Veterans Allowance Board.

The principal remaining benefits—for those who meet the statutory requirements, for their dependants, and for the widows and orphans of war dead—are disability and dependants' pensions, civilian war pensions and allowances (supplemented as necessary by the Assistance Fund), treatment for entitled veterans, and post-secondary school educational assistance for children of the war dead.

The Children of War Dead (Education Assistance) Act, passed in 1953, provides monthly allowances and tuition fees for the post-secondary school training of children receiving a pension on account of the death of their fathers. There are currently 1,100 students in training. Since 1953, 1,817 have completed their training and Canada has been given 36 doctors, 37 lawyers, 458 nurses, 120 engineers, and one Rhodes scholar. Others have become social workers, clergymen, teachers, dentists, business administrators, technicians, and commercial artists.

The Department of Veterans Affairs operates nine hospitals and three veterans' homes, with a total of 6,643 beds, and has use of 1,700 beds in other hospitals. Treatment is provided to entitled veterans and to members of the Canadian forces, Royal Canadian Mounted Police, and persons whose treatment is the responsibility of other departments and other governments, at the request and expense of the authorities concerned.

A laboratory wing at the Department's Shaughnessy Hospital, Vancouver,

was opened in December 1968. Work was started in June 1968 on a new 680-bed chronic care hospital and the remodelling of the existing infirmary at DVA's Ste. Anne's Hospital, Ste. Anne-de-Bellevue, Que. In September 1968, Ste. Foy Hospital, Quebec City, was transferred to the Province of Quebec and Université Laval. This was the second DVA hospital to become a university teaching centre for care and treatment of both veterans and civilians, part of the long-term planning for continued high-quality medical care for veterans.

The Report of the Committee to Survey the Organization and the Work of the Canadian Pension Commission was tabled in the House of Commons in the spring of 1968. The report contains 148 recommendations, 112 of which deal with procedure and 36 with the sufficiency of benefits under the Act. The report is the result of a two-year study which included sittings to hear submissions from veterans organizations, Members of Parliament, and others, together with the investigation of complaints from individual veterans and an exhaustive study of Commission policies and practices.

A contingent of 100 veterans made a two-week pilgrimage to France and Belgium under departmental auspices to commemorate the 50th anniversary of the armistice of World War I. The contingent visited the 13 Canadian and Newfoundland Battlefield Memorials abroad as well as the Wimereux Communal Cemetery, near Boulogne, France, where wreaths were laid at the grave of Lieut.-Col. (Dr.) John McCrae, author of "In Flanders Fields."

In Ottawa, on a three-day visit, a similar contingent observed the anniversary at the National War Memorial and were honoured by the Government of Canada at a dinner on November 11. Tributes were paid by the Governor General, the Prime Minister, the Right Honourable Lester B. Pearson, the Right Honourable John G. Diefenbaker and others. Five winners of the Victoria Cross in World War I were present.

A new hospital being built for the Department of Veteran's Affairs at Ste. Anne-de-Bellevue, Que.



Education

Canada's geography and history are probably as much a key to an appreciation of the dynamic situation in education today as is an understanding of related social, economic, and technological pressures effecting change. Its population of over 21 million in 10 provinces is spread in a narrow band along the wide southern border with tentacles extending as far north as the Arctic. From a rural economy it has changed to become largely urban and industrial. Some of its most urgent educational problems are those concerning marginal rural land, particular urban sections, or communication over long distances.

Some appreciation of its two heritages, French and British, of its two native peoples, Indian and Eskimo, and of the cultural influences of settlers from many countries can provide help in understanding the present situation into which change is being introduced. For the French-language population, education began in Quebec and Acadia early in the seventeenth century; for the English-speaking during the eighteenth and nineteenth. The French settlers wished to perpetuate the observances of the Roman Catholic Church through the school, while providing elementary school subjects, farming, and housekeeping for most pupils, and advanced education for those entering the professions. The licentiousness of *coureurs de bois* and others impelled the church to be strict to the point where it established a pattern observable throughout Quebec education until the "quiet revolution" of the last decade. Recent changes, following reports of the Parent Royal Commission and based on sound research, observations abroad and throughout Canada, and subsequent studies, have ensured rapid progress in Quebec towards a well organized system with elements from Europe and North America, but with a pattern all its own.

Early schools in the Maritimes reflected the influence of immigrants from many countries of Europe and the American colonies to the south. Moral and religious teachings filled the readers and permeated the classrooms. Ontario, though strongly religious, was greatly influenced by settlers from Europe and United Empire Loyalists and moved rapidly from private to public

schools. The Prairie Provinces, opened largely by fur-trading companies followed by settlers from Eastern Canada, first depended on mission schools. But before long the Prairies welcomed teachers from Ontario and the Maritimes who set the pattern for schooling for many years. In British Columbia, education began separately on the mainland and Vancouver Island with mission, company, and common schools, but by 1872 these were united. The principle of public schools was established, and a basis for the present system had been laid.

Thus the colonial period fostered a variety of such schools as parish, charity, Sunday, infant, mission, Latin, grammar, and community. The second period in Canadian education, which lasted until Confederation, marked the beginnings of centralized provincial systems in which authority was largely found in a government department. A beginning was made in providing free public elementary and later secondary schools operated locally under school law and regulations.

Under the British North America Act of 1867, each province retained the right to organize and administer the schools within its borders. The federal government was made responsible for the education of Indians, Eskimos, and others in extra-provincial territories; of inmates of penitentiaries; and of members of the armed services and their families. As a result Canada has 10 provincial systems as well as those for the Yukon, Indians, and so on, with similarities and differences, each developing according to local needs. Canada is rather unique in having neither a federal department nor an office of education. However, more than 23 federal departments are involved in education and training in one way or another, including the Secretary of State in charge of university grants and services, the Dominion Bureau of Statistics, the Departments of Labour, Manpower and Immigration, Regional Economic Expansion, Finance, and so on.

Young scholars learning the rudiments of biology and of language—through the Initial Teaching Alphabet—at Saint-Malo, Que., and Vancouver, B.C.





At Applewood School, west of Toronto, Ont., young pupils follow individualized learning programs, with their teacher as a consultant and guide.

During the third period, which lasted for almost a century, formal schooling developed. The provincial legislatures worked to provide free, tax-supported public and separate elementary and secondary schools for everyone. To ensure reasonably high and uniform standards, each set up a carefully graded system, prescribed texts, approved library books and equipment, set departmental examinations, required annual reports, and appointed provincial school inspectors, whose responsibility was to report to the department. The departments also licensed teachers, provided a course of studies, and made sizable grants to each district from the provincial treasury.

To administer the schools each department of education operated under: a minister of education who was a member of the Cabinet; a deputy minister who was a professional educator; and division heads for elementary, secondary, vocational, and adult education. There were sections for curriculum, audio-visual aids, and teacher education as well as inspectors, subject specialists, a registrar, and an accountant.

During this stage most Canadian provinces developed a formalized school system with 12 ascending grades, with annual promotions of pupils following end-of-the-year examinations, with an emphasis on academic subjects, and only limited provision for individual differences. But as each province developed on its own, both differences and similarities were to be expected.

Newfoundland

Topographical, economic, and religious influences producing scattered settlements, inhabited by members of the same denomination, helped to shape Newfoundland's educational system. The active leadership of the churches

and the homogeneity of the village populations kept overlapping of services to a minimum except in industrial areas. The system that developed provided schools under the five largest denominational groups — Roman Catholic, Anglican, United Church, Salvation Army, and Pentecost Mission — each under a departmental superintendent but with local boards. All schools followed the provincial course of study and used departmental examinations.

Quebec

Quebec's educational system operates on a unique working compromise of the two cultures, under which each culture recognizes education as fundamental to its way of life. Two distinct publicly-administered systems operate under a common act of the legislature. About seven eighths of the population support the French-speaking system which was patterned somewhat after the French system but which, following the reports of the Parent Royal Commission, now more closely resembles other provincial systems while developing unique differences on a rational basis. Since 1964 Quebec has had a department of education headed by a minister of education with two deputy ministers, one Roman Catholic, the other Protestant.

Yukon and Northwest Territories

In the Yukon Territory the school system is operated by the territorial government under a superintendent and his staff at Whitehorse, who are responsible to the Commissioner of the Yukon who reports to the Minister of Indian Affairs and Northern Development in Ottawa. All schools, except for two private ones, are owned and operated by the Government of the Yukon and by choice follow the British Columbia curriculum.

Schools in the districts of Mackenzie, Franklin, and Keewatin in the Northwest Territories are operated by the Department of Indian Affairs and Northern Development. The federal government finances the school operation and receives from the territorial government the costs for pupils who are neither Indian nor Eskimo. Enrolment is about two fifths Eskimos, one fifth Indians, and two fifths other. Alberta curricula, with modifications, are prescribed for these schools. The program, which is an integrated one for all children in the North, provides for the construction of schools and residences, curricula suitable for the northern environment, bursaries and other student aids, and special vocational training projects appropriate to local craftsmanship and mechanical trades in such fields as construction, transportation, and mining.



Education in the Other Provinces

There is greater similarity in the systems of the other provinces, yet enough differences to make transferring from one to another a real problem for both teacher and pupil. Most began with an 8-year - 4-year elementary-secondary organization for youths from age 6 to 18. The systems may now be of 11 to 13 years, not counting kindergarten classes at the bottom, and the organization may be 3-3-3-3, 3-4-5, or -6 or some other arrangement. Non-graded classes with streaming, opportunity classes, and so on, for elementary, intermediate, and senior divisions are found, as are divisions into vocational and academic studies in secondary schools with streams either being terminal or leading to college entrance.

All provinces now provide trade schools and special classes or schools for the partially blind and the blind, the partially deaf and the deaf, slow learners, emotionally disturbed children, and others requiring special attention.

The Modern Period

A truism today is that everyone should be provided with educational experiences to the limit of his talents. Such an aim is observable in the greater efforts in schools to provide for individual differences and the special attention given to the disadvantaged, in such ways as the NewStart program by Regional Economic Expansion and special projects in several cities. The capacity of the older universities has been increased; many new institutions have been established. Junior colleges and community colleges (colleges of arts and crafts) have been added. At the same time there has been rapid growth in facilities which provide vocational and technical education.

It is difficult to identify the beginning of the modern stage which is characterized by change at an unprecedented rate, growth and expansion at all levels of education, and a re-examination of aims, content, procedures, and responsibility. Triggering change are potent forces and circumstances operating with drive and urgency. The high birth rate of the postwar year resulted in a bulge in entrants, first to elementary, then to secondary schools, and now to colleges and universities. The number of college students will probably double during the next decade. Because of the need to provide new buildings, qualified teachers, and transportation at a time when salaries were rising and costs were increasing, together with some inflation, the quantity rather than the quality of education was emphasized.

There were some reverberations in Canada from Sputnik in 1957, which however cannot be separated from social, technological, and economic innovations and incentives for change by teachers, students, administrators, and the public. Economists entered the field to a greater extent. Their studies related educational achievement to economic progress and provided a good argument for increasing the investment in human capital. The reports of the Economic Council of Canada supported the economists' position and recommended more education and more research. An important aspect of this development was an increased interest in poverty and the disadvantaged child. Research indicates that poverty is also a cultural problem and those



A creative art class for children in the Confederation Centre, Charlottetown, P.E.I.

who have been deprived should enter a special program. However, as not too much is known about this, the federal Department of Regional Economic Expansion is conducting a major project, NewStart, in selected areas in each of six provinces. It is designed to increase the level of living and of educational achievement.

A burgeoning of science undertakings resulted in a knowledge explosion whose repercussions are being felt throughout education. The results have been a greater degree of specialization, less emphasis on the accumulation of facts, the multiplying of facilities for post-secondary and adult education, and an expansion of training programs outside the school. Emphasis is on knowing where to find information, on the ability to use it, and on gaining powers from what is learned.

Technological and sociological forces have been gathering momentum. Speed, change, and increased efficiency are now the order of the day in education as elsewhere. Perhaps we should distinguish between major new developments introduced by school law, and innovations introduced in the schools by superintendents, principals, or teachers. As examples of the former, we have a new spurt in the formation of larger units and the elimination of small schools. In Quebec under Operation 55 the Roman Catholic schools were amalgamated into 55 districts and the Protestant schools through amalgamation have been reduced to fewer than 15 areas. Ontario, which exhibited the greatest variety of school organization — from one-room schools to county divisions and metropolitan areas — is now organized into 10 regions under regional superintendents. The 1968 organization of school administrative areas provided for 80 boards with county-wide organization in the south and administrative areas in the north, each board to be responsible for both elementary and secondary education. New Brunswick is organized into 33 districts, Prince Edward Island is moving towards area



Technical aids, such as tape recorders, TV, and films supplement traditional teaching methods. Above, Grade 5 students in Vancouver; below, a social science lesson being televised in Nova Scotia, and students watching a film in Ottawa, Ont.



units and has organized 15 regional high schools. *Manitoba* organized secondary education in larger units by edict, but left the amalgamation of elementary units to local option. Financial encouragement has brought about 80 per cent of the pupils into unitary systems. *Newfoundland*, following their Royal Commission report, has 16 Roman Catholic units and 35 consolidated units so far. The other provinces had organized larger units for some time.

Other changes effected by legislation, too numerous to mention, include for example "The Non-Graded Continuous Progress Plan" implemented by *Saskatchewan* in 1964, steps to eliminate the last of the departmental examinations by *Ontario*, regulations for reorganizing the elementary-secondary structure and accrediting secondary schools in *British Columbia*, and regulations governing colleges of applied arts and technology, or the equivalent, in several provinces.

With the formation of larger units, the trend is towards delegating greater authority to the unit boards which appoint local superintendents and employ other professional advisers. Some of the changes and innovations as a result of the greater freedom and the encouragement to experiment affect the curriculum management and classroom procedure in one or at most several units. The following changes are fairly common:

In the field of curriculum, all studies have been looked at closely and restructured. Some innovations tried out experimentally include the initial teaching alphabet, the Cuisenaire method of teaching mathematics; new physics, new mathematics, and so on.

Flexible scheduling has been introduced; the computer makes it possible to schedule students by the year, the semester, or the week. It also can arrange counselling interviews and reports, and generally provide for non-gradedness.

Flexible teaching procedures with provision for large lecture sessions, small seminars, independent study, and individualized instruction and student research or discovery are found in more schools year by year.

Changes in the structure of school buildings to provide open area schools with flexible walls, carpeted floors, controlled lighting, and so on, are being introduced. Here we should mention two somewhat related efforts. First, there is the Metropolitan Toronto School Board's Study of Educational Facilities directed towards providing a systematized series of detailed educational specifications: a series of technical solutions for appropriate construction, and an administrative series to use the SEF building system effectively. The second is the students' cité or complex as in Vaudreuil, Hull, and some other Quebec districts where elementary, secondary, vocational, and other schools are built around a quadrangle, with a common cafeteria, library, athletic fields, and such.

Education appears to industry to offer a growing market and corporations are consolidating to provide both hardware and software (machines and programs) and in some instances are producing systematized instructional packages. The converting of libraries to depositories with print-out and projection facilities, cable education television, and the use of cassettes and tape all fit into schemes considered today.



An architecturally striking university is Simon Fraser, built on Burnaby Mountain, east of Vancouver, B.C. This new university opened in 1965.

Higher Education

The universities of Canada, about sixty in number, range from small colleges of liberal arts enrolling as few as 1,000 to multi-versities of many colleges and faculties and research institutions enrolling more than 15,000, such as l'Université de Montréal and the Universities of Toronto and British Columbia. Basic instruction is in English in most institutions, in French in several, and in both languages at the Universities of Ottawa and Sherbrooke and Laurentian University. Most operate on an academic year of eight or nine months with summer classes and possibly an inter-session.

Most of the universities in pioneer days were begun by churches but most have since become secular. A fair number, particularly in the western provinces and Newfoundland, were established as provincial institutions, and a third group such as McGill, Dalhousie, and Carleton were begun by interested citizens.

Governance of the universities is generally the responsibility of a board of governors, which may be partly appointed by the parent body — whether church, government, or corporation — and partly elected by the university convocation; a senate, composed mainly of senior staff and sometimes including governors and lay members, to which is delegated academic legislative power; and councils and committees as required. Today's students are asking for representation on all administrative bodies.



To accommodate the increased enrolment at the University of Saskatchewan, the Thorvaldson Building was recently added to the Saskatoon campus.

Below, the new Trent University, Peterborough, Ont., will have from 12 to 14 residential-teaching colleges by 1980.

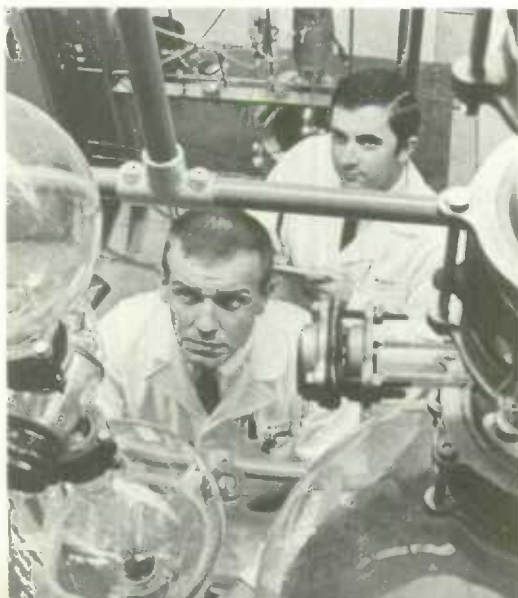


Most provinces have a council for higher education with representation in the provincial legislature. In Saskatchewan or Newfoundland where each has but one provincial university the relationship between government and university is direct. Quebec, through legislative enactment, has established the University of Quebec after examining certain American state universities, the University of Paris, and some Canadian structures. The University of Quebec will open its doors in September 1969 at Montreal, Chicoutimi, and Trois-Rivières, and later in Hull and Rimouski. Instruction and research will be offered from the beginning under a staff selected by the Directorate of Higher Education of the Quebec Department of Education.

Other Post-Secondary Education

Whereas in provinces other than Quebec, high school graduates entered university directly, and some universities accepted students with junior matriculation and provided one year of university preparation, in Quebec, high school graduates completed four years of high school and four years of university in the classical colleges. With the trend in Quebec towards greater emphasis on science and practical subjects there are now special institutes, Collèges d'enseignement général et professionnel (CEGEP) which offer a variety of terminal and college-entrance courses. These will come between high school and university, leaving the Quebec universities free to continue, as do those in many European countries, at a higher level than most universities in North America. The classical colleges will be replaced or adapted to provide mainly courses at the high school level.

Elsewhere the demand for post-secondary education other than university is increasing greatly. To meet this need, as well as to take pressure off the universities, there are a number of institutions springing up in addition to, or in combination with, the institutes of technology. Such are community or junior colleges, whose functions may be to act as feeder colleges to the universities, to provide terminal courses for technicians, or to offer a variety



Students at the B.C. Institute of Technology can take a two-year course in natural gas and petroleum technology.

of other courses for adults. These colleges are usually operated under the provincial departments by local committees and the numbers enrolled are increasing rapidly year by year. At the same time classes for adults in the high schools continue to draw large numbers of adults for academic, cultural, vocational, and hobby courses. At the same time in-service training courses are provided by many companies for both newly recruited and experienced personnel, until the numbers enrolled in post-school educational activity are coming near to the numbers in formal school classes.

Teachers

About 3 per cent of the labour force or 31 per cent of the census class "professional and technical" are teachers. Of the elementary-secondary teachers, about 37 per cent are men and of the women 54 per cent are married. About 65 per cent teach elementary grades. The average experience of both elementary and secondary teachers is just under 7 years. Above 70 per cent of secondary and 13 per cent of elementary teachers outside Quebec have one or more university degrees.

For certification, provincial departments normally require at least completion of high school and one school year of teacher training for elementary school certificates, and university graduation plus one year of professional training or the equivalent for secondary certificates. Teachers of technical courses in secondary schools must meet requirements of practical experience or its equivalent in their specialty. For the most part normal schools have become teachers' colleges and most provinces have entrusted the universities with providing teacher education in faculties of education leading to a degree, although teachers may teach after two years or an interim certificate. Most departments of education provide special summer courses for teachers to qualify for special certificates, while the bulk of students at university summer schools are teachers wishing to qualify for a college degree in arts, science, or education.

An interesting experimental project, Tévec, was conducted by the Quebec Department of Education in 1968-9: Grade 9 courses were carried by two private TV stations in the Saguenay-Lac Saint-Jean region. TV pupils did exercises, which were marked by the Department. At the end of the course, 7,000 people wrote exams.





An adult retraining group at the Nova Scotia Vocational Training Centre, Point Edward, Cape Breton.

With university enrolment and costs expected to double, the problems of staffing the universities loom large for most faculties. In 1967-8, 7,400 were graduated with masters and licence degrees and 940 with earned doctorates. Many of these graduates are attracted to government and industry, or leave the country. Even allowing for Canadians returning with doctorates from other countries, Canadian universities will have to employ many graduates from other countries to meet their requirements.

As with the university, where selection is made on academic rather than professional qualifications, so in the community colleges and technical institutes, although many are qualified teachers, qualifications relate to academic and technical certificates and experience.

The Financing of Education

The Dominion Bureau of Statistics' estimates place the cost of formal academic and vocational education at \$5,931,000,000 for 1968. This represents about 9 per cent of the Gross National Product. Actual annual expenditure on the average is just over \$700 for each elementary and high school student and \$2,500 for each university student enrolled.

About 57 per cent of all educational funds comes from the province. This is followed by local taxation — contributing 30 per cent — and the federal contribution amounting to about 12 per cent. Other sources account for about 1 per cent. Most of the federal contribution goes to universities as operating grants, building funds, student loans, and research grants, and to post-secondary institutes and colleges or other adult education courses.

F. E. Whitworth

Statistics of Canadian Education, 1968-9
(Estimates)

Type of School or Course	Schools	Full-time Teachers	Enrolment
Kindergartens			
Private kindergarten and nursery schools ¹	872	1,734	36,160
In elementary schools ²			
Public .....	..	..	260,880
Indian .....	..	..	3,810
Private .....	..	..	12,115
Total Kindergarten .....	..	..	332,965
Elementary-Secondary Education³			
Public and separate schools	18,038	248,368	4,986,130
National Defence schools overseas	20	535	8,200
Indian schools	336	1,607	26,705
Private schools	1,190	11,241	178,130
Total Elementary and Secondary	19,584	261,751	5,199,165²
Post-Secondary Education⁴			
Universities and colleges	155	19,800	252,700
Nurses' diploma courses	186	2,535	24,830
Teachers' Colleges	70	1,560	23,970
Community colleges and technical institutes	325	11,310	129,720
Total Post-Secondary	736	35,205	431,220
Other Education			
Private trade schools	324	811	21,165 ⁵
Private business colleges	207	888	38,250 ⁵
Total, Other	531	1,699	59,415⁵
Totals	21,723	300,389	6,022,495

Based on data in *Advance Statistics of Education, 1968-9* (DBS Bull. 81-220).

¹ Exclusive of schools in Saskatchewan and Quebec.

² Schools and teachers included in elementary-secondary education.

³ Enrolment excludes children in kindergarten classes reported above.

⁴ Full-time enrolment only.

⁵ Full-time and part-time enrolment.

Miller Composite High School, Regina, Sask., has a place in the permanent Canadian exhibit at the International Bureau of Education, Geneva.





York House School, Vancouver, B.C., is one of the schools in a predominantly English-speaking part of Canada that offers instruction in French also.

Financial Statistics of Education, 1968 (Estimates)

Item	Millions of dollars
Sources of Funds	
Local government taxation	1,488.0
Provincial and territorial governments	3,192.0
Federal government	612.0
Other sources	639.0
Total funds by source	5,931.0
Expenditures on education	
Elementary and secondary education	
Public	3,795.0
Private	94.0
Teachers' colleges	24.0
Higher education	1,453.0
Other	28.0
Total on formal education	5,394.0
Vocational training	537.0
Total expenditure	5,931.0

Religion

The religious freedom that is a part of the Canadian way of life was formally guaranteed in the Canadian Bill of Rights in 1960. In addition, federal and provincial laws have been passed to eliminate discrimination because of religion or race.

Most Canadians are Christians. Adherence to various denominations — according to the 1961 census — was: Roman Catholic, 8,342,826; United Church of Canada (a union of Methodists, Congregationalists, and Presbyterians), 3,664,008; Anglican, 2,409,068; Presbyterian, 818,558; Lutheran, 662,744; Baptist, 593,553; Jewish, 254,368; and Greek Orthodox, 239,766. Other faiths with less than 200,000 members include Ukrainian (Greek) Catholic; Mennonite; Pentecostal; Salvation Army; Jehovah's Witness; Christian Reformed; Mormon; Evangelical United Brethren; Adventist; Churches of Christ, Disciples; Christian Science; Christian and Missionary Alliance; Brethren in Christ; Unitarian; Free Methodist Church of Canada; Church of the Nazarene; Doukhobor; Plymouth Brethren; Buddhist; Confucian; and some others.

Roman Catholic and Anglican congregations recently built the Assiniboia Christian Centre, in Winnipeg, Man., where both worship.



The Arts

A magnificent epilogue to the 1968-9 season of the arts in Canada came in the form of a belated Centennial event. On June 2, 1969, the National Arts Centre opened in Ottawa. It had been scheduled for 1967, and the opening was like a late birthday present. It should also prove to be a unifying force at a time when Canadian arts groups, expanding vigorously in their own regions, need more opportunities to meet and cross-fertilize. If the Centre's two-week opening festival is any indication of future programming, this role as a meeting place should be more than fulfilled. Audiences in these opening weeks saw the National Ballet of Canada perform the world première of Roland Petit's *Kraanerg*, the Théâtre du Nouveau Monde perform *Lysistrata*, heard the country's two major symphony orchestras, Montreal and Toronto, instrumental ensembles from three provinces, a Gordon Lightfoot concert, a play from Vancouver, a multi-media spectacle by Toronto playwright Jack Winter, and an opera by Gabriel Charpentier.

The Centre offers a 2,300-seat opera house, an 800-seat theatre, an experimental studio, and a salon for chamber music concerts. Three restaurants, a string of boutiques, many commissioned art objects, all add to its grace and comfort. Even its air-conditioning is perhaps the best in the world. It is, in the often-repeated words of its architect, Fred Lebensold of Montreal, "prototypal."

Apart from serving as a focal point for touring companies, both visiting and Canadian, the Arts Centre will have its own resident attractions. The Stratford Theatre Company will use it as a home base during the winter, a resident French company called Le Capricorne is now being formed and Canadian Mario Bernardi has left his post as musical director of London's Sadler's Wells Opera to head the Centre's permanent 45-piece orchestra.

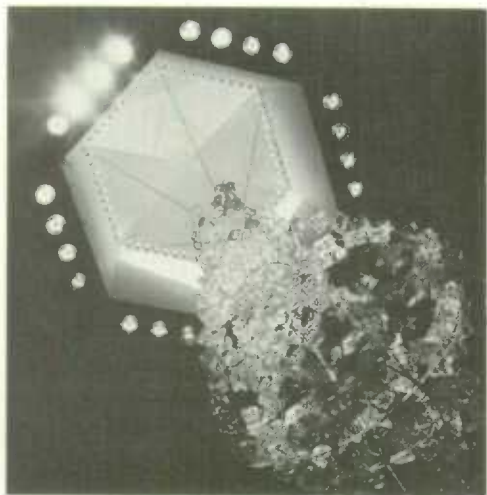
If a *raison d'être* for the Arts Centre is needed, some figures appearing in a recent issue of *World Theatre*, a bilingual journal published by the International Theatre Institute, will serve as well as anything. Taking the period 1947 to 1967 to illustrate the growth of Canadian theatre generally, the magazine cites the following statistics, for ballet: one pro-



Looking across the Rideau Canal to The National Arts Centre, Ottawa. The Peace Tower of the Parliament Buildings is in the background.

The Opera House of the Centre glows in warm tones of crimson and gold. The farthest seat in the third balcony is only 114 feet from the stage, hence the rapport between performers and spectators is close.





Commissioned works of art complement the architecture of the Centre: luminous sculptures of glass and steel by William Martin in the stairwells, "Three Graces" by Ossip Zadkine in the main foyer, and a tapestry by Alfred Manessier in the Salon.





Two of the opening festival's events were *Lysistrata*, performed by the Théâtre du Nouveau Monde, and *Kraanerg* (above), a new ballet by Roland Petit, given its world première by the National Ballet.

Two other attractions at the Centre last summer were *Anne of Green Gables*, a 5-year long favourite from the Charlottetown Theatre, and a new multi-media spectacle, *Party Day*, by Jack Winter.





Giratoire, by Pierre Voyer, performed by students of Collège Sainte-Marie in Montreal won several awards at the Dominion Drama Festival, including that for best play.

fessional company in 1947, four in 1967; for opera: none in 1947, four in 1967; for theatre: none in 1947, fifteen in 1967. The increase in public subsidies for the arts is also significant. In 1957, total federal, provincial, and municipal subsidies for theatre, ballet, and opera amounted to \$266,000. Ten years later it had increased more than ten-fold to \$3,004,000. In the past ten years, fifty theatres have been built in Canada and ticket sales have increased 500 per cent in the past two years alone.

Theatre

On this resolutely cheerful note we can look at the theatre in Canada. Unlike all of Gaul but very much like many things Canadian, it is divided into two major parts. French-language theatre has a strong focal point in Montreal, which has at least three companies of international caliber—the Théâtre du Nouveau Monde, the Comédie Canadienne, and the Rideau Vert. Although Toronto has seen the demise of the Crest Theatre and the Canadian Players, none the less, it has also seen the birth of Theatre Toronto, founded in January, 1968, and the lively and often experimental work of Toronto Workshop Productions. The forthcoming opening of the St. Lawrence Centre

offers bright prospects. The Stratford Festival, of course, is easily accessible to Toronto audiences. At the same time Canada's regional network of English-language theatres has been moving from strength to strength, with its main centres in Winnipeg, Vancouver, Edmonton, Calgary, Halifax, and Charlottetown as well as Toronto.

In Vancouver, which supports a flourishing Opera Association, there is the Playhouse Theatre Company, which maintains an adventurous policy of presenting many new, and often Canadian, works. One of these, *The Ecstasy of Rita Joe*, was brought to Ottawa for the opening festival of the National Arts Centre, after a successful run in Vancouver. The Playhouse also offers a second program, known as Stage 2, showing experimental plays, again many of them by Canadian authors. Another showplace for experimental works is the University of British Columbia's semi-professional Frederick Wood Theatre.

In Edmonton the Citadel Theatre filled 80 per cent of its seats during its third season; and Calgary's semi-professional Mac 14 group was succeeded by Theatre Calgary in the fall of 1968, giving Calgarians a stimulating season of fully professional productions under the artistic direction of

Marcel Dubé's *Bilan*, staged by the Théâtre du Nouveau Monde, was well received by critics and public in Montreal during the 1968-9 season.



Christopher Newton. In Saskatchewan, where the distances between towns make theatre-going something of an effort, the Globe Theatre continued to take productions for children on tour and, for the first time, added an adult program. The Manitoba Theatre Centre, in Winnipeg, is surely one of the country's most remarkable theatrical achievements. Founded in 1958 by John Hirsch and Tom Hendry, and now under the direction of Eddie Gilbert, it is one of the most active regional theatres on the continent, attracting a total audience of well over one hundred thousand each year in a city of less than half a million. In 1968-9, after its theatre was torn down, it presented four productions at Winnipeg's new concert hall, and, in its smaller studio theatre, seven productions, mostly experimental. The Centre expects to move into its new theatre in the autumn of 1970.

There is also the Stratford Shakespearean Festival, the most successful cartographic coincidence in the history of the arts in Canada. From this small town in southern Ontario named after another small town in England has come Canada's original effort to achieve international theatrical status, an effort that has been entirely successful. Since 1967, under the direction of Jean Gascon and John Hirsch, the Festival has produced new plays as well as classics.



Tartuffe was a feature of both the 1968 and 1969 seasons at the Stratford Festival. Here are William Hutt as Tartuffe and Martha Henry as Elmire.



Another success from Charlottetown is *Johnny Belinda*, with Diane Nyland playing the deaf mute. It has been seen in Toronto, Ottawa, and Montreal as well as at Charlottetown's Confederation Centre theatre.

At Niagara-on-the-Lake, the Shaw Festival had its most successful summer season yet, producing a play by Feydeau and a special reading from Oscar Wilde, *The Importance of Being Oscar*, along with Shavian drama. In Halifax, the Neptune Theatre also packed the house consistently, filling 94 per cent of available seats; and the Charlottetown Festival continued to produce original Canadian musical drama. Added to *Anne of Green Gables*—already a perennial success both in Charlottetown and on tour—was a new production, *Johnny Belinda*.

It is sometimes said that political and social issues are more closely linked to the theatre in Quebec than elsewhere in Canada, and several of last year's productions seem to prove the point. The Théâtre de l'Escale performed Robert Gurik's political satire *Hamlet, Prince du Québec*, and the Théâtre de Quat'Sous, Françoise Loranger's *Le Chemin du Roy*—an evocation of the 1967 visit of General de Gaulle. On the other hand, the Théâtre du Nouveau Monde, which in the previous year produced Jean-Louis Roux's interpretation of the life and execution of Louis Riel, *Bois Brûlé*, came up with a brilliant and totally lighthearted production of Bernard Shaw's *Pygmalion*, translated both in language and setting to today's Montreal.



The Grands Ballets Canadiens performing Carl Orff's *Catulli Carmina*.

Dance

Canada's dance companies did a great deal of touring at home and abroad in 1968-9, and already the National Ballet is scheduled as one of Canada's attractions at Expo 70 in Osaka. From Manitoba, the Royal Winnipeg Ballet went across Europe, winning two gold medals at an international dance festival in Paris, and being hailed in the Soviet Union as "Canada's Bolshoi Ballet." The Grands Ballets Canadiens of Montreal won particular praise in Europe for their production of Carl Orff's *Carmina Burana*, and the Feux Follets, another Montreal group which toured Europe, for their *Canadian Mosaic*.

The Feux Follets in masks of the West Coast Kwakiutl tribe.





The Royal Winnipeg Ballet's prima ballerina, Christine Hennessey, was awarded a first prize for giving the best female interpretation, at the Sixth International of the Dance, in Paris.

Prokofiev's *Cinderella* was choreographed for the National Ballet Company by Celia Franca.





A scene from *The Barber of Seville*, with John Arab as Almaviva, Sheila Percy as Rosina, and Cornelius Ophhof as Figaro.

Opera

Most travelled of the Canadian Opera Company's productions in 1968-9 was their *Barber of Seville*, which went across the western provinces and northern United States en route to Alaska and the Northwest Territories. Their month-long Toronto season opened with a re-run of the Canadian opera, *Riel*, and included productions of *Tosca*, *Salome*, and *Aïda*. They also presented a special production from February to May in schools throughout Ontario as part of the Prologue to the Performing Arts program. All told, the company averaged 84 per cent capacity audiences and its box-office receipts for the season were a few thousand dollars above the estimate. Other operatic productions were presented by the companies in Vancouver, Edmonton, and Quebec.

The Guelph Spring Festival now in its second season, is the offspring of the Edward Johnson Music Foundation, set up in memory of the world-famous tenor who was born in that city. Following a highly successful first season last year, the festival chose as its theme for 1969 "The Arts in Religion." Highlighting the two weeks were the Canadian première of Benjamin Britten's *The Prodigal Son*, and a recital by internationally known Canadian tenor Jon Vickers.

Music

Perhaps the outstanding musical event of the year, the one which holds the most promise for the future, was the formation of the Atlantic Symphony Orchestra. The orchestra came from the pooled resources of the Halifax and New Brunswick Orchestras, now dissolved, and it tours throughout the Maritimes from its base in Halifax. The symphony orchestras in Montreal and Toronto continued at high international standards. New conductors have arrived in Winnipeg, in Edmonton, and in Quebec City. New concert halls are opening in Quebec City, Winnipeg, Saskatoon and, of course, in Ottawa—by now well launched on the business of building its new resident orchestra.

In the field of chamber music, both the McGill Chamber Orchestra and the Orford Quartet had successful seasons. Both toured in Canada and the United States last year, and the quartet went to Europe as well. Festivals continued last year at Mount Orford in Quebec, with the Jeunesses Musicales, at the Banff School of Fine Arts, at Stratford, where the musical program is playing an important role, and, again in Ontario, at the new Guelph Spring Festival.

In the spring of 1968, Quebec chansonnier Jean Pierre Ferland won top honours at Montreal's third festival for Canadian recordings only a short while after he had returned from Paris, where he was awarded the Prix Charles-Cros. Other Quebec singers who performed successfully outside Canada in the past year were Gilles Vigneault, by now no stranger to Europe, and Claude Léveillé. Canada's internationally-known pianist Glenn Gould was one of this year's recipients of the Canada Council's Molson Prize.

The chansonnier Claude Léveillé. The songs of the chansonniers tend more and more to reflect the contemporary experience of the French-speaking Quebecer.



Visual Arts

The National Gallery continued to set standards for the country in the variety and quality of its programs. Its stress, for the first time in many years, was on travelling exhibitions, as was that of the Toronto, Winnipeg, and Vancouver galleries. Successes such as Vancouver's in showing Emily Carr throughout British Columbia seems to indicate a new and rapidly-developing pattern that should help greatly in overcoming regional disparity in the arts.

Two large exhibitions of contemporary Canadian art went to Europe this year. One, organized by the National Gallery, went to Paris, Rome, Lausanne, and Brussels. The other, organized by the Canada Council, was shown at the Edinburgh International Festival. And at the Venice Biennale, Montreal painter Guido Molinari received the Bright Foundation award for the best painter under 45.

