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DEPARTMENT OF
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A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

DECEMBER 1939

SIXTH SERIES

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James Muir,
Editor.

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No. 62. Fri. Dec. 1, 1939 -- The Month of December

December, the last month of the year, was once the tenth month. That is why the ancient Romans named it from "decem" the Latin word for ten. In Canada it is the first month of real winter and the fuel bill mounts sharply. The hockey players are beginning to buzz around the rinks that are without artificial ice, and the snowshoers and skiers resume their winter thrills.

The birthstone of December is the turquoise and its flower is the holly. In those districts of Canada where the winters are long and cold, the beautiful holly with its red berries is not as successfully grown as it is in other parts where the winters are less severe.

December is probably the most-loved month of the year, because of the spirit of Yuletide that belongs to the great holiday of Christmas, when we celebrate the birth of Jesus of Nazareth. It is a home-coming day for the boys and girls who have gone forth to fight the battle of life in the great world beyond the fireside of their parents. The traditional Christmas dinner is a family gathering.

By the way, may we add a word to the campaign which those splendid Canadian newspapers of ours wage yearly to have Christmas spelt decently and properly. Xmas is a hideous word. It is just thoughtlessness, of course, that causes some people to use that horrid abbreviation.

Conception Day, December 8, is celebrated widely by the Roman Catholic Church and Hogmanay, the last day of the year is a popular holiday in Scotland and the north of England.

The birthdays of some famous persons occur in December, such as Mary Queen of Scots, Isaac Newton, Warren Hastings, Jane Austen, Matthew Arnold, Beethoven, Thomas Carlyle, William Ewart Gladstone, John Milton, Louis Pasteur and Eli Whitney.

Great events that have occurred in December include the start of the voyage of Sir Francis Drake when he left England in 1577 to sail round the world. There was the landing of the Pilgrims at Plymouth in 1620, Napoleon was crowned Emperor of the French in 1804, the Monroe doctrine was announced in 1823, Confederation was formed by Australian colonies except New South Wales in 1885 and the Hudson's Bay Company transferred Government rights to the Dominion of Canada in 1869.

No. 63. Sat. Dec. 2, 1939 -- Difficulties in Recording Trade

The following will make clear some of the difficulties that are experienced by External Trade statisticians in recording the facts of international commerce:

Few countries attempt (and those with but qualified success) to credit all imports to their country of origin, i.e., the country in which the goods were actually

produced or manufactured. Neither is it possible, in respect to large proportions of international trade, to ascertain or show, at the time of the exportation of goods from the country of production, to what country they will be finally conveyed for consumption. Could these particulars regarding imports and exports be accurately recorded in every case, discrepancies in trade statistics would largely disappear. But most countries, including Canada, record their imports as from the country of consignment, that is, the country with which the actual commercial exchange takes place. While this system fails in many cases to disclose the country of actual origin of the goods, it does more clearly demonstrate the "balance of trade" upon which international financial adjustments are based.

It is evident that systems such as are now followed, in conjunction with the great volume of indirect trade, must result in considerable divergencies in statistics. This is the dominant factor in producing differences between the trade records of Canada and those of European and other overseas countries, for a very large part of Canadian produce finds its way to the country of consumption via a third country.

Canada, like many other countries, attempts to ascertain the country of final destination when goods are exported, but in many cases this is not positively known, even to the owner of the goods. A large part of Canada's exports to continental Europe is consigned to one of the European free ports and from there directed to the country of consumption. This fact is largely responsible for the wide discrepancy between the German and Canadian statistics of the eastern movement of trade between the two countries as so much of that trade is conducted "via" one of the European entrepot centres. German import statistics are recorded, so far as possible, according to the country of production.

Canadian exports to Belgium and to the Netherlands are normally greater than the imports into those countries for home consumption from Canada, according to their statistics. Exports of goods from Canada to Belgium consigned to Antwerp, or to the Netherlands, consigned to Rotterdam, are only included in the import statistics of Belgium and the Netherlands if the goods are released there for home consumption. Otherwise they are recorded in the statistics as intransit trade. There is little doubt that a large proportion of these intransit goods eventually reach Germany.