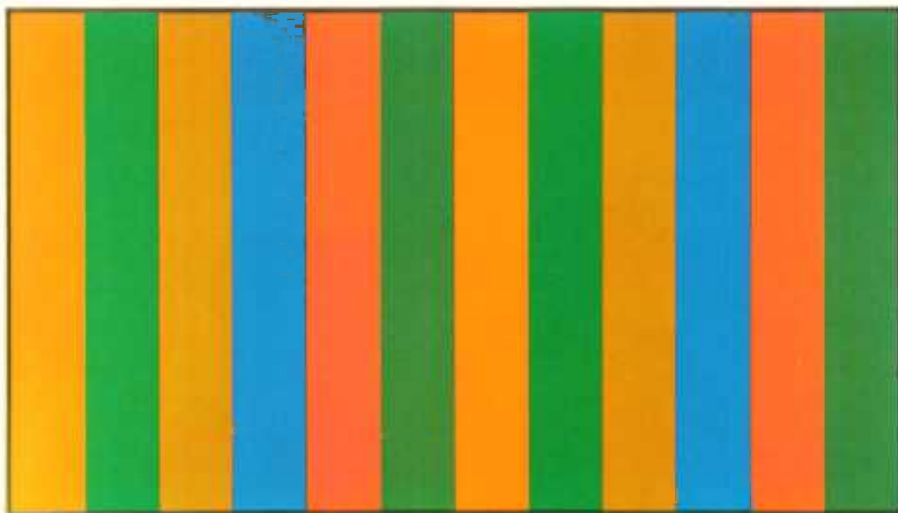
Montreal painter Jacques de Tonnancour received one of last year's Canada Council Medals for outstanding artistic achievement.

Among the major exhibitions held in Canada during the year was "Jacob Jordaens," organized by the National Gallery, which brought together some 314 works from around the world for the largest exhibition it has ever tackled. The exhibition "Rembrandt and his Pupils" brought in 179,000 viewers to the Montreal Museum of Fine Arts and the Art Gallery of Ontario. "Los Angeles 6" in Vancouver, and "New York 13" in Vancouver, Regina, and Montreal, presented some of the liveliest of contemporary American art to Canadian audiences. The Art Gallery of Ontario became the first ever to assemble in any quantity the works of James Jacques Joseph Tissot. "Three Hundred Years of Scottish Painting" opened in Charlottetown before touring Canada; the National Portrait Gallery in London sent "Royal Faces: Portraits of the Kings and Queens of England" to Vancouver; Quebec showed "Treasures from Besançon" and there was an exhibition of Viking artifacts in Regina.

Established arts publications such as *arts/canada* and *Vie des Arts* continued to flourish and a new magazine, *The Five Cent Review*, made its appearance in December. Its publisher is 27-year-old Peter Lebensold of Montreal who pioneered *Take One*, Canada's only magazine on film.

Interest and activity in film has been mushrooming across Canada. Underground films have had showings throughout the country and a regular outlet, the Underground Film Centre, was established in Montreal. A number of experimental Canadian films were shown at the Edinburgh Festival this year and special attention was given there and across Europe to Michael Snow's *Wavelength*. Joyce Wieland won a prize in New York at the Independent Film-makers Festival for her provocative *Rat Life and Diet in North America* which was later purchased by the Museum of Modern Art.

A logical offshoot of this interest in the experimental has been the sight and sound spectaculars. Montreal developed its "Mind Excursion Centre" and Toronto its "Electric Circus," while Intermedia in Vancouver continued to be the country's major workshop for mixed media experiments.



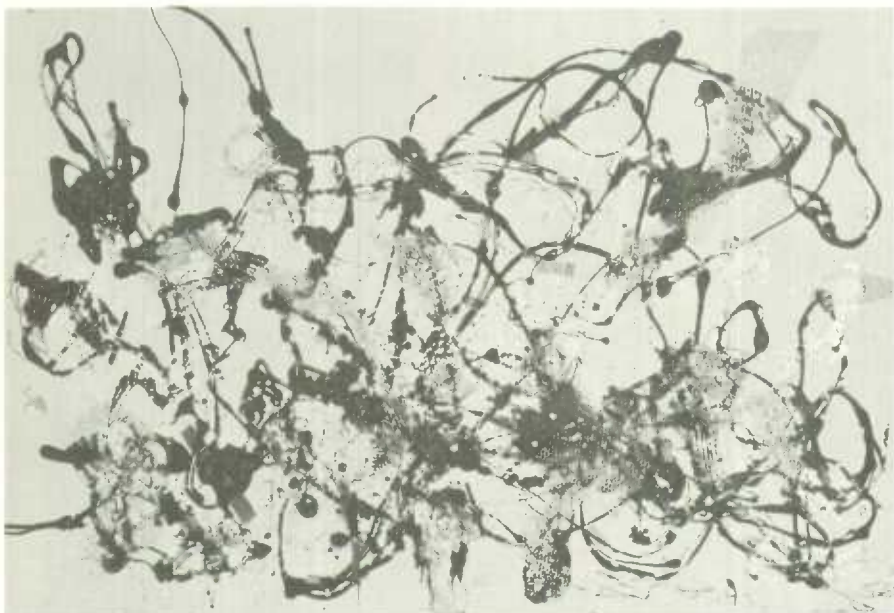
Guido Molinari's *Orange Vert.*

The National Gallery of Canada

The beginnings of the National Gallery of Canada are associated with the founding of the Royal Canadian Academy of Arts in 1880. The Marquis of Lorne, then Governor General, had recommended and assisted the founding of the Academy and among the tasks he assigned to that institution was the

The exhibition "Canada, art d'aujourd'hui" on view in the Musée National d'Art Moderne, Paris.





Two important works recently acquired by the National Gallery to augment its contemporary and European collections: Jackson Pollock's *No. 29* (1950) and Antonio Canova's *Dancer*.

establishment of a National Gallery at the seat of government. Until 1907 the National Gallery was under the direct control of a Minister of the Crown but in that year, in response to public demand, an Advisory Arts Council consisting of three laymen was appointed by the Government to administer grants to the National Gallery. Three years later, the first professional curator was appointed.

In 1913, the National Gallery was incorporated by Act of Parliament (RSC 1952, c. 186) and placed under the administration of a Board of Trustees appointed by the Governor General in Council; its function was to encourage public interest in the arts and to promote the interests of Canadian art. Under this management, the Gallery increased its collections and acquired international recognition. It has had five Directors; the present Director is Dr. Jean Sutherland Boggs.

On April 1st, 1968, the Gallery became a component of the National Museums of Canada under new legislation, Bill No. S-2, enacted to place it with the National Museum of Man, the National Museum of Natural Sciences and the National Museum of Science and Technology under a single Board of Trustees.

The Gallery's collections represent taste and quality. They have been built up to give the people of Canada an indication of the origins from which their own traditions have developed. The collection of Canadian art, the most extensive and important in existence, is continually being augmented by new purchases. The collections also include many European masterpieces, including twelve major works acquired from the famous Liechtenstein collection; the Massey collection of English pictures presented to the Gallery during 1946-50 by the Massey Foundation, and the recently acquired Vincent Massey bequest of Canadian works; and the most important collection of prints and drawings in Canada. Diploma works of the Royal Canadian Academy and an extensive collection of war art are deposited at the Gallery.

The services of the Gallery include the operation of a reference library of more than 25,000 volumes as well as periodicals and sales and exhibition catalogues. The Photographic Library holds 20,000 photographs of works of art related mainly to the collections.

The National Conservation Research Laboratory, established in 1964, provides technical information on works of art from public and private collections across Canada and is responsible for the conservation of the national art collections. In addition, research is carried out on the effects of environment on works of art and on the durability of artists' material.

An active program of exhibitions, lectures, films and guided tours is maintained for visitors to the Gallery in Ottawa. The interests of the country as a whole are well served by circulating exhibitions, lecture tours, publications, reproductions, slides, and filmstrips prepared by the Gallery staff. Promotion and information on art films are handled by the Canadian Centre for Films on Art and their distribution by the Canadian Film Institute. The Gallery promotes interest in Canadian art abroad by participating in international exhibitions such as the Biennials of Venice, São Paulo, and Paris, and by preparing major exhibitions of Canadian art for showing in other countries.

Books

One of the most encouraging aspects of the book business in Canada in the past year has been the flourishing of small publishing houses—encouraging both because of what it says for the Canadian publishing trade and for the material it is publishing. All these houses handle Canadian writers almost exclusively and, while some of them are little more than outlets for special and limited audiences, a few have managed to move on to the national level.

Among these is Mel Hurtig of Edmonton who had been established as a regional publisher for a year and a half before *The New Romans* became a national best-seller. Characteristic of the new publishing spirit, *The New Romans*, edited by poet Al Purdy, is a collection of essays, poems, and stories by Canadian writers of their feelings towards the United States. Characteristic also of the difficulties facing Canadian publishers, particularly one from the Prairies, *The New Romans* was designed in Toronto, printed in Winnipeg, published in Edmonton. Its cover was done in Vancouver and its type was set in London, Ont.

Montreal has its Delta Press, run by poet Louis Dudek, Ottawa its Oberon Press. Sidney, B.C., has Gray's Publishing Company, and Vancouver has Ganglia, Talon Books, and Very Stone House. In Toronto, there is the Coach House Press—which has already won a Governor General's award for its publication of Eli Mandel's *An Idiot Joy*—the Weedflower Press, and the House of Anansi.



The Edmonton Public Library's comfortable chairs encourage browsing.

Run in conjunction with Toronto's Rochdale College, Anansi (the name comes from a spider god of West Africa, also known as a prankster) is run by writer Dave Godfrey and poet Dennis Lee. They publish only paperbacks and most of their twenty titles to date are Canadian poetry. Some of Anansi's published poets include Al Purdy, Margaret Atwood — whose first book by Anansi won a Governor General's Award for 1967 and whose second, *The Animals in That Country*, was a leading nominee for 1968 — Dennis Lee, George Jonas, and Joe Rosenblatt.

Winners of the 1968 Governor General's Awards for Literature were Alice Munro of Vancouver for *Dance of the Happy Shades*, a collection of short stories, Mordecai Richler for his novel *Cocksure* and essays *Hunting Tigers Under Glass*, Marie-Claire Blais for her novel *Manuscripts de Pauline Archange*, and Fernand Dumont for *Le lieu de l'homme*.

Libraries

In Canada the general public is served by networks of municipal, regional, and provincial libraries in each province; students are provided with academic libraries in schools, colleges, and universities. Special occupational groups are served by government, professional business, and technical libraries.

The two government libraries which serve the country as a whole are the National Library and the National Science Library in Ottawa. The National Library, formally established in 1953 by Act of Parliament, is now installed in permanent quarters in the new national library and archives building on Wellington Street. The formal opening, at which the Prime Minister officiated, was held on June 20, 1967. The library and archives building is one of the show places of Ottawa and attracts many visitors: three rooms on the ground floor are used for exhibitions which are changed periodically, and a 400-seat auditorium is in constant use for film showings, concerts, lectures, and so on. The building also contains some fine art works by Canadian and Commonwealth artists. In the main lobby there is a bronze sculpture by Henry Moore, the centennial gift of the British Government, as well as a number of large etchings on glass by John Hutton. The public reading and reference rooms on the second floor have mural paintings by the Canadian artists Alfred Pellan and Charles Comfort.

The National Library publishes *Canadiana*, a monthly bibliography of books, pamphlets, music, and films published in Canada or relating to Canada and including federal and provincial government publications. It maintains the National Union Catalogue which lists the books held in 291 Canadian libraries. This catalogue serves libraries across Canada and abroad by locating books for inter-library loan. The library is connected by Telex with 60 Canadian libraries and by TWX with the Library of Congress in Washington.

Copies of every book, pamphlet, or periodical published in Canada are required by law to be deposited in the national library. The library is also

building up an extensive general collection in the humanities, social sciences, music, and the performing arts.

The National Science Library, which is administered by the National Research Council, specializes in all fields of science and technology. Both collections are listed in the National Union Catalogue and their books are available on inter-library loan.

In addition to the two National Libraries, there are a large number of specialized libraries in the various government departments, with a total book collection of about two million volumes. These also are included in the National Union Catalogue.

In recent years, many new libraries have been established in Canada, particularly new university libraries, and existing libraries have greatly enlarged their collections to meet the needs of the ever-growing student enrolment. In 1967, a number of public libraries were erected as Centennial projects in cities and towns. Areas with a widely scattered population are developing regional library service with bookmobiles, aircraft, and boats. Linked by Telex, even remote centres in the Yukon and Northwest Territories can share the library resources of the country.

Radio and Television

THE CANADIAN BROADCASTING CORPORATION

The 1968 Broadcasting Act confirmed in legislation some of the CBC's traditional principles, and its responsibility to provide the national broadcasting service. The Act sets out that this service should (1) be a balanced service of information, enlightenment, and entertainment for people of different ages, interests, and tastes; (2) be extended to all parts of Canada, as public funds become available; (3) be in English and French, serving the special needs of geographic regions, and actively contributing to the flow and exchange of cultural and regional information and entertainment; and (4) contribute to the development of national unity and provide for a continuing expression of Canadian identity.

Programs. Among major program projects in the 1967-8 seasons were extensive live coverage of the Progressive Conservative and Liberal leadership conventions; the Toronto and Ottawa constitutional conferences; the first national television debate among Canadian party leaders (a joint CBC-CTV production); and the federal election of June 1968. CBC news correspondents covered events in all parts of the world from 15 major production points in Canada and from bases in London, Paris, Moscow, Hong Kong, New York, and Washington. Special documentary programs were produced to mark the 50th anniversary of the end of the 1st World War. Colour programming was increased, and, by the opening of the 1968-9 program season, some 80 to 90 per cent of prime-time evening programming was in colour on both French and English TV networks. There was extensive coverage by all CBC networks of the 1968 Olympic Games in Mexico, and a 10-year contract was signed for CBC coverage of major athletic events at

Canadian universities. In 1968, in addition to its permanent staff of about 9,000, the CBC employed more than 13,000 Canadian performers and artists.

Coverage and Facilities. The CBC television service was within reach of 96.6 per cent of all Canadians by March 31, 1968, carried by 273 stations linked by 10,000 miles of microwave network. The radio service reaches 98.7 per cent of all Canadians and is carried by 321 stations connected by 23,500 miles of networks.

Frontier Coverage Packages are in operation at Yellowknife, Northwest Territories; Whitehorse, Yukon; Lynn Lake, Manitoba; and Havre St. Pierre, Quebec. These are low-power TV transmitters operating four hours a day and broadcasting a selection of national service programs provided on videotape. Plans to extend the FCP service could bring television to some 40 isolated locations in the Canadian north by the end of 1972.

CBC Northern Service. The Northern Service marked 10 years of operation on Nov. 10, 1968. It broadcasts on medium-wave radio for 18 hours a day to the Yukon and Northwest Territories and the northern areas of five provinces, and on short-wave for 8½ hours a day to the High Arctic. It has community stations at Happy Valley, Labrador; Yellowknife, Inuvik, and Frobisher Bay, Northwest Territories; Whitehorse, Yukon; and Churchill, Manitoba. All except Frobisher Bay are connected to the national radio networks, and coverage is further extended through 26 low-power relay transmitters. The short-wave service, in English, French, and Eskimo, is transmitted from



Massenet's opera *Thaïs* was one of the presentations shown in colour on the CBC's French-language network, Radio-Canada, in 1969.

Sackville, New Brunswick, using the facilities of the CBC International Service.

Northern Service schedules combine local programs—including news, discussion, open-line shows, entertainment, public service information, and personal messages—with a variety of national network programs. Programs are broadcast in Eskimo, Dogrib, Chipewyan, Loucheux, Slave, and Cree as well as English and French. The Northern Service also contributes programs to the national networks, such as "Indian Magazine," a weekly radio forum for Indian peoples throughout Canada. News editors at Whitehorse and Yellowknife continue to develop regional news services for the Yukon and Mackenzie networks and to report on northern happenings to newsrooms "outside." Many of the staff and program contributors of the CBC Northern Service are themselves Indians, Eskimos, or Métis.

CBC Armed Forces Service. The Armed Forces Service provides CBC radio and television programs to the Department of National Defence for Canadian servicemen and their dependants in Europe, Africa, and northern Canada, and to Canadian Forces' ships at sea. Recorded and short-wave programs are supplied to broadcasting stations of the Canadian Forces in West Germany, and a weekly package of television programs is distributed among remote Canadian Forces bases in northern Canada and abroad. CBC concert parties visit bases at home and overseas.

External Services. A regrouping of various CBC foreign operations into a single External Services Division was made on July 1, 1968. The division includes the CBC International Service, the Overseas and Foreign Relations Department, CBC offices in foreign countries, and the Export Sales Department.

The International Service broadcasts daily in 11 languages to short-wave listeners in Europe, Africa, Australasia, Latin America, the Caribbean, and North America. Programs are in English, French, German, Czech, Slovak,

Eskimos at Povungnituk, in northern Quebec, rehearsing in their own language a dramatic series for radio broadcast. The series was tape-recorded and broadcast by shortwave from Montreal on the CBC's Northern Service.





A CBC camera crew with actor Raymond Massey at the Vimy Memorial in France shooting sequences for "And We Were Young," a special program for Remembrance Day 1968.

Russian, Ukrainian, Polish, Hungarian, Portuguese, and Spanish. The emphasis is on news and other topical programming, and more than 90 hours of programs are broadcast every week. During the Czechoslovakian crisis in August 1968, many special news reports were broadcast, especially to Eastern Europe. The International Service also supplies music and spoken-word transcriptions to broadcasting organizations in other countries, and has collaborated with RCA Victor to produce several albums of Canadian music for release in the commercial market.

The Overseas and Foreign Relations Department co-operates with government and other agencies in providing on-the-job training for broadcasting students from other countries. It also enters CBC programs in international festivals and competitions and maintains relations with international broadcasting organizations. It guides CBC activity in international sales of programs, arranges itineraries for visiting broadcasters, and co-ordinates information on world broadcasting satellites.

PRIVATE STATIONS

Canada's first privately-owned station marked its 50th anniversary in 1969. From that lone station in Montreal in 1919, private broadcasting had grown by 1968 to embrace AM, FM, TV, rebroadcasting, and short-wave stations. Private stations annually transmit 2,500,000 hours of programming to a potential daily audience of 17,000,000. Development had been smooth and orderly despite the fact that broadcasting was regulated solely by the CBC's board of directors until 1958. In that year the Board of Broadcast Governors was established to supervise both publicly and privately-owned stations and networks, an official recognition of Canada's mixed system of broadcasting.

Ninety-five per cent of Canada's 5,373,000 households have television, and an estimated 750,000 color sets were in use in 1969. In 1968 daily adult TV-viewing averaged 4 hours, 6 minutes. From the opening of the first private

TV station in 1953, TV broadcasting has grown to satisfy this vast audience. Eleven private stations operate the CTV network, which supplies national programming as an alternate to the CBC's. A dramatic upsurge in FM listening highlighted radio in 1968, with 45 per cent of Canadian households having one or more FM receivers. Supplying the radio/TV audience with high-quality programming requires a capital investment of \$165,000,000 and the skilled services of 10,000 employees whose salaries, including payments to freelance talent, exceeds \$70,000,000.

Private stations have two important characteristics: their survival is entirely dependent upon advertising revenue and their primary interest is local service. Ninety-five per cent of such stations belong to the Canadian Association of Broadcasters (CAB), a voluntary trade association established in 1926 to foster and develop, protect and serve the interests of broadcasting. Important CAB projects include an exchange of large numbers of Canadian, and some foreign programs, and 25-year sponsorship of "Report From Parliament Hill", a series of non-partisan programs that permit Members of Parliament to act as their own reporters. The CAB is also sponsoring for 5 years the Dominion Drama Festival, which is dedicated to the discovery, development, and exposure of Canadian talent. The Association also fosters in-station training for foreign students, and provides career information to schools and other bodies.

Two popular shows on the CTV network are "It's Happening" with Robby Lane as host, and "The Pig and Whistle," a variety show in an English pub setting.





Radio-Québec broadcasts a series called "En montant la rivière"—a documented survey of the history of French Canada for Grade 11 students.

Films

THE NATIONAL FILM BOARD

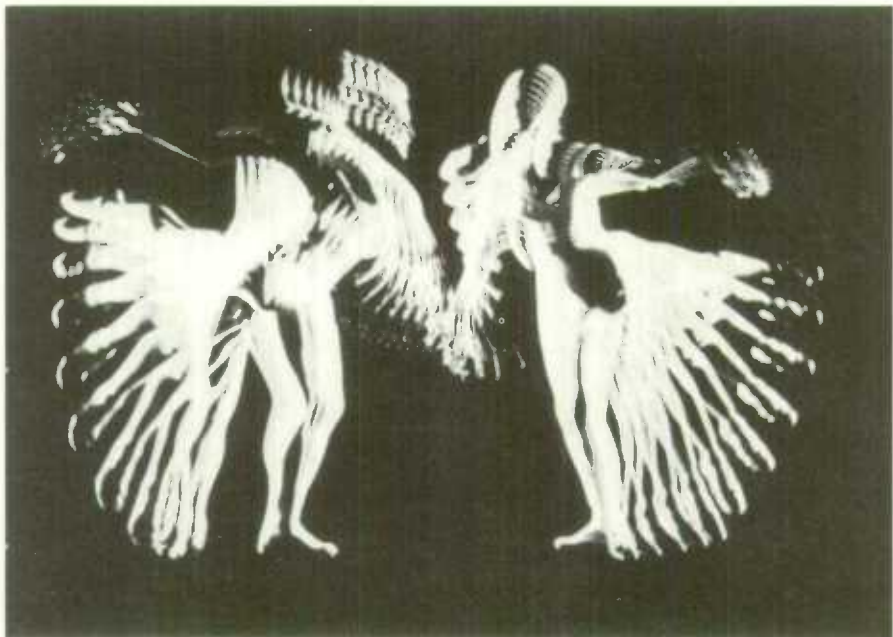
In its role as a government film agency the NFB produces and distributes films for theatrical, television, and 16mm community showings. In addition to original films made for these purposes, the Board also produces news-stories, newsclips, filmstrips, and still photographs.

During the fiscal year 1967-8 the Board produced 174 films, 158 8mm film loops designed for use in schools, 86 film clips, 50 filmstrips, and 52 photo-stories. Slidesets and overhead projectuals also were created so that the number of productions completed, of all types, in that year totalled 678.

In Canada, 788,063 16mm community screenings were recorded by the Board in 1967-8. The total reported audience reached through these showings was over 41 million. This type of distribution is based on a nation-wide system of film circuits, film councils, and libraries supported by organizations and individuals engaged in community activities. Students in schools and universities comprised about half of the reported audience. Abroad, through libraries in Canadian posts, under exchange agreements, and through foreign agencies in more than 70 countries, 673,003 screenings to a total audience of 80,052,459 were reported.

Theatrical bookings of NFB films in Canada totalled 10,892 in 1967-8, and television screenings totalled 7,330.

Beyond Canada, National Film Board productions allow millions of people to become better acquainted with this country, its people and its geography, as well as with its economic life and cultural achievements. In 1967-8 record-breaking figures were established for the distribution of NFB films outside



Pas de Deux, an NFB film, directed by Norman McLaren and featuring Margaret Mercier and Vincent Warren of Les Grands Ballets Canadiens, won a British Film Academy award in 1969.

Canada. There were 35,368 theatrical bookings in various countries; telecasts were more numerous, 13,603 for the year; and sales of prints also increased substantially. There were more showings in part because the number of NFB films available in foreign-language versions is rising constantly; special efforts have increased the distribution of Canadian travel films in the United States; and distribution agreements have been concluded allowing the Board's films to be seen in many new nations, particularly on television.

A considerable audience is reached through the sale of 16mm prints. The Board sold 8,336 prints of its own product in Canada, and 11,129 prints abroad. Board filmstrip sales in Canada were over 70,000 prints, and 29,190 filmstrips were sold abroad.

During the year, the National Film Board won 89 awards at international film festivals.

The growing sophistication of film audiences and the increasing importance of film as a means of communication is reflected in the Board's film-making, which includes features, documentaries, informational films, and films designed for specific social purposes. The Board strives to serve as an innovator of new cinema techniques, as well as a recorder of the nation's day-to-day evolution. Thus, new needs and greater public sensitivity have encouraged the Board's film-makers to explore new filmic styles, and to experiment in

new areas of film production. There have been corresponding new departures in the distribution and use of films, as more people turn to films, as a matter of course, for assistance in many activities.

Films may provide ideas for reflection and information, encourage social action, and serve as adjuncts to instruction or personal development. The National Film Board, in its production and distribution activities, seeks to meet these needs and interests of the Canadian people, and continues to employ the film medium as an effective method of informing millions in other lands about Canada's aims and aspirations, its achievements and developments.

FILM COMPANIES

Last year an estimated 95 Canadian film companies plus 10 government agencies produced some 3,000 motion pictures and 9,000 other film productions such as TV commercials, newsreels, trailers, and slidefilms. This does not include all the films made by television stations. About 75 per cent were in English and 25 per cent in French. Half were produced in Ontario, a third in Quebec.

Film production continues to grow across Canada. (Dollar volume has tripled in the past ten years.) Besides all the films made for TV, the great majority of those made by Canadian producers were for corporations,

Isabel was a feature-length film that won acclaim when it was shown commercially in North America. It was written and directed by Paul Almond, starred Geneviève Bujold, and was filmed in Gaspé, Que.



Cameraman Naohiko Kurita of Western Films is warmly clothed to "shoot" in winter. There are about one hundred film producers in Canada.



associations, and institutes and their main purposes were public relations, marketing, information, training, and fund-raising. Canada's film laboratories printed about 115 million feet of 16mm and 35mm films last year.

In the theatrical film field, the Canadian Film Development Corporation was established by the federal government last year with a \$10 million revolving fund to provide assistance to Canadian feature producers. The fund is expected to give a boost to this branch of the industry.

The twentieth annual Canadian Film Awards was a successful show-case of the industry's products. The Film of the Year was "A Place to Stand," first shown in the Ontario Pavilion at Expo 67. It also won an Academy Award. While a number of theatrical feature films have been produced in Canada, traditionally we are favourably known in other countries for our skill in making documentary films for industry and government. Some producers have developed a brisk export trade. Crawley Films of Ottawa, for example, has made films in 22 countries around the world.

Technicians in the industry are highly-skilled specialists. While the Ryerson Institute in Toronto graduates a number of well-trained young people, the apprentice system of "learning by doing" qualifies most staff personnel.

The film industry provides opportunities for many young creative Canadians. Writing talent is much in demand and through a longtime association with the Association of Canadian Television and Radio Artists (ACTRA) many aspiring Canadian performers are able to perfect their craft.



"Warrendale," a film illustrating a method of treating disturbed children, won awards at the Cannes, Montreal, San Francisco, and New York film festivals and other awards in the United States, Australia, and Britain.

Recreation

Skiers' patterns on a pristine slope, the hush of theatre-goers, the beat of the discothèque, the flicker of a campfire — these are some of the sights and sounds of Canadians at play.

Blessed, as few countries are, with a wealth and variety of scenery, Canada is today reaping the benefits of its Centennial year legacy. This legacy, which took the form of new cultural centres, sports complexes, parks, roads, hotels, and newly restored historic sites, has brought Canada to its golden age of recreation.

Outdoor Recreation

Traditionally, Canadians have sought relaxation in the great outdoors. Prolific fish and game areas lure more sportsmen every year as new roads and fly-in services open up new regions to outfitters' camps and lodges.

Containing literally millions of lakes and rivers and miles of ocean shoreline, Canada offers unlimited scope for water sports and recreation. Lakeside cottage construction is on the upswing and swimming, water-skiing, pleasure boating, and skin-diving continue to increase in popularity.

Yacht, sailboat, and powerboat races and swimming regattas proliferate on inland and coastal waters and there is a new interest in wilderness canoeing, sparked by the 1967 Centennial Voyageur Canoe Pageant, and the efforts of the Canadian Camping Federation volunteers who mapped the navigable canoe routes of today.

An interest in hiking has been revived with the cutting of special hikers' tracks in national and provincial parks and with the opening of Ontario's 480-mile long Bruce Trail from the Niagara Escarpment to the Bruce Peninsula.

Camping and National Parks

Over half of Canada's population dwells in urban centres and Canadians are increasingly seeking relaxation on a camping holiday. Across the country,



Part of the Cabot Trail — seen here near Cap Rouge — runs through the Cape Breton Highlands National Park.

Park	Location
Terra Nova	On Bonavista Bay, Newfoundland
Prince Edward Island	North shore of Prince Edward Island
Kejimikujik	Western Nova Scotia
Cape Breton Highlands	Northern part of Cape Breton Island, N.S.
Fundy	On the Bay of Fundy in New Brunswick
Georgian Bay Islands	In Georgian Bay, north of Midland, Ontario
Point Pelee	On Lake Erie in southwestern Ontario
St. Lawrence Islands	In the St. Lawrence River between Brockville and Kingston, Ontario
Riding Mountain	Southwestern Manitoba
Prince Albert	Central Saskatchewan, north of Prince Albert
Banff	Western Alberta, on the east slope of the Rockies
Elk Island	Central Alberta, near Edmonton
Jasper	Western Alberta, on the east slope of the Rockies
Waterton Lakes	Southern Alberta, adjoining Glacier Park in Montana, U.S.A.
Glacier	Southeastern British Columbia
Kootenay	Southeastern British Columbia
Mount Revelstoke	Southeastern British Columbia
Yoho	Eastern British Columbia
Wood Buffalo	Partly in Alberta and partly in the Northwest Territories, between the Athabasca and Slave Rivers.

19 national parks offer a total of 10,500 tent and trailer sites. Private, municipal and provincial campgrounds add thousands more to this figure. In 1968, Canada's national parks system hosted almost 11 million visitors—an increase of one million people over the previous year.

Some national parks, like Banff and Jasper, in Alberta, are popular resort areas with well-developed skiing, golfing, riding, and swimming facilities, and townsites and resort hotels. Most others have been left as close to their natural state as possible.

Surveys of visitors' preferences have confirmed that people value the national parks because they are natural areas, where people can enjoy the scenic beauty and wildlife. Accordingly, in plans for the future, some parks will have wilderness zones, which will be preserved forever in their natural state. They will be provided with only those facilities that will encourage use by those who are challenged and satisfied by living close to nature, with few of the refinements and gadgets of civilization.

There will also be natural zones for those with an interest in nature but who because of age, time limitations, or perhaps small children, cannot venture into the wilderness areas. They will be able to see and reach these natural areas from roadways. Such areas will be located, designed, and developed within an interesting natural environment to facilitate access, accommodation, and informed use.

Quetico Provincial Park, in northern Ontario, contains some of North America's finest canoeing country. The historic *voyageurs'* trade routes to the West ran through the area now enclosed by the park.



National Historic Parks and Sites

In addition to the national parks, national historic parks and sites important in the history of Canada are preserved and identified. The 24 national historic parks are military or fur-trading forts that have been preserved, or historic buildings or reconstructions of historic buildings, most with museums.



The headquarters of the Jesuit mission to the Huron Indians in the 17th century, Fort Sainte-Marie near Midland, Ont., has been restored.

Spectator Sports

Probably no other nation boasts such a diversity of sports as Canada. This is partially due to this country's receptiveness to both American and British influences. Then too, European settlers who flocked here after World War II brought their sporting traditions with them.

Soccer, rugby, basketball, boxing, cricket, horse racing, shell rowing, and auto racing all flourish. There are well-organized baseball, football and ice hockey leagues at community, public school, university, and professional levels. Football, especially, has enjoyed a rapid rise in popularity since the Second World War and the Grey Cup game, the Canadian Football League's annual play-off, where east meets west, gives rise to a week-long festival in the host city.

Lacrosse, Canada's national game, has its share of devotees, but Canadian-invented ice hockey is this country's most popular spectator sport. Although 10 of the 12 National Hockey League teams are based in cities in the United States, the game remains Canadian in playing ability, tradition, and leadership.

Canada entered the international racing league with the introduction of Grand Prix racing at Mosport, Ont., in 1966. Today the Mosport track and circuits at St. Jovite, Que., and Edmonton, Alta., all feature world-renowned races and name drivers.



Exciting moments in three sports: Toronto Maple Leafs score a goal against the Boston Bruins in the Stanley Cup playoffs; an Ottawa Roughrider intercepts a pass intended for a Calgary Stampeder, during the 1968 Grey Cup game; and Mario Andretti wins the 100-mile Le Circuit at Mt. Tremblant, Que.

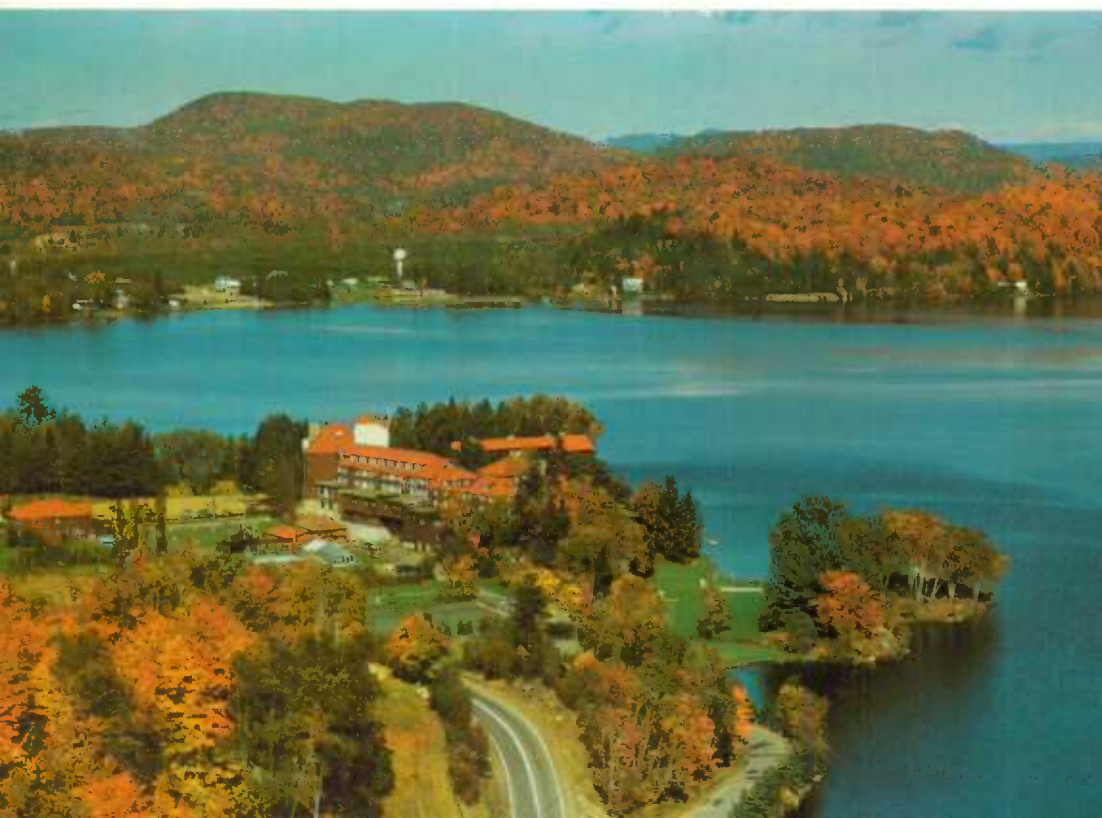


Participation Sports

More and more, Canada is becoming a nation of participating sportsmen. Bowling, golf, lawn tennis, tennis, volleyball, sky-diving, flying, horseback riding and archery are all widely enjoyed. But it is in the field of winter sports that the rise in popularity is most apparent. As always, ice skating, tobogganing and sledding are popular winter pastimes. The European sport of bob-sledding is also gaining in popularity and curling and ice-fishing win more devotees each year. Since the 1950's, skiing has enjoyed a meteoric rise in popularity. There are some 600,000 skiers in this country and the sport has become a big business with at least 70 major resorts and thousands of smaller operations.

In the past five years, the snowmobile has revolutionized the Canadian winter. Snowmobile clubs have been established across the country and resort areas, such as Quebec's Laurentian Mountains, feature special trails for cross-country snowmobiling. Snowmobile races and rallies are popular winter events and family cottages, once inaccessible in the winter, are now open all year.

The many resorts in the Laurentian Mountains north of Montreal, Que., provide recreation the year round: swimming, golf, tennis, and riding in the summer and skiing in the winter.





Summer in the East and winter in the West: one of Prince Edward Island's famous pink beaches, and spectacular skiing for experts on Bugaboo Glacier, in British Columbia.



The Arts

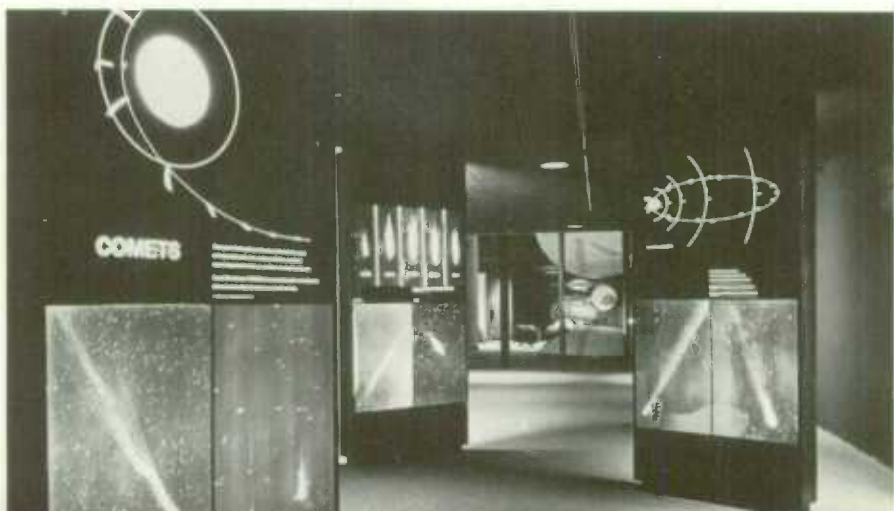
With more time on their hands, Canadians are finding fulfilment for their creative elements in the arts, both as spectators and doers. This includes the smaller centres as well as the large cities, the traditional strongholds of the arts.