Another factor in this "origins" and "destinations" problem is that a proportion of exports from Canada to overseas countries are shipped via the United States, and similarly some exports of United States origin find their way to overseas markets in transit through Canada. European countries are inclined to credit the former in their import statistics to the United States and the latter to Canada.

A detailed comparison, item by item, of Canadian export and German import statistics is practically impossible since the two classifications are not identical.

No. 64. Sun. Dec. 3, 1939 -- Farm Family Living Expenditures

How the folk on the farm are getting along is of concern to everyone in Canada, for agriculture is our basic industry. It means food, as well as other things that are necessary for our comfort; indeed, almost for life itself. Our whole social structure is built around the farm in very large measure.

The Dominion Bureau of Statistics last year made a survey of farm living expenditures, somewhat similar to the survey of 1934. This makes possible a notion of the relative economic position of families in these two years.

Farm living expenditures per person averaged approximately 50 per cent higher for families in the 1938 survey, than for those in 1934. Provincial differences ranged from increases of 65 per cent and 62 per cent for families in Manitoba and Ontario respectively, to 43 per cent for those in Saskatchewan and Alberta. Harvests for 1937 in the last two provinces were poor, but comparatively good in Ontario and Manitoba. Per capita advances in farm living expenditures for households in Quebec and the Maritimes averaged 58 per cent and 51 per cent respectively. The foregoing percentage differences represented increased cash outlays per person of \$68 for Ontario families, \$56 and \$50 for Manitoba and Alberta families respectively, \$44 and \$43 for those in the Maritimes and Saskatchewan, and \$34 for families in Quebec. Since average farm living costs advanced less than four per cent between 1934 and 1938, it is evident that these increases point to a material improvement in living levels during this period. The year 1934, of course, was one of unusual stringency for farm families generally.

Expenditures for the principal items of the family budget contained some noteworthy differences in these two years. The more basic requirements of food and clothing experienced only a slight advance in the amount of actual expenditure per person. In 1934 Ontario farm households spent 28.3 per cent of their total living expenditure on food, while in 1938 the proportion dropped to 18.6 per cent. Corresponding percentages for Manitoba were 25.7 and 19.3.

Clothing expenses showed a very regular advance in all provinces, with an average increase of \$6 per person. In no province was there an advance of less than \$5 and in none was it greater than \$7. As in the case of foodstuffs, the increase in clothing expenditure was at a much less than proportionate rate as compared to the rise in total living costs. Clothing expenses for Ontario households in 1934 accounted for 22.2 per cent of total living expenditures, and in the later survey this amount dropped to 16.3 per cent. Families in Saskatchewan and Quebec showed the least declines in the proportions of expenditure on clothing.

Fuel purchases per person showed very little change during the four-year interval, but in relation to the total living budgets of the families, they registered a noticeable decline. Proportions of expenditure spent for fuel dropped as much as nine per cent for families in Saskatchewan, and as little as two per cent for those in the Maritimes.

Expenditures for household furniture and furnishings advanced fairly consistently in all provinces. This was observed also to a lesser degree in the case of health care. Proportions of total family expenditure for furnishings registered a slight advance among families in Ontario and Quebec, but were relatively stationary in other provinces. Proportionate amounts spent on health were fractionally lower in most instances, but in no province was the decrease greater than three per cent.

The remaining items of the family budget comprised of such expenses as transportation, recreation, life insurance, community welfare, gifts, etc., experienced the greatest advances from 1934 levels. A combined grouping of these items disclosed expenditure per person averages in 1938 more than double those reported by families in the earlier survey. For example, per person expenditure for this miscellaneous group averaged \$22 among Ontario families in 1934 and \$63 in 1938. These figures represented a shift from 19.5 per cent of the family budget to 42.1 per cent.

No. 65. Mon. Dec. 4, 1939 -- The Grain Crop

The grain crop of 1939 is estimated by the Dominion Bureau of Statistics at a value of about \$636,000,000. This represents the average prices received by farmers up to the end of November and has been determined by the Bureau after consultation with the Provincial Departments of Agriculture. Several of the crops, such as mixed grains, turnips, fodder corn, etc., are almost wholly utilized on the farms on which they are grown.