Increasingly, Canadians are forming clubs to pursue their mutual interests in photography, the cinema arts, dramatics and music. In addition, more and more people are seeking recreation in night study programs devoted to the arts and crafts, drama and dancing.

Many more Canadians gravitate to summer art schools such as the ones at Banff, Alta., Fundy National Park, N.B., and Ste. Adèle, Que.



Attractions for young Canadians especially are the new planetarium in Vancouver, B.C., and the McLaughlin Planetarium in Toronto, Ont.





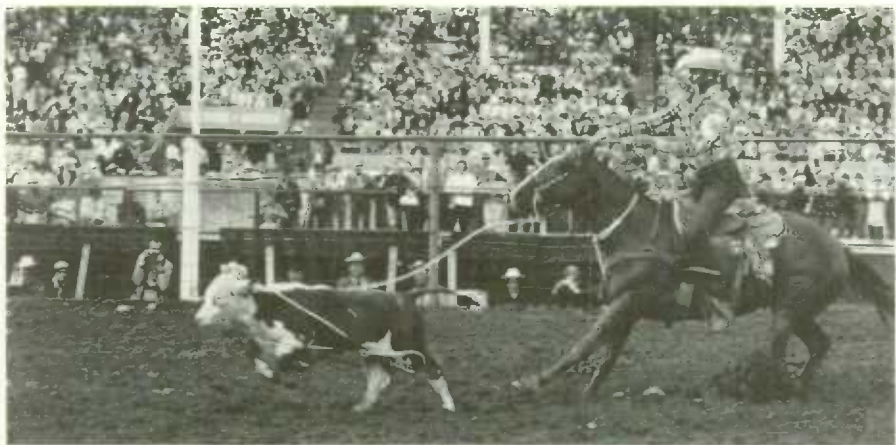
A student of ceramics at the Banff School of Fine Arts and a dance class in Edmonton, Alta.

Afterdark Entertainment

With this abundance of things to see and do, an increasing number of Canadians are discovering their own country. Travel is on the upsurge and new and improved roads, rail and air services, and accommodation facilities are making it cheaper and easier for Canadians and visitors to Canada to explore this country.

Canada boasts an ever-growing repertoire of night time entertainment. Gourmet restaurants and theatres now tempt the discriminating diner and theatre-goer. Even in smaller centres, jazz clubs, coffeehouses, and cocktail lounges offer more afterdark recreation than ever before.





Steer decorating at the Calgary Stampede.

Special Events

Canada has a full calendar of year-round events with each season featuring its own special type of celebration. In late March and early April, sugaring-off parties are popular in eastern Canadian maple bushes. Spring is the time for blossom festivals, such as the ones held in Ontario's Niagara area, the Annapolis Valley in Nova Scotia, the Okanagan Valley of British Columbia, and Ottawa's Tulip Festival.

Summer brings a plethora of exhibitions, fairs and festivals. Montreal's "Man and His World," held on the site of Expo 67, and offering the same visual scope, is now a permanent summer exhibition.

Other well known summer events include Edmonton's Klondike Days and



An Indian of the Six Nations at the Fort York (Toronto) Festival.



"Bonhomme Carnaval" leads the fun at the Quebec Carnival.

the Calgary Stampede and Exhibition, both in Alberta, the Vancouver Festival of the Sea, in British Columbia, and the Nova Scotia Fisheries Exhibition and Fishermen's Reunion, in Lunenburg.

In August 1969 the first Canadian Summer Games were held in Halifax and Dartmouth, with 2,400 athletes competing, and thousands of spectators cheering them on.

Winter gives rise to a cross-country series of carnivals. Most feature winter sports competitions — skiing, curling, dog-sledding, snowmobiling, hockey, and ice-fishing. The most popular carnivals are the Quebec Winter Carnival, at Quebec City, the Festival des Neiges at Ste-Agathe-des-Monts, Que., and the Muk-Luk Mardi Gras in Edmonton, Alta., and the Vernon Winter Carnival in British Columbia.



Toboggan races are a feature of the Snow Festival at Ste-Agathe, Que.



The Economy



Economic Growth

Strong foreign demand for Canadian goods coupled with buoyant domestic markets pushed the level of Gross National Product — the total value of goods and services produced by Canadian residents — to \$67,400 million, a rise of 8.5 per cent compared with 6.9 per cent in 1967. This increase is somewhat above the average annual rate of increase of 8 per cent for the current period of economic expansion, which began in 1961. There was continuing pressure on prices which rose by 3.6 per cent, the same rate as last year's. In real terms — in other words after discounting that part of the total value increase that reflects higher prices rather than greater volume — Canada's output of goods and services advanced by 4.7 per cent, considerably higher than the 3.1 per cent increase of the preceding year.¹

Although strength was evident throughout 1968, the economy advanced more vigorously in the beginning and closing quarters of the year. In current dollar terms, the strongest advance occurred in the first quarter, which rose by over 3.5 per cent. This was followed by a more moderate 2 per cent gain in the second quarter. The pace of activity then accelerated in the third and final quarters, with increases of 2.5 and 3.5 per cent respectively. In contrast to the first three quarters of the year, when demand was dominated by one or a few components, the advance in the fourth quarter displayed a widespread strength. For the year as a whole, the pattern of demand seemed balanced. All sectors continued on an upward path or, as in the case of business investment in plant and equipment and in inventories, renewed an uptrend after declines in 1967.

¹ Real domestic product at factor cost (that is, at the cost of the labour and capital used) by industry of origin, is an alternative but conceptually somewhat different measure of economic production. It shows a 4.2 per cent advance in real terms compared with a 2.7 per cent increase for the preceding year. Among the differences between the two series are valuation at the market price rather than at factor cost, the use of national rather than domestic boundaries, and the use of different periods of time as the weight-base.

Merchandise Exports Jump 19.5 Per Cent

The pull exercised on this year's expansion by the rapid growth of the United States economy was most evident in the demand for Canadian goods and services abroad, which climbed by 13.5 per cent. Canada's exports of merchandise jumped by 19.5 per cent and the bulk of these went to the United States. External demand was particularly strong in the first quarter, when it provided the major stimulus to a renewed fast rate of economic activity. Through the year there were sharp rises in the exports of a wide range of commodities. With the exception of motor vehicles and parts, where trade transactions in both directions were exceptionally large, imports tend to lag behind exports — partly because of rather low current rates of investment in machinery and equipment, as demand for many capital goods is normally met through foreign supplies. As a result Canada's merchandise surplus (merchandise exports less merchandise imports) grew from \$500 to \$1,300 million to reach its highest level since 1945. This net gain in merchandise trade was partially offset by a larger deficit in services, because of a return to more normal tourist activity after the large influx of visitors from abroad during Centennial year. The over-all deficit on a National Accounts basis was reduced by half to \$332 million.

Renewed Consumer Interest in Durable Goods

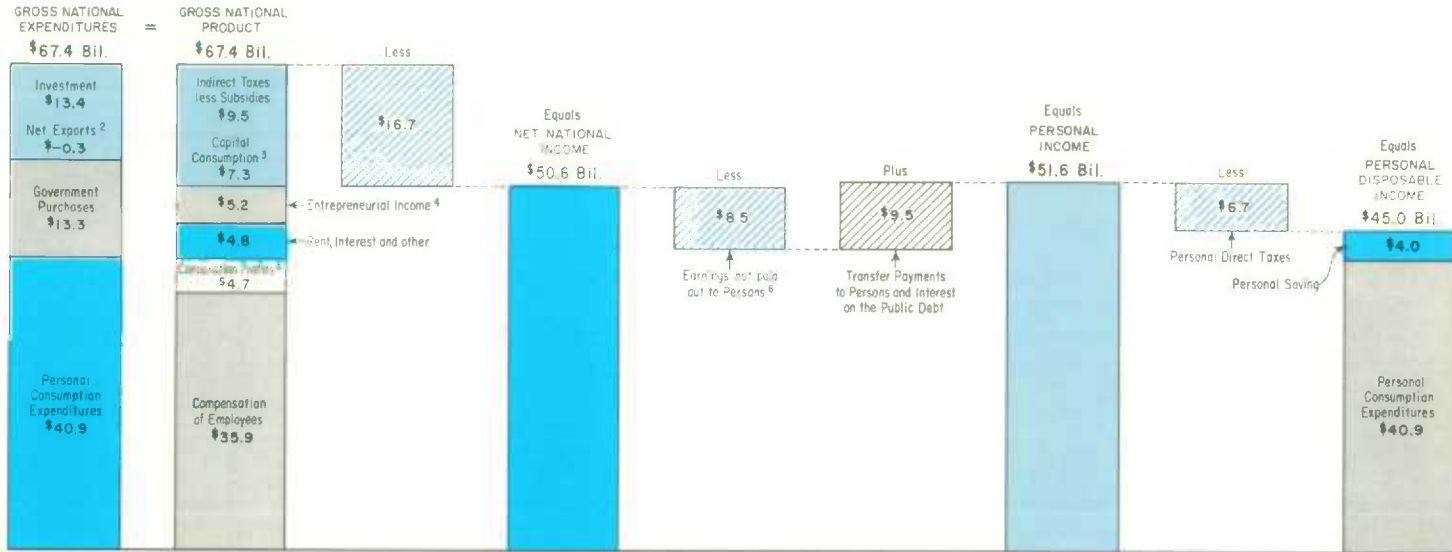
Rising by 8.5 per cent, consumer purchases maintained the high rates of growth of recent years and accounted for nearly half of the increase in total demand. A feature of the year was the renewed consumer interest in durable goods, which increased by 10 per cent, more than twice the rate of the last two years. This rise was mostly due to sharp increases in car purchases, following two years of only moderate sales and hence of sluggish growth. By contrast, expenditures on non-durables (those goods which are normally consumed or used within a relatively short period of time, such as food and clothing) were rather weak; they rose by 6.5 per cent compared with 9 per cent in 1967. Because of large price increases in this category, the slowdown in the volume of sales was even more pronounced. With personal expenditures outpacing the growth of personal disposable income, which was slowed down by higher tax collections, the rate of personal saving showed some decline from the very high levels of recent years.

Housing Construction Up 20 Per Cent

In gross fixed capital formation, which consists of investment expenditures on newly produced machinery and equipment, and on new residential construction, impressive gains were achieved in housing, where unprecedented numbers of both construction starts and of units completed during the year pushed investment some 20 per cent above the 1967 level. The entrance of the banks into the field of mortgage lending and the introduction of more flexibility in the mortgage rate structure were important factors which helped

RELATION BETWEEN GROSS NATIONAL PRODUCT, NET NATIONAL INCOME¹ AT FACTOR COST, PERSONAL INCOME, PERSONAL DISPOSABLE INCOME, AND PERSONAL NET SAVING, 1968

- GROSS NATIONAL EXPENDITURE = GROSS NATIONAL PRODUCT is the market value of the total of goods and services produced by Canadian residents during the year.
- NET NATIONAL INCOME AT FACTOR COST is the total earnings of labour and property from the production of goods and services.
- PERSONAL INCOME is the total income received by Canadian residents from all sources.
- PERSONAL DISPOSABLE INCOME is equal to personal income less direct personal taxes; it is the income available to persons for consumption expenditures or saving.



¹ AT FACTOR COST, I.E. AT THE COST OF THE LABOUR AND CAPITAL USED.

² EXPORTS VALUED AT \$1,710 MINUS IMPORTS OF \$1,670.

³ AND MISCELLANEOUS VALUATION ADJUSTMENTS.

⁴ INCLUDES ACCRUED NET INCOME OF FARM OPERATORS FROM FARM PRODUCTION AND NET INCOME OF NON-FARM UNINCORPORATED BUSINESS.

⁵ INCLUDING INVENTORY VALUATION ADJUSTMENT AND MINUS DIVIDENDS PAID TO NON-RESIDENTS.

⁶ SUCH EARNINGS ARE MOSTLY UNDISTRIBUTED CORPORATION PROFITS, CORPORATION PROFIT TAXES, GOVERNMENT INVESTMENT INCOME, AND EMPLOYER AND EMPLOYEE CONTRIBUTIONS TO SOCIAL INSURANCE AND GOVERNMENT PENSION FUNDS.

SOME COLUMNS DID NOT ADD BECAUSE OF ROUNDING.

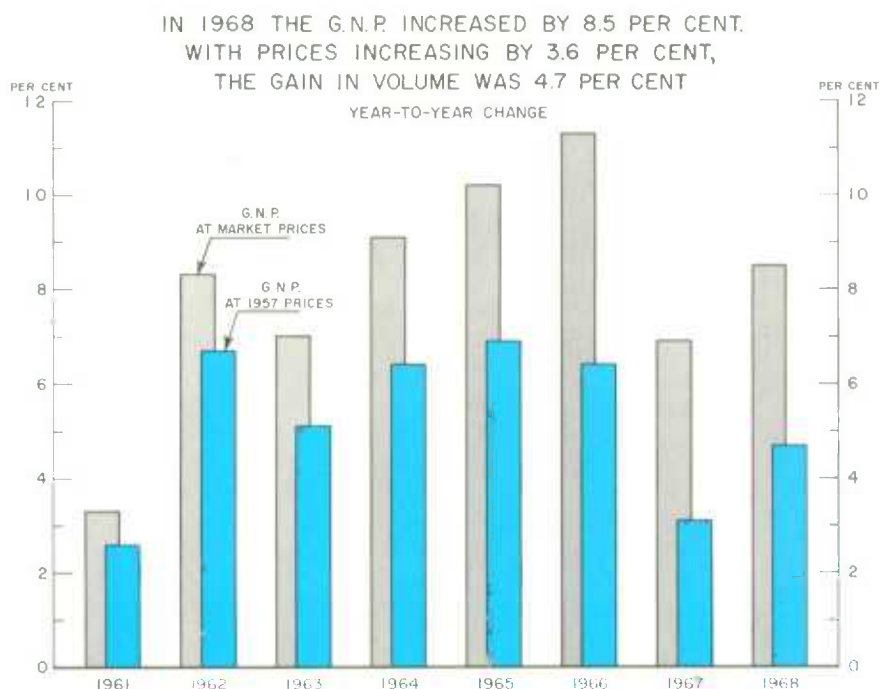
keep the current level of activity in house-building high. By contrast, businesses' capital spending on plant and equipment declined by 3.5 per cent; it nevertheless scored moderate quarterly gains and ended the year well above its trough in the last quarter of 1967.

Business added \$479 million to inventories compared with \$189 million in 1967. The major accumulation was at the retail level and was equally divided between durable goods, mostly motor vehicles, and non-durables.

Government expenditures on goods and services continued the deceleration which started in 1967; for the first time since 1964 it rose less rapidly than the GNP as a whole. Most of the 1968 rise of 7.5 per cent was attributable to increased spending by provincial and municipal governments and consisted largely of higher wages to government employees and capital outlays, such as the construction of schools and highways. With total revenues rising faster than total expenditures, the surplus, on a National Account basis, for all levels of government combined, increased from \$157 to \$800 million.

Sharply Rising Incomes

The vigorous performance of the Canadian economy in 1968 was reflected in sharply rising incomes. After declining for two years, corporation profits increased by 17 per cent above their 1967 level. Advances occurred through-





The Royal Bank building in Halifax, N.S.

out the year, but the fourth quarter leap of over 10 per cent was the most pronounced. Some of the increase was the result of the levelling in capital cost allowances which followed the withdrawal at the end of 1967 of the option to accelerate claims for machinery and equipment. Gross profits (which include these provisions for depreciation) rose by 10 per cent. The improvement in profits was probably facilitated by the existence of strong demand and price pressures in the United States. In spite of sharply increased tax liabilities, partly due to higher rates of corporate income taxes, undistributed corporation profits also rose to record levels.

The 8.8 per cent increase in labour income was derived mostly from higher average earnings, as rates of pay continued to rise steeply in spite of a continued slowdown in employment. The moderate employment growth of around 2 per cent, most of which was absorbed in the service-producing industries, fell short of the increase in the labour force, causing the unemployment rate to climb from 4.1 to 4.8 per cent. There were indications of good productivity gains this year, especially in the goods-producing industries, such as manufacturing and construction, where large increases in output were realized with practically unchanged levels of employment.

Source of Personal Income, 1950, 1960, and 1966-8

(Millions of dollars)

Source	1950	1960	1966	1967	1968
Wages, salaries and supplementary labour income	8,629	18,251	29,661	32,389	35,225
Less: Employer and employee contributions to social insurance and government pension funds	-256	-745	-1,843	-2,031	-2,298
Military pay and allowances	137	509	621	704	696
Net income received by farm operators from farm production ¹	1,156	1,178	2,048	1,785	2,022
Net income of non-farm unincorporated business	1,439	2,213	2,949	3,194	3,422
Interest, dividends and net rental income of persons	1,268	2,836	4,536	4,894	5,315
Transfer payments to persons:					
From government (excluding interest) ..	1,030	3,129	5,047	6,223	7,194
Charitable contributions by corporations	25	40	44	44	46
Personal Income	13,428	27,411	43,063	47,202	51,624

¹ Excluding the adjustment to take account of accrued net earnings arising out of the operations of the Canadian Wheat Board.

Disposition of Personal Income, 1950, 1960, and 1966-8

(Millions of dollars)

Disposition	1950	1960	1966	1967	1968
Personal Direct Taxes:					
Income taxes	612	1,978	3,903	4,904	5,922
Succession duties and estate taxes	66	158	224	215	235
Miscellaneous	62	224	357	374	503
Total Personal Direct Taxes	740	2,360	4,484	5,493	6,660
Personal Expenditures on Consumer Goods and Services:					
Non-durable goods	6,711	11,785	16,930	18,488	19,695
Durable goods	1,451	2,669	4,169	4,365	4,805
Services	3,864	9,058	13,749	14,861	16,416
Total Personal Expenditure on Consumer Goods and Services	12,026	23,512	34,848	37,714	40,916
Personal Saving:					
Personal saving excluding farm inventory change	583	1,523	3,582	4,119	3,672
Value of physical change in farm inventories	79	18	149	-124	176
Total Personal Saving	662	1,539	3,731	3,995	4,048
Personal Income	13,428	27,411	43,063	47,202	51,624
Personal Disposable Income¹	12,688	25,051	38,579	41,709	44,964

¹ Personal income less total personal direct taxes.

Industrial Growth

The late 1950's was a period of relative stagnation following the tremendous expansionary pressures of the investment boom of the mid-fifties. The 1960's, on the other hand, were a period of almost uninterrupted growth at rates approaching those achieved during the early 1950's.

The period of industrial expansion which began in the fourth quarter of 1957 reached its peak in the first quarter of 1960. Over this period of nine quarters, that is, from trough to cyclical peak, total real output increased by 10.5 per cent. In the current expansion which began in the first quarter of 1961 and has continued uninterrupted for 33 quarters (as of the fourth quarter of 1968), real output has advanced by 53.1 per cent.

The pattern of slow growth during the late 1950's, followed by substantial advances in output, was widespread among the major industries.¹ The exceptions were chiefly those which even during the period of general slowdown benefited from the introduction of new technology, new products, or new marketing techniques. Such, for example, were the industries producing petroleum and coal, the chemicals groups, the public utilities, air transport, and the communications industries. There are also some industries, chiefly within the community, recreation, business, and personal service group, which have expanded at a slow but steady rate throughout most of the postwar period.

¹ For the purpose of this article, wherever real output by industry is mentioned, "industry" includes agriculture, forestry, fishing and trapping, mining, manufacturing, public utilities, construction, wholesale and retail trade, transportation, storage, communication, finance, insurance and real estate, public administration and defence, and community, business, and personal service. Production represents the unduplicated output of individual industries located in Canada, as measured in 1961 dollars. Total production is the sum of the output of all the individual industries.

The measurement of real output is difficult in some of these industry areas and labour input measures had to be used to represent output in some major industries. Consequently the measures may not be as sensitive to fluctuations as proper output measures would be.

mainly in response to such factors as growth of population. In the current decade, these industries have continued to expand steadily. A few of the primary industries, such as agriculture, which are strongly influenced by external factors such as the weather, exhibited sharp fluctuations in annual output. This made it more difficult to define a clear-cut trend. However, the harvesting of several record grain crops during the 1960's and substantial sales of wheat abroad, exerted a favourable influence not only on the agriculture industry, but indirectly, also, on the transportation and storage industries which handled the wheat, the grain-milling industry, which produced large quantities of flour for export and so forth, down to the retailer who supplied the increased demand of the farm population.

The following table shows average quarterly growth rates for all the major industry groupings for the two most recent expansions, that is, from the first quarter of 1961 to the present and from the fourth quarter of 1957 to the first quarter of 1960. Particularly striking are the changes in output in such industries as agriculture, construction and durable manufacturing. As can be seen from the table, the 2.2 per cent average quarterly increase in the output of manufacturers of durables in the current expansion was the highest for any major industry group, and thus well above the comparable 1.4 per cent rise in total real output. The rapid advance of the durable manufacturing component, can, in fact, be said to be among the most notable features of the current expansion.

Quarterly Growth Rates¹

	4th Q. 1957- 1st Q. 1960	1st Q. 1961- 4th Q. 1968
Real Domestic Product	1.1	1.4
Goods producing industries	1.2	1.7
Agriculture .....	.7	1.2
Forestry	3.5	1.3
Fishing and trapping	-1.6	0.4
Mining	1.7	1.5
Manufacturing	1.4	1.8
Non-durables	1.5	1.4
Durables	1.3	2.2
Construction	-0.5	1.5
Electric power and gas utilities	2.8	2.1
Service-producing industries	1.0	1.2
Transportation, storage and communication	1.1	1.5
Transportation	1.0	1.6
Trade	1.1	1.3
Wholesale	1.7	1.2
Retail .....	.8	1.4
Finance, insurance and real estate	1.0 ²	0.9
Public administration and defence	0.5 ²	0.6
Community, business and personal service	1.3	1.3

¹ Based on the terminal years compound interest rate formula.

² Based on 1949 = 100 and a 1948 weighting and industrial classification system.

In the current expansion five industry groups have advanced more slowly up to the present than during the preceding period. One of these was electric power and gas utilities, which nevertheless was still the second fastest growing industry group in the economy. Another was mining. The slowdown in both mining and electric power and gas utilities appeared to be a phenomenon which brought the rate of growth of these two industries more in balance with that of the economy as a whole. Both industries had, during the earlier postwar years, experienced exceptional expansionary pressures. Canadian mines were stimulated by a strong world-wide demand for their products, while a vast network of hydro-electric projects was needed to supply a growing population and an increasing industrialization. In addition, the tapping of Canada's natural gas resources in the western provinces, coupled with the construction of the Trans-Canada pipelines, made it possible to use gas in the heavily populated urban areas of central Canada. All these developments had started from a relatively small base, and required large-scale capital investments, which reached a peak in the 1955-8 period. The

The latest natural gas pipeline, from near Prince George, B.C., to Prince Rupert on the Pacific Coast, traverses spectacular terrain. The pipe is transported over the mountains by helicopter.



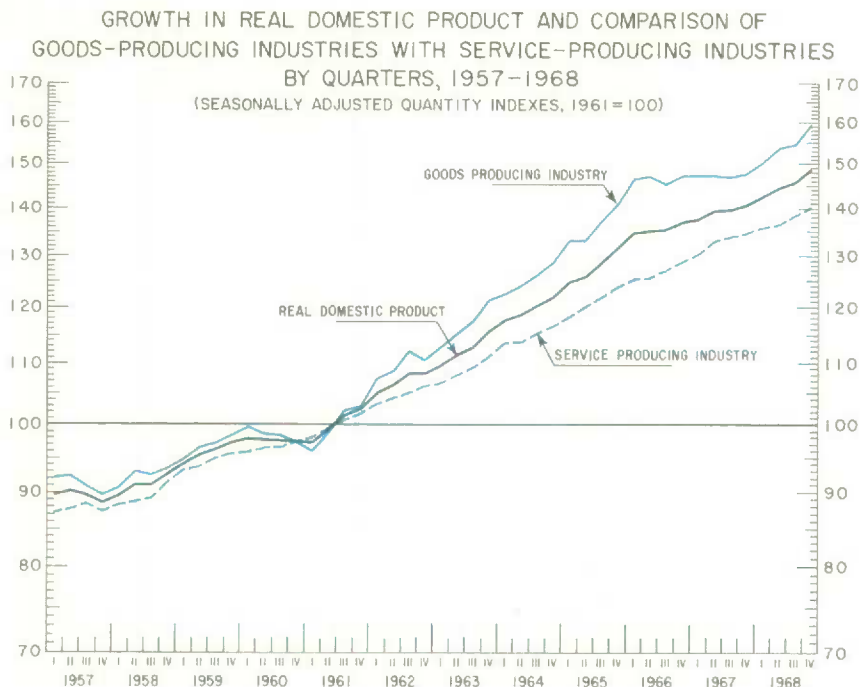


The tripling of production of automobiles between 1961 and 1968 contributed greatly to the increase in real domestic product.

result was a surge in output of the industry concerned as each new project became operational. These industries are strongly affected by technological innovations and change. But once these changes have been made, it is not surprising to see a gradual easing in the rate of growth.

The explanation for the slower average quarterly growth rate in forestry during the current expansion compared to the previous one is to be found in the substantially depressed level of output in this industry by the end of 1957. The high levels of output during the earlier part of the fifties had resulted in over-production and inventory accumulation. This, coupled with a drop in domestic and foreign prices during 1957 resulted in a sharp drop in output during that year.

The following chart illustrates the growth since 1957 in total real domestic product with a breakdown between the goods-producing and service-producing sectors. In the current expansion within the goods-producing industries, the durable manufacturing component has provided the prime thrust. The major factor behind this advance in durables output was the unprecedented increase in motor vehicle and motor vehicle parts production, which by the end of 1968 had increased by 310.8 and 126.6 per cent, respectively, from first quarter 1961. Except for production stoppages due to labour disputes,



motor vehicle production advanced without major interruption until the second quarter of 1966. A levelling off then occurred in the output of this industry both in Canada and the United States. This levelling off, which, in Canada, persisted until the second quarter of 1967, has been variously related to changes in economic conditions in North America generally, and particularly to the tightening of monetary conditions, and the upward drift of prices. In addition, public concern about car safety has also been mentioned as a factor in the decline of car sales. Clearly, none of these factors offers a unique explanation for the slowdown. By the second quarter of 1967, improved consumer's confidence and liquidity had increased and a buoyant export market encouraged an increased motor production of vehicles. A strong upward trend in motor vehicle production has continued throughout 1968, excluding the sharp dip at the beginning of the year due to labour difficulties. The iron and steel industry group was another major contributor to the current expansion, increasing by 99.2 per cent since first quarter 1961. By 1965, however, it was operating at full capacity and thus this industry as well experienced some levelling off during 1966 and 1967. Again, 1968 was a year for renewed growth in this industry.

Another notable feature of the current expansion has been the increase in

the volume of construction. This activity first surpassed its 1958 peak in 1964. In the intervening period, the output of the construction industry had hovered around its 1957 levels, as the industry failed to recapture the momentum of the investment boom of the mid-fifties. Large-scale new investments both in social and industrial capital were made, however, during the mid-sixties. These investments reached a new high for that time in the second quarter of 1966. The growing demand for housing, stimulated by the influx of people from the country and immigrants from abroad into urban centres and to some extent by the entry into the labour and housing markets of the first waves of the "baby boom" of the mid-forties, resulted in a considerable expansion in residential construction, particularly during 1964 and 1968. With this was a new emphasis on the construction of multiple-dwelling units.

Large-scale investments in such industries as chemicals, pulp and paper, and in hydro-electric power development during the mid-sixties provided a boost to non-residential construction, as did the massive investments in social capital such as hospitals and, particularly, schools, which had to be built to accommodate the rapidly increasing school population. Construction activity was also spurred by projects commemorating Canada's Centennial in 1967 and by outlays for Expo 67. However, at this high level of activity, certain segments of the industry in some regions were straining against their available resources. Some slowdown during the last half of 1966 was experienced. This was reversed in 1967 and during 1968, construction activity outstripped its previous peak in 1966 by a considerable margin.

Throughout the current expansion, trade and especially transportation also played an important role in increasing the output of the Canadian economy. Railway transport continued to contribute the major share of the gains in transportation, although air, pipeline, and truck transport advanced at a more rapid rate. In general, transportation played a vital role during the expansion, in meeting Canada's large and growing export commitments. This was clearly indicated by the sharp increases in rail and water transport at the height of the grain deliveries to overseas countries during 1963 and 1964. In 1966 time lost in labour disputes closely approached a record for the postwar period, thus dampening the rate of expansion of the industries affected, and the total output of the economy.

In summary, since 1961, Canada has experienced a period of rapid and reasonably sustained economic expansion which has, on the whole, been remarkably well balanced. There was particular strength in the vital manufacturing sector of the economy, with increasing industrial diversification within this sector. Exports increased their share of total output. Consumer demand was strong and sustained throughout most of the period. All these factors generated both non-residential and new residential investment. Although during 1966 and 1967 there was some inflationary pressure and levelling off in output, important segments of the Canadian economy still continued to expand. 1966 and 1967 can be seen as a period of adjustment during which some major imbalances were corrected. This provided a better base for additional good gains in the real output of the economy.

Capital Expenditures and Housing

Our incomes as Canadians are dependent upon a number of conditions and one of the most important is our capacity to produce and sell goods and services. This capacity, and its efficiency, is in turn dependent in large part upon the amounts we invest in new mines, factories, stores, communications and transportation equipment, dams, roads, parks and all the other assets which help us to produce income-creating goods and services now and in the future.

Studies of these capital expenditures in Canada are carried out at regular intervals each year. On each occasion estimates are made for the expected amount of expenditures on housing, non-residential construction, and machinery and equipment.

A study early in 1969 indicated that capital expenditures were expected to reach a total of \$17,046 million during that year. This total represents an increase of almost 9 per cent over the 1968 amount of \$15,678 million. The percentage increase expected in 1969 is significantly higher than the rates of increase in either 1967 or 1968 and reflects important new developments in various industries and regions of Canada. However, as in any expectations, conditions during the year may cause business and other organizations to increase or decrease the amount of planned spending represented by these figures.

In the table which follows, housing is shown as having the largest dollar increase in the expected 1969 capital expenditures. The second largest gain is for manufacturing where large additions were made to the productive capacity of primary metals, transportation equipment, and petroleum refining. Institutions and government are expected to increase their spending moderately on new educational and medical buildings and equipment, office buildings, roads, and related capital goods.

Capital spending is expected to be higher in all regions of Canada during 1969 with increases ranging from 3 per cent in Quebec and the Prairie Provinces, 7 per cent in British Columbia, to 11 per cent in the Atlantic Provinces, and almost 16 per cent in Ontario. Individual projects and special

regional conditions are often reflected in the regional increases or decreases in any one year. For example, lower spending in 1969 on potash mines in Saskatchewan is being partly offset by increased expenditures on oil and gas wells in Alberta; new manufacturing plants are being added in British Columbia while a number of sizable projects were completed in the other western provinces. Utilities contribute to expected increases in Ontario and

CAPITAL EXPENDITURES, 1967 to 1969

Summary by Sectors

(Millions of dollars)

Item No.	Type of Enterprise	Construction	Machinery and Equipment	Total	
1	Agriculture and fishing	1967	255	880	1,115
		1988	254	765	1,019
		1989	253	767	1,020
2	Forestry	1967	38	48	86
		1968	43	41	84
		1969	48	52	100
3	Mining, quarrying and oil wells	1967	762	289	1,051
		1968	742	298	1,040
		1969	751	269	1,020
4	Manufacturing	1967	677	1,857	2,534
		1968	584	1,634	2,218
		1969	619	1,921	2,540
5	Utilities	1967	1,748	1,397	3,145
		1968	1,858	1,412	3,268
		1989	1,977	1,489	3,466
6	Construction industry	1987	14	230	244
		1968	14	240	254
		1969	15	250	265
7	Housing	1967	2,352	—	2,352
		1968	2,844	—	2,844
		1969	3,200	—	3,200
8	Trade—Wholesale and retail	1967	205	337	542
		1968	218	306	524
		1969	280	332	612
9	Finance, insurance and real estate	1967	417	81	498
		1968	384	87	471
		1969	425	85	510
10	Commercial services	1967	142	352	494
		1968	105	349	454
		1969	145	418	561
11	Institutional services	1967	1,107	208	1,315
		1968	1,201	214	1,415
		1969	1,287	233	1,520
12	Government departments	1967	1,731	215	1,946
		1968	1,891	196	2,087
		1969	2,034	198	2,232
13	Totals (Items 1 to 12)	1967	9,448	5,874	15,322
		1968	10,136	5,542	15,678
		1969	11,034	6,012	17,046

Source: *Private and Public Investment in Canada, Outlook 1969 and Regional Estimates* (DBS Bull. No. 61-205). The 1968 and 1969 estimates are subject to revision.

the Atlantic region but remained in Quebec at about the same level as in 1968. The rate of house-building is likely to be strong in all regions and construction of commercial buildings is also expected to increase in most regions.

CAPITAL EXPENDITURES
Summary by Provinces 1967 to 1969¹
(Millions of dollars)

Item No.	Province		Construction	Machinery and Equipment	Total
1	Newfoundland	1967	232	127	359
		1968	295	119	414
		1969	335	102	437
2	Prince Edward Island	1967	29	16	45
		1968	28	16	44
		1969	25	13	38
3	Nova Scotia	1967	253	210	463
		1968	276	222	498
		1969	369	187	556
4	New Brunswick	1967	247	130	377
		1968	218	115	333
		1969	246	157	403
5	Quebec	1967	1,988	1,226	3,214
		1968	2,142	1,159	3,301
		1969	2,217	1,191	3,408
6	Ontario	1967	3,173	2,184	5,357
		1968	3,435	2,087	5,522
		1969	3,906	2,473	6,379
7	Manitoba	1967	450	269	719
		1968	545	263	808
		1969	624	237	861
8	Saskatchewan	1967	551	413	964
		1968	563	419	982
		1969	542	360	902
9	Alberta	1967	1,129	546	1,675
		1968	1,253	489	1,742
		1969	1,328	562	1,890
10	British Columbia ²	1967	1,396	753	2,149
		1968	1,381	653	2,034
		1969	1,442	730	2,172
11	Canada	1967	9,448	5,874	15,322
		1968	10,136	5,542	15,678
		1969	11,034	6,012	17,046

¹ Actual expenditures 1967, preliminary actual 1968, intentions 1969.

² Includes Northwest Territories and Yukon.

Housing

Investment in new residential housing exceeded \$2.7 billion during 1968 as Canada's housing performance broke all previous records. Construction was started on 196,878 dwelling units and on hostel and dormitory living space to accommodate nearly 12,000 students and elderly people. This

Recent capital expenditures include nitrogen gas storage cylinders for a Sarnia, Ont., gas plant,



a new office building in Vancouver, B.C., and the modernization of an oil refinery east of Montreal, Que.

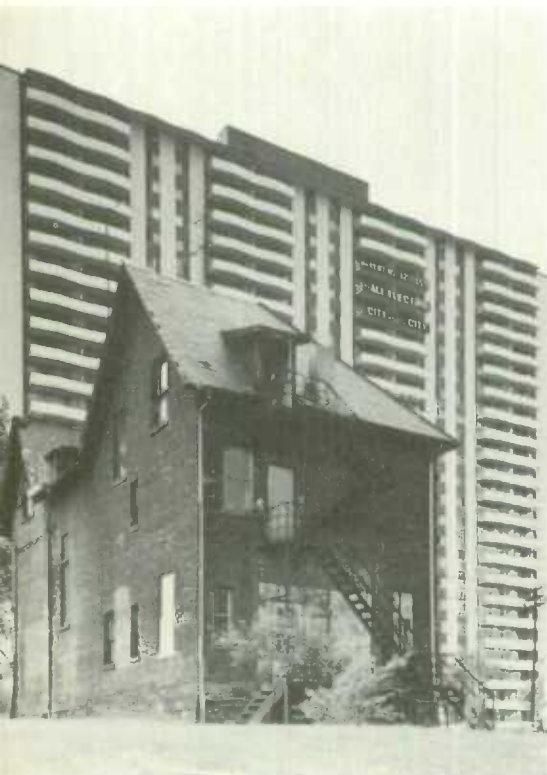


achievement surpassed by 32,755 units and \$400 million the housing resurgence of 1967 when 164,123 dwelling starts were registered, and construction was begun on hostel and dormitory accommodation for 10,766 persons.

Taking the 1967 and 1968 activity into account, and with present indicators pointing to 200,000 units or more in 1969, the matching of production to future housing objectives seems to be within Canada's capabilities.

Many factors contributed to increased residential construction over the past two years: (1) massive federal funds for direct lending in 1967 gave impetus to home building. (2) An upward adjustment to the ceiling of the National Housing Act interest rate on October 1, 1967, attracted a higher level of private funds for NHA mortgages. (3) The re-entry of chartered banks into mortgage lending operations in 1967 resulted in a substantial investment in 1968. (4) An increase in the NHA loan ratio for home ownership in March 1968 had the effect of lowering down-payments. (5) An increase of the maximum NHA loan for family-housing units in apartment buildings was authorized. (6) During 1968 there was an easing of competing demands for long-term capital funds.

In 1967, total loans approved for new housing amounted to \$1,785.6



Urban renewal in Toronto, Ont., and town houses in Winnipeg, Man.



million. Conventional loans approved by private lending institutions stood at \$745.1 million while insured NHA loans from the same sources amounted to \$355.8 million. But, for the fourth successive year the federal government was the principal source of funds for NHA mortgages. By the year's end, direct lending to encourage the building of housing for both home ownership and rental had peaked at \$505,013,000—the highest in the history of the NHA.

Lending patterns altered significantly during 1968. Conventional mortgage loans reached a record investment of more than \$1 billion while insured National Housing Act loans approved by the private lenders jumped to a new high of \$831.4 million. This investment of private funds under the NHA was 58 per cent higher than in any previous year. Although direct NHA lending for residential housing decreased from the record level of 1967 to \$228,287,000 in 1968, there was little lessening of financial support for social and community need, such as public and low-income housing, and urban renewal.

All types of dwellings showed an increase during both years but the greatest gains were made in apartment construction. In 1967, apartment

Aluminum homes in the Ottawa, Ont., and Montreal, Que., regions. Apartment buildings in the west end of Vancouver, B.C.



dwellings dropped below 50 per cent of total housing production.

In order to increase home ownership, Central Mortgage and Housing Corporation was authorized by the federal government during the autumn of 1968 to make \$170 million available in NHA loans for this purpose. These loans covered the construction of new detached dwellings, and the purchase of existing housing and condominium units.

Condominium projects are comparatively new in Canada and to date, about 2,000 units have been built with NHA assistance. Under this arrangement, units such as apartments or town houses which are ordinarily considered rental accommodation, may be purchased. The purchaser secures title to living space and shares the cost of operating common facilities. Condominium legislation has recently been passed by Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

Direct lending under the NHA for new residential construction is not the only demand made on housing funds. On behalf of the federal government, CMHC also participates in federal-provincial-municipal partnerships. Funds are distributed by various means including direct expenditures, loans, and grants, or by a combination of these. Financial assistance for low-rental housing for low-income families, students, and the elderly, for land assembly, urban renewal, and sewage treatment projects rose from \$291,613,000 in 1967 to \$320,296,000 in 1968.

Under Part V of the NHA, Central Mortgage and Housing Corporation sponsors information, educational, and research activities in housing and community development. Grants authorized by CMHC for these purposes, and for fellowships and scholarships, amounted to about \$3 million in each of the last two years.

1968 was also a time for concentrating on future housing goals. On August 29, a Federal Task Force on Housing was formed to examine housing and urban development in Canada and to report on ways in which the federal government, in company with other levels of government and the private sector, can help meet the housing needs of all Canadians and contribute to the development of modern, vital cities. Headed by the Honourable Paul T. Hellyer, the Task Force visited cities and towns in all provinces and territories. Based on its examination of housing and urban conditions and on oral and written briefs, the Task Force submitted its report to Parliament in January 1969.

The report restated that 1 million units must be built over the next five years to the end of 1973 if projected demand is to be met. Expressed in 1968-dollar values, an average of \$4 billion in mortgage funds and owner-equities will be needed annually.

Altogether 47 recommendations were made, and broadly classified they concerned three areas of housing and urban affairs — federal policy, amendments to the National Housing Act and National Housing Regulations, and provincial and municipal responsibilities. The Task Force has indicated its desire for early policy changes and for legislation to amend the NHA so that expanded measures can be taken in 1969 to meet the urgent priority of housing and urban development.

Finance and Savings

The Canadian dollar is a decimal currency with 100 cents to the dollar. Currency in the form of bills is issued by the Bank of Canada. The coinage — nickel coins in denominations of one dollar, 50 cents, 25 cents, 10 cents, and 5 cents and bronze 1-cent coins — is issued by the Royal Canadian Mint. At the end of 1968 Bank of Canada notes totalling \$2,660,000,000 and coin totalling \$399,000,000 were in circulation.

In international transactions the Canadian dollar is freely convertible into the currencies of other countries. Since May 1962, the value of the Canadian dollar has been maintained within a range of 1 per cent on either side of the fixed par value of U.S. \$0.925.

Foreign Exchange Rates at Dec. 31, 1968

Country	Unit	Can. Dollar Equivalent	Units Per Can. Dollar
Australia	Dollar	1.1938	.8377
Belgium and Luxembourg	Franc	.02141	46.707
Britain	Pound	2.5582	.3909
France	Franc	.2169	4.6104
Germany	Deutsche Mark	.2683	3.7272
Hong Kong	Dollar	.1770	5.6497
India	Rupce	.1421	7.0373
Italy	Lira	.001720	581.3953
Japan	Yen	.003000	333.3333
Malaysia	Dollar	.3505	2.8531
Mexico	Peso	.08583	11.6509
Netherlands	Florin	.2975	3.3613
New Zealand	Dollar	1.1973	.8352
Norway	Krone	.1502	6.6578
South Africa	Rand	1.5019	.6658
Sweden	Krona	.2073	4.8239
Switzerland	Franc	.2494	4.0096
United States	Dollar	1.0728	.9321
Venezuela	Bolivar	.2390	4.1841



The Toronto-Dominion Centre, headquarters of one of Canada's major banks, dominates the skyline of Toronto, Ont.

By far the largest proportion of payments and almost all large payments, are made by Canadians by cheques drawn on their deposits. The chartered banks are the most important institutions offering chequeable deposits in which Canadians hold their savings and working balances.

Banks

In 1886 some 38 banks existed in Canada. Most of them operated locally or regionally. Since 1913 the number of banks has been reduced to nine through failures (the last in 1923), mergers, and amalgamations. Five of these banks have national branch systems. In 1968 when the Bank of British Columbia went into business it was the first new Canadian bank to commence operations since 1953.

Canadian banks have placed great emphasis on the liquidity and safety of their deposits and on the development of their branch system. As a result, Canada is generously supplied with banking facilities. The chartered banks operate 5,953 branches across Canada, or about one for every 3,500 Canadians. The banks have also been active in expanding their international business and currently maintain 235 branches and agencies abroad compared with 102 in 1946.

The chartered banks offer a range of deposit facilities, including personal savings accounts and non-personal term deposits on which interest is paid, and deposits payable on demand, both chequing and non-chequing which do

not draw interest. The banks also accept deposits denominated in foreign currencies, usually U.S. dollars. At the end of 1968 the total of Canadian dollar deposits of the chartered banks was \$24,798,000,000 and total of foreign currency deposits was \$7,318,000,000. The components of Canadian dollar deposits were: demand deposits, \$6,245,000,000; personal savings deposits, \$13,622,000,000; non-personal term and notice deposits, \$4,262,000,000; and Government of Canada deposits, \$669,000,000. In 1967 legislation was enacted under which each deposit at chartered banks and other deposit-taking institutions is insured up to an amount of \$20,000. The banks make loans to individuals and businesses, most of which are for a relatively short period. In recent years unsecured personal loans to individuals have become an increasingly important part of their total loans.

In addition, banks invest in the securities of all levels of government and of a broad range of Canadian corporations.

Under the Canadian constitution the federal government has authority over banking; the Parliament of Canada grants charters and the banks are supervised by an officer of the Department of Finance known as the Inspector-General of Banks. The charters of the banks are renewed every ten years. Legislation amending the Bank Act, the Act regulating the banks and renewing the charters, was passed by Parliament in 1967. This revision of the Bank Act widened the powers of the chartered banks to permit them to make all types of mortgage loans, charge a rate of interest higher than 6 per cent on loans and to raise money by issuing debentures.

Other financial institutions which accept deposits are trust and mortgage loan companies, credit unions and *caisses populaires*, the Province of



Most of the major banks in Canada have introduced credit buying, whereby purchases in many stores may be made by card, rather than by cheque or cash.

Ontario Savings Bank, the Treasury Branches of the Province of Alberta and the two Quebec Savings Banks—the Montreal City and District Savings Bank and La Banque d'Economie de Québec.

Competing Institutions

While the chartered banks remain the most important financial institutions in Canada, the postwar period has witnessed a rapid growth and development of competing institutions. Those enjoying the most rapid growth in recent years have been the trust companies and the mortgage loan companies, of which there are approximately 111 operating over 400 branches across Canada. Both types of institutions accept deposits and have networks of branches. While competing with the banks to attract personal savings deposits, most of their funds are raised through the sale of debentures and investment certificates.

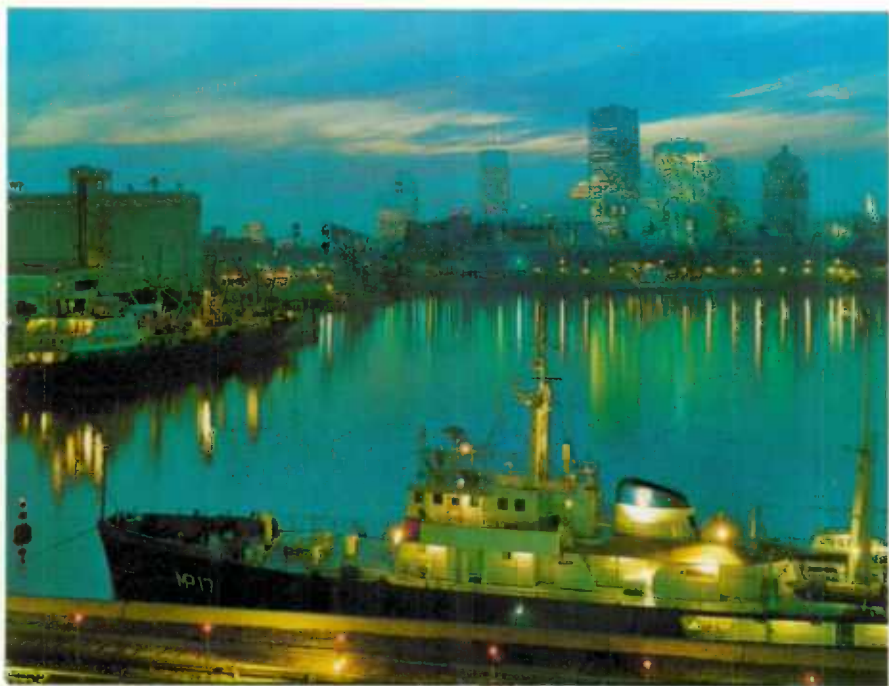
A substantial portion of the assets of both mortgage and loan companies is held in the form of mortgages. Investment in mortgages is obviously the primary function of mortgage companies. Trust companies, in addition, administer private and corporate pension funds and the estates of individuals, manage companies in receivership, and act as financial agents for municipalities and corporations. Mortgage and trust companies may be licensed and supervised either by the federal Department of Insurance or by provincial authorities.

Another important source of financing for Canadians is the credit unions and, in Quebec, the *caisses populaires*. Virtually all of the 4,900 *caisses populaires* and credit unions in Canada were founded during the past generation. The movement now has over 4 million members in its local societies, holds assets of about \$2.9 billion and has emerged as a significant part of the financial system. This growth has been due to the increasing popularity of the idea of co-operatives as well as the local character and diversified services of individual credit unions and *caisses populaires*. These organizations are co-operative savings and loans associations which are wholly controlled by the membership. The majority are federated with one of 18 distinct leagues. Twenty-seven central credit societies have also been established for the purpose of pooling financial operations. Each local society remains, however, essentially independent and conducts its affairs in ways best suited to its particular environment.

The Bank of Canada

The Bank of Canada was established in 1934 to regulate credit and currency in the best interests of the economic life of the nation, to control and protect the external value of the currency and to mitigate undesirable fluctuations in the general level of production, trade, prices and employment, as far as is possible by monetary action.

Chartered banks are required by law to maintain certain reserves during each calendar month. These consist of deposits with, and notes of, the Bank of



The skyline of Montreal, Que., Canada's largest city and a leading financial centre, from the harbour.

Canada. Until June 30, 1967, the required cash reserve ratio was 8 per cent on both demand and notice deposits in Canadian dollars. After a transitional period ending February 1968, a new ratio of 12 per cent for demand deposits and 4 per cent for notice deposits became effective as prescribed under the Bank Act of 1967. The Bank of Canada buys and sells a variety of financial assets to influence the financial system. These transactions by the bank vary the amount of cash reserves available to the banking system and thus regulate the broad trend of all the currency outside banks and chartered bank deposit liabilities in a manner consistent with the changes in credit conditions that it considers appropriate.

The Bank also makes short-term advances to chartered banks or to banks operating under the Quebec Savings Bank Act as well as to the Government of Canada. The minimum rate at which the Bank is prepared to make advances is called the Bank Rate, and the Act requires that it be made public at all times.

The Bank acts as fiscal agent for the Government of Canada; it operates the government's deposit account through which flows virtually all government receipts and expenditures, handles debt management and foreign exchange transactions for the government, and acts as an adviser.

Federal Finance

The British North America Act allotted responsibilities for defence, trade and commerce, currency, banking, the administration of criminal law, postal and telegraph services, railways, and canals to the federal government. Responsibility for education, public welfare, the administration of justice, public lands, and matters of regional interest was given to the provinces. At the time of Confederation, both the responsibilities and revenues of the federal and provincial governments were much less than they are today, and the financial arrangements were consequently simpler. Now three levels of government, federal, provincial, and municipal, have developed intricate financial arrangements to raise and share the greatly increased costs of governmental programs.

Today the federal government derives 73 per cent of its revenues from individual and corporate income tax and sales tax. Indirect taxes, such as excise, import, and customs duties, make up smaller but still substantial amounts of revenue.

The budget of October 1968 proposed some additional sources of revenue, including a social development tax of 2 per cent on taxable personal income to a maximum of \$120. This tax will yield \$440 million in the 1969-70 fiscal year. Two other taxes giving the federal government additional revenue are that on life insurance companies, to add \$40 million in general revenue and \$5 million for the old age security fund, and a 15 per cent tax on a certain portion of the investment income of life insurance companies.

The federal government has partially withdrawn from the personal and corporate income tax fields. All provinces are levying personal and corporation income tax at least equal to, and in some cases greater than, the extent of the federal withdrawal. Under the Established Programs legislation Quebec "opted out" of several heretofore joint programs and received supplementary tax abatements for these.

The federal government's chief expenditures are for social welfare, followed by defence, and charges on the national debt. Social welfare costs of \$2,096 million are the largest expenditure. Among these costs are Old Age Security pensions of \$1,073 million. These are paid to persons who reached age 66 during 1969, and were increased to \$78 per month. The Canada Pension plan is another social welfare measure. The pension is related to the previous earnings of persons over 65 who are retired. The maximum pension will be \$1,250 a year after the plan has been operating 19 years, but both contributions and pensions will be increased in line with increases in the pension index, which in turn is based on the Consumer Price Index.

Defence services and mutual aid to NATO countries at \$1,664 million was the second highest functional expenditure. The relative position of these functional costs is significant; 1966-7 was the first year in which social welfare costs exceeded those related to defence services and mutual aid. The functional detail of the cost of services provided is shown in the following table.

Revenue, expenditure, and the net debt of the Government of Canada have

**Net General Revenue of and Cost of Services
Provided by the Federal Government
Year Ended March 31, 1967**

Source	Revenue (\$000's)
Taxes —	
Income —	
Corporations	1,742,725
Individuals	3,050,420
On certain payments and credits to non-residents	203,621
General sales	2,073,081
Excise duties and special excise taxes —	
Alcoholic beverages	270,302
Tobacco	446,833
Other commodities and services	57,443
Customs import duties	777,586
Estate taxes	101,106
Other	170
Total taxes	8,723,287
Privileges, licences and permits	39,019
Sales and services	113,520
Fines and penalties	3,483
Exchange fund profits	60,638
Own enterprises	163,670
Bullion and coinage	6,861
Postal service	295,529
Other revenue	19,400
Total net general revenue	9,425,407

Function	Expenditure (\$000's)
General government services	428,471
Protection of persons and property	188,960
Transportation and communications	668,701
Health	510,157
Social welfare	2,095,917
Recreational and cultural services	86,625
Education	431,058
Natural resources and primary industries	543,717
Trade and industrial development	184,657
National Capital region planning and development	37,296
Defence services and mutual aid	1,663,992
Veterans' pensions and other benefits	391,958
Debt charges (excluding retirements)	902,618
Own enterprises	178,080
International co-operation and assistance	211,928
Transfers to provincial governments —	
Statutory subsidies	31,579
Federal-provincial fiscal arrangements	426,650
Compensation due to withdrawal from joint programs	57,635
Share of income tax on power utilities	5,952
Transfers to municipal governments —	
Grants in lieu of taxes	38,992
Special grants	1,750
Other expenditure	666,146
Total cost of services provided	9,732,839

Finances of the Federal Government, Years Ended March 31, 1868-1967

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 gross debt over net active assets.

Year	Total Budgetary Revenue	Per Capita Revenue ¹	Total Budgetary Expenditure	Per Capita Expend- iture 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	21.56
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	35.04	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.....	3,112,535,946	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	96.15	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	317.55	4,849,035,298	301.54	11,007,651,158	662.71
1958.....	5,048,788,279	303.96	5,087,411,011	306.29	11,046,273,890	646.74
1959.....	4,754,722,689	276.38	5,364,039,533	314.05	11,678,389,860	667.99
1960.....	5,289,751,209	302.57	5,202,861,053	326.20	12,089,194,003	676.51
1961.....	5,617,679,854	314.36	5,958,100,946	333.41	12,437,115,095	681.93
1962.....	5,729,623,724	314.16	6,520,645,674	357.53	13,226,137,045	712.34
1963.....	5,878,692,431	316.57	6,570,325,358	353.81	13,919,769,972	736.65
1964.....	6,253,704,039	330.92	6,872,401,519	363.70	15,070,149,452	781.24
1965.....	7,180,309,767	373.29	7,218,274,552	375.27	15,504,472,544	789.27
1966.....	7,695,820,204	391.76	7,734,795,525	393.75	15,543,447,865	776.58
1967.....	8,358,178,383	417.59	8,779,680,996	438.65	15,964,950,478	782.40

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

² Based on estimated population on June 1 of the same year.

continued to increase over the years. The net debt on March 31, 1967, amounted to \$15,965 million, an increase of \$422 million or 2.7 per cent over the previous year. On March 31, 1939, the net debt amounted to 60.2 per cent of the gross national product; by 1946 this had risen to 113.3 per cent but by March 31, 1967, the net debt had declined to approximately 26 per cent of the gross national product. The outstanding unmatured funded debt (debentures and treasury bills) of the Government of Canada at March 31, 1967, amounted to almost \$19,940 million. The portion of the unmatured funded debt payable in Canada was 98 per cent, the portion payable in New York, 2 per cent.

Federal-Provincial Programs. During the past decade there has been a rapid increase in federal expenditures on joint federal-provincial programs. These

may take the form of financial assistance to a provincial program, the assumption of responsibility for part of a provincial project, or the administration of a program to which the province contributes financially.

The first category, called conditional grant programs, is by far the most common; it includes provincial programs which the federal government agrees to finance under certain conditions. Various programs in the health and welfare fields are good examples. Under the Health Resources Fund Act passed in 1966 the federal government will pay 50 per cent of the reasonable costs incurred in the period from January 1966 to December 1980 on projects submitted by the provinces and approved by the federal Minister of National Health and Welfare. Projects that qualify are medical schools, teaching hospitals, and schools of nursing, dentistry, and pharmacy. Under the Old Age Assistance Program, the federal government undertakes to share with a province the cost of assistance to persons aged 65 or over to the extent of 50 per cent of a monthly sum of \$75; the province bears the cost of administration and the remainder of the allowance. The Canada Assistance Plan provides a basis for co-ordinating the various public welfare programs in each province. The provinces may replace the existing grants under the shared-cost programs — Old Age Assistance, Blind Persons Allowance, Disabled Persons Allowance, and Unemployment Assistance — with one program to help all needy persons regardless of cause. The federal government, which bears half the cost, will also help the provinces in areas not covered by existing legislation, such as needy mothers with children, children in welfare agencies, work

The Industrial Development Bank was established by Parliament in 1944 to provide financing to small and medium-sized businesses, such as this dry-cleaning firm.





Farm Credit Corporation loans, tailored to the needs of the individual, help farmers develop profitable farm businesses.

activity programs, and other programs. The Medical Care Act (see p. 121) is another recent joint program. Others include the fitness and amateur sport program, the national welfare grant program which is intended to help develop and strengthen welfare services through general and professional training and research, and the federal-provincial vocational rehabilitation program.

Joint programs in the second and third categories are not numerous and are generally of a public works type, such as the irrigation projects carried out in Alberta and Saskatchewan.

The scope of the Agricultural and Rural Development Act (ARDA) has been broadened. Under this program and with the agreement of the province, assistance may be given to projects that are designed to increase income and employment opportunities for people who live in rural areas. ARDA will also help to finance studies in land use, fishing projects, soil and water conservation, and agricultural research. Special assistance will be given to poor rural areas. Rural regions in which half the population has an annual income of less than \$3,000 will be designated Rural Development Areas. The federal government will assist in developing plans and in research projects for these areas. When research and study have led to the preparation of a development plan for the area, a grant may be obtained from the Rural Economic Development Fund to finance major developmental projects under the plan. Such an area will also be eligible for joint federal-provincial aid for regular ARDA projects.

The Atlantic Development Board was established for somewhat the same

purpose in relation to the Atlantic Provinces — to assist the four provinces, on a cost-sharing basis, with programs and projects aimed at stimulating the economic growth of that region. By March 31, 1967, projects costing an estimated \$98,714,000 had been approved.

Federal-Provincial Tax Agreements. The increasing use by both the federal and the provincial governments of their rights in the field of direct taxation in the 1930's resulted in duplication and some severe tax levies. Starting in 1941, a series of federal-provincial tax agreements were concluded to promote the orderly imposition of direct taxes. The duration of each agreement was normally five years. Under the earlier agreements, the participating provinces undertook, in return for compensation, not to use or permit their municipalities to use certain of the direct taxes. Under the present arrangements, the federal income tax otherwise payable in all provinces and the estate tax otherwise payable in three provinces are abated by certain percentages to make room for provincial levies.

In the latest Federal-Provincial Fiscal Arrangements Act, 1967, which is to run from April 1, 1967, to March 31, 1972, there are quite substantial changes. Much of the new Act concerns the adjustment of additional abatements so that provinces may finance post-secondary education.

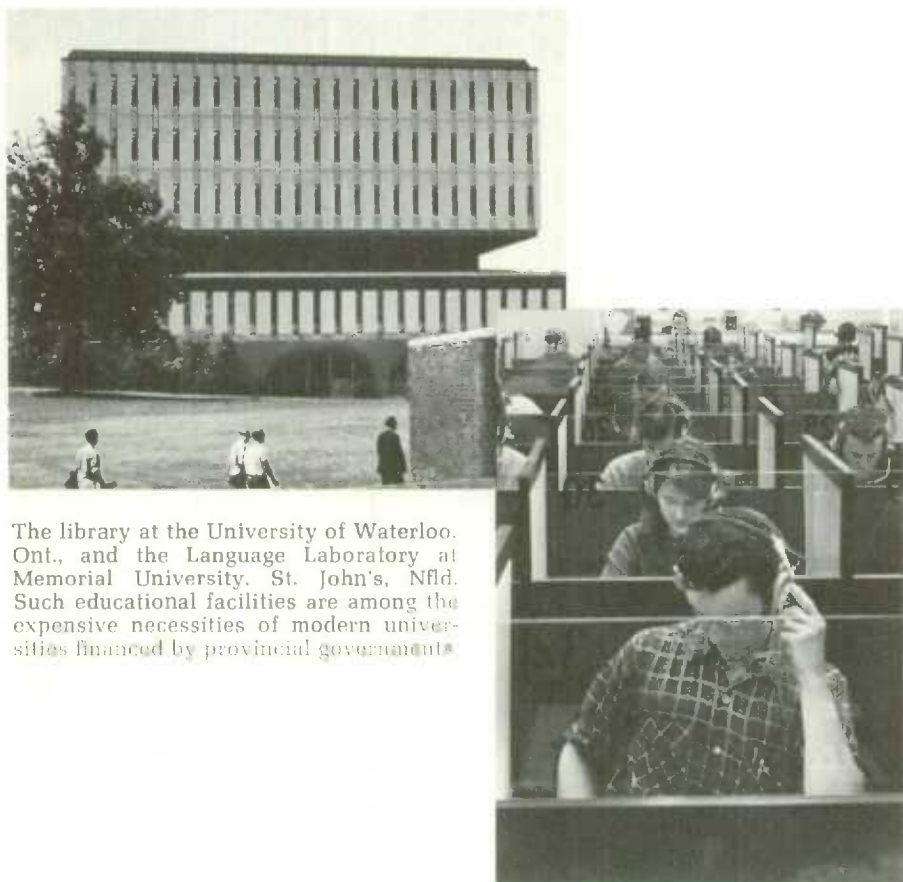


Medicare, which benefits people of all ages, is an example of federal-provincial co-operation through tax agreements.

Provincial Finance

Under the terms of the British North America Act provincial governments are restricted in their powers of taxation. They may levy only direct taxes which are generally described as ones "which are demanded from the very person who it is intended or desired should pay it." Provincial functional responsibilities have developed through the years within the limits broadly outlined in the B.N.A. Act and in accordance with tradition.

The principal revenue sources of the provinces are income taxes on individuals and on corporations, retail sales taxes together with the sale of privileges, licences, and permits. Since provinces vary greatly in size, population, and the nature and extent of economic development, certain provinces receive a substantial portion of their total revenue from equalization payments, arranged by federal-provincial agreements. All provinces participate to some degree in joint federal-provincial programs. Federal contributions to



The library at the University of Waterloo, Ont., and the Language Laboratory at Memorial University, St. John's, Nfld. Such educational facilities are among the expensive necessities of modern universities financed by provincial governments.

such programs are generally not regarded as revenue of the province but are normally applied to reduce the cost to the province of such programs.

Three broad areas account for the major portion of provincial expenditure. These are education, health services, and transportation and communications, chiefly highways.

Net general revenue of provincial governments for the fiscal year 1968-9 is estimated at \$8,259,960,000, and net general expenditure is estimated at \$8,751,040,000. Tax revenue is expected to be \$5,593,790,000 for the same period. This represents an increase of \$814,020,000 or 17 per cent over the corresponding estimated figure for the fiscal year 1967-8. This increase is the result of higher rates in various kinds of taxes in the majority of the provinces.

Municipal Finance

The British North America Act of 1867 placed municipal government in Canada under the jurisdiction of the provincial legislatures. Thus the powers of municipal governments are those given to them by the statutes of their respective provincial governments. The Yukon and the Northwest Territories are exceptions; municipal powers have been assigned to certain localities by the federal government and the territorial councils. Because the constitution is permissive, and because of the differences in tradition, history, and development of each province, the roles assigned to municipal governments and the way they discharge those roles vary considerably, not only from province to province but among municipalities.

Municipal governments exist to provide services that in the opinion of the province are best administered by smaller organizations. The relationship of the provincial government to its municipalities is continuously under review and changes in municipal structure reflect this constant re-appraisal of their effectiveness. In 1967 major changes were introduced by the Government of New Brunswick which resumed the responsibility of providing health and welfare services as well as the administration of justice, and by the Government of British Columbia which continued to incorporate Regional Districts with a view to establishing municipal organizations throughout the province. In 1968 the Government of Ontario set as its objective the regionalization of municipal governments; three regional municipalities have been created — Ottawa-Carleton, Metropolitan Toronto, and Niagara. The Government of Ontario plans to create more regional governments in 1970, and to review recommendations respecting regional governments for a number of localities in the province.

Generally the role of municipal government is to raise revenue locally, to borrow, and to provide some or all of the following services: roads and streets, sanitation, protection to persons and property through police, fire fighters, courts, and jails; certain health and welfare services; and some recreation and community services.

The major source of revenue of municipalities, yielding over two thirds

of the total, is the real property tax. This is supplemented by personal property, business and other taxes, fines, licences and permits, public utility contributions, and provincial grants and subsidies.

Municipal debt is limited by provincial legislation or regulations. However more and more provincial governments are aiding municipalities and local school authorities in their capital projects through outright grants at the time of construction, by loans, or by sharing the debt charges or assuming the debt.

For the calendar year 1968 the gross revenue of all municipal governments in Canada was estimated to be \$4,516,899,000 and gross expenditure, \$4,856,927,000. By Dec. 31, 1966, the total direct debt minus sinking funds of municipal governments amounted to \$6,207,179,000. This includes the costs of activities carried on under their authority or by bodies co-existent with municipalities.

Insurance and Mutual Funds

A popular way for Canadians to make long-term savings has been through the purchase of life insurance. Canadians are well insured compared with people in other countries; each household has an average of over \$17,500 of life insurance in force. Savings through life insurance account for about 17 per cent of Canadians' personal savings.

The Canadian life insurance industry consists of over 230 companies and fraternal benefit societies, about half of which are federally registered companies. The latter group of companies writes more than 90 per cent of the total business of the industry and holds assets of over \$16,000 million. Most of these companies, in addition to life insurance, sell policies covering expenses resulting from illness and compensate policy-holders for wages not received. Insurance may be purchased from a registered insurance salesman or through a "group" plan at one's place of work. In addition to those companies selling life insurance, there are more than 300 companies selling insurance for fire, theft, automobile damages, and other casualties. The federally-registered companies selling such insurance have assets of over \$2,000 million.

A fairly recent alternative way of long-term saving is through mutual funds. These are growing rapidly in number and volume of investment. These funds collect the savings of small investors, often by instalments, and invest them in a wide range of securities, thus offering the small investor the security of a broadly-based portfolio. There are now approximately 88 mutual funds operating in Canada with total assets of over \$2,500 million.

A third means of saving is popular with Canadians: buying the federal government's Canada Savings Bonds. These are sold annually each autumn through chartered and Quebec savings banks, investment dealers, trust companies, caisses populaires, and through payroll deduction plans at places of work. Unlike most other types of financial securities, they can be cashed at any time for their full face value plus accrued interest. Over the past few years some of the provinces have begun to issue similar savings bonds.

Manufacturing

Roughly one quarter of the jobs in Canada are in the manufacturing industries and about the same proportion of Canada's gross domestic product is accounted for by these industries. When both paid workers and self-employed persons are considered, 23.8 per cent of all jobs in 1967 were located in the manufacturing industries, according to the Dominion Bureau of Statistics' labour force survey. The manufacturing industries in 1967 accounted for 25.1 per cent of Canada's gross domestic product at factor cost, that is, at the cost of the labour and capital used. This figure is very slightly lower than the corresponding proportion in recent years. The manufacturing industries' share of corporate profits amounted to 44.1 per cent in 1967, according to data from the Bureau of Statistics' national accounts. Their share of all investment income was 25.7 per cent and of business gross fixed capital formation (or expenditures on new construction machinery and equipment, in the private or non-government part of the economy), excluding new residential construction, was 25.1 per cent. Employees of the manufacturing industries earned 27.3 per cent of wages, salaries, and supplementary labour income in 1967.

Conditions in 1967

The year 1967 was not characterized by marked growth in the manufacturing industries, although particular industries registered notable advances. In 1967 net profits before taxes were 5 per cent of sales in corporations classified as manufacturing industries. Business gross fixed capital formation in the economy decreased in 1967 (and more markedly if new residential construction is excluded). This affected the sales of products of a number of manufacturing industries, such as iron and steel mills, and industries fabricating metals and dealing in certain construction materials.

At the same time, however, consumers continued to buy durable consumer goods, notably automobiles. The continued expansion of automobile production also reflected a large growth in exports, in further response to the 1965

Canada-United States agreement on automotive products. The physical volume of production in the manufacturing industries, as measured by the manufacturing component of the DBS index of production, increased by 0.3 per cent over 1966. This reflects the combined effect of an increase of 1.3 per cent in the output of the industries manufacturing non-durable goods, such as food and clothing, and a decrease of 0.6 per cent in the industries manufacturing durable goods, such as machinery and television sets.



The chief products classified as non-durable consumer goods are food and clothing. Here Swiss rolls are made in a Toronto, Ont., factory, and nylon stockings in a plant in Winnipeg, Man.



Economic Use Groups

One way to analyze the manufacturing industries is to classify individual industries according to the principal use to which their products are put, grouping them into what may be called "use groups." Preliminary figures indicate that the largest use group in 1967 was that of industries producing *non-durable consumer goods*. Their shipments of goods of their own manufacture totalled \$10,947 million, some 6.2 per cent more than the preceding year. (Shipments of such goods by manufacturers actually totalled more than this amount: these industries ship goods for other uses and to industries classified in other use groups.) The second largest group was almost as big: the industries producing *other intermediate goods and supplies* that is, items used in making other goods, had shipments of \$10,848 million or 2.7 per cent more than the previous year.

The largest proportionate increase over 1966 was shown by the *durable consumer goods industries*. Influenced by the increase of motor vehicle production in Canada, this group's shipments of \$4,140 million rose by 11.3 per cent in 1967. The *machinery and equipment industries* had the second largest increase, their shipments of \$3,815 million representing a rise of 7.2 per cent.

Export-based industries such as pulp and paper, distilling, smelting and refining, had shipments of \$5,136 million, or 1.8 per cent more than the year before. (Again, these are not exports of manufactured goods, but the domestic and export shipments of a group of industries predominantly export-oriented.) Only the *construction materials and components industries* showed a decrease. Their shipments of \$3,647 million were 2.2 per cent lower than in 1967.

The economic use groups just mentioned include all the individual manufacturing industries. However, certain industries are included again in a supplementary classification, the *automotive products industries*. Shipments of this group rose by 112 per cent in 1967 to a total of \$5,492 million, more than double the corresponding figure for 1961.

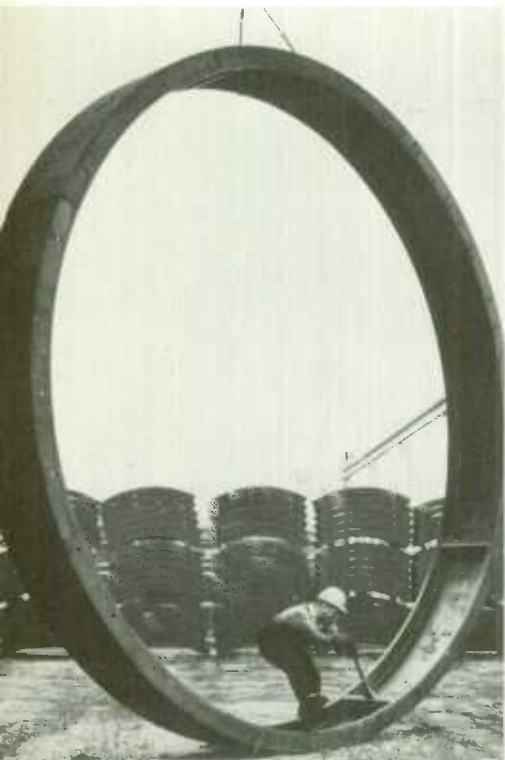
Exports

Statistics on exports of manufactured goods are not totalled as such, but exports of fabricated materials and of end products give a total which is approximately equivalent to this. Preliminary figures for 1967 compared with those for 1966 and 1961 are as follows:

Exports of Fabricated Materials and of End Products
(Millions of dollars)

Stage of Fabrication	Value ¹		
	1961	1966	1967
Fabricated materials	2,916.4	4,217.0	4,417.3
End products	706.4	2,455.1	3,467.4
Total	3,622.9	6,672.1	7,884.6

¹ Some figures do not add because of rounding.



Other intermediate goods and supplies include the 16-ft. cast iron ring (left) which will form part of a tunnel for the latest extension to Toronto's subway, and "float" glass (above) seen emerging from the annealing lehr on its way to the cutting area.

Besides motor vehicles, durable consumer goods include electrical appliances such as kettles (below), and television sets (right).



Manufacturing Statistics, by Province or Territory and Industry Group, 1966

Province or Territory and Industry Group	Employees	Salaries and Wages	Value Added by Manufacture	Selling Value of Factory Shipments
Province or Territory	No.	Thousands of dollars		
Newfoundland	11,484	50,694	93,043	194,102
Prince Edward Island	2,164	7,028	14,480	46,781
Nova Scotia	33,533	139,626	246,702	612,466
New Brunswick	25,749	110,387	211,295	547,197
Quebec	516,154	2,543,539	4,704,799	10,464,530
Ontario	820,465	4,571,961	8,648,180	19,452,570
Manitoba	48,523	220,051	402,954	1,019,000
Saskatchewan	15,689	77,947	154,534	470,361
Alberta	47,611	242,988	527,197	1,429,020
British Columbia	124,571	731,013	1,347,065	3,063,675
Yukon Territory	76	364	574	717
Northwest Territories	83	570	914	3,017
Canada	1,646,102	8,696,167	16,351,740	37,303,455
Industry Group				
Food and beverage industries	227,221	1,057,994	2,386,001	7,061,996
Tobacco products industries	10,177	53,469	169,869	429,816
Rubber industries	27,821	148,753	284,848	540,540
Leather industries	32,667	117,948	181,760	370,910
Textile industries	77,248	341,414	576,469	1,346,906
Knitting mills	23,609	82,478	143,020	320,931
Clothing industries	99,708	342,044	543,666	1,152,575
Wood industries	91,937	429,116	692,570	1,592,797
Furniture and fixture industries	43,598	189,781	314,021	602,711
Paper and allied industries	116,840	727,120	1,454,583	3,165,664
Printing, publishing and allied industries	81,996	463,662	808,704	1,204,664
Primary metal industries	113,645	716,557	1,387,202	3,085,130
Metal fabricating industries (except machinery and transportation equipment industries)	143,311	794,770	1,387,936	2,763,696
Machinery industries (except electrical machinery)	75,451	455,083	722,764	1,464,217
Transportation equipment industries ..	146,932	922,729	1,611,634	4,238,414
Electrical products industries	124,498	670,340	1,101,899	2,186,554
Non-metallic mineral products industries	53,189	294,931	635,622	1,121,442
Petroleum and coal products industries	15,403	119,653	276,468	1,495,308
Chemical and chemical products industries	73,317	451,833	1,129,581	2,174,198
Miscellaneous manufacturing industries	67,534	316,473	543,123	984,986

Thus, in 1967, it would appear that some degree of manufacture found its way into more than two thirds of Canada's exports of goods of Canadian origin. About three quarters of the large increase in exports of end products from 1966 to 1967 was accounted for by shipments of motor vehicles and parts.