The grain crop this year is about \$91,000,000 higher than that of last year and is the highest since 1930, when it was \$662,000,000.

The 1939 wheat crop is valued at over \$251,371,000, representing an increase of almost \$46,000,000 as compared with the 1938 valuation. Although this year's crop is almost 129 million bushels greater than last year's production, the average farm price received has declined from 59 cents in 1938 to 52 cents per bushel in 1939, accounting for the relatively modest increase in the farm value of the 1939 wheat crop.

While oats and barley production were very little changed from a year ago, an improvement of three cents in the farm price for oats and of four cents in the price for barley resulted in gains of over \$16,429,000 and close to \$5,000,000 respectively in the values of these crops.

Both the production and average farm prices of rye and flaxseed were better this year than in 1938. The gross values of rye production in 1939 at \$5,727,000, and of flaxseed production at about \$3,000,000, were almost double the value of these crops in 1938.

The average farm price of potatoes from the 1939 harvest is estimated at \$1.08 per cwt., as compared with 92 cents for the 1938 crop. Although 1939 potato production is slightly below that of 1938, an increase of almost \$5,000,000 in the value of this crop is shown, because of the improved price. Other field crops including peas, beans, mixed grains, corn for husking, turnips, hay and clover, alfalfa, fodder corn and sugar beets show increased valuations this year. Only buckwheat and grain hay have slightly decreased values because of small decreases in the estimated production of these crops this year.

The total gross value of field crop production in Canada in 1939 is 17 per cent greater than that of 1938. The increase in 1939 was shared by the individual provinces, with the exception of Alberta. The total 1939 value of the principal field crops in Alberta shows a reduction of four per cent as compared with 1938. In this province, the 1939 wheat production was very little larger than in 1938, and the decline in the Alberta farm price of wheat from 58 cents last year to 51 cents a bushel this year resulted in a lower valuation of the wheat crop. On the other hand, the total value of field crops in Saskatchewan shows a gain of 63 per cent in 1939 as compared with the previous crop year. The considerable increase in Saskatchewan wheat production far more than offset the effect of the lower price this year. Heavier production and generally better prices for the other field crops in Saskatchewan also helped to raise the total value of production. Substantial gains ranging from 13 to 16 per cent are shown for the value of field crops in the Maritime Provinces and in Ontario. The increase in Manitoba amounted to eight per cent, while Quebec and British Columbia each show gains of six per cent.

No. 66. Tues. Dec. 5, 1959 -- Range Finder in Defence

Here is some topical information that will be useful, especially to those of a mathematical turn of mind.

For harbour and all sea-coast defences measuring devices are essential to estimate the range of approaching enemy ships. Having regard to the high speed of approach and the long range of naval guns, the device must be capable of accurate ranging in minimum time to permit of maximum use by the defence.

Such a device is the depression range finder. Set up in an elevated position on the shore and connected electrically to the concealed battery, its results can be automatically recorded and corrected for the battery position. Its operation is simple and consists in alignment upon the object for direction and measuring the angle of depression that the water line of the enemy craft makes with the horizontal at the finding station. Essentially the range is given by the solution of a right-angle triangle, in which the height above sea level is the base which together with the measured depression and a right angle at the base give the three parts of a triangle necessary to calculate the range. This is done instrumentally by means of a scale incorporated in the range finder, that is the range in yards is read directly.

The ray of light from the object is not straight but curved and usually bent upwards. It is always bent towards the denser layers of air along its path, thus a correction has to be applied to the range depending on the time of day, temperature and barometric pressure. Another way of saying this is that the coefficient of refraction varies and a knowledge of this variation is essential to accuracy in defence.

Through its triangulation system the Geodetic Service of Canada has obtained values of the coefficient throughout the country and along the sea coasts. It is usually a minimum near noon or at maximum temperature, and is greater for areas over water than over land. The laws of its behaviour are well known and the rate at which the temperature changes with height is most significant. Its prediction depends on a long series of observation at the place under consideration. It has been definitely established that for certain areas the coefficient is higher, or more bending of the light ray occurs, on the Pacific than on the Atlantic coast.