Provinces

In the 1966 census of manufactures as in other years, Ontario and Quebec reported the largest proportions of the national total of the value of shipments of goods of their own manufacture. Ontario accounted for 52.2 per cent of the total; Quebec, for 28.1 per cent. The figures for industries in other provinces were: British Columbia, 8.2 per cent; Alberta, 3.8 per cent; Manitoba, 2.7 per cent; Nova Scotia, 1.6 per cent; New Brunswick, 1.5 per cent; Saskatchewan, 1.3 per cent; Newfoundland, 0.5 per cent; Prince Edward Island, 0.1 per cent.

Manufacturing Statistics, Selected Years, 1917 to 1967

Year	Employees	Salaries and Wages	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.		Thousands of dollars	
1917.....	606,523	497,802	1,281,132	2,820,811
1920.....	598,893	717,494	1,621,273	3,706,545
1929.....	666,531	777,291	1,755,387	3,883,446
1933.....	468,658	436,248	919,671	1,954,076
1939.....	658,114	737,811	1,531,052	3,474,784
1944.....	1,222,882	2,029,621	4,015,776	9,073,693
1949.....	1,171,207	2,591,891	5,330,566	12,479,593
1953.....	1,327,451	3,957,018	7,993,069	17,785,417
1954.....	1,267,966	3,896,688	7,902,124	17,554,528
1955.....	1,298,461	4,142,410	8,753,450	19,513,934
1956.....	1,353,020	4,570,692	9,605,425	21,636,749
1957.....	1,340,984	4,778,040	9,822,085	21,452,343
1958.....	1,272,686	4,758,614	9,454,954	21,434,815
1959.....	1,287,810	5,030,132	10,154,277	22,830,836
1960.....	1,275,476	5,150,503	10,380,148	23,279,804
1961.....	1,352,605	5,701,651	10,434,832	23,438,956
1962.....	1,389,516	6,096,174	11,429,644	25,790,087
1963.....	1,425,440	6,495,289	12,272,734	28,014,888
1964.....	1,491,257	7,080,939	13,535,991	30,856,099
1965.....	1,570,299	7,822,925	14,927,764	33,889,425
1966.....	1,646,102	8,696,167	16,351,740	37,303,455
1967.....	1,650,000 ²	9,220,000 ³	16,885,000 ⁴	38,925,000 ⁵

¹ Before 1953, data represent gross value of production.

² Based on current data as published in *Estimates of Employees by Province and Industry*.

³ Based on current data as published in *Estimates of Labour Income*.

⁴ Estimated.

⁵ Based on the monthly survey of shipments by manufacturers.

Domestic Trade

Distribution has been defined as the performance of certain business activities essential to the movement of goods and services from the manufacturer to the final user. The means by which such movement takes place are known as the channels of distribution — and these include manufacturers' sales branches, wholesale and retail outlets, mail order houses, service-producing industries, and other agencies. The distribution system relies and is dependent upon the performance of a complex set of inter-related activities, such as buying, selling, storage, grading and standardization, market research, and transportation.

Although retail and wholesale firms are still the most important links in the distributional network, manufacturers and special facilitating agencies have, over the years, accepted a growing share of the responsibility for a variety of activities incidental to or forming a vital part of the main function of distribution — the flow of goods from producer to consumer. Manufacturers, for example, engage in such diverse (but ancillary) undertakings as selling, advertising, packaging, and wholesaling. In addition, advertising agencies, market research houses, management consulting firms, data processing services, as well as banks, credit institutions, railways, and insurance companies, act in various ways to facilitate the distributive process.

The past few years have witnessed some significant changes in retailing — and in retailers. Large-scale mass merchandisers are diversifying into new or associated fields of marketing. Independent store owners are forming voluntary groups to combat the encroachment of chains on their share of the market. New forms of selling to household consumers through "direct" channels of distribution are being developed. These are among the most important of the trends now emerging in retail trade.

The movement of large "general merchandise" chains, such as department stores and variety store firms, into allied fields was one of the factors leading to the adoption by the Dominion Bureau of Statistics of an entirely new definition for department stores in January, 1968. In the monthly retail trade surveys, the result of this change was the creation of a new statistical series



A department store, such as this, can provide exotic or luxury goods as well as the necessities.

Retail Trade by Province and Kind of Business, 1967¹-8

Province and Kind of Business	1967 (old base)	1967 (new base)	1968	Percentage Change 1967-1968
Province				
Millions of dollars				
Newfoundland	428.8	446.7	470.7	+ 5.4
Prince Edward Island	106.1	105.6	112.1	+ 6.2
Nova Scotia	800.7	791.0	866.8	+ 9.6
New Brunswick	603.2	604.4	653.8	+ 8.2
Quebec	6,270.7	6,273.6	6,459.9	+ 3.0
Ontario	8,941.3	9,022.9	9,806.6	+ 8.7
Manitoba	1,108.2	1,110.4	1,146.3	+ 3.2
Saskatchewan	1,062.1	1,059.4	1,071.2	+ 1.1
Alberta	1,883.2	1,885.0	2,028.0	+ 7.6
British Columbia ²	2,580.6	2,591.1	2,796.5	+ 7.9
Totals	23,785.2	23,890.2	25,411.9	+ 6.4
Kind of Business				
Grocery and combination stores	5,304.1	5,304.1	5,671.4	+ 6.9
All other food stores	853.8	853.8	887.7	+ 4.0
Department stores	2,371.6	2,157.8	2,376.1	+10.1
General merchandise stores	N/A	719.6	771.5	+ 7.2
General stores	797.7	848.6	894.6	+ 5.4
Variety stores	701.4	525.6	493.5	- 6.1
Motor vehicle dealers	3,935.7	3,935.7	4,243.4	+ 7.8
Service stations and garages	2,170.6	2,170.6	2,331.9	+ 7.4
Men's clothing stores	352.7	352.7	367.1	+ 4.1
Women's clothing stores	440.0	441.2	453.2	+ 2.7
Family clothing stores	325.1	330.3	344.3	+ 4.3
Shoe stores	268.8	268.8	300.8	+ 4.1
Hardware stores	401.0	401.0	416.3	+ 3.8
Furniture, TV, radio and appliances	811.7	822.2	859.0	+ 4.5
Fuel dealers	393.9	393.9	411.4	+ 4.4
Drug stores	696.0	696.0	729.9	+ 4.9
Jewellery stores	220.9	220.9	226.2	+ 2.4
All other stores	3,720.0	3,427.2	3,633.6	+ 8.0

Components may not add to totals due to rounding.

¹ The data for 1967 are shown in two series; one, prior to application of the new department store definition and the other after.

² Includes the Yukon and Northwest Territories.

in which only the sales of department stores were included — rather than department store establishments as in the past. Similar refining of the definitions for other general merchandise trades (and, in fact, for all retail trades) was undertaken during 1969 in preparation for the 1971 census.

The table on page 228 reflects the changes in retail trade caused by the adoption of a new department store definition and the resultant re-shuffling of specific trades in which department store activity had previously been included. The "new base" data, while still tied to a 1961 census benchmark (except for department stores proper), are those in which the new definition has been applied.

In an effort to stem the continuing tide of chain store competition, independent retailers in many kinds of business have turned more and more in recent years to affiliation in voluntary organizations. Through their group affiliation, independent businessmen have acquired many — if not all — of the benefits enjoyed by chain store firms: mass purchasing power, centralized buying, lower advertising costs, and management services. However, as the following table shows, some retailers have taken less advantage of these opportunities than others.



A general store on the Saint John River, in New Brunswick.



The market in Hamilton, Ont.

**Retail Sales in Selected Trades, by Chain, Voluntary Group
and Non-affiliated Retailers, 1964-7**

Store Type	Sales		Percent- age Change 1964-7
	1964 Thousands of dollars	1967 Thousands of dollars	
Grocery and combination stores			
All stores — total	4,355,948	5,304,102	+21.8
Corporate chain stores	2,057,748	2,532,813	+23.1
Independent stores — total	2,298,200	2,771,289	+20.6
Voluntary group stores	1,016,951	1,579,197	+55.3
Non-affiliated stores	1,281,249	1,192,092	— 7.0
Sales of voluntary group stores as a proportion of independent store sales	44.2%	57.0%	
Drug stores			
All stores — total	537,644	696,011	+29.5
Corporate chain stores	63,621	94,849	+49.1
Independent stores — total	474,023	601,162	+26.8
Voluntary group stores	301,873	349,535	+15.8
Non-affiliated stores	172,150	251,627	+46.2
Sales of voluntary group stores as a proportion of independent store sales	63.7%	58.1%	
Hardware stores			
All stores — total	328,409	400,961	+22.1
Corporate chain stores	46,710	65,349	+39.9
Independent stores — total	281,699	335,612	+19.1
Voluntary group stores	105,506	192,379	+82.3
Non-affiliated stores	176,193	143,233	—18.7
Sales of voluntary group stores as a proportion of independent store sales	37.5%	57.3%	
Variety stores			
All stores — total	462,902	701,417	+51.5
Corporate chain stores ¹	384,895	604,986	+57.2
Independent stores — total	78,007	96,431	+23.6
Voluntary group stores	32,145	44,974	+39.9
Non-affiliated stores	45,862	51,457	+12.2
Sales of voluntary group stores as a proportion of independent store sales	41.2%	46.6%	

¹ Includes department store outlets operated by variety store chains.

A recent survey of direct selling by manufacturers and specialized agencies indicates the size and scope of retail sales to household consumers through other than retail outlets. By 1967, the direct sales of manufacturers and specialist agencies had grown by nearly one third over 1961 levels, rising from \$491 million to \$646 million.

In wholesaling, the trend towards diversification may not have been as acute as in the retail field — but recent intercensal revisions of wholesale trade, covering the 1951-68 period, reveal the emergence of several new types of specialist wholesale establishments. These include, for consumer goods, motor vehicle and floor covering wholesalers; and for industrial goods, distributors of grain, and scientific and professional equipment, iron and steel



Concordia Hall, in the Place Bonaventure, Montreal, Que., with its 200,000 sq. ft. of space, is the largest exhibition hall in Canada. It was built to accommodate trade shows.

wholesalers, and scrap metal dealers. From 1961 to 1968, sales of consumer and industrial goods wholesalers rose by more than 54 per cent, from \$11,000 million to \$17,000 million.

Changes within the service sector of the economy can best be measured and analyzed by comparison of census results, since intercensal surveys provide only partial coverage of this large and diverse field. From 1961 to 1966, the service trades (those considered within the scope of the census) developed at a faster rate than both personal disposable income and personal consumer expenditure. The service trades' 53.9 per cent increase was also greater than the 41.1 per cent growth in retail sales during the same period. In 1966, amusement and recreation services, business services, personal services, repair services, hotels and restaurants, and other miscellaneous trades, together accounted for total receipts of over \$4,500 million.

Consumer Credit

Under the impetus of an expanding economy, consumer credit has surged ahead rapidly in recent years, reaching the \$9,500 million mark by the end of 1968. When the chartered banks began to make personal cash loans, the growth of credit — extended in the form of cash and other personal loans — was stimulated. The result has been a rise of more than 186 per cent in this area during the 1961-8 period. In comparison, credit extended by retail dealers advanced by less than 39 per cent during the same period.

Consumer credit (in terms of the balances outstanding on the books of selected credit holders) rose by 125.2 per cent from 1961 to 1968, while retail



Shopping in the North: at the Hudson's Bay Company establishment at Spence Bay, Boothia Peninsula, and that at Frobisher Bay, Baffin Island.

sales — the source of much of this credit — increased only 58.1 per cent. The following data on credit outstanding do not include the credit balances of utility companies, transportation companies, hotels, doctors, dentists and other professionals, or any of the service trades. In addition, no information is available on the value of loans between individuals.

During the 10-year period ending in 1968, there was a significant change in the level of consumer credit — as advanced by sales finance companies — to purchase new cars and trucks. Although sales of new passenger vehicles reached a new high of \$2,481,141,000 in 1968, the proportion of such sales financed by sales finance companies declined to 23.7 per cent, considerably lower than the 29.9 per cent recorded ten years earlier. The sales finance companies' share of credit advanced on new commercial vehicles also declined during this period, from 31.7 per cent in 1959 to 26.9 per cent in 1968.

**Service Trades, by Kind of Business Groupings,
Canada, 1961-6**

Kind of Business Group	1961	1966	Percentage Change 1961-6
Thousands of dollars			
Amusement and recreation group	253,290.5	441,905.5	+74.5
Business services group	272,684.0	492,387.6	+80.6
Personal services group	406,974.2	596,480.7	+46.6
Repair services group ¹	64,760.2	65,572.2	+ 1.3
Hotel, tourist camp and restaurant group	1,660,787.8	2,397,258.4	+44.3
Miscellaneous services group	321,353.1	593,397.0	+84.7
Total, all services	2,979,849.8	4,587,001.4	+53.9

¹ Excludes automotive, appliance and jewellery repairs.

Direct Selling in Canada — 1961, 1966 and 1967

	1961	1966	1967
Thousands of dollars			
1. Dairy products	156,833	175,151	186,711
2. Bakery products	80,812	67,269	61,000
3. Other food products (including frozen food plans) ..	8,252	32,973	33,604
4. Clothing and fur goods	7,478	11,222	11,257
5. Books	41,494	45,332	51,164
6. Newspapers and magazines	76,479	103,743	107,631
7. Kitchenware and utensils	5,460	16,315	18,431
8. Electrical appliances	20,246	32,279	34,617
9. Brushes, brooms, mops, etc.	15,408	17,414	17,428
10. Cosmetics	33,389	50,102	54,353
11. Phonograph records	8,308	14,453	18,140
12. Miscellaneous	36,826	48,050	51,250
Total	490,985	614,303	645,586

The Consumer Price Index

The Consumer Price Index measures the movement from month to month of retail prices of goods and services bought by a broad middle-income group of Canadian urban people. A price index number is simply the price of the item at one particular time, expressed as a percentage of its price during a reference period, usually called a base period. However, indexes for individual goods may be combined to form indexes representing prices of broad groups of goods and services. Thus, the Consumer Price Index relates to the wide range of goods and services bought by Canadian urban families. The index expresses the combined prices of such goods monthly and annually as a percentage of their prices in the base period 1961.

The group of goods and services represented in the index is called the index "basket," and "weights" are assigned to the price indexes of individual items for purposes of combining them into an over-all index. The weights

reflect the relative importance of items bought by middle-sized urban families with medium incomes. The quantity and quality of goods and services in the basket does not change. Only prices change from month to month. The index, therefore, measures the effect of changing prices on the cost of purchasing the fixed basket.

The basket and weights now used in the index are based on expenditures in 1957 of families of 2 to 6 persons, with incomes of \$2,500-\$7,000, living in cities with a population of 30,000 or over. The basket, weighted at 100, consists of the following components with their relative weights: food (27); housing, including shelter and household operation (32); clothing (11); transportation (12); health and personal care (7); recreation and reading (5); tobacco and alcohol (6).

Changes in the Index, 1961-8. The Consumer Price Index rose 20.1 per cent in the period from 1961 to 1968, and the average annual rate of increase steadily accelerated from 1.2 per cent at the beginning of the period to 4.1 per cent by 1968. In each of the three latest years under review, 1966, 1967, and 1968, consumer prices advanced more rapidly than in any year since 1951, at the time of the Korean war.

In 1967 the Consumer Price Index averaged 115.4, 3.6 per cent above its average of 111.4 in the preceding year. In 1968 an acceleration in the advance of consumer prices raised the index by 4.1 per cent to an average level of 120.1. During the 1966-8 period all seven components of the index moved upwards; the most significant increase was a rise of 9.1 per cent in the important element of housing. Home-ownership costs, after moving up by 5.7 per cent in 1967, displayed a further 7.2 per cent advance in 1968. Rents also increased by 3.4 per cent in 1967 and by 4.4 per cent in 1968. Electricity rates, which had been edging downwards in the period 1961 to 1966, increased sharply by 12.6 per cent in the latest two years.

Dining with a spectacular view atop the Husky Tower, Calgary, Alta. On the west side of the tower the Rocky Mountains are visible.





The largest shopping complex in Québec is Les Galeries d'Anjou in a suburb of Montreal, Que. It houses 85 stores under one roof.

Co-operatives

Co-operatives are found in all ten provinces of Canada. Most of them are incorporated under provincial legislation. A few of the larger ones, whose operations are interprovincial, are incorporated under the Canada Corporations Act or special federal Acts. Co-operative business has four major concerns: marketing, selling members' produce, which may also include processing; purchasing and selling merchandise and supplies to members; manufacturing; and services, such as transportation, cold storage, electricity, grazing, and so on. The activities of the local co-operatives (those directly owned by the members) are enhanced by their affiliation with the co-operative wholesales which serve as distributors and central marketing agencies for the locals. Co-operatives were most readily adopted in the rural areas of Canada, and they are largely organized for the agricultural sector of the population. However, in recent years they have been making progress in urban areas, particularly in the Prairie Provinces, with the establishment of co-operative supermarkets and shopping centres.

Total volume of business in 1967 for 2,517 local co-operatives amounted to \$2,180 million. Assets at year-end were \$1,000 million while membership totalled 1.7 million. Co-operatives engaged in marketing and purchasing operations accounted for about 95 per cent of the volume of business.

Eight co-operative wholesales reported a total business volume of \$542 million for the year 1967, including farm product marketings of \$193 million and sales of supplies of \$349 million. Livestock sales at \$100 million accounted



The head office of the Saskatoon Credit Union, in Saskatoon, Sask. Its membership at March 1, 1969, was over 17,000.

for more than half of marketings while food products at \$95 million and feed at \$83 million were the most important supply items.

The Co-operative Development Program initiated in northern Canada in 1959 for the benefit of the native population has enjoyed ever widening support from the people. At the end of 1967 there were 22 co-operatives in operation in the Northwest Territories and northern Quebec with another 13 ready to commence operations in 1968. These Arctic co-operatives have been very successful in promoting the marketing of native handicrafts. For the year 1967, total sales of the Arctic co-operatives were in excess of \$2 million and assets amounted to \$1.6 million of which members' equity represented 50 per cent.

Two important national co-operative bodies work together to improve co-operative organization, education, and promotion. The Co-operative Union of Canada concentrates its efforts in English-speaking areas while Le Conseil Canadien de la Coopération serves co-operatives in the areas where the French language predominates.

A number of Canadian universities give courses on co-operatives and some conduct extension work in this field. The most prominent is St. Francis Xavier University in Nova Scotia which since the early 1930's has carried on extension work in the Maritime Provinces to organize and assist co-operatives. In recent years short courses on co-operative management and personnel have been instituted. The Coady International Institute was established at St. Francis Xavier University in 1960. It has been providing instruction in co-operative principles and organization to students from abroad, mainly from developing countries where the self-help nature of co-operative organizations has been found to be most appropriate. Western Co-operative College in Saskatchewan provides short courses for co-operative personnel as well as training courses for foreign students. The Institut Coopératif Desjardins in Quebec specializes in social leadership and adult education for Quebec co-operators and foreign students.

External Trade

Canada's external trade registered a further expansion during 1968, continuing the trend of the previous decade. Total trade moved up to \$25,920 million during the year from \$22,283 million in 1967. Total exports rose from \$11,411 million in 1967 to \$13,576 million in 1968, an increase of 19 per cent, while imports went up by nearly 14 per cent from \$10,872 million to \$12,344 million. Consequently, Canada's trade surplus of \$539 million in 1967 more than doubled in 1968 to a postwar high of \$1,233 million. Total trade constituted over 37 per cent of Canada's Gross National Product in 1968.

Foreign Trade of Canada, 1962 to 1968

(Millions of dollars)

Year	Exports			Imports	Total Trade	Balance of Trade
	Domestic	Re-exports	Total Exports			
1962.....	6,178.5	169.2	6,347.7	6,257.8	12,605.5	+ 89.9
1963.....	6,798.5	181.8	6,980.1	6,558.2	13,538.4	+ 421.9
1964.....	8,094.2	209.2	8,303.4	7,487.7	15,791.1	+ 815.7
1965.....	8,525.1	241.6	8,766.7	8,633.1	17,399.8	+ 133.5
1966.....	10,070.6	254.7	10,325.3	10,071.9	20,397.2	+ 253.4
1967.....	11,111.6	299.3	11,410.9	10,871.9	22,282.8	+ 539.0
1968.....	13,220.2	354.1	13,574.3	12,358.0	25,932.3	+ 1,216.3

International Background

The United States in 1967 continued to be the world's major trader, followed by the Federal Republic of Germany, the United Kingdom, France, Japan, and Canada, in that order. Canada maintained her position as the fifth largest trading nation of the world from 1960 to 1966, but lost it to Japan in 1967, owing to the faster rate of expansion in the latter's trade rather than to any slowdown in Canada's trade. In terms of trade per capita, too, Canada moved down to the eighth place from the seventh that it had occupied. Notwithstanding, Canada's trade per capita is one of the highest among the leading trading nations.

**Leading Countries in World Trade, by Value of Trade
and Trade Per Capita, 1966 and 1967**

	Exports f.o.b.		Imports c.i.f.		Total Trade	
	1966	1967	1966	1967	1966	1967
Value of Trade (Millions of U.S. dollars)						
World Trade ¹	161,400	190,300	192,100	202,100	373,500	392,400
United States	30,434 ²	31,627 ²	27,747	29,125	58,181 ²	60,752 ²
Germany Fed. Rep.	20,145	21,748	18,036	17,365	38,181	39,113
United Kingdom	14,676	14,321	16,651	17,796	31,327	32,117
France	10,890	11,381	11,843	12,381	22,733	23,762
Japan	9,777	10,442	9,524	11,664	19,301	22,106
Canada	9,988	11,027	10,170	10,934	20,158	21,961
Italy	8,038	8,702	8,589	9,697	16,627	18,399
Netherlands	6,751	7,286	8,016	8,336	14,767	15,625
Belgium and Luxembourg	6,829	7,032	7,174	7,176	14,003	14,258
Sweden	4,266	4,528	4,582	4,703	8,848	9,231
Trade per capita ³ (U.S. dollars)						
Belgium and Luxembourg	692	707	727	722	1,420	1,434
Singapore	556	582	894	736	1,270	1,319
Switzerland	541	583	652	628	1,193	1,271
Netherlands	542	580	644	663	1,186	1,243
Norway	417	459	641	726	1,057	1,185
Denmark	512	524	626	651	1,137	1,175
Sweden	546	575	587	598	1,133	1,173
Canada	499	539	508	535	1,007	1,074
Hong Kong	356	398	476	474	832	872
Trinidad and Tobago	429	440	454	409	883	849

Source: International Monetary Fund, International Financial Statistics.

¹ World trade, exclusive of China, the U.S.S.R., and those countries of Eastern Europe not currently reporting trade.

² Including military aid exported to other countries.

³ Trading countries as listed by the I.M.F. except that Aden, the Netherlands, Antilles, and countries with neither exports nor imports worth \$100,000,000 (U.S.) in 1967 were included.

The rapid growth in Canada's foreign trade has been the result of a combination of favourable factors, such as the expansion of international trade, generally favourable conditions in the industrial countries, and in particular the continued expansion of the United States, which is Canada's largest customer and supplier. The Canada-U.S. automotive agreement of 1965 has been the largest single factor in the growth of trade between the two countries during the past three or four years.

Regional Economic Groupings

Since Canada's competitive position in world trade is affected not only by her own gains in productivity but also by developments in the international

economic situation, a brief review of the recent developments in the various regional economic groupings may be of interest.

The European Economic Community (EEC) whose members are Belgium, France, the Federal Republic of Germany, Italy, Luxembourg and the Netherlands, moved on July 1, 1968, to the third stage in their customs union. The remaining tariffs on the import of industrial goods were abolished and a common external tariff (CXT) against imports from non-member countries came into effect. Temporary problems forced France to impose controls on the import of automobiles, textiles, and steel, and later in the year on the outflow of foreign exchange in order to ease the pressure on the balance of payments. Similarly, the Federal Republic of Germany agreed to reduce taxes on imports and cut rebates on exports so as to reduce the magnitude of her export surplus.

The European Free Trade Association (EFTA) made up of the United Kingdom, Austria, Denmark, Norway, Portugal, Sweden, and Switzerland completed their main schedule of tariff and quota reductions by abolishing the remaining 20 per cent protective tariff on industrial goods. The United Kingdom, the most influential member of EFTA, failed again in 1967 in its bid to enter the EEC.

Twenty miles south of Vancouver, B.C., at Roberts Bank a superport is being built on a 50-acre offshore island. When completed in 1970 the port will handle coal shipments going abroad.





Cargo vessels to and from the port of Montreal and farther inland down the St. Lawrence Seaway pass under this bridge at Trois-Rivières.

Trends in Canadian International Trade

World demand continued very strong during 1968, enough so as to boost Canada's exports by a record 19 per cent during the year. Export prices went up by 3.4 per cent between 1967 and 1968 compared with 2.0 per cent during the preceding year. Import prices, however, advanced by only 2.3 per cent during 1968 and by 0.6 per cent during 1967. The higher gains in the prices for exports during both years contributed to increased receipts from exports. These increases, contrasted with slower rising import prices, were elements in the growth of Canada's trade surplus and an improvement in her terms of trade.

Exports. The composition of Canada's exports has been steadily changing during the past several years. Newsprint paper and automotive products now top the list of Canadian exports. This is growing evidence of a successful development away from being a resource-based exporter. Exports of crude materials, although increasing in absolute terms do not represent the greater part of Canada's shipments abroad. Fabricated and end products have been

steadily becoming more predominant. In 1958 exports of crude materials represented 37 per cent of total exports while fabricated materials and end products were 50 and 13 per cent respectively. In contrast, the 1968 trade statistics reveal that exports of crude materials accounted for 27 per cent, fabricated materials for nearly 38 per cent, and end products for 35 per cent of total domestic exports for that year.

Total exports (including re-exports) reached \$11,411 million in 1967 and \$13,574 million in 1968, producing year-over-year increases of 11 and 19 per cent in 1967 and 1968 respectively. The major commodity section that showed the largest relative increase during 1968 was live animals; this rose by over 41 per cent from \$42 million to \$59 million. More important, however, was the 37 per cent increase in end products, such as automobiles, from \$3,107 million to \$4,244 million. Other advances were registered in fabricated materials, such as fuel oil and chemicals, and in crude materials, such as coal and crude petroleum, which rose by 17 and 15 per cent respectively. Only exports of food, feed, beverages, and tobacco showed a decline, and that of only 3 per cent.

During 1968 exports of automobiles and accessories (including passenger automobiles and chassis, other motor vehicles, motor vehicle engines and parts, and motor vehicle parts excluding engines) rose by 55 per cent. The previous gains of 74 per cent in 1967, 179 per cent in 1966, and 101 per cent in 1965 would seem to be slowing down as the industry completes the necessary adjustments after the Canada-U.S. automotive agreement of 1965.

The large increases in shipments of automotive products during the past few years — to \$2,638 million in 1968 — have resulted in their being at the top of the list of Canadian exports, replacing newsprint paper and wheat. Newsprint paper, the second most important commodity, showed a modest increase of nearly 4 per cent, with exports valued at \$990 million. The United States, the United Kingdom, Australia, and Japan accounted for the greater part of the increased sales of this product.

Shipments of wheat, both commercial and in the form of economic aid, were down again this year despite very large sales to the Peoples' Republic of China. Lower purchases by the United Kingdom and the U.S.S.R. and smaller economic aid shipments to India accounted for most of the decline. Total exports of wheat were valued at \$684 million in 1968, compared with \$742 million a year earlier and \$1,061 million in 1966, and were the lowest on record since 1963. This shows the dependence of our wheat exports on the size of the harvests of the major wheat-importing countries.

Exports of woodpulp amounted to \$628 million in 1968, up 15.5 per cent over the preceding year. The United States, by far the largest purchaser of this product, accounted for \$425 million of our exports, recording an increase of 11 per cent over 1967. Other large customers were Japan with an intake of nearly \$50 million (an increase of 27 per cent over the previous period), the United Kingdom with \$38 million (an increase of its purchases by 18 per cent), and Germany with \$27 million (up 57 per cent). Other important customers in 1968 were the Netherlands and Italy with over \$21 million each. Exports of lumber (softwood) rose by more than 31 per cent to \$628 million in 1968.



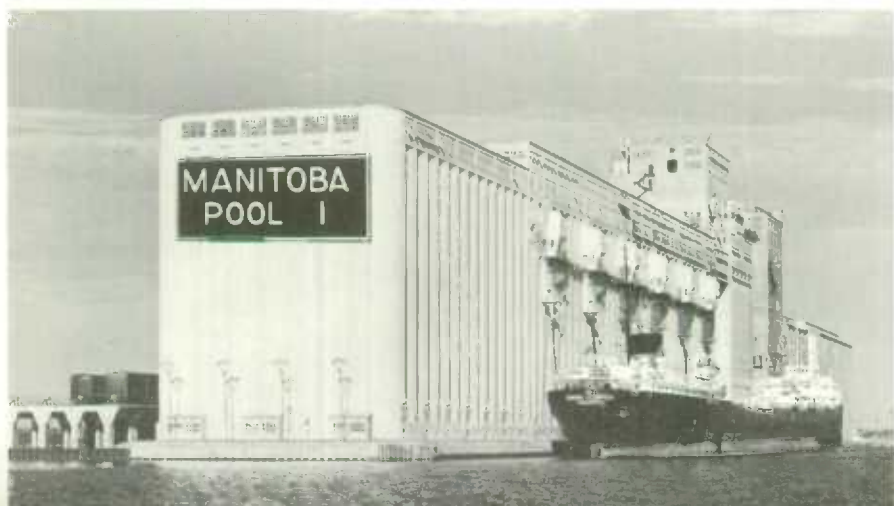
Against the Detroit skyline, Ontario-made farm vehicles and special equipment wait shipment from Windsor across the river to the United States.

Increases were shared by most customers. The United States, the United Kingdom, and Japan were the more important purchasers during the year.

Exports of crude petroleum — entirely to the United States — were up by over 12 per cent during the year, reaching \$446 million.

Shipments of aluminum and alloys rose by almost 12 per cent in 1968. Almost half of total exports were to the United States and the balance went mainly to the United Kingdom, Japan, and the Republic of South Africa. Sales of iron ores and concentrates were almost 16 per cent higher during 1968. Exports of copper and alloys were up by more than 12 per cent and those of nickel in ores and concentrates were up by 28 per cent. Nickel and alloys registered a gain of 7 per cent and copper in ores and concentrates was up by 48 per cent. Japan and Norway were the largest buyers. Aircraft parts exports (excluding engines) increased by 9 per cent during 1968, but the gain was

Grain grown in the Prairie Provinces is stored in vast grain elevators, such as this, to await shipment to other parts of Canada, or abroad.



Principal Domestic Exports, 1964 to 1968

Commodity	1964	1965	1966	1967	1968
(Thousands of dollars)					
Automobiles and accessories	177,386	355,975	993,596	1,730,068	2,637,876
Passenger automobiles and chassis ..	67,667	148,643	429,624	879,395	1,357,019
Motor vehicle parts (except engines)	63,959	128,444	252,858	365,104	556,154
Other motor vehicles	14,474	34,530	173,257	326,662	477,992
Motor vehicle engines and parts	31,286	44,358	137,857	158,907	246,711
Newsprint paper	834,646	869,586	968,224	955,261	989,831
Wheat	1,023,516	840,175	1,061,024	741,878	684,469
Woodpulp (and similar pulp)	460,854	493,501	520,068	543,433	627,874
Lumber, softwood	449,732	457,967	439,569	474,604	623,414
Crude petroleum	262,023	279,956	321,681	397,875	448,413
Aluminum including alloys	317,937	360,965	372,275	398,910	445,128
Iron ores and concentrates	356,007	360,819	369,009	383,063	443,202
Copper and alloys	190,363	194,850	266,067	336,723	378,216
Nickel in ores, concentrates and scrap	166,036	189,336	186,725	203,981	261,030
Nickel and alloys	190,145	207,864	212,433	229,297	245,433
Copper in ores, concentrates and scrap	65,573	77,831	130,898	157,464	233,343
Aircraft parts (except engines)	52,986	53,250	118,090	183,312	199,751
Asbestos unmanufactured	155,706	158,657	182,484	172,397	192,896
Fertilizers and fertilizer materials	86,750	111,831	139,560	154,623	168,882
Other communication and related equip.	43,258	62,457	80,097	97,894	164,702
Whisky	102,820	116,983	127,508	141,514	158,253
Natural gas	97,609	104,280	108,750	123,664	157,204
Plate, sheet and strip steel	71,708	78,140	76,956	88,795	109,138
Aircraft engines and parts	43,664	48,521	72,658	94,307	107,288

much lower than the 55 per cent recorded in 1967. The United States absorbed the bulk of these shipments.

In sum, exports of all major commodity groups except wheat were substantially higher in 1968 than in 1967.

Imports. Nearly two thirds of all Canadian imports constitute end products or fully manufactured goods ready for final use, and over one fifth are fabricated products that will undergo further processing in Canada before they are ready for the consumer. Imports of automotive products were most important. They reached \$3,001 million in 1968, an increase of 41 per cent over the preceding year. Imports of crude petroleum were second — \$373 million, an increase of nearly 5 per cent over the 1967 value. Almost two thirds of the petroleum came from Venezuela. In third place were imports of aircraft (complete with engines) whose value rose to \$234 million and was 58 per cent above that recorded during the previous year. Following were communication and related equipment, with a value of \$166 million, an increase of almost 8 per cent over the preceding period. Other important imports were made up of other end products, coal, miscellaneous equipment and tools, and fuel oil. Continued favourable economic conditions during 1968 encouraged added purchases abroad as evidenced by increased imports of most major commodity groups.

Principal Imports, 1964 to 1968

(Thousands of dollars)

Commodity	1964	1965	1966	1967	1968
Automobiles and accessories	817,822	1,124,781	1,580,655	2,168,363	3,000,856
Motor vehicle parts (except engines)	539,777	683,025	844,995	998,257	1,342,300
Closed sedans, new	107,870	196,159	348,632	669,706	940,986
Motor vehicle engines	30,063	54,927	111,749	144,509	244,462
Trucks, truck tractors and chassis ..	14,152	29,788	69,954	120,731	167,501
Motor vehicle engine parts	72,315	80,797	91,823	91,344	109,849
Other motor vehicles	22,786	37,925	51,006	54,218	72,465
Convertible automobiles, soft top new	18,333	24,048	33,526	47,775	58,850
Other passenger automobiles and chassis	12,526	18,112	28,970	41,823	64,443
Crude petroleum	320,637	312,259	299,001	355,416	372,586
Aircraft complete with engines	18,327	76,400	73,037	147,509	233,704
Other communication and related equip.	84,042	94,230	139,410	153,972	166,023
Other inedible end products	74,819	84,022	100,925	130,808	160,742
Coal	86,472	126,200	141,038	145,544	160,390
Miscellaneous equipment and tools ...	96,157	105,001	119,551	130,366	143,697
Fuel oil	76,988	109,395	102,775	119,824	142,497
Organic chemicals	93,918	106,649	106,571	116,003	129,036
Other measuring laboratory equip., etc.	74,978	95,169	94,615	113,134	127,440
Aircraft parts (except engines)	68,670	69,233	83,350	109,965	115,944
Other chemical products	69,360	80,189	86,978	99,287	112,252
Electronic computers	30,311	50,510	93,495	115,902	106,606
Books and pamphlets	55,653	68,597	77,905	96,232	105,392
Plates, sheet and strip steel	121,587	155,745	117,008	117,230	103,175
Wheel tractors, new	97,635	103,205	134,217	133,845	100,417
Plastics materials not shaped	61,583	68,972	74,140	80,868	99,433
Other photographic goods	44,665	59,051	68,732	94,730	93,329
Other office machines and equipment ..	61,975	59,144	78,671	88,971	91,447
Aluminum including alloys	39,584	49,348	72,140	85,492	89,816

Chief Trading Partners

Trade with the United States represents almost two thirds of the total Canadian external trade. The proportion of exports going to the neighbouring country has been progressively rising and in 1968 was over 67 per cent of total exports. On the other hand, our imports from the United States represent 73 per cent of all our purchases outside Canada. The United Kingdom, our second best customer and supplier, bought about 9 per cent of Canada's total exports and in turn sent nearly 6 per cent of our imports. The next largest market for Canadian goods was Japan, which bought more than 4 per cent of our exports and sold us approximately 3 per cent of our purchases abroad. Canadian trade with the Federal Republic of Germany, our fourth most important customer, increased considerably during 1968. Our exports to Germany rose by 29 per cent during the period and imports from that country rose by 16 per cent. Other important trading partners of Canada were the



In Vancouver harbour lumber is being loaded for shipment. In 1968, 20 per cent of Canada's total exports were shipped through the ports of British Columbia, and of this total 80 per cent went through Vancouver.