Other manifestations of refraction are the loom of elevators on the prairies, mirages of lakes in arid regions and in general what may be termed looming of the land features, thus permitting one to see farther than usual. Under the same conditions, to the seaman, promontories and lighthouses appear much higher and can be used as range marks, thus ensuring greater safety in navigation. This occurs when the coefficient of refraction is above its normal value. An extreme case occurs for lower than normal values when the ray is bent downward, thus we might see a ship and above it its inverted image, the ship finally disappearing on the area horizon with its funnels down and its hull up.

Glass mostly for educational and scientific equipment comes mainly from the United States, Great Britain and Germany, and our imports run up to about one million dollars annually.

No. 67. Wed. Dec. 6, 1939 — The Lady Tweedsmuir Libraries

A new source of books for the drought areas of the Prairie Provinces was established in the autumn of 1936 under the personal direction of Her Excellency the Lady Tweedsmuir. It had its origin in the donation of books by herself and Lord Tweedsmuir, and to these were added gifts of money and books from organizations and interested individuals, making it possible to distribute 25,000 volumes by the end of 1938, according to the Education Branch of the Dominion Bureau of Statistics.

The books are selected personally by Her Excellency at Ottawa, whence they are transported free by the railways, usually to a central distributing agency in each of the three provinces, or a fourth in the Peace River area. From these centres they go, in parcels of from ten to fifty books, to the communities in need of them, the parcels being exchanged between communities from time to time.

Study groups are developing about the libraries in some instances. Over 5,000 volumes have been sent directly from Ottawa to small groups in isolated areas. Nearly 6,000 children's books have been issued to schools, mainly in Saskatchewan where the need is said to be great.

Several hundred dollars have been contributed to the plan by the Carnegie Corporation and other donors, but the books have in the main been collected from private individuals, clubs, schools and institutions in Eastern Canada, the United States, England and Scotland.

No. 68. Thurs. Dec. 7, 1939 — Chesterfield Inlet Rescue

A thrilling story comes through the air out of the far north. An intrepid Canadian airman a few days ago brought a sick missionary down from Repulse Bay to Chesterfield Inlet in one hop. Repulse Bay and Chesterfield Inlet are away up in the District of Keewatin. The former is just on the Arctic Circle, and the latter is a flight of approximately 250 miles south.

Rev. Father Bullaird, a French missionary among the Eskimos, had his hands frozen and Capt. William Catton, a well known Canadian pilot, made a mercy flight from Lac du Bonnet, Manitoba, to Repulse Bay, over 1,200 miles away. The missionary is being taken care of at Chesterfield Inlet.

At Chesterfield Inlet there is a modern hospital owned by the Oblate Fathers and operated by the Grey Nuns of Nicolet. Dr. John Melling, official medical officer for the North West Territories, is located there. From there the suffering priest was taken to Churchill.

There is a population of 704 persons at Chesterfield Inlet, according to the last census, and of these the number of Eskimos is 657.

The North West Territories have a strong fascination. A vast district of romance, some of the greatest adventures of ancient and modern civilization, not all as yet uncovered, have occurred there.

The population of that great region was slightly less than ten thousand persons at the 1931 census, of whom 3,716 were Eskimos. Thus there are only about one thousand of other origins, as follows: English 296, Scots 215, French 215, Dutch

six, Finnish four, Polish four, and so on.

The church affiliations of the North West Territories are: Roman Catholics 3,932, Anglicans 3,352, Protestants 361, Christians 182, United Church 94, Lutherans 64, Baptists 18, Greek Orthodox five, Jews two, etc.

Mining developments in recent years will probably have changed the population statistics considerably. This we shall learn definitely at the 1941 census.

No. 69. Fri. Dec. 8, 1939 -- Vessels That Visit Us

The losses at sea which have occurred to British and neutral shipping, due to mines and the submarine, prompt the question as to what and whose ships bring the commerce of the nations to Canada.

The ensigns of 26 nations were seen in Canadian ports last year on cargo vessels that carried goods to the Dominion. In all, there were 27,500 sea-going ships. Of course, some came more than once. The total tonnage of these ships was 31,353,871.