Netherlands, Belgium and Luxembourg, Italy, the U.S.S.R., Norway, India, and Venezuela; all imported over \$100 million of Canadian goods. Venezuela, the fourth leading source of Canadian imports, registered an increase of nearly 30 per cent over 1967 followed by the Federal Republic of Germany. Other important suppliers of goods to Canada were France and Italy, each with exports of over \$100 million coming to Canada.

Canadian trade with the EEC countries increased substantially during the year under review. Exports were up by 10.5 per cent to \$748 million and imports rose by nearly 6 per cent to \$662 million. The largest increases in Canadian exports to EEC countries were to the Federal Republic of Germany which rose from \$178 million to \$229 million, or nearly 29 per cent, and to Belgium and Luxembourg, which rose by more than 26 per cent from \$101 million to \$127 million.

Imports from EEC countries during 1968 increased by almost 6 per cent from \$627 million to \$662 million. The major contributors to this increase were the Federal Republic of Germany which registered a rise of \$42 million, or more than 16 per cent over 1967, to a total of \$299 million, and the Netherlands, which purchased nearly \$69 million in 1968, or nearly 7 per cent above the 1967 level. France, Belgium, and Luxembourg registered decreases in their purchases of Canadian goods during 1968.



Lead arriving at an electrical manufacturing plant in Yokohama, Japan. At present Canada's main exports to Japan are raw materials, such as minerals.

Domestic Exports by Leading Countries, 1964 to 1968

(Thousands of dollars)

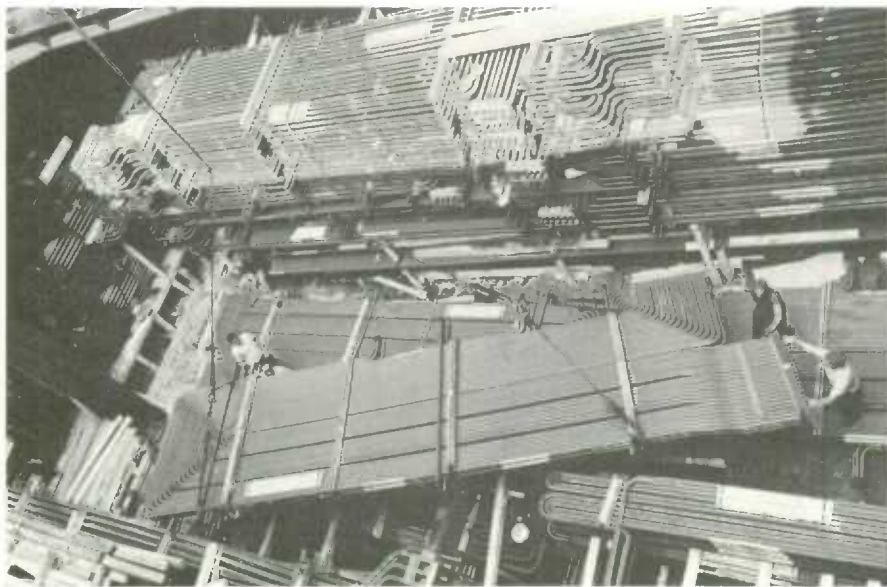
Country	1964	1965	1966	1967	1968
United States	4,271,059	4,840,456	6,027,722	7,079,396	8,891,996
United Kingdom	1,199,779	1,174,309	1,122,574	1,169,053	1,209,592
Japan	330,234	316,187	393,892	572,156	606,787
Germany, Federal Republic	211,360	189,493	176,800	177,955	228,870
Australia	145,812	140,372	117,359	156,249	185,717
Netherlands	101,582	127,766	143,113	176,431	179,525
China, Communist	136,263	105,131	184,879	91,306	163,243
Italy	62,236	93,223	114,787	141,439	131,210
Belgium and Luxembourg	100,535	128,011	117,505	100,800	127,380
Norway	67,582	82,456	107,014	87,423	116,323
India	64,042	58,453	107,662	140,592	111,255
Venezuela	64,075	73,045	75,958	82,049	102,471
Union of Soviet Socialist Republics ...	315,943	197,362	320,605	128,663	88,569
France	79,433	87,273	84,541	80,608	81,384
Republic of South Africa	69,166	76,226	74,393	77,690	68,341
Mexico	65,151	51,006	52,145	49,202	54,589
Cuba	60,930	52,594	61,436	42,390	44,988
Spain	21,235	33,825	36,900	39,623	41,114
Jamaica	28,942	30,280	33,500	39,080	34,378
New Zealand	33,714	36,845	41,750	40,742	31,842

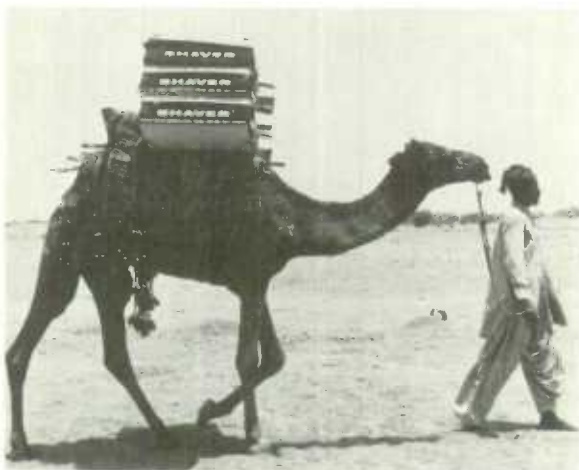
Imports by Leading Countries, 1964 to 1968

(Thousands of dollars)

Country	1964	1965	1966	1967	1968
United States	5,164,285	6,044,831	7,135,611	8,016,341	9,057,100
United Kingdom	573,995	619,058	644,741	673,050	696,085
Japan	174,388	230,144	253,051	304,768	360,180
Venezuela	270,621	254,670	215,059	276,327	357,862
Germany, Federal Republic	170,392	209,517	235,207	256,879	298,869
France	68,687	96,103	106,651	130,080	121,647
Italy	67,462	80,279	86,718	110,269	114,492
Sweden	38,794	55,568	72,541	76,242	78,091
Australia	59,827	47,372	59,573	64,471	75,990
Netherlands	39,933	56,274	60,489	64,783	69,052
Switzerland	36,932	43,986	50,279	66,022	64,326
Hong Kong	26,321	31,043	38,911	51,040	58,354
Belgium and Luxembourg	59,198	72,027	61,555	64,620	57,520
Mexico	23,186	27,247	33,539	29,535	52,167
Netherlands Antilles	34,885	43,341	38,511	60,293	49,658
Republic of South Africa	28,777	27,113	27,641	37,060	39,315
Norway	27,335	33,641	33,774	33,761	39,204
Brazil	39,533	35,573	35,777	31,436	38,725
India	36,121	43,424	40,093	42,774	38,304
Saudi Arabia	18,553	42,114	32,553	30,967	36,187

Components are loaded in Montreal for shipment to a thermal-electric power project in Australia.





Day-old breeder chicks of prize-winning stock from a Galt, Ont., farm are distributed in many parts of the world. Here some chicks complete their journey in Pakistan.

Balance of International Payments

Every hour of every day, commodities are moving into and out of Canada by train, truck, ship, aircraft, and pipeline. To supply their everyday needs, Canadians depend on the labour and products of countries in every part of the world. While this great stream of goods and services is flowing into Canada, an important although smaller flow of goods and services is moving outward.

Great as is the two-way traffic in merchandise, it has accounted in recent years for less than two thirds of Canada's international transactions. Canadians earn substantial amounts from the provision of services and savings to non-residents, and there are even greater payments by Canada for similar services and savings provided by non-residents. In addition to these international exchanges, which currently equal about \$1,500 per year for every Canadian, there is a vast amount of investment, borrowing, and lending between Canada and other countries.

Canadian purchases from non-residents of goods and services have persistently exceeded sales by a sizable margin. This imbalance has been made possible by very large inflows of foreign capital for investment in Canadian industry, by borrowings by provinces and municipalities, and by short-term capital flows through the increasingly sophisticated Canadian money market. These inflows have been associated with growth and development and have, in turn, stimulated demands for larger purchases of foreign goods and services.

There have been deficits each year since 1953, and they ranged between \$1,100 million and \$1,500 million in each of the years from 1956 to 1960. The largest deficits occurred in the latter part of 1956 and the first half of 1957 and again in 1959. Both were periods of intense economic activity.

The deficit in the exchange of goods and services moderated in the early 1960's, falling to about \$425 million in 1964. Increased wheat shipments to the U.S.S.R., mainland China, and some other Communist countries contributed

to a rise in the merchandise trade surplus which topped \$700 million in 1964, while net payments for non-merchandise transactions remained in the neighbourhood of \$1,000 million.

With an upswing, however, in the non-merchandise deficit, combined with a fall in the merchandise trade surplus, the current account deficit expanded to about \$1,130 million in 1965 and 1966. Rising net payments of interest and dividends, enlarged economic aid abroad, and higher increases in merchandise imports than in exports brought about the over-all change. Following similar increases in the receipts and payments, Canada's deficit in the years 1964 to 1966 on the travel account stood at an average level of about \$55 million. In 1967, however, there was a substantial drop in this deficit to about \$550 million, as a result of a rise in the merchandise trade surplus as well as an increase in the receipts from foreign visitors to Expo 67 and other Centennial events. A further significant reduction in the over-all current account deficit occurred in 1968, largely occasioned by a burgeoning merchandise trade surplus.

The deficit on service transactions, however, continued to rise inexorably. Many factors have contributed to the growth of this highly significant element in Canada's international transactions. Rising personal incomes in Canada have opened widening opportunities for spending on non-resident services, including travel. The influx of new Canadians has led to rising remittances by those having family connections outside Canada. Joint defence undertakings and contributions to developing areas have added to Canadian expenditure abroad, as have transactions in the spreading network of international investment.

The largest element in the deficit from non-merchandise transactions has been interest and dividend payments. These reflect part of the cost of financing the accumulated deficits of earlier years. With miscellaneous investment income, these transactions have, in recent years, resulted in net payments by Canada of up to \$900 million annually. Some of the effects of



A multi-million dollar order from the Brazilian Air Force for 12 Buffalo transports will add to the credit side of Canada's balance of trade.

the massive imports of capital by non-residents have yet to be fully felt. Large parts of the income accruing to non-residents have been retained for investment in Canada, while many of the new developments have not yet matured to the point where income remittances could be expected. Growing international financial relationships have also been reflected in increasing payments by branch and subsidiary companies for administrative and other services supplied from abroad. Net payments of this kind, including those between unaffiliated business organizations, have been rising and are now well over \$200 million annually.

While the financing of external deficits on current account has mostly been accomplished with little or no visible difficulty, Canada's international financial position in recent years has experienced several severe but short-lived shocks. The crisis of confidence in 1962 was resolved by remedial measures taken by the Canadian authorities with international assistance. The adverse reaction on the Canadian financial markets to American introduction in 1963 of special taxes aimed at improving their balance of payments position was ameliorated when an exemption for the sale of Canadian new issues in the United States was negotiated. Subsequent modifications and extensions to the American balance of payments program revived concern in Canada, but working arrangements were made between the two governments. At the same time, however, the application of these agreements has imposed some constraints on the freedom of Canadian financial and economic policy. Other international factors associated with the American balance of payments problem, principally the role of gold and reserve currencies together with related liquidity questions culminated in a series of crises which extended from the summer of 1967 through a large part of 1968. During this period, the Canadian dollar came under particularly severe strain in the first few months of 1968.

Refrigerators from Canada on display in a store in Port-of-Spain, Trinidad. Although local manufacturers supply more and more of the demand, there is a market for Canadian electrical appliances.





Canadian designer John Warden is seen with the scarf-raincoat he has designed. It was one of the styles exhibited at a show of ladies' rainwear in New York.

International Investment Position

The substantial growth in the investment of foreign capital in Canada during the past decade has increased Canada's net international indebtedness, which rose from \$8,000 million at the end of 1955 to about \$22,000 million at the end of 1965 — more than \$1,000 for every man, woman, and child in Canada.

Canada's gross external liabilities amount to well over \$35,000 million, of which about half represents direct foreign investment in Canadian enterprises controlled by non-residents. A substantial part of the remainder covers portfolio investment in Canadian corporations and in government and municipal bonds by non-residents.

At the same time, Canada's gross external assets total more than \$13,000 million, of which more than \$4,000 million are represented by government loans to overseas countries, subscriptions to international financial organizations, and holdings of gold and foreign exchange.

Dependence on external sources for some types of capital, together with the special advantages often associated with this capital, has led to a degree of foreign ownership and control of Canadian industry unique in economic history. Foreign investment accounts for 64 per cent of the ownership and 74 per cent of the control of the Canadian petroleum and natural gas industry at the end of 1963. The mining industry is 62 per cent foreign-owned and 59 per cent foreign-controlled. Manufacturing, other than petroleum refining, is 54 per cent foreign-owned and 60 per cent foreign-controlled. The degree of foreign ownership and control varies considerably in different branches of manufacturing. Other areas of Canadian wealth such as utilities, merchandising, housing, and social capital are Canadian-owned and controlled to a much larger extent than are the petroleum, mining, or manufacturing industries.

A substantial part of foreign capital in Canada has taken the form of equity investment. As a result of the retention of earnings, foreign investments increase each year by some hundreds of millions of dollars more than the capital actually imported. Indeed, during the postwar years to the end of 1964 the earnings accruing to non-resident investors, but voluntarily retained in Canada to finance expansion, have amounted to about \$5,000 million. In addition, actual transfers of interest and dividends in the most recent years have

exceeded \$1,000 million annually. The significant part of the corporate profits that accrues to non-residents is a measure of the important place of foreign capital in the development of the Canadian economy.

Travel Industry

Canada had a bumper travel year during its Centennial Year. Foreign visitors spent over \$1,250 million in Canada, according to preliminary estimates. Canadian expenditures abroad showed some curtailment: estimated spending amounted to less than \$900 million. The significant numbers of foreign visitors led to an unprecedented surplus of about \$400 million on the travel account of the country's international balance of payments. It is expected that expenditures in 1968 remained within the billion dollar bracket with a small disparity between receipts and payments, either a small surplus or deficit. The expenditure figures quoted include transportation costs; the fares paid to Canadian carriers by non-immigrants are classified as receipts and those to foreign carriers by Canadians as payments.

Balance of Payments on Travel Account, 1963 to 1967

(Millions of dollars)

Item	1963	1964	1965	1966	1967 ¹
Account with the United States:					
Credits (Receipts)	549	590	660	730	1,158
Debits (Payments) ²	388	481	548	628	609
Net	+161	+109	+112	+102	+549
Account with overseas countries:					
Credits (Receipts)	60	72	87	110	146
Debits (Payments)	197	231	248	272	268
Net	-137	-159	-161	-162	-122
Account with all countries:					
Credits (Receipts)	609	662	747	840	1,304
Debits (Payments)	585	712	796	900	877
Net	+ 24	- 50	- 49	- 60	+427

¹ Preliminary estimates subject to revision.

² Includes Hawaii.

Visitors to Canada. Attracted by Centennial events, Expo 67, the Pan American Games, and other celebrations, visitors arrived in Canada in record numbers. In 1967, entries of non-immigrants into Canada totalled 40.5 million compared with 35.7 million travellers in 1966. This represents an increase of 13.4 per cent or 4.8 million visitors.

Visitors from the United States numbered 39,975,600, of which 24,511,200 persons entered and left Canada on the same day and 15,464,400 remained one or more nights. The same-day traffic can be referred to as commuters while those staying longer normally are considered tourists. Most visitors came by automobile. In 1967, a total of 12,212,800 cars carried 31,582,700 American travellers to Canada, an increase of 17.5 per cent in the number of persons compared with 1966. Of the total, 12,597,200 automobile visitors

Buckminster Fuller's geodesic dome which was the American pavilion at Expo 67 is still one of the attractions for visitors at the annual summer fair "Man and His World" in Montreal, Que.



stayed one or more nights in Canada and 18,985,500 travellers entered and left on the same day. In 1967 non-automobile travel from the United States also showed significant gains in numbers. Bus traffic more than doubled: 1,457,800 entries of visitors were recorded. Travel by plane advanced 65.8 per cent over 1966. Plane travellers entering Canada from the United States totalled 1,177,100 in 1967. The number of residents from the United States travelling to Canada by rail and boat rose to 253,500 and 607,100, increases of 23.3 and 10.1 per cent respectively.

Visitors from overseas countries totalled 539,000 including those who entered directly and those who came by way of the United States, an increase of 31.2 per cent over 1966. Reports submitted by border officials show that 129,000 of the overseas visitors were from the United Kingdom, 72,000 from France, and 42,000 from Germany. The Netherlands, Switzerland, Mexico, and Japan each contributed about 19,000 persons to the total of non-immigrants arriving from overseas countries.

Canadian Travel Abroad. Fewer Canadians travelled to the United States in 1967 but the number visiting overseas countries increased over the preceding year, Canadians returned from a total of 33,021,900 visits to other countries during the year, compared with 35,182,800 in 1966.

Most Canadian visits were to the United States: 32,499,900 residents returned from that country, a decrease of 6.3 per cent in contrast with 1966. This total represents 24,708,900 travellers leaving and returning on the same day and 7,791,000 residents staying one or more nights in the United States. Comparable figures for 1966 show some 27,422,500 Canadians in the same-day category and 7,257,400 persons absent one or more nights. The automobile is the most popular form of transportation used by Canadians visiting the United States. Some 28,084,700 persons travelled by car in 1967, about 1 per cent fewer than 1966. Plane and bus travel accounted for 791,700 and 577,400 re-entries, increases of 12.4 and 4.7 per cent respectively. Fewer people travelled by rail or boat than in 1966; 147,600 and 126,900 re-entries were

recorded in 1967, decreases of 16.4 and 8.1 per cent respectively compared with 1966.

In 1967, Canadians returning from visits to overseas countries numbered 522,000 some 3.8 per cent more than in 1966. About 437,000 Canadians were reported returning direct from overseas countries and an estimated 85,000 residents re-entered by way of the United States. From the response to questionnaires distributed to Canadians returning from overseas countries, information was obtained on province of residence, purpose of the trip, and length of stay. The largest proportion of replies indicated residency in Ontario (47 per cent). Quebec was the province of residence of 23 per cent and British Columbia 14 per cent. Fifty-four per cent said the purpose of their trip was recreation or a holiday. About 33 per cent paid visits to friends or relatives and 11 per cent travelled on business. The average length of stay of Canadians travelling overseas was 26.5 days.

The Department of Industry, Trade and Commerce

The role of the new Department of Industry, Trade and Commerce is to further the growth, productivity, employment opportunities, and prosperity of the Canadian economy through the efficient development of Canada's manufacturing and processing industries and the expansion of trade and tourism.

The Department was established under the Government Organization Act 1969 and is a result of a merger between the Department of Industry and the Department of Trade and Commerce.

The new Department is organized to emphasize the essential relationship between industrial development and export promotion. The linkage becomes clear when two simple but basic propositions are considered: to keep both domestic and foreign markets and to win new markets, Canada must produce competitively products that are in demand; secondly, to produce such competitive products, Canada needs total markets, domestic and foreign, to permit the economies of scale and specialization. To sell any product on the domestic market, Canada must, in most instances, be able to sell it abroad so as to achieve competitive production costs.

The Department is organized into five major functional groups: Trade and Industrial Policy; Office of Economics and Trade Analysis; Industry and Trade Development; Office of Tourism; and Administration.

Exhibitions at trade fairs, such as this in Germany, help sell Canadian manufactured articles abroad.



Transportation

Traffic Developments

The private car has been predominant in Canada since World War II for most types of passenger journeys. In inter-city travel, cars account for 82 per cent of passenger-miles, buses and airlines for 7 per cent each, and railways for 4 per cent. In absolute terms, total inter-city travel has increased enormously since 1949 — by well over three times.

The growth of freight transportation has also been remarkable. In terms of ton-mileage, freight activity (other than urban trucking) has nearly tripled since 1949. Part of this increase is attributable to new oil and natural gas pipelines which became very significant in the mid-fifties. The index of total ton-miles is particularly sensitive to changes in the long-distance transportation of bulk goods such as exported grain, and slight set-backs for such reasons were recorded in 1957, 1960, and 1967.

The pattern of freight movement has changed substantially since World War II. Railways and ships which previously transported 95 per cent of the freight ton-mileage in Canada, were carrying only 66 per cent in 1967. Despite this fall, these traditional carriers are currently performing almost double their immediate post-war ton-mileage. Truck transportation has increased dramatically since this earlier period, but is still responsible for only 9 per cent of the total non-urban ton-mileage. In terms of tonnages handled, of course, trucking is much more important than this figure suggests. Air cargo has shown a high rate of growth but has yet to make a major impact on domestic freight transportation.

Other Highlights

Apart from major technological changes during the past two decades, especially in air, road, and pipeline transportation, improved techniques are also evident in the older established modes of transportation. The railways have switched from steam to diesel locomotives; have built electronically-operated freight yards; and have introduced machine-processing of data for opera-



Snowmobiles are used for recreation in the south of Canada, but in the North they are fast replacing the dog-team for the serious business of transport.

tional, analytical, and accounting purposes. Lines have been built to remote mining areas opened up since the war and many miles of uneconomic lines and services have been abandoned, particularly passenger services. Railway companies have also expanded their interests in highway transportation. A number of new service innovations such as piggyback, integrated services for package freight and less-than-carload shipments and container services are now offered to shippers. Unit trains for exporting coal began operating in the West in 1969. The traveller between Montreal and Toronto may now ride fast Turbo-trains, powered by gas turbine engines and designed on aero-dynamic principles to give a smooth ride at high speeds.

The opening of the St. Lawrence Seaway in 1959 brought benefits such as lower transportation costs and new markets to inland commerce by enabling all but the largest ocean freighters to sail more than 2,280 miles from the sea up the St. Lawrence and through the Great Lakes to the Lakehead. Many cities along the 8,300 miles of inland shore-line have now, in fact, become seaports. The 16 locks of the Seaway accommodate ships up to 730 feet long. The introduction of improved techniques of moving vessels and new traffic controls are achieving greater safety and greater efficiency by reducing the time it takes to move vessels through the Seaway. For the air services of the 1970's supersonic, jumbo, and STOL (short take-off and landing) aircraft are planned. Supersonic planes will be capable of cruising at two to three times the speed of sound; jumbo aircraft will seat up to 500 passengers; and STOL aircraft will be able to operate from short, inexpensive landing strips.

Hovercraft are a very recent invention, but they have been developed considerably in the last ten years. Experience of routine commercial operation is available from the British Isles and other parts of the world. Hovercraft have now been tested in the Canadian North where roads are costly to build and maintain. The ability of this type of craft to traverse water, ice, snow, muskeg, tundra, and fairly rough terrain offers great possibilities in Canada.

The motor transport industry generally has been quick to exploit the

benefits of improved highways and the parallel development of the motor vehicle. Truckers and bus operators now provide coast-to-coast services, rare only ten years ago. Motor transport operators have also tended to increase the size of their fleets. Some truckers for example now operate as many as 2,000 vehicles (trucks, tractors, and trailers) and 40 or more terminals. The typical truck of today is the diesel, and in the heavy ranges, is more likely to be a road "train" (tractor plus trailer or trailers) than an integral unit.

Re-usable containers have been used for many years by particular industries or by particular types of transport. Containers of this type will continue to be developed, but the most interesting innovation of recent years has been the multi-purpose, inter-modal container. For land and sea transport internationally-agreed dimensions for these containers now exist, and huge investments are being made round the world on specialized vehicles (container-ships, rail flat-beds, and so on), on the containers themselves, on transfer devices, such as cranes, and, indeed, on completely new seaports. Among Canadian ports equipping themselves for this new age are Saint John, Halifax, Quebec, Montreal, and Vancouver. Canadian Pacific Steamships is planning on full containerization of its freight in the 1970's, and the main railway systems are actively planning the land-bridge concept to connect Europe and Asia via North America.

Pipelines for natural gas, petroleum, and petroleum products are now a major element in Canada's vast transportation network. Canada has built the world's longest line for the transport of natural gas — the 36-inch Trans-Canada line extending 2423 miles from the Alberta-Saskatchewan border to Montreal. In 1967, the oil and gas industry's products were gathered and distributed through more than 62,000 miles of pipeline. Now, pipelines for solids are being studied to determine the engineering problems and economics of transporting coal, sulphur, potash, and other bulk materials.

Air cushion vehicles such as this Hovercraft, are another new mode of transportation of great potential use in the rough terrain of the North, as well as on water.





Spiral weld pipe is shipped by truck to the Great Canadian Oil Sands refinery at Fort McMurray, Alta. Ten per cent of all freight ton-miles are now transported by truck.

The ubiquitous family car has given rise to a host of problems. In an attempt to circumvent them, new and improved forms of urban rapid transit, including several variations of the electric car, are being studied. In order to consider these problems the first Canadian urban transportation conference was held in Toronto in 1969.

Road Transport

In 1967, there were 7,495,000 motor vehicles registered in Canada. Of this total, 78.4 per cent were cars, 17.1 per cent trucks and road tractors, 0.5 per cent buses, and 4 per cent were other vehicles such as motorcycles and farm tractors licensed in accordance with the regulations of the various provinces.

In relation to population, in 1967 there was one car for every 3.5 persons in Canada, as compared with a figure for the United States of 2.5. The 5,877,000 cars in Canada in 1967 accounted for an estimated 82 per cent of total inter-city passenger miles by all modes of transport. The private car also

One mode of transportation carrying another: rail carriers conveying automobiles from a plant in Ontario to western Canada.



dominates urban passenger movement despite urban bus and other transit systems in all major cities.

Inter-city and rural buses carried over 67 million passengers in 1967, and earned some \$71 millions of revenue, at an average fare per passenger of \$1.06. These buses accounted for some 7 per cent of non-urban passenger-miles, as compared with the railways' share of 4 per cent.

With a large proportion of Canada's people living in urban areas, urban transit systems are of great importance. The major urban bus systems are municipally-owned. These carried 981 million passengers in 1967, compared with the 103.8 million carried by the privately-owned systems in smaller centres. Urban buses earned \$217.8 million, at the rate of 19 cents per passenger journey.

Truck transport is important in both local distribution and inter-city transport. Total truck and tractor registrations in 1967 reached 1,279,231. The trucking fleet carried an estimated 640 million tons of freight, and cost the nation's industrial and commercial industries several billions of dollars. National expenditure on for-hire motor carrier services alone was nearly \$1,000 million.

Road and street construction and maintenance in Canada is primarily the responsibility of provincial and municipal governments. The federal government is mainly involved in the financial assistance needed to ensure the development of an integrated system. Total expenditures on roads and streets in Canada currently total nearly \$1,800 million each year, equivalent to some \$86 per person. There are nearly half a million miles of roads and streets of which three quarters are surfaced.

Traffic accidents continued to be a major source of death, injury, and property damage in Canada. In 1967, 5,429 persons were killed and injured in over 168,000 accidents.

Urban Transit

Apart from the motor bus, and systems still "on the drawing board," present solutions to urban transit problems include the street car, trolley coach, subway, and other city railways. In Canada, street cars are now used only in Toronto and only a few cities operate trolley coaches. In general, the emphasis is on the more flexible motor bus service and city railways.

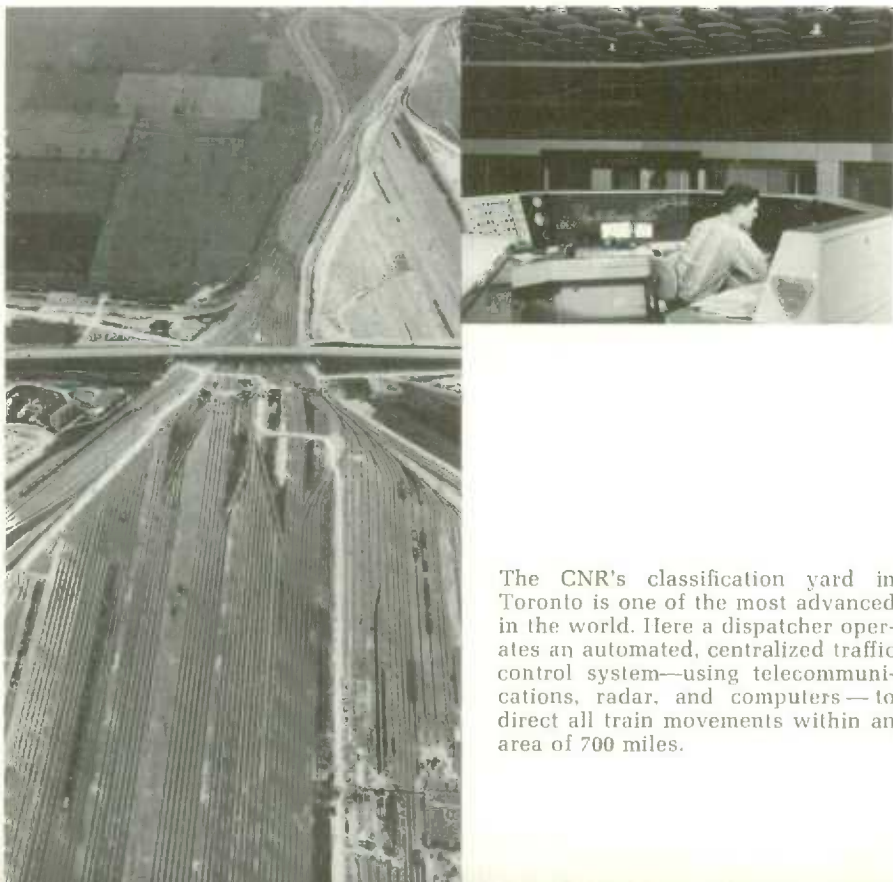
Toronto and Montreal have both constructed subway systems. Toronto completed the original 4½-mile subway in 1954, and extensions were opened in 1966 and 1968 to give a present length of 21 miles. The Métro in Montreal was opened in the autumn of 1966. It operates entirely underground, and uses cars equipped with pneumatic wheels.

The mainline railways of Canada have for many years provided suburban commuter services. In 1966, they carried over 1,000 million commuters. One such service is the Toronto GO system, opened in May, 1967. This rail commuter service is managed by Canadian National Railways for the Government of Ontario, and is operated over 60 miles of C.N. lines. In 1968, the first full year of operation, commuters made 4.7 million journeys.

Railways

More than 88 per cent of railway transportation (in terms of operating revenues) is provided by the two great transcontinental systems—the Canadian Pacific Railway, and the state-owned Canadian National Railways. These two systems are highly competitive. Both, in addition to their far-reaching railway operations, operate fleets of inland and coastal vessels, ocean-going steamships, highway transport services, and large hotels and resorts. Related to these two companies are extensive passenger and freight air services over domestic and international routes. Canadian National and Canadian Pacific also jointly operate a national telecommunications system. Both are developing specialized equipment to serve particular industries, such as unit trains to haul coal from the western provinces to Vancouver for export. This type of train will probably be used in the future to transport potash and other commodities.

Other railways include the Pacific Great Eastern Railway, owned by the Government of British Columbia, which operates over an 800-mile route from North Vancouver to Fort St. John, and beyond. This line was originally founded in the early part of the century, but the 252 miles from Prince George to Fort St. John was completed only eleven years ago. Connections at Vancouver link this line with other Canadian railways and with American lines.



The CNR's classification yard in Toronto is one of the most advanced in the world. Here a dispatcher operates an automated, centralized traffic control system—using telecommunications, radar, and computers—to direct all train movements within an area of 700 miles.



The CNR's new Turbo train on the Toronto, Ont., to Montreal, Que., run. Turbo cars are wider and lower than conventional cars, with the main suspension points at the top, rather than the bottom. Hence, cars bank inwards on curves.

Construction of Canada's first railway into the Northwest Territories was completed in 1964. This line was built by Canadian National, on behalf of the federal government, along the 430 miles from Peace River, Alberta, to Pine Point on the south shore of the Great Slave Lake. C.N. is also currently constructing the Alberta Resources Railway for the Government of Alberta to connect the Peace River district and British Columbia. Other important railways include the largely iron-ore-carrying Quebec, North Shore, and Labrador Railway; the White Pass and Yukon Railway (first to cross the 60th parallel and connect the Yukon with Alaska); and the Ontario Northland. Branch lines to serve mineral developments in various other parts of Canada have also been constructed in recent years.

Canadian railways as a whole loaded 186 million tons of unduplicated freight in 1967, and carried each ton an average distance of 447 miles. Freight traffic in terms of ton-miles was over 94,000 million, and each ton-mile earned the railways an average of 1.42 cents.

The number of passengers carried increased by 6.2 per cent in 1967 to 24.6 millions. Within this total, commuter traffic increased by 6.5 per cent. Despite this increase in short-distance commuter traffic, the average length of a journey increased from a figure of 112 miles in 1966 to 127 in 1967. Passenger-miles performed in 1967 amounted to 3,135 million, and average revenue per passenger mile was 2.5 cents.

Operating revenues of all lines, excluding all non-railway activities, totalled \$1,519 million, an increase over 1966 of 2.6 per cent. During this period, railway expenses (including taxes) rose by 5 per cent.



The CPR's robot test train, shown here in the Thompson River Canyon, in British Columbia, is pulling 160 cars. In November, 1969, such unit trains began to haul coal from the Crow's Nest region of B.C. to the superport at Roberts Bank, for shipment to Japan.

Shipping, Harbours and Canals

Facilities. Coastlines on three oceans, the St. Lawrence River, and the Great Lakes make water transportation very important to Canada.

Canadian waterways — canals, lakes and rivers — are open on equal terms to the shipping of all countries of the world, except for the Great Lakes—St. Lawrence system from Havre-Saint-Pierre. In 1961, the exclusive right to carry goods and passengers between Canadian ports in this system was reserved to vessels of Canadian registry.

There were 12 ports in Canada which handled more than 4.5 million tons of cargo in 1967.

The Twelve Major Ports of Canada, 1967

Port	Total Freight Handled (million tons)	Foreign as % of Foreign & Coastwise	Loaded as % of Loaded and Unloaded
Vancouver, B.C.	24.1	56	72
Sept-Îles/Pointe Noire, Que.	22.6	85	96
Montreal, Que.	18.5	54	45
Port Arthur & Fort William, Ont.	15.3	28	91
Hamilton, Ont.	10.0	65	6
Port Cartier, Que.	9.5	98	97
Halifax, N.S.	9.0	72	46
Quebec, Que.	7.0	51	33
Toronto, Ont.	5.8	64	9
Saint John, N.B.	5.6	75	39
New Westminster, B.C.	5.3	30	68
Sault Ste. Marie, Ont.	4.5	69	9
All Ports	238.2	55	57



Two developments for the future: a laser beam guides the pilot of a surveying vessel on a straight line. Lower right: a harge with the Alex-bow hammerhead icebreaking bow, which lifts and turns ice aside rather than crushing it, has been tested off Melville Island.



Centralized traffic-control on the Welland Canal section of the St. Lawrence Seaway, using closed circuit TV and telemetry, has reduced the average vessel's round trip through the section to 31.7 hours. Above: the Iroquois Lock leading upstream to Lake Ontario.





The cargo-carrying *Hermine*, of Dunkirk, is of the largest class of vessel that can be accommodated by the St. Lawrence Seaway's locks. It has a length of 648 ft. and a beam of 75 ft.

Nine harbours — St. John's, Halifax, Saint John, Chicoutimi, Quebec, Trois-Rivières, Montreal, Vancouver, and Churchill — were operated by the National Harbours Board, a Crown Corporation established in 1936. The board also provides and operates many ancillary port facilities.

The major canal systems of Canada are those of the St. Lawrence Seaway providing navigation from Montreal to Lake Ontario; the Welland Ship Canal which by-passes the Niagara River between Lakes Ontario and Erie; and the Sault Ste. Marie Canal between Lakes Huron and Superior. The sixteen locks in these three major canal systems overcome a drop of 580 feet from the Lakehead to Montreal. The Seaway accommodates all but the largest ocean-going vessels; it has opened the Great Lakes to an estimated 80 per cent of the world's salt-water fleet.

Subsidiary canals, mainly used by pleasure craft and for water-level regulation, include the connections between the Bras d'Or Lakes and the Atlantic, in Nova Scotia; the canals on the Richelieu and Ottawa Rivers; the Rideau Canal between Ottawa and Kingston; and the canals connecting Lake Ontario and Georgian Bay.

Traffic. During 1967, a total of 123,086 vessels engaged in international and coastal trade arrived at Canadian ports, as compared with 131,271 in 1966. The total tonnage of international cargo loaded and unloaded was 130.4 million tons compared with 137 million in 1966. Of the 1967 tonnage, 29.8 per cent was carried in vessels of Canadian registry.

In the coastal trades, some 54.9 million tons of cargo were carried, as compared with 60.7 million in 1966. Of the 1967 total 98 per cent was carried in Canadian-registered ships. Most of the remainder was carried in vessels of British registry.

The main types of commodities exported by ship in 1967 were, in millions of tons: iron ore and concentrates, 34; wheat, 10.5; lumber and timber, 4.4; gypsum, 3.9; and newsprint and paper, 3.5. Main import shipments were bituminous coal, 15.2; fuel oil, 8.4; crude petroleum, 7.3; alumina bauxite ore, 3.1; and iron ore, 3. These shipments taken together accounted for 70.4 per cent of the total import tonnage.

During 1967 some 98.8 million tons of freight passed through Canadian canals, in 21,046 vessels. Of this, freight through the St. Lawrence section of the Seaway (Montreal to Lake Ontario) totalled 44 million tons, compared with 49.1 million tons in 1966. Before the Seaway was opened in 1959, the highest annual traffic recorded, in 1956, was 13.5 million tons.