The British Commonwealth supplied by far the greatest contribution, 13,579 ships or visits of ships out of the 27,500, with a tonnage of 20,778,040. That reflects the British sovereignty in ocean carrying across the seven seas. Of those 13,579 British ships, 13,841 were of Canadian registry and 4,738 British.

Whose vessels came second to the British Commonwealth in visits to Canada can be made a matter of argument. The United States sent 6,041 and Norway 1,442, but the United States vessels were smaller with a tonnage of 2,823,653 while that of the Norse carriers was 3,003,238.

The German vessels, numbering 305 with a tonnage of 955,307, were definitely in fourth place, and Japan came next with 134 of a tonnage of 771,549.

Then follow vessels of other nationalities in alphabetical order: Austria one at 2,725 tons, Belgium two at 3,860, China two at 7,272, Denmark 260 at 533,657, Estonia four at 5,968, Finland 28 at 51,853, France 97 at 137,943, Greece 150 at 431,153, Honduras three at 4,985, Hungary six at 16,332, Iceland 13 at 7,420, Italy 46 at 147,475, Latvia three at 3,045, Manchoukuo four at 15,575, Netherlands 153 at 690,918, Panama 12 at 49,266, Poland and Danzig 30 at 229,902, Portugal two at 832, St. Pierre nine at 530, Sweden 162 at 404,460, Yugoslavia 34 at 122,063.

No. 70. Sat. Dec. 9, 1939 -- Shipbuilding in Canada

We still look back upon the great days of the clipper ships as the proud era of shipbuilding in Canada, when our wooden vessels were everywhere that wind and water would carry them and Canadian mariners, particularly from the Maritime Provinces, were famous for their skill, endurance and daring. They had appearance, too, those big, bronzed, bearded men who had much of Highland, Lowland, Hanoverian and Norse blood coursing warmly through their veins.

We have thoughts that those days are gone forever, but there comes a note from

the ancestral lands across the sea saying that ships are wanted more now than they were from this country and that soon our shipyards will be busy and the sound of the rivetter strike staccato on the air.

But even now, or rather before the war-monsters became a menace to our civilization, we have been doing some shipbuilding. Our thoughts turn at once, do they not, to the Bluenose. We glory in that fine schooner. It is ours.

Last year there were built in Canada 285 steam and motor ships. Yarmouth on the southern tip of Nova Scotia built no fewer than 66 of them and Canso 31. These alone make quite a fleet. New Brunswick, Prince Edward Island and Quebec did their bit, which is a reminder that at Quebec City a fine new ice-breaker is on the stocks. Some of our older folk will remember Canada building an ice-breaker for Russia.

The ten ships built at Quebec last year had a tonnage of 3,098, which is not so small. There were 23 built in Ontario.

When we think of the Prairie Provinces, wheat looms up before our mind's eye, but mark well, there were nine of those ships powered by steam or motor built at Winnipeg last year. However, we must then go right out to British Columbia to get more. The Pacific Coast turned out 64, of which 27 were launched at Vancouver, 21 at Victoria and 10 at Prince Rupert. Nova Scotia, of course, was in the lead with 147.

Besides the steam and motor vessels, we built 32 ships under sail, with a tonnage of 6,750. Altogether the tonnage last year was over 20,000. We sold 21 ships to other countries.

It would be well to keep these figures in mind, and see a year or two hence what difference there may be.

No. 71. Sun. Dec. 10, 1939 -- Amazing Growth of Pond Trout

We haven't had very much about fish lately. So a devotee of Izaak Walton writes. Well, here is something that will interest the anglers and make a very informative lesson for all of us. It is the result of a study by the Fish Culture Branch of the Dominion Department of Fisheries. It proves that environment plays an important part in the life of fish, as it does in humans. The story comes from Coldwater, Nova Scotia.

Sample speckled trout fingerlings ranging from a shade over $5\frac{1}{2}$ to $6\frac{1}{2}$ inches, taken from a group of trout which began to feed in the rearing ponds on May 7, show a surprising development made between May and October.

Studies of speckled trout in their wild state by some other fish culturists made some years ago resulted in the conclusion "that the evidence at hand seems to show that speckled trout increase in length at about the same rate in three different types of habitat, viz., a cold Chara pond, a warm hard-water river, and a Laurentian lake."

Average size of speckled trout examined during this observation showed: trout in their first year 2.0 inches; second year 4.3 inches; third year 7.5; fourth year 10.5; and fifth year 13.5 inches.

The Coldbrook trout, then, after they had been feeding for about five months in the rearing pond were almost as large as the wild trout checked in the observation, when they were 27 months old. In other words, it took the wild trout five times as long to reach the seven-inch size in their natural habitat as it took the Coldbrook trout to attain the same size in the rearing ponds.

While in the ponds the Coldbrook trout were fed in the normal hatchery manner on a diet of liver, beef hearts, and plucks. Their rapid development under rearing pond conditions and feeding gives evidence of the value of this type of fish culture in maintaining Canada's fish population, which is, after all, the object of all fish cultural experiments and activity.

No. 72. Mon. Dec. 11, 1939 — Wool in War Time

One of the great difficulties that a peaceful country like Canada ran into when war was declared was to clothe the soldiers adequately and speedily, and some information as to the facts of the situation seems to be worthwhile. For Canada is a wool importing country. Most of the wool we require at all times we have to get from abroad, notably from Australasia. Normally we import about 10 million pounds of raw wool alone, apart from yarns, etc.

An immense amount of wool, however, was required at once and the Canadian wool dealers and manufacturers turned over large stocks of their wool to the Government. The statement was made that the prices charged were fully 15 per cent below market value.

Large woollen manufacturers in Canada mobilized the entire industry to meet emergent conditions, and Canadian troops are now being supplied quality equipment, well fitting, and all manufactured in Canada. Less than two weeks from contracts to deliveries, the Canadian soldiers and airmen had khaki and blue uniforms. Manufacturers are busy on production of over one million yards of uniform cloth, hundreds of thousands of wool blankets, underwear and hosiery.

An official publication says: "There has been an acute shortage of hand-knitting yarns due mostly to the tremendous demand that came immediately on the outbreak of war. Unquestionably there was a bit of forward-buying on the part of many women over-anxious to do their bit for the soldiers. But this situation is being met successfully and without much disturbance."

Sheep raising dates back 2½ centuries in this country, when the French Canadian settlers found their supply of wool from Europe cut off by Queen Anne's War. Given permission to keep sheep, they spun their own yarns, wove cloth and made clothing. Perhaps the present war will have a stimulating effect on this oldest and most picturesque of our Canadian industries.

No. 73. Tues. Dec. 12, 1939 -- Crab Fishing

Canada's crab fishing is confined mainly to three provinces, British Columbia, New Brunswick, and Prince Edward Island, with the western province contributing the major portion of the annual catch. Crabs are also found in some Nova Scotia waters but there is little fishing for them.

In British Columbia waters crab fishing is carried on by either one of two methods -- the use of wire pots or traps and the use of what are known as ring nets. The pots are devices made of wire with entrances at the ends through which the crabs find access. The traps with bait inside are dropped to the sea bottom and pulled up from time to time for examination, and emptying if luck is with the fishermen. Ring nets consist of a metal hoop with mesh attached. Like the pots, they are fished on the sea bottom with bait in the centre of the mesh. Buoyed at the top they are fished by being raised quickly at intervals, thus trapping any crabs which have been feeding on the bait.

The major portion of Canada's crab catch is used fresh, the rest is canned. In British Columbia, where most of Canada's crab canning goes on, the first step in preparing the crabs for canning is the removal of the backs and cleaning of the crabs by hand. The crabs are then cooked for fifteen minutes in fresh water. After cooking, "pickers" remove the crab meat, keeping the leg and body meat separate.

Cans enamelled on the inside are used for packing and a parchment liner is placed in each can before filling. A layer of leg meat is placed first in the can, then a layer of body meat, and finally a second layer of leg meat on the top. After the cans have been checked individually for weight, salt is added. The cans are then closed with a clincher, and pass through an exhaust box and double seamer. After the pack is processed for fifty minutes at 242 degrees Fahrenheit.

Canada's crab catch in 1938 totalled about 9,700 hundredweights, of which 5,900 hundredweights were used fresh. Marketed value of the total catch was \$55,300. British Columbia produced nearly 8,000 hundredweights of the total take and the British Columbia crab catch as marketed accounted for some \$54,600 of the aggregate value.