Civil Aviation

Two major airlines, Air Canada and Canadian Pacific Airlines form the nucleus of Canada's freight and passenger air services. Besides these, there are four so-called regional air carriers licensed to operate scheduled commercial air services within Canada.

The new terminal at Vancouver International Airport was opened in the autumn of 1968.



In 1967, Canadian carriers transported 8.9 million passengers, which represented an increase of almost 20 per cent more than 1966 and more than double the number carried in 1957. Passenger-miles on scheduled services have quadrupled over the past ten years. Revenue-earning goods carried on all services in 1967 amounted to 183,400 tons, an increase of 2.7 per cent over 1966. Cargo ton-miles have increased sixfold, and mail ton-miles have more than doubled since 1957.

In addition to the Canadian airlines, there are a number of American and other foreign carriers which operate regular commercial air services between Canada and the United States, Europe, and other parts of the world. Foreign airlines carried an additional 2.6 million passengers, and a further 34,500 tons of goods. Of this foreign carrier traffic, United States airlines carried 73 per cent of the passengers and 37 per cent of the goods.

Apart from the scheduled services, there are some 400 small air companies in Canada performing a variety of jobs, not usually on a regular basis. Many of these companies operate to parts of Canada that are inaccessible by other means of transportation. They provide services such as recreational flying, flight training, crop dusting, and assistance in construction work.

The number of civil aircraft of all kinds registered in Canada rose from 6,270 at the end of 1963 to 9,973 at the end of 1968. Of these, privately-owned aircraft accounted for 4,010 in 1963 and 6,447 in 1968. In addition, there were 200 government-owned foreign aircraft in 1968.

At the end of the fiscal year 1967 there were 748 licensed airports, compared with 711 in the previous year. Of this number 367 were for land and 381 for seaplane bases. Revenues at airports operated by the Department of Transport totalled \$26.4 million in the year ending March 31, 1967. The comparative figure for the previous fiscal year was \$24 million.

The assets of Canadian air carriers in 1967 were valued at well over \$450 million, a threefold increase over the past ten years. This increase reflects not only inflationary tendencies but also the greater scope of operations of the larger carriers, the acquisition of larger and more expensive aircraft, and the gradual upgrading of fleets from piston to turbo-prop to jet airplanes.

Operations of Canadian Air Carriers, 1966 and 1967

	Scheduled Carriers, 1967	Non- Scheduled Carriers, 1967	Total 1967	Total 1966
Operating Revenues (\$ millions)	475.1	68.5	543.6	460.6
Passengers (unit toll)	393.8	4.6	398.4	331.2
Goods (unit toll)	81.3	63.9	145.2	129.4
Charter and Contract	11.9	45.7	57.6	54.7
Specialty and Non-Flying Services ..	8.1	15.2	23.4	17.4
Net Income after Taxes (\$ millions)	6.2	4.9	11.1	15.7
Revenue Traffic Carried				
Passengers (millions)	8.1	0.8	8.9	7.5
Goods (lb., millions)	252.2	114.7	366.8	357.1

Communications

Telephones

There are 2,281 separate telephone systems in Canada ranging in size from rural co-operatives serving a few customers to large provincially or privately owned systems. The largest, Bell Canada, operating in Quebec, Ontario, Newfoundland, and the Northwest Territories, owns approximately 62 per cent of the country's 8,360,000 telephones. The British Columbia Telephone Company owns 10 per cent of the total. Three provincially-owned systems operate in the Prairie Provinces, and the Atlantic Provinces are served by four private companies. Canadian National Telecommunications operates telephone exchanges in British Columbia, the Yukon, and the Northwest Territories and has nearly 23,000 telephones in Newfoundland.

Although the systems vary in size and scope, their aim is essentially the same — to provide good telephone service to the communities they serve, and to provide connections with telephones elsewhere. To attain this goal co-operation was necessary and led to the formation of organizations such as the Trans-Canada Telephone System. Its aims are to develop and maintain an all-Canadian coast-to-coast long-distance network and to establish uniform operating procedures to speed the handling of long-distance traffic. Eight of the largest systems are full members and the Canadian Overseas Telecommunication Corporation is an associate member. The Telephone Association of Canada was formed in 1921 to promote co-operation and the interchange of technical and operating information within the telephone industry. This association enables members to keep up with new technological advances being made each year.

Canadians make extensive use of telephones. Between 1957 and 1967, the number increased from 4,827,000 to 8,358,000, an average of one for 2.4 persons. Canadians continue to lead the rest of the world in the number of calls per person. Latest figures show the estimated number of calls each year on all systems to be 13,411 million, an average of 1,605 calls per telephone and 650 per person. Long-distance calls account for 2.7 per cent of the total, most of them to points in Canada or between Canada and the United States.



At the end of 1968 Alberta Government Telephones had laid 32,710 miles of rural cable underground. AGT has so far integrated 271 of the over 1,000 mutual companies in Alberta.

About 97 per cent of all telephones in Canada are now dial operated. As well as being able to dial local calls, many customers can also dial long-distance calls without the intervention of an operator. This is known as direct distance dialing and plans call for its eventual extension to overseas telephone traffic. This will be facilitated by the progressive introduction of "all-number calling" throughout Canada and the United States. With continent-wide direct distance dialing, Canada and the United States have been divided into 122 numbering areas, each distinguished by a special three-figure code. This area code and the seven-digit number provide a unique telephone number not duplicated elsewhere in North America. It is expected these new numbers will be able to cope with future growth well beyond the year 2000 without any increase in the number of digits that must be dialed, and will be compatible with the numbering systems in virtually all overseas countries.

The provision of local and long-distance service is the major activity of the telephone industry. But companies also offer their customers an increasing variety of communications facilities, for instance, teletypewriter services, intercommunication systems, and private radio and microwave services. In 1958 the Trans-Canada Telephone System opened the largest single microwave system in the world. This coast-to-coast communications link was engineered not only to carry the growing amount of telephone traffic but also to provide for the expansion of network television across Canada.

Canadian National-Canadian Pacific Telecommunications

Among Canada's major telecommunications companies, Canadian National and Canadian Pacific Telecommunications reach into the lives of every citizen with a diversity of services ranging from messenger-delivered telegrams to computer-oriented telecommunications systems for corporations, government, transportation systems, and the military. CN-CP links Canadians to each other and to the world. Originally children of the parent railways, CNT and CPT have grown into giants in their own right and with their own identities.

The backbone of CN-CP Telecommunications' operation is their transcontinental microwave system which spans from St. John's, Newfoundland, to Vancouver, B.C. This network is the North American land link for the Commonwealth telecommunications system linking Great Britain, Canada, New Zealand, and Australia. It can handle operations as simple as point-to-point telegraph circuits and as complex as those for television broadcasting.

The evolution of telecommunications indicates that machine-to-machine communications will, within a few years, surpass man-to-man communications in volume of information. CN-CP are in step with this trend and already have many services operating along these lines. Examples are the Broadband Exchange Service, which has the capacity of transmitting computer data at 51,000 words a minute; data telex, which permits subscribers to transfer data from business machines to computers in the medium speed range of up to 250 words a minute; and computer-controlled transmission systems which perform the major functions of storing and switching messages forward. An ever-increasing volume of business messages is being moved by private wire teletype systems or by telex, a service whereby messages typed in one office on a typewriter linked to a telephone are conveyed by telephone lines to a similar typewriter in another city. There are some 16,300 telex subscribers in Canada and connections with the United States and European networks of at least 250,000 subscribers.

A new service offered this year by CN-CP Telecommunications and Western Union is the hot-line service where companies in Toronto or Montreal may talk to their offices in New York City by simply picking up the handset of a telephone. When a customer picks up the handset, the exchange equipment will seek out the proper telephone at the other end. If all the circuits are in

This microwave tower is part of CN-CP Telecommunications' transcontinental microwave system, which speeds voice, picture, and data signals to their separate destinations.



use at the time of calling, the caller will hang up and as soon as a circuit is free, the equipment will make the connection and ring both telephone sets simultaneously.

One of the most important contributions made by CN-CP Telecommunications is to transportation, by providing more than 50,000 miles of teletype and 14,000 miles of facsimile circuits to bring fast and accurate weather information to aviation centres. Automatic teletype message switching centres at Vancouver, Edmonton, Winnipeg, Toronto, Montreal, and Goose Bay are giving international airports a jet-age telecommunications service. CN-CP also supplies telecommunications facilities for Canada's railways with their 40,000 miles of track.

CN-CP Telecommunications contribute an essential part of the NORAD defence system by providing circuits and equipment to link the network together. By telephone, teletype and radio, over landline, microwave, and tropospheric scatterwave systems, information flows constantly from detection sites to control centres.

On its own, CNT is very active in the field of public telephone service in various Newfoundland communities, the Northwest Territories, the Yukon, and northern British Columbia. In all, there are more than 30,000 subscribers on the CNT telephone network. More than 100 Newfoundland communities are served by CNT and the most northerly telephone exchange is well north of the Arctic Circle at Cambridge Bay in the Northwest Territories.

CNT has pioneered in the uses of message-switching computers since 1964 and they now have a third-generation computer system that stores and switches messages for Air Canada, CP Air, and CN administrative message traffic; it also controls and transmits information for CN's reservation system. CPT is installing a similar system this year and by the spring of 1970, it will handle the telecommunications system for the Department of Transport's Aeronautical Fixed Telecommunications Network by carrying messages about flight movements, navigational advice, special weather reports, and administrative traffic.



CN-CP Telecommunications Telex service has over 16,000 subscribers in Canada and connections with 250,000 subscribers to networks in the United States and Europe.

CNT's system will soon be performing major storage and forward message-switching functions for the Meteorological Branch of the Department of Transport. Once the computer finds a weather report from any one of the 175 weather stations across Canada, it will tell the station equipment to transmit the report into the computer and then it determines where and at what time of the day the information is to be sent. Commercial telegrams are switched within milli-seconds across the country by CNT's message-switching computer, which began this year. This is the biggest development in telegraph since the Morse key gave way to the more modern reperforator equipment.

Overseas Telecommunication

The Canadian Overseas Telecommunication Corporation was established in 1950 to maintain and operate external public telecommunication services by cable, radiotelegraph and radiotelephone, and any other means of telecommunication between Canada and overseas points. It makes use of all developments in cable and radio transmission and reception for external telecommunication services, and it conducts research to improve and co-ordinate telecommunication services with those of other nations.

The services currently being provided are extensive: direct telegraph, telephone, and telex communications between Canada and 21 countries in both hemispheres; direct telephone and telegraph services with the islands of St. Pierre and Miquelon; direct telephone service with Greece, Austria, and Spain; direct telegraph and telex services with Peru; and telex with Portugal. Datel 600 service, conveying data and pictures over telephone lines, came into operation late in 1968 between Canada and Switzerland and Britain, and will link this country with others in due course. International telex service is available with 145 countries.

The first transatlantic telephone cable, a joint project with the British Post Office, the American Telephone and Telegraph Company, and the Corporation, was brought into service in 1956. Since 1961 several more cables have

Here is a section of the computer installation of the telegraph-message switching centre, which began service in 1968.





The second ground station for handling international communications via satellites was opened at Mill Village, N.S., in March, 1969. In the centre of the antenna is a stationary equipment room with tracking gear that can aim the antenna with an accuracy of $1/200$ th of a degree.

been brought into service: The Canada-Britain 80-circuit telephone cable (CANTAT) and the Commonwealth trans-Pacific 80-circuit cable — a four-party enterprise of Canada, Britain, New Zealand, and Australia — connecting Vancouver and New Zealand and Australia via Hawaii and Fiji (COMPAC). There is now also the south-east Asia Commonwealth 80-circuit cable — a six-party enterprise of Canada, Britain, New Zealand, Australia, Malaysia, and Singapore — connecting Australia, Hong Kong, Singapore, and Kuala Lumpur via New Guinea and Guam (SEACOM). These collectively form part of the round-the-world Commonwealth telephone cable system. A number of circuits for Canadian purposes have been acquired in telephone cable systems connecting Bermuda and the United States, and Jamaica and the United States. Currently under construction is a large-capacity telephone cable between Nova Scotia and Bermuda (CANBER).

The Corporation also operates direct circuits via satellite with Belgium, Brazil, Britain, France, Germany, Greece, Italy, the Netherlands, Spain, and Switzerland. The Corporation at present operates direct circuits via the Pacific satellite with Australia through the American-owned earth station at Brewster Flat, Washington, pending the erection of its own earth station on the West Coast of Canada.

The earth station constructed for the Department of Transport at Mill Village, N.S., for research and experimentation on satellites, was brought into service in 1966 for commercial use and carried 240 telephone circuits for North American-European traffic via Intelsat I (Early Bird). The corporation's own earth station, Mill Village 2, came into service in February 1969; it now operates with the larger-capacity satellites of the Intelsat III series, due to replace Intelsat I. The original station is reverting to its original purpose but continues to serve as a standby for commercial operations.

Apart from normal use of its system for public telephone, telegraph message traffic, and telex service, capacity is available and is extensively used for private leased circuits.

Canada, represented by Canadian Overseas Telecommunication Corporation, is a member of the Interim Communications Satellite Committee (ICSC)

set up by the participating nations for the development and operation of a global communications satellite system. The Corporation is also represented on the Commonwealth Telecommunications Council.

The Corporation, under a long-term agreement, has under charter from the Department of Transport the coast guard's *John Cabot*, a combined ice-breaker/cable repair ship, used mainly for repairing the cables in the western North Atlantic Ocean. The Corporation also operates a cable depot at St. John's, Newfoundland.

The Press

With a population of nearly 21 million as of December 1968, Canada was well served by some 117 dailies, 105 of which are published in English, and 12 in French, with a combined circulation of more than 5 million subscribers. Some 850 weekly newspapers also serve the smaller centres and rural districts of Canada.

An Eskimo-produced periodical printed in syllabics goes out quarterly to 2,300 Eskimo families, who are also served by two locally produced papers, one in Eskimo Point, N.W.T., and the other in Igloolik, N.W.T. Twenty-four periodicals partly in the principal Indian languages are published across Canada.

Canadians whose mother tongue was originally other than French or English publish a total of 109 foreign-language periodicals, of which 77 are daily or weekly newspapers. Of these, 20 are published in Ukrainian, 10 in German, 9 in Italian, 8 each in Greek and Dutch, 7 in Hungarian and 6 in Portuguese. Twenty other languages are represented.

During the current year, the *Montreal Gazette*, a daily with a circulation of 136,487, joined the Southam group of newspapers, bringing to 10 the number of newspapers owned by this chain. The other two main newspaper chains are Thomson Newspapers with 28 dailies and 14 weeklies, and F.P. Publications with 8 dailies, and 1 agricultural weekly.



The trend in newspaper setting is towards computer composition. Here punched tape is fed into a computer that operates the typesetting machine automatically.

Canadian Press, a co-operative news agency owned and operated by its 103 daily newspaper subscribers supplements the facilities and staff of individual dailies. It is the largest of the news agencies operating in Canada. It supplies to newspapers, radio and television, mostly by teletype and wire-photo transmission, not only Canadian news, but through reciprocal arrangements with Reuters and Associated Press (its counterpart in the United States), news of the world. It also maintains a French-language service and a translation service. The second major news wire service, United Press International of Canada, is a private limited company. It services 80 Canadian subscribers and, through its affiliation with United Press International World Service, provides an outlet for Canadian news throughout the world.

Newspapers and periodicals brought in a total revenue of \$411,373,000 in 1968, of which \$366,373,000 were from advertising. The value of books published and printed in Canada reached \$52,261,000 a net increase of \$8,083,000 over 1966. Net revenue of daily newspapers totalled \$89,214,000 from subscriptions and \$239,810,000 from advertising. The printing and publishing trade employed 38,947 persons and paid out \$233,922,000 in salaries.

The Post Office

In the 1967-8 fiscal year the revenue of the Canada Post Office amounted to \$337 million, an increase of \$32 million over the previous year. This increase was matched by a new high in the volume of general mail, particularly air mail, international mail, and parcel post. However, the costs of transportation, salaries, and allowances have more than doubled during the past decade. As a result of this and certain other factors, postal revenues have not kept pace with expenditures, and the department has operated at a deficit for some years. Studies have been undertaken with a view to remedying this situation. An experiment is being conducted in Montreal and Vancouver to investigate the advantages of using the post office's own vehicles to transport mail in large cities instead of contracting with private carriers as is done at present.

Letter carrier delivery was established in ten more urban areas, bringing the total points of call for letter carriers across the country to 3.75 million. In order to provide rural areas with a more effective service, some eighty distribution centres were operating at the close of 1968. Rural or suburban services from these centres superseded a number of revenue post offices.

The regulations governing 2nd class matter were revised and a single C.O.D. fee was introduced. Interim adjustments of rates and fees were made for 3rd class mail, registered mail, and special delivery. Parcel post zones were reduced to five.

Collective bargaining came into effect during the year for most postal employees and some 3,300 positions were added to the post office staffs during the year.

Statistical forecasting, multiple regression analysis, and mathematical analysis are among the modern techniques being successfully applied to the problems inherent in coping with the vastly increased volume of mail.

Labour

The Labour Force in 1968

There were 7,919,000 people in the Canadian labour force — those employed and those seeking employment — in 1968, an increase of 225,000, or 2.9 per cent from 1967. The male labour force at 5,443,000 was 114,000, or 2.1 per cent, higher than the previous year and the female labour force at 2,476,000 was 111,000, or 4.7 per cent higher.

The male labour force did not increase as fast as the population of men 14 years of age and over between 1967 and 1968. Consequently, their participation rate dropped from 77.5 to 77.0. The decline in male participation rates has been almost uninterrupted since the beginning of the post-war period. On the other hand, women continued to enter the labour force in increasingly large numbers, thus compensating for the reduction in male participation rates. Between 1967 and 1968 their participation rate rose from 33.8 to 34.4 and as a result, the all-time high participation rate of 55.5 for all persons 14 years of age and over, established in 1967, was maintained.

The Labour Force¹ by Age and Sex, 1968 Annual Averages

Age Group	Men			Women		
	Number	Distribution	Participation rate ²	Number	Distribution	Participation rate ²
	Thousands	Per Cent		Thousands	Per Cent	
Total 14 years and over	5,443	100.0	77.0	2,476	100.0	34.4
14-19	471	8.7	39.1	363	14.7	31.3
20-24	690	12.7	84.4	475	19.2	58.4
25-44	2,432	44.7	97.0	923	37.3	36.4
45-64	1,682	30.9	91.1	665	26.9	35.4
65 +	170	3.1	24.4	48	1.9	5.9

¹ Excludes inmates of institutions, members of the armed services, Indians living on reserves, and residents of the Yukon and Northwest Territories.

² The labour force participation rate for any group is the percentage of the total population in that group in the labour force.



The total of those employed averaged 7,537,000 in 1968, representing an increase of 158,000, or 2.1 per cent from the preceding year. Male employment at 5,146,000 was 63,000, or 1.2 per cent, higher than a year earlier and female employment at 2,391,000 was 95,000, or 4.1 per cent, higher.

The percentage distribution of married and single women employed has changed considerably in recent years. In 1968, 55 per cent of all employed women were married compared with 45 per cent only ten years ago. The proportion of married men of the total employed has changed very little: it remained at approximately 75 per cent.

Employment by Marital Status and Sex, 1968 Annual Averages

Marital Status	Men		Women	
	Thousands	Per Cent	Thousands	Per Cent
Total	5,146	100.0	2,391	100.0
Single	1,175	22.8	855	35.8
Married	3,877	75.3	1,324	55.4
Other	94	1.8	212	8.9

Employment by Industry, 1968 Annual Averages

Industry	Number (Thousands)	Per Cent
All Industries	7,537	100.0
Agriculture	546	7.2
Other primary industries	221	2.9
Manufacturing	1,754	23.3
Construction	470	6.2
Transportation and other utilities	673	8.9
Trade	1,260	16.7
Finance	327	4.3
Service ¹	2,288	30.4

¹ "Service" includes community, government, personal, business, and recreational services.



The contribution that different industrial groups make to total employment has changed considerably in the last two decades. In 1949, for example, about 22 per cent of all employed persons worked in agriculture; in 1968 they formed less than 8 per cent. During the same period, the proportion of persons employed in the service-producing industries, which include transportation, trade, finance and service, had risen from about 43 per cent to 60 per cent. It can be noted from the accompanying table that of the major industrial groups, service is the largest employer providing jobs for 30 per cent of the total in 1968.

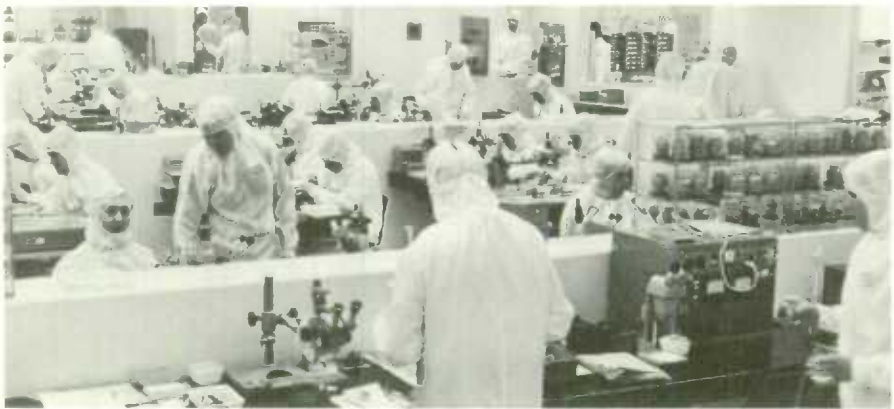
Manufacturing provided jobs for 1,369,000 men and 384,000 women, and service for 1,075,000 men and 1,212,000 women.

Employment in agriculture was estimated at 546,000 in 1968. The Prairie region's share of this total was more than 40 per cent, while the Atlantic region and British Columbia together accounted for less than 10 per cent. Employment in non-agricultural industries averaged 6,992,000. Ontario and Quebec together accounted for about two thirds of this total.

Employment by Region, 1968 Annual Averages

Region	Agriculture		Non-agriculture	
	Thousands	Per Cent	Thousands	Per Cent
Canada	546	100.0	6,992	100.0
Atlantic	26	4.8	569	8.1
Quebec	121	22.2	1,961	28.0
Ontario	143	26.2	2,687	38.4
Prairies	229	41.9	1,051	15.0
B.C.	26	4.8	724	10.4

The number of unemployed persons averaged 382,000 in 1968, including 297,000 men and 85,000 women. Unemployment was higher than a year earlier by 51,000 men and 15,000 women. The unemployed as a percentage of the Canadian labour force were 4.8 in 1968 compared with 4.1 in 1967. Unemployment rates in all regions were higher than a year earlier.



Unemployed by Region, 1968 Annual Averages

Region	Number (Thousands)	Percentage of the Labour Force
Canada	382	4.8
Atlantic	47	7.3
Quebec	145	6.5
Ontario	104	3.5
Prairies	39	3.0
B.C.	47	5.9

Labour Legislation

Labour legislation, enacted by Parliament for employment in certain inter-provincial businesses, such as transportation and communications, and by provincial legislatures for other employment, establishes minimum standards for wages and working conditions and regulates collective bargaining.

Minimum Standards

Minimum labour standards of wages, hours of work, overtime pay, annual vacations, and public holidays are established for workers under federal jurisdiction by the Canada Labour (Standards) Code. The minimum wage provided in the Act is \$1.25 an hour. The code sets standard hours (that is, the maximum number of hours which may be worked at regular rates of pay) of 8 in a day and 40 in a week. Hours over 8 and 40 may be worked up to a maximum of 48 hours in a week so long as one and a half times the regular rate is paid. Different hours of work have been established for the trucking industry and for Newfoundland shipping. A period of adjustment provided under the Act is still in effect for some other groups. Eight general holidays with pay and an annual vacation of two weeks with pay are also provided by the code.



A federal equal pay Act prohibits an employer from paying a female employee at a rate less than he pays a male employee for identical or substantially identical work, and a fair employment practices Act prohibits discrimination in employment on grounds of race, colour, religion, or national origin. The Canada Labour (Safety) Code authorizes the making of regulations applicable to the industries under federal jurisdiction to prevent work accidents and occupational health hazards. Each province establishes minimum rates of pay for both men and women, covering most employees in the province except those on farms and in private homes. The rates are \$1.25 an hour and over, with some exceptions, in Ontario, Manitoba, Alberta, British Columbia, and parts of Quebec. The other provinces have rates of \$1 and over, with some exceptions. The principle of equal pay for equal work without discrimination against women is set out in the legislation of nine provinces, and nine provinces also prohibit discrimination because of race, colour, religion, and national origin. Two provinces, New Brunswick and British Columbia, have legislation requiring an employer to grant a 12-week period of maternity leave on the request of the employee.

The regulation of hours of work is much less uniform. Five provinces have laws of general application regulating hours of work. These regulations take two different forms. The laws of Alberta, British Columbia, and Ontario set a maximum number of hours per day and per week (8 hours a day and 44 or 48 a week) beyond which an employee must not work. The Manitoba and Saskatchewan Acts regulate hours through the requirement that an overtime rate of one and a half times the regular rate must be paid if work is continued beyond specified daily and weekly hours (in Manitoba, 8 and 48 hours (men) and 8 and 44 hours (women); in Saskatchewan, 8 and 44 hours).

In 1968 Ontario introduced legislation requiring the payment of a similar overtime rate for over 48 hours a week. Permits are necessary for such overtime work. In other provinces working hours of certain classes of employees are regulated under various statutes.

Hours of work for a substantial number of employees in Quebec are regulated by decrees under the Collective Agreement Decrees Act applying



to particular industries. Standards vary under the decrees; in a number of decrees recently issued, hours of work have been reduced.

Employees are entitled to an annual vacation with pay after a specified period of service, under the laws of nine provinces. A vacation of two weeks is required in six of the provinces and one week in Prince Edward Island, New Brunswick, and Ontario. The one-week vacation in Ontario increases to two weeks after four years or more of service. The Saskatchewan legislation further provides for a three weeks' vacation after five years' service with the same employer.

In Alberta, British Columbia, and Saskatchewan, employees are entitled to a stated number of paid general holidays in a year and rules are laid down for compensation for work performed on such days. Legislation in Manitoba, Nova Scotia, and Ontario specifies an overtime rate of pay for work performed on certain holidays. Provincial legislation setting minimum standards to be observed in places of work so as to secure the safety and health of employees is continually being revised to meet new needs.

Compensation for disablement caused by a work accident or industrial disease is provided under a workmen's compensation law in each province applying to a wide range of industries and occupations. Compensation is paid at the rate of 75 per cent of average earnings, excluding earnings above a specified maximum. The ceiling on annual earnings in the various Acts ranges from \$5,000 to \$7,000.

After the period of temporary disability is over, any permanent disability resulting from the accident is determined, and an award made in the form of a life pension or a lump sum. In fatal cases dependants are paid fixed monthly amounts, which are revised from time to time by the legislature. A formula for adjusting such amounts to the cost of living was incorporated in the British Columbia legislation in 1965. Under this formula dependants' pensions and awards for permanent disability are increased 2 per cent for each rise of 2 per cent in the consumer price index.



Compensation and medical aid are paid from an accident fund to which employers are required to contribute and which provides a system of mutual insurance. Federal laws provide compensation for certain seamen and for employees of the federal public service.

Labour Organizations in Canada

Membership in labour organizations active in Canada totalled approximately 2,010,000 at the beginning of 1968 — an increase of 89,100 or 4.6 per cent over membership figures for 1967. Union membership represented 26.6 per cent of the total labour force.

Seventy-eight per cent of the members were in unions affiliated with the Canadian Labour Congress (CLC); more than 10 per cent were affiliates of the Confederation of National Trade Unions (CNTU); and approximately 12 per cent were members of unaffiliated national, international, and independent local organizations.

Of the 2,010,000 union members reported in the 1968 survey, two thirds were in international unions. National unions accounted for a fourth of the total union membership in Canada.

Fourteen unions reported membership of 30,000 or more in the 1968 survey. The United Steelworkers of America retained its position in 1968 as the largest union, with 145,000 members, in Canada.

Collective Bargaining

The collective bargaining system in Canada functions under the federal Industrial Relations and Disputes Investigation Act, which applies to industries subject to regulation by Parliament, and a labour relations Act in each of the provinces. These Acts have a number of principles in common. They recognize the right of employees to organize, and require employers to bargain with representative trade unions. They lay down rules for the collective bar-



gaining process and make a collective agreement binding on the parties and the employees covered. Most provide that disputes arising out of the interpretation of the agreement are to be settled in a manner provided in the agreement without stoppage of work. All Acts place a duty on the government to provide conciliation services where the parties are unable to come to an agreement, and prohibit strikes and lockouts while such conciliation is in progress.

In 1968, British Columbia established a Mediation Commission to provide services to help settle disputes. In addition to fact-finding and conciliation, it is authorized to prescribe binding terms of settlements when the government has determined that, in order to protect the public interest and welfare, it is necessary that a strike or lockout be prevented or terminated. A number of other provinces have provisions for settling disputes leading to final determination of the issues in dispute where the dispute affects specified essential services or categories of employees.

The trend in recent years to extend the rights of collective bargaining to public employees was continued in 1968 by the enactment in New Brunswick of legislation establishing a system of collective bargaining for government employees, teachers, and hospital workers.

In Quebec, the Construction Industry Labour Relations Act, aimed at adapting the collective bargaining system to the particular problems of the construction industry, was adopted at the end of the year.

The Prime Minister's Task Force on Labour Relations, set up in 1966 as a preliminary step before revision of the federal legislation, reported at the end of 1968. The Ontario government has under consideration the report of the Rand Commission which examined some aspects of industrial unrest in Ontario and reported during the year.



Earnings and Hours of Work

The Dominion Bureau of Statistics obtains information on average weekly earnings, average weekly hours, and average hourly earnings from a monthly survey which covers some 40,000 commercial establishments in Canada, having twenty or more employees in at least one month of the year. Such establishments represent slightly less than 60 per cent of the total employees in Canada.

Average Weekly Hours and Average Hourly Earnings

Average weekly hours in most industries and provinces decreased from 1967 to 1968. The largest decreases occurred in urban transit (-3.0 per cent), hotels, restaurants, and taverns (-2.3 per cent), and construction (-1.9 per cent).

In the same period, average hourly earnings rose in all industries and provinces. Changes ranged from an increase of 6.7 per cent in construction to 9.3 per cent in urban transit. Wages in Newfoundland showed the smallest rise (2.4 per cent), while Saskatchewan showed the largest increase (10.9 per cent).

Average Weekly Wages and Salaries

Average weekly wages and salaries in all the industries surveyed increased 6.9 per cent from \$102.79 in 1967 to \$109.88 in 1968. Increases ranged from 4.8 per cent in the service industries to 8.4 per cent in transportation, communication, and other utilities. Wages and salaries in mining showed a 7.6 per cent rise while those in manufacturing increased by 7.4 per cent.



**Average Hourly Earnings and Average Weekly Hours for
Hourly-rated Wage-Earners, Annual Averages, 1958, 1967, 1968**

Industry and Province	Average Hourly Earnings (Dollars)			Average Weekly Hours (Number)			% Changes in A.H.E.		% Changes in A.W.H.	
	1958	1967	1968	1958	1967	1968	1958 to 1968	1967 to 1968	1958 to 1968	1967 to 1968
Industry										
Manufacturing	1.66	2.40	2.58	40.2	40.3	40.3	+55.4	+ 7.5	+0.2	+0.2
Durables	1.81	2.58	2.79	40.3	40.8	40.9	+54.1	+ 8.1	+1.5	+0.2
Non-durables	1.53	2.22	2.37	40.1	39.8	39.7	+54.9	+ 6.8	-1.0	-0.3
Mining, including milling	1.95	2.84	3.07	41.4	41.9	41.8	+57.4	+ 8.1	+1.0	-0.2
Construction	1.86	3.12	3.33	41.9	41.3	40.5	+79.0	+ 6.7	-3.3	-1.9
Building	1.94	3.17	3.42	39.0	39.3	38.6	+76.3	+ 7.9	-1.0	-1.8
Engineering	1.75	3.03	3.16	46.8	45.3	44.6	+80.6	+ 4.3	-4.7	-1.5
Other industries:										
Urban transit	1.84	2.91	3.18	42.6	42.8	41.5	+72.8	+ 9.3	-2.6	-3.0
Highway & Bridge maintenance	1.44	2.22	2.41	38.4	39.9	39.3	+67.4	+ 8.6	+2.3	-1.5
Laundries, cleaners, & pressers	0.94	1.40	1.51	40.2	38.8	38.1	+60.6	+ 7.9	-5.2	-1.8
Hotels, restaurants, & taverns	0.96	1.39	1.49	39.6	34.2	33.4	+55.2	+ 7.2	-5.7	-2.3
Province¹ — Manufacturing										
Newfoundland	1.53	2.06	2.11	39.5	40.8	41.2	+37.9	+ 2.4	+4.3	+1.0
Nova Scotia	1.47	1.94	2.06	40.3	39.8	39.7	+40.1	+ 6.2	-1.5	-0.3
New Brunswick	1.41	2.00	2.10	41.5	41.1	40.9	+48.9	+ 5.0	-1.4	-0.5
Quebec	1.49	2.16	2.33	41.1	41.1	41.0	+56.4	+ 7.9	-0.2	-0.2
Ontario	1.75	2.52	2.71	40.0	40.3	40.4	+54.9	+ 7.5	+1.0	+0.2
Manitoba	1.52	2.14	2.31	40.1	39.5	39.5	+52.0	+ 7.9	-1.5	0.0
Saskatchewan	1.80	2.47	2.74	39.3	39.6	39.4	+52.2	+10.9	+0.3	-0.5
Alberta	1.76	2.45	2.64	39.9	39.5	39.3	+50.0	+ 7.8	-1.5	-0.5
British Columbia	2.02	3.01	3.23	37.6	37.7	37.7	+59.9	+ 7.3	+0.3	0.0

¹ Figures for P.E.I. not available.



**Average Weekly Wages and Salaries, Specified Industries,
for Canada, Annual Averages, 1958, 1967, 1968**

Industry	1958	1967	1968	% Changes from	
				1958 to 1968	1967 to 1968
	\$	\$	\$		
Forestry	70.55	113.96	122.04	73.0	7.1
Mining, including milling	86.14	129.39	139.16	61.6	7.6
Manufacturing	73.10	106.53	114.41	56.5	7.4
Durables	76.76	114.10	123.30	56.6	6.1
Non-durables	68.34	99.39	106.14	55.3	6.6
Construction	80.54	130.83	137.59	70.8	5.2
Transportation, communication and other utilities	72.84	113.15	122.70	68.5	8.4
Trade	58.45	81.22	86.91	48.7	7.0
Finance, insurance, and real estate	65.20	98.98	106.21	62.9	7.3
Service	50.18	75.35	78.99	57.4	4.8
Industrial composite	70.35	102.79	109.88	56.2	6.9

Wage Rates Under Major Collective Agreements in Force

On Sept. 30, 1968, more than one million workers were covered by 554 major collective agreements in negotiating units with 500 or more workers in industries other than construction. The average base-rate rose by 15.4 cents or 6.9 per cent during the 12-month period ending Sept. 30, 1968. In comparison, the average base-rate rose by 15.7 cents or 7.2 per cent during the preceding 12 months. The Consumer Price Index rose 3.8 per cent during the 12-month period ending Sept. 30, 1968, and 3.9 per cent during the 12 months before. If the wage increases are deflated by the increase in the Consumer Price Index, the average hourly base-rate increased in real terms by 2.9 per cent during the period ending Sept. 30, 1968, and by 3.1 per cent during the period ending a year earlier.

**Monthly Index Numbers (January 1965 = 100) and
Annual Percentage and Cents per Hour Increases in Base Rates
under Major Collective Agreements in Canada¹**

Year	Manufacturing									Commercial Industries excluding Construction			Non-commercial Industries ²			All Industries excluding Construction		
	Durable Goods			Non-Durable Goods			Total Manufacturing											
	Index Number	Year-over- Year Increase		Index Number	Year-over- Year Increase		Index Number	Year-over- Year Increase		Index Number	Year-over- Year Increase		Index Number	Year-over- Year Increase		Index Number	Year-over- Year Increase	
		%	¢		%	¢		%	¢		%	¢		%	¢		%	¢
1966																		
Mar.	104.7	4.0	8.7	105.7	5.3	10.0	105.1	4.6	9.3	105.0	4.5	8.7	104.8	3.9	7.0	105.0	4.5	8.8
June	106.3	3.9	8.5	107.0	5.5	10.5	106.7	4.7	9.5	106.6	4.9	9.6	105.8	3.3	6.0	106.6	4.8	9.2
Sept.	107.8	4.7	10.4	109.8	6.7	12.8	108.7	5.5	11.4	109.3	6.1	12.1	109.3	6.3	11.4	109.3	6.2	12.1
Dec.	108.8	4.3	9.7	111.7	7.4	14.4	110.1	5.7	11.9	110.7	6.4	12.7	111.2	7.4	13.5	110.8	6.5	12.8
1967																		
Mar.	110.7	5.7	12.9	112.7	6.6	13.0	111.6	6.1	12.9	113.1	7.8	15.6	115.2	10.0	18.2	113.4	8.0	15.9
June	111.9	5.3	12.0	114.2	6.7	13.4	113.0	5.8	12.6	114.4	7.3	14.8	116.5	10.2	18.9	114.7	7.5	15.3
Sept.	113.2	5.0	11.6	117.1	6.7	13.7	115.0	5.8	12.6	117.3	6.9	15.3	119.7	9.6	18.3	117.6	7.2	15.7
Dec.	114.3	5.1	11.8	118.1	5.7	11.9	116.0	5.4	11.8	118.5	6.9	15.0	120.8	8.6	16.8	118.8	6.6	15.3
1968																		
Mar.	116.0	4.8	11.4	119.1	5.7	12.0	117.5	5.3	11.8	120.2	6.3	13.6	122.9	6.6	13.4	120.6	6.3	13.6
June	119.1	6.4	15.3	121.1	6.1	13.0	120.1	6.3	14.3	122.2	6.8	14.9	124.3	6.6	13.5	122.4	6.8	14.8
Sept.	121.8	7.6	18.5	124.5	6.3	13.7	123.1	7.1	16.3	125.1	7.0	15.7	127.6	6.6	13.8	125.4	6.9	15.4

¹ The data are based on all "major collective agreements" covering 500 or more employees "in force" except those in the construction industry. The data refer to rates actually paid in the month specified. No adjustments have been made for retroactive wage increases. This corresponds to the procedure followed in preparing the general wage rate data issued by the Canada Department of Labour, and the average weekly and hourly earnings data published by the Dominion Bureau of Statistics.

² The non-commercial industries consist of public administration and defence; hospitals; education; welfare; religion and other community service, N.C.C. and domestic service. Commercial industries consist of all industries except the non-commercial industries.



To prepare for a return to civilian life after their service in the armed forces, servicemen at Greenwood, N.S., are studying to complete Grade 12 or Junior Matriculation.

Unemployment Insurance

The Canadian Unemployment Insurance Act, administered by the Unemployment Insurance Commission, became law on Aug. 7, 1940. The Commission was delegated to administer a national program of unemployment insurance and to establish and maintain an employment service. A network of local offices designed to carry out those two functions was established across Canada. Insured persons wishing to claim benefit do so by contacting a local office of the Unemployment Insurance Commission either in person or by mail. Thus, while it is not now necessary for a claimant to report first to the Commission to register for employment (as he had to do before April 1, 1965) the necessary information for registration for employment is passed by Unemployment Insurance officials to the Canada Manpower Centres, whose programs are discussed below.

Coverage is compulsory. All persons employed under a contract of service are insured unless specifically excepted. Excluded is such employment as domestic service, school teaching, and those employed at other than an hourly, daily, piece, or mileage rate with annual earnings exceeding \$7,800. Persons employed at an hourly, daily, piece, or mileage rate are insured regardless of their earnings. Effective April 1, 1967, unemployment insurance was extended to certain farm workers; the main exclusions are workers who are members of the employer's family.

It is estimated that close to 80 per cent of paid workers came under the Act by March 1968. Equal contributions are required from employers and employees, the specific amounts to be determined by the weekly earnings of the employee. The federal government adds one fifth of this total and pays the administrative costs. In order to protect, in some measure, the standard of living of the wage-earner when unemployed, the weekly benefit rate is related to the weekly contribution, which varies between defined classes of earnings. The contribution schedule contains 10 classes, ranging from 10 cents, if weekly earnings are under \$20.00, to \$1.40 if weekly earnings are \$100.00 or over. Maximum weekly benefit rates are \$42.00 for single persons and \$53.00 for those with dependants. An allowable earnings clause provides automatic adjustment of weekly benefit when earnings in a week exceed 50 per cent of the claimant's benefit rate.



At the George Brown College of Applied Arts and Sciences, in Toronto, Ont., men may take a 20-week course in meat cutting. Men may be sponsored by the Department of Manpower, or by the Ontario Department of Labour, or may pay their own fees.

The Act contains a special provision by which the usual contribution requirements are relaxed during a five-and-a-half-month period beginning with the week in which Dec. 1 occurs. During this interval workers unable to fulfil the normal requirements for benefit may draw seasonal benefit if they have at least 15 weeks of insured employment since March 31, or if a regular benefit period terminated since the previous mid-May. During the period Nov. 26, 1967, to May 18, 1968, approximately 40 per cent of the benefit periods established were identified as "seasonal benefit periods."

During the 12 months ending March 31, 1968, a total of 1,887,000 new and renewed claims for benefit were filed at local offices. On the average, 394,000 persons were claiming benefit at the end of each month during this period. Payments amounted to \$388,583,000. For the 12 months ending March 31, 1967, comparable data were 1,620,000 claims filed, 322,000 claimants, and payments amounting to \$307,016,000.

Estimates of the Insured Population under the Unemployment Insurance Act, April 30, 1967, to March 31, 1968

	At End of Month of	Total	Employed	Claimants ¹
1967 — April	4,763,000	4,270,700	492,300
May	4,734,770	4,391,620	343,150
June	4,742,000	4,499,200	242,800
July	4,764,000	4,517,700	246,300
Aug.	4,787,000	4,559,900	227,100
Sept.	4,732,000	4,521,100	210,900
Oct.	4,724,000	4,481,500	242,500
Nov.	4,800,000	4,463,400	336,600
Dec.	4,828,000	4,326,500	501,500
1968 — Jan.	4,881,000	4,247,700	633,300
Feb.	4,864,000	4,204,500	659,500
March	4,894,000	4,237,100	656,900

¹ Month-end claimants as reported in Table 3, monthly Statistical Report on the Operation of the Unemployment Insurance Act (DBS Bull. 73-001).

The Saskatchewan Council for Crippled Children and Adults provides sheltered workshops for handicapped, mentally ill, and mentally retarded workers.



Manpower Programs

The Department of Manpower and Immigration has instituted an active manpower policy aimed at helping Canadians respond to economic and technological change by increasing the effectiveness of counselling and placement services offered by Canada Manpower Centres across the country.

Under the Occupational Training for Adults Program a worker may be referred to a training course by the C.M.C. counsellor, to learn a new skill or upgrade his existing skills, and he may qualify for a living allowance during the training period. The Manpower Mobility Program provides assistance to Canada Manpower Centres' clients who have been, or are about to be, put out of work and have little chance of finding employment in the area in which they live. Assistance is provided in the form of exploratory, relocation, and trainee travel grants.

Rehabilitation services are available to physically or socially handicapped workers through Canada Manpower Centres. The Vocational Rehabilitation Program includes training, medical restoration, assessment, counselling, and training allowances.

The Department also administers the Manpower Adjustment Program to assist management and labour to cope with adjustment problems resulting from technological and economic change. The "Operation Retrieval" Program seeks to ensure that Canadians studying abroad are informed of career opportunities at home, and that employers are aware of the professional talent available through this program. The "Jobs for Students" Program encourages employers to hire high school and university students during the summer months. In co-operation with the Department of National Defence, the Civilian Employment Assistance Program helps retiring servicemen find suitable jobs in the civilian labour force.

The Department maintains a network of more than 300 Canada Manpower Centres across Canada, co-ordinated by five regional offices located in Halifax, Montreal, Toronto, Winnipeg, and Vancouver. Telex links the centres and speeds clearance of job orders and vacancies, and all manpower programs and services are tied together and implemented through these field offices.

Research

Scientific and Industrial Research

Since Canada is endowed with vast natural resources, it follows that early scientific research in this country was related to the development of primary industry. The establishment of an advanced industrial system in a country with such a large area and a small population was an enormous challenge. It is therefore not surprising that the initial pace of development was somewhat slow.

Scientific activity expanded greatly during the Second World War to meet the special requirements of the military effort. This impetus led to the realization that scientific research was the key to economic growth, through the development and upgrading of Canadian technology.

After the war several science-based federal government departments and agencies developed important research programs. For example Atomic Energy of Canada Limited was established, in 1952, to proceed with the development of atomic energy in Canada. Provincial research councils were set up in several provinces to deal with regional problems. University enrolments multiplied and academic research blossomed. Industrial research, which was slow to develop in Canada, started to expand rapidly in the 1960's.

Expenditures on Research and Development. In keeping with expanding research, Canada's gross expenditures on research and development have risen from 1 per cent of the gross national product in 1958-9 to 1.31 per cent in 1966-7.

In 1965-6, Canada's "current" expenditures on research and development amounted to some \$524.4 million, and these funds were distributed in the various sectors and research activities as follows. Industry accounted for 44 per cent of all research — 2 per cent on basic research and 12 per cent on applied research, and 30 per cent on development. Governments' share was 36 per cent of the total — 7 per cent on basic research, 23 per cent on applied research, and 6 per cent on development. Institutions of higher education contributed 13 per cent to basic research, 5 per cent to applied research and

1 per cent to development, for a total of 19 per cent. One per cent of the total was private non-profit applied research.

Advisory Bodies: The Science Secretariat and the Science Council. In the federal sphere, the ultimate authority for policy on science resides in the Cabinet which is advised by the Committee of Privy Council on Scientific and Industrial Research. This Privy Council committee comprises those cabinet ministers having departments with major scientific responsibilities, along with certain other ministers who have an indirect concern with scientific affairs, and an advisory body of senior officials.

The ever-growing complexity, diversity, and costs of modern scientific and technological research, coupled with the increasing responsibilities of the federal government in this sphere, soon made it apparent that the government needed added advisory mechanisms for science policy. In 1964, as a result of the recommendations of the Royal Commission on Government Organization a Science Secretariat was created in the Privy Council Office with the task of assembling and analyzing information on the government's scientific and technological activities, as well as those of industry, the universities, and the provinces particularly in relation to the activities and concerns of the federal government.

In 1966, the federal government established the Science Council of Canada. This is an independent body which has the duty of assessing Canada's scientific and technological resources, requirements, and potentialities, and making recommendations thereon in published reports. The Science Council is concerned both with research and development and with the use of science and technology in the solution of Canada's social and economic problems. It reports to the Prime Minister and draws its membership from industry, the universities, and government.



Dish reflectors at the N.R.C.'s radio telescope establishment in Algonquin Park, in Ontario. Radio astronomers have detected radio signals from the recently-discovered X-ray star Scorpio X-1 on the 150-ft. radio telescope.

The Science Council has undertaken intensive studies in several sectors such as physics, psychology, water resources, the upper atmosphere, and space, all of which have been published. In addition, the Science Council published its first science policy report in October 1968 in which it recommended that Canada focus its scientific and technological effort through the creation of major programs designed to solve Canada's social and economic problems. These programs include among others a space program for Canada, water resources management and development, transportation, urban development, computer applications, and scientific and technological aid to developing areas of the world.

This emerging science policy for Canada will result in a more effective use of the country's natural, financial, and human resources, which in turn will contribute to the prosperity of Canadians.

Research in Federal Government Organizations. The research activities of the various federal government departments and agencies have expanded rapidly, at first because of the need to produce raw materials efficiently and economically, and later because of the desire to process these raw materials to meet many human and industrial requirements.

Much of the expansion in scientific research took place in agencies such as the Atomic Energy of Canada Ltd. which was responsible for the research into the peaceful uses of nuclear energy, and their development. The Department of Energy, Mines and Resources has recently announced the voyage of the research ship *Hudson* to survey the ocean waters around the two Americas in 1969. This oceanographic expedition is part of Canada's contribution to the International Decade of World Ocean Exploration. The Defence Research Board's ISIS-A satellite was launched in co-operation with the United States National Aeronautics and Space Administration in January 1969.

The National Research Council (N.R.C.), is an internationally respected government agency, formed in 1916, which has done much to stimulate scientific research in Canada through its grants and scholarships as well as by its own internal research activities. Its budget has grown from \$91,600 in 1916 to about \$90,000,000.

In the past, the N.R.C. has not supported industrial research as actively as academic research, but it is now working more closely with industry. As Dr. W. G. Schneider, the President of the N.R.C., stated in a recent article in the new journal *Science Forum* (I, No. 2, April 1968); "Industrial expansion cannot be assumed to come about automatically. Complex problems are involved which touch on many aspects of our whole socio-economic structure, and wise policies will be needed on many fronts to provide the stimulating and favourable climate necessary. Nevertheless, industrial research is one of the most important inputs, and it is to this area that the N.R.C. must now give greater emphasis." A closer co-operation with industry should help shorten the incubation period of a discovery, that is, it should accelerate the transfer of an invention or discovery from the laboratory to industry.

Dr. Jonkel of the Canadian Wildlife Service takes a blood sample from a polar bear, near Churchill, Man., as part of an international study of polar bears.



Research in Provincial Government Organizations. Seven provinces — Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, and Saskatchewan — have established research councils or foundations to foster research that is important economically to their provinces. The provincial research institutes maintain close liaison with the resource-based industries within their provincial boundaries and direct their effort to the expansion of provincial industries.

Provincial Government Supported Research Councils and Foundations

Institution	Main Activity	Major Areas of Interest
British Columbia Research Council (founded 1944)	Contract research for government and industry in Canada and abroad	Forestry, mining, fishing, agriculture, hydro-electric power, pollution, pulp and paper
Manitoba Research Council (founded 1963)	Provides only technical and information services	Agriculture and natural resources
New Brunswick Research and Productivity Council (founded 1962)	Applied research and technical services for provincial industries	Mineralogy, food science, materials science, industrial engineering, fluid power transmission
Nova Scotia Research Foundation (founded 1947)	Applied research and technical services and information for local industry	Geophysics, chemistry, photogrammetry research studies, operational research
Ontario Research Foundation (founded 1928)	Contract research for government and industry in Canada and abroad	Metallurgy, chemistry, physics, textile science, applied microbiology, physiography, field services
Research Council of Alberta (founded 1919)	Research of economic value to the province; funded mainly by provincial grants	Fuels (petroleum, coal), earth sciences, hail studies, highway research, biological cycle studies, industrial and engineering services
Saskatchewan Research Council (founded 1946)	Research oriented toward provincial industry; financed mainly by the provincial government	Algae study, potash research, geohydraulic evaluation, groundwater geology drilling, freeze purification, topo-climatic study, aerosol study



The N.R.C. and the Department of Transport are investigating tidal hydraulics on this model of the St. Lawrence River from Montreal to Rimouski, Que.



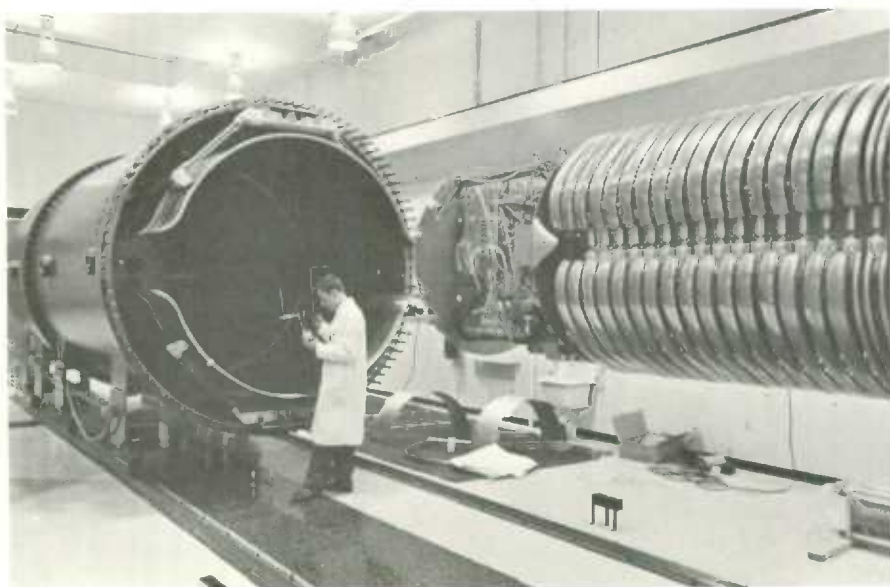
In the new British Columbia Research Council laboratories, researchers primarily seek practical solutions to industrial problems.

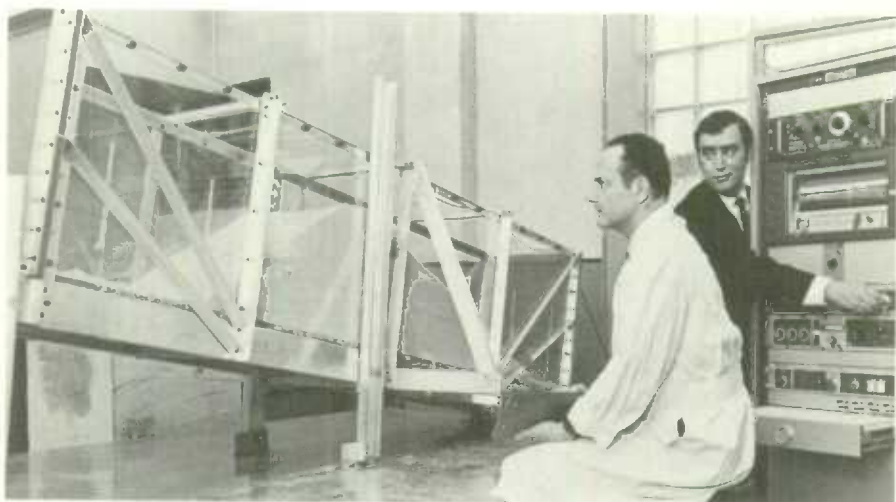
Research in the Universities. The two primary roles of the universities are teaching and research. Future research scientists and engineers can be trained only in an environment where research is being undertaken. There is at present in Canadian universities a growing interest in research essential to Canadian goals. Thus research in relation to air and water pollution, urban problems, and medicine are occupying increasing numbers of faculty. The federal government is encouraging this type of applied research and helping to bridge the gap between the universities and industry, by supporting university-based industrial research and development institutes. The Department of Industry initiated its Industrial Research Institute Program in 1967 and already grants have been awarded to four universities (the University of Windsor, the University of Waterloo, McMaster University, and the Nova Scotia Technical College) to assist them in establishing such institutes.

The number of full-time university teachers has been increasing steadily and rapidly and reached 16,529 in 68 universities and colleges in 1967-8. Faculty members spend about 30 per cent of their time on research and supervising graduate students who will form the next generation of research workers.

Research in Industry. Canadian firms are becoming increasingly involved in research activities. The need to develop new or improved products to serve expanding domestic and foreign markets, to meet competition from Canadian and foreign firms, and to exploit efficiently the country's natural

The University of Montreal has acquired a Dynamitron accelerator (atom smasher) for nuclear research.





In the Department of Civil Engineering at the University of British Columbia, earthquakes can be simulated to discover their effects on topographical strata modelled in sand.

On Lake Huron researchers from several disciplines work together at the Great Lakes Institute of the University of Toronto.





The electron probe micro-analyser is used to examine metals, minerals, and chemicals in Sherritt Gordon's physical metallurgy research laboratory, at Fort Saskatchewan, Alta.

resources has required industry to form and expand competent research and development units.

The Sheridan Park Research Community outside Metropolitan Toronto and the research laboratories in the Pointe Claire area near Montreal are the latest establishments for improving the efficiency of industrial research and expanding it. Industrial research parks of this type make applied research and development activities easier. They encourage a ready exchange of non-proprietary scientific and technical information and provide a wide variety of instrumentation, equipment, and skills.

The federal government recognizes the need for a strong industrial research effort in Canada and has inaugurated several programs of direct assistance. The Department of Industry administers the Defence Development Sharing Program and the Program for the Advancement of Industrial Technology, and also makes substantial grants to companies. Such grants permit companies to expand research programs under the Industrial Research and Development Incentives Act. The National Research Council and the Defence Research Board also make grants supporting industrial research projects.

The Program for the Advancement of Industrial Technology (PAIT) is designed to help companies through the introductory phase of a new process. Examples of the successful innovations assisted by the Program are the CL-215 Fire Bomber-Gray-Utility aircraft developed by Canadair Ltd., in response to the country's forest and resource development requirements, and the special electronic communication satellite earth-station systems developed by the RCA Victor Co. Ltd.

Health Sciences Research

Medical research in Canada is conducted primarily in university medical schools, now 16 in number, and their affiliated hospitals and institutes. There are no national centralized laboratories in this field in Canada as in Great Britain or the United States, although the federal Department of National Health and Welfare has extensive laboratories in which research related to the department's mission is carried out.

The facilities for research in the universities are increasing rapidly; indeed it is expected that by 1972 the space allotted for medical research will be almost double that available in 1967. A new clinical sciences complex has just been completed at the University of Alberta, new medical sciences buildings have recently been opened at the University of Toronto and Dalhousie University in Halifax, and work will shortly be completed on extensive clinical and basic science facilities at the new medical school of the University of Sherbrooke. Most of the other medical schools have concrete plans for expansion in the next few years to meet the urgent requirements of growing faculties.

The support of this rapid development is a partnership affair. The universities themselves contribute importantly to their own research activity by providing the salaries of most of those directing research and paying the indirect costs associated with the maintenance of a library, animal facilities, and so on. Provincial governments, often in conjunction with the federal Health Resources Fund, provide much of the physical plant. The direct costs of research — special equipment, expendable supplies, technicians' salaries — have traditionally been borne in Canada to a large extent by federal granting agencies, and by voluntary agencies whose funds come chiefly from public subscription and are used to advance research in specific fields such as cancer, heart disease, arthritis and rheumatism and muscular dystrophy. The total funds provided for the direct costs of medical research from these extramural sources in 1968-9 was \$44,500,000.

The main federal channel through which funds are provided for medical research is the Medical Research Council. This body was originally established within the framework of the National Research Council but in 1969 was made a separate corporate agency of the government reporting to Parliament through the Minister of National Health and Welfare. The Department of National Health and Welfare and the Defence Research Board also provide support for university research directly related to their fields of interest, and the Department of Veterans Affairs supports research carried out in its own hospitals across the country.

Research in the allied fields of dentistry and pharmacy has been somewhat slower to develop in Canada chiefly because of the heavy demands of professional teaching and the inadequacy of research training opportunities. This picture has changed in recent years with the establishment of additional schools of dentistry and pharmacy and the attraction to their faculties of well qualified researchers from both Canada and elsewhere. There are now nine dental schools, an increase of two in the past two years, and a tenth, at

Surgeons are implanting a pacemaker — a device developed in Canada — in a patient's chest to keep the heart beating regularly by means of a series of electrical shocks.



Université Laval, is beginning to recruit staff. The eight existing schools or colleges of pharmacy are expected to be increased by two within the near future. Research programs in dentistry and pharmacy are supported through much the same channels as are those in medicine. The Medical Research Council has recently been given responsibility for the major federal support of research in these fields, a reflection of the growing trend in the universities towards the development of closer association among all faculties related to the health sciences.

Canadian investigators are at the forefront of such new developments as organ transplantation. The use of antilymphocyte serum in the suppression of transplant rejection is currently being studied intensively under the sponsorship of the Medical Research Council and a national clinical trial of the serum in renal transplants — the first of its kind in the world — is underway.

Interdisciplinary research is developing in several centres and in particular biomedical engineering is growing rapidly. Operations research is also finding its application in the development of rapid and economic methods for the delivery of health care.

The development of research in the health sciences to provide the necessary technological back-up to health care depends in large measure on an adequate number of suitably trained personnel. The Medical Research Council provides support for trainees at all levels of graduate research work and the rapid growth of this program is evidence of the widespread recognition that knowledge of the scientific method is important not only to the career investigator but also to the practitioner. The voluntary agencies also devote a considerable proportion of their resources to the training and support of research personnel. Many of the granting agencies, both government and voluntary, provide salary support for a limited number of highly qualified university-based investigators who devote the major portion of their time to research and graduate teaching.

Medical research in Canada has recently been the subject of an exhaustive survey undertaken by some fourteen assessment groups, each comprised of three to five senior investigators in a specific discipline. The findings of the assessment groups, as reported to the Medical Research Council which sponsored the survey, are contained in the volume entitled *Canadian Medical Research: Survey and Outlook* (MRC Report No. 2, Ottawa, 1968).

Atomic Energy of Canada Limited

From a relatively small prototype nuclear power station that went into service in 1962 with an electrical output of 20,000 kilowatts, Canada's nuclear power development program in Ontario alone has grown to a total of over 5 million kilowatts for plants under construction and planned. This total amounts to more than half Ontario Hydro's power resources, hydro-electric and thermal, already in service at the beginning of 1969.

Ontario Hydro has forecast that by 1980 one third of its capacity to generate electricity will be in nuclear power stations. Without nuclear power, Ontario Hydro's annual consumption of coal, most of which would have to be imported, would increase in ten years to 25 million tons, costing about \$225 million.

While the major application of the Canadian nuclear program is in Ontario, other plants are being built in Quebec and in foreign countries. On the south shore of the St. Lawrence River, midway between Montreal and Quebec City, work is well advanced on the Gentilly Nuclear Power Station, being built by Atomic Energy of Canada Limited with the co-operation of Hydro-Québec. The station will have an electrical output of 250,000 kilowatts when it goes into service in 1971.

India's Department of Atomic Energy is building the Rajasthan Atomic Power Project, a nuclear station of Canadian design with two reactors and a total electrical output of 400,000 kilowatts. The nuclear portion of this plant, which is similar to the Douglas Point Nuclear Power Station on the shore of Lake Huron, was designed by Atomic Energy of Canada Limited.

Near Karachi in West Pakistan, Canadian General Electric Company Limited is building the Karachi Nuclear Power Project for the Pakistan Atomic Energy

A scientist from the Environmental Research Branch of the Chalk River Nuclear Laboratories in Ontario prepares to descend into Perch Lake to remove meteorological instrument towers before the ice breaks up.



Commission. The station will generate 137,000 kilowatts of electricity when it goes into service in 1970.

There are now three plants to produce heavy water under construction in Canada — two in Nova Scotia and one in Ontario. Canadian-type nuclear power stations use heavy water to moderate the speed of neutrons released when atoms of the natural uranium fuel split or fission. A chain reaction is maintained in the power reactors and thus there is a steady production of heat which is used to produce the steam that drives turbine-generators. With this natural uranium-heavy water system, Canada is able to use its uranium deposits, which are among the largest in the world. The system is attractive to foreign countries as well, for nuclear power stations may be fuelled with naturally occurring uranium and it is not necessary to build expensive fuel-enrichment plants.

From a pioneering cancer therapy unit put into service in 1951, Canada's development of the production and application of radioactive isotopes has reached into most parts of the world. The Commercial Products group of Atomic Energy of Canada Limited, which has facilities in Ottawa and nearby South March, has designed and built more than 700 cancer therapy machines which are installed in clinics in 51 countries.

Another major activity of the group is the design, manufacture, and installation of industrial-scale plants for the sterilization of medical supplies with gamma radiation from cobalt-60. Canadian plants have been put into operation in the United States, Canada, West Germany, New Zealand, India, and Italy. Medical products such as syringes, sutures, swabs, and surgical gloves can be packed in boxes before sterilization and almost any packing material can be used; thus the production of sterilized materials can be carried out quickly and cheaply without the need for complex arrangements to avoid contamination.

AECL has a broad program of research on the use of radiation in food preservation, mineral analysis, control of industrial processes, and many other fields.

Canada's main nuclear research centre is the Chalk River Nuclear Laboratories, 125 miles northwest of Ottawa. The centre has some 2,500 employees and a wide variety of facilities including the large NRX and NRU research reactors, three small auxiliary reactors, a tandem Van de Graaff accelerator, and engineering and research laboratories.

A broad program of engineering development and research is carried out at Canada's newest nuclear laboratories, the Whiteshell Nuclear Research Centre at Pinawa, Manitoba. The centre has some 700 employees and its work is mainly directed at developing new materials for use in power reactors with the objectives of increasing the efficiency of the plants and of reducing the cost of the power produced.

The Power Projects group of AECL has some 800 employees at its laboratory building and design and administration centre in the Sheridan Park Research Community near Toronto. This group is responsible for the design of nuclear power systems and for the management of prototype nuclear power stations.

The Economic Council of Canada

The Economic Council of Canada, created by Parliament in 1963, is an independent advisory body. Its chief functions are (1) to define the country's social and economic goals in terms of what Canada can *realistically* hope to achieve over, say, the next five to ten years; (2) to recommend to the federal, provincial and municipal governments, as well as to private industry, the kind of policies most likely to help achieve these objectives, and (3) more generally, to try to anticipate future problems and advise on what actions can be taken now to deal with them.

In these respects the Council is designed to assist "forward planning" in all parts of the economy. But this aspect of its work should not be confused with the official government "plans" in certain European countries, for the Economic Council of Canada is purely an advisory body; it has no government representation on its membership, and no operational duties or authority. The Council comprises three full-time economists and 25 part-time members (from labour, business, finance, agriculture and other primary industries, and the public), and is assisted by a research staff of about 60. Under its terms of reference, the Council must publish annually "a review of medium- and long-term economic prospects and problems" and may also publish other studies and reports. In addition, the federal government may ask the Council to undertake various inquiries of an economic nature, and to date has done so twice: a 1965 reference dealt with the broad question of how to achieve reasonable price stability within a framework of other important economic goals, and more recently the Council has been reporting in stages on various aspects of combines and patent laws, and other government policies affecting competition in business and industry and the interests of the consumer.

The Basic Goals

The Council's terms of reference encompass Canada's basic economic goals. Briefly, these goals are full employment, a high rate of economic growth, reasonable stability of prices, a viable balance of payments, and an

equitable distribution of rising incomes. The objective is to attain all of the goals *simultaneously and consistently*.

Looking to 1975, the Council believes that public policies should aim at 97 per cent employment (or no more than 3 per cent unemployment) as a national average annual rate, allowing for seasonal and regional variations. If this meant only the reduction of unemployment from the levels of the late 1960's, the goal would be difficult enough. But at the same time, Canada is confronted with one of the most rapidly growing labour forces in the Western world. Between 1965 and 1975, close to 240,000 persons a year (young people emerging from school, immigrants, housewives, and others) will be looking for jobs. To absorb this huge increase and at the same time reduce unemployment, the economy must grow fast enough to provide 2.4 million new jobs over the 10-year period.

In estimating how fast Canada's total production (and thus incomes) can grow, the Council examines two groups of sources of growth: (1) increases in the *quantity and quality* of resources (for example, more manpower and capital, and higher levels of education and more efficient equipment) and (2) increases in productivity, or in the efficiency with which these resources are used and combined. For the period to 1975, the Council has estimated that the Canadian economy can increase its total production of goods and services at an average annual rate of 5.5 per cent. Approximately two-fifths of this gain in output would be attributable to the employment increase, with a further small gain from an improved average educational level of the labour force. Another fifth would come from investment by governments and industry, bringing about a rise in the amount and thus in the productive capacity of the country's "capital stock" of roads, factories, machinery, and other such physical assets. The remaining portion of the growth rate, around a third, would stem from productivity gains.

The potential growth rate of 5.5 per cent a year implies an increase in the total volume of output from about \$66,000 million in 1967 to about \$100,000 million by 1975. If Canada can achieve such output — and one must keep in mind that this is a calculation of what is *realistically* possible, and not a forecast — it would mean, for example, an increase of about one third in average per capita income (the "standard of living"). But if the economy fails for one reason or another to keep up to its potential, the loss would be great. For example, an average growth rate of 5 per cent instead of the potential 5.5 per cent over the 1967-75 period would mean a "loss" of more than \$3,000 million in national income.

Defining "reasonable price stability" in these circumstances of rapid growth is extremely difficult, especially since Canada is so vulnerable — through its huge volume of international transactions in goods, services, and securities — to price developments abroad, particularly in the United States. Assuming favourable international conditions and improved economic policies at home, however, the Council has defined the goal of price stability in these terms: if annual average rates of changes in prices and costs to 1975 can be contained within the range of movements over the decade from 1953 to 1963, this would represent the attainment of a satisfactory degree of price and



A project for the future is Metro Centre, a redevelopment of downtown Toronto, Ont. New buildings will provide hotels, office buildings, apartments, and a communications-broadcasting centre.

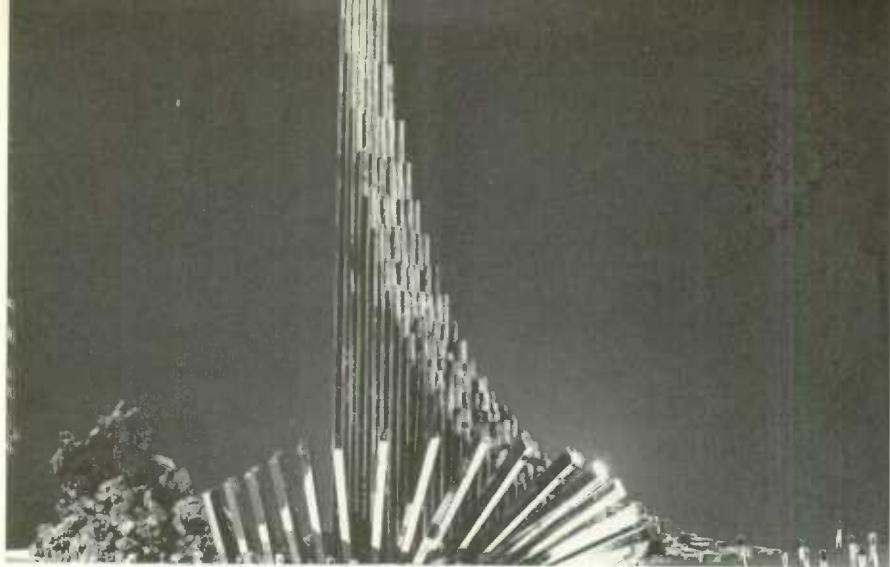
cost stability. Over that decade, the Consumer Price Index rose on average by 1.4 per cent a year and the prices of *all* goods and services (including many not measured by the Consumer Price Index) by 2 per cent a year, with moderate year-to-year variations around these rates. In recent years price increases have exceeded these limits by amounts that have caused serious concern.

As envisaged by the Economic Council, the goal of a viable balance of payments should be not merely enough international receipts to cover the country's international payments, but also some strengthening of Canada's competitive position. Assuming favourable conditions abroad, the Council has projected a \$1,000 million surplus on trade in *commodities* by 1975. However, it is anticipated that Canada will continue to run a large deficit on other international transactions such as tourism, payments of interest and dividends to foreign investors, freight and shipping charges, and business services. This deficit on so-called "invisibles" is expected to reach \$2,300 million by 1975. Thus Canada would have an over-all deficit on the current account of the balance of payments of roughly \$1,300 million in that year, to be financed by attracting foreign investment to this country. As high as this appears, it is important to relate it to a huge increase in total international transactions, and to note that the deficit as a proportion of Canada's total output would decline to about 1 per cent in 1975 from approximately 2 per cent in 1966.

Income Disparities

The fifth goal, an "equitable distribution of rising incomes," can be viewed in a number of ways. To date the Council has concentrated on two aspects, poverty and regional disparities.

Poverty is a relative concept; although the Council has found that at least one Canadian in every five—more than 4 million people—suffers from poverty, no one would suggest it is the kind of poverty evident among, say, the street-sleepers of Calcutta. In seeking to define poverty in Canada, which



The Province of British Columbia is building an unusual pavilion for Expo 70 in Japan. The Council of Forest Industries of B.C. donated 109 hand-picked Douglas fir for the pavilion. The tallest trees measure 200 feet, and they are about 400 years old.

has one of the highest levels of per capita income in the world, the Council has estimated that all families and individuals who spend more than 70 per cent of their incomes for food, clothing and shelter are "poor" in the sense that they cannot afford many of the things regarded as basic to a decent standard of life in this country. When this yardstick is applied to 1968 incomes it indicates "poverty lines" of \$1,800 a year for a single person, \$3,000 for a family of two, \$3,600 for a family of three, \$4,200 for a family of four, and \$4,800 for a family of five. Obviously, these are conservative cut-offs; living standards at or just above such levels would be modest indeed. Just as plainly, they are too arbitrary — there are too many exceptions, including students — to be regarded as a definitive measure of the poverty problem. But until more meaningful measures are developed, statistics based on these general poverty thresholds have helped to illustrate the magnitude of the problem and have provided the basis for a series of Council recommendations for policy changes and initiatives towards not just the reduction of poverty, but its eradication.

The issue of regional income disparities has been viewed by the Council to some extent as distinct from that of poverty. It is quite true that the Atlantic Provinces lag far behind the rest of the country with average incomes that are only about 60 per cent of the level in Ontario, for example — a disparity that has changed little in 40 years. It is also true that the *incidence* of poverty — the proportion of people with low incomes — is higher in the Atlantic Region than elsewhere. But the largest numbers of poor people do not live there; over half of all the low-income families in Canada are west of the Ottawa River, and the bulk of the poverty problem lies in the cities or in rural areas that by most standards are regarded as relatively prosperous. Thus any attempt to solve the poverty issue with regional development policies — however essential these may be in their own right — would, in the Council's opinion, almost certainly fail. The Council has therefore urged the separation of these two problems, and suggested a range of approaches and measures appropriate to each.



This typical suburb, of Calgary, Alta., illustrates the growth of cities in the post-war decades. It is estimated that by the year 2000, nine out of ten Canadians will be urbanites.

Urbanization

The Economic Council concerns itself not only with material standards of living, but with a wide range of socio-economic questions that affect our quality of life. One of these issues, and one that will become increasingly important, is urbanization. A century ago, only about one out of every five Canadians lived in a town or city. Now the proportion is three out of four, and by the year 2000 it will be nine out of ten. Moreover, much of this growth has been concentrated in the larger cities. About half of Canada's population now lives in centres of 100,000 population or more. By 1980, about one in every three Canadians will be living in one of the three metro areas of Toronto, Montreal or Vancouver.

In a situation where even now the cities are struggling against a heavy backlog of essential improvements in public services such as transportation, and water and sewerage facilities, the prospect of extremely rapid growth in future raises serious questions about whether the cities can become good places to live. The Economic Council has described this as one of the greatest challenges facing the country, and has recommended (1) the modernization of local government structures, administration, and areas of jurisdiction; (2) improvements in the quality of city management; and (3) a narrowing of the gap between the cities' responsibilities and their revenues, either by shifting some of the responsibilities to the provincial and federal governments, or by giving the cities more money.

Acknowledgements

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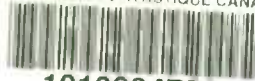
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