No. 74. Wed. Dec. 13, 1939 -- Civil Aviation in Canada

Aviation in Canada is destined to make great developments, but particularly in the near future in the direction of training men for air warfare. However, there is a good deal of commercial aviation in Canada, and some facts concerning that branch of activity may be enlightening.

During 1938 there were in the Dominion 123 airports of all types, of which 35 were private, and there were 471 licensed civil aircraft of all types. There were 226 commercial pilots, 165 limited commercial pilots, 130 transport pilots, 734 private pilots, and 643 air engineers. The number of aircraft flights made was 207,788 and the average flight duration was 38 minutes.

The total passengers and crew carried was 195,430 and the total freight or express was 21,705,000 pounds. The total mail carried weighed 1,902,000 pounds. The paying passengers numbered 104,117 and the non-paying 35,639.

The investment in civil aviation in Canada as at 1938 was \$8,307,000, of which \$5,267,000 was for the aircraft. These figures include the Trans-Canada Airlines.

Besides the carrying of freight, passengers and mail, the civil aircraft of Canada have rendered other valuable services. There were last year a number of mercy flights; also 13,000 square miles of territory sketched and 59,000 square miles photographed vertically. About 43,000 square miles were sketched obliquely. More than that, 368 forest fires were detected from the air and reported.

There were 17 deaths as the result of accidents, and of these seven were passengers.

A large part of commercial passenger and freight traffic is in connection with mining operations in northern districts where previously the means of transportation was canoe in the summer and dog sleigh in the winter. The numerous lakes in most of the northern mining areas provide landing surfaces in the summer for aircraft equipped with floats and in the winter for aircraft equipped with skis. In Quebec and Ontario the distances from the railways to the mines are not great, but in the western provinces and in the North West Territory some of the distances are hundreds of miles. The air line distance from Waterways on the Northern Alberta Railway to the radium mines on Great Bear Lake is around 700 miles, and the mail route from Fort McMurray to Aklavik at the mouth of the Mackenzie River is over 1,400 miles.

In 1938 there were eight firms manufacturing aircraft in Canada. These firms exported aeroplanes and parts to 14 countries. The following were the leading purchasers: Turkey \$1,903,000, Hong Kong \$591,000, United Kingdom \$87,000, Japan \$44,000, Venezuela \$42,000, Nicaragua \$35,000, Uruguay \$30,000, Argentina \$27,000, San Domingo \$14,000, United States \$12,000, Portugal \$5,000, Yugoslavia \$3,000.

In 1937 Canada sold Argentina aeroplanes and parts to the value of \$149,000, Portugal \$31,000, United States \$25,000, China \$14,000, Yugoslavia \$13,000. The export of aeroplanes and parts rose from \$265,000 in 1937 to \$2,799,000 in 1938.

No. 75. Thurs. Dec. 14, 1939 — Changing Styles in Gas Masks

Great Britain's Royal Society of Arts informs us that the gas mask dates back to 1825, when it was invented by a miner named John Roberts, who earned through it a silver medal and £50. This simple mine labourer, interested only in the safety of his comrades below the surface, little realized the important role his gas mask was to play in the civilized world almost a century later.

The first gas mask consisted of a leather hood completely enveloping the head and rendered airtight at the neck by straps and a packing of wadding. The hood had two eye-holes, protected by glass or mica, and a breathing tube, the orifice of which was filled with moist sponge and covered over by a coarse woollen cloth, the former intended to absorb harmful gases and the latter to eliminate solid particles such as those of smoke. As a further protection against smoke, which was the primary object of the first gas mask, the breathing tube was extended in a sort of trunk which hung down almost to the ground, where the air is always freer from smoke.

The modern counterpart of this century-old respirator is exactly the same in principle as the original. While the Canadian public knows little about gas masks, it is reassuring to know that certain people in the employ of our federal government

know how to make them, assemble them and test them. They are doing this every day. Gas masks are assembled in one of the government's inspection depots under the eyes of men and women trained to catch the slightest defect. A mask has just one purpose to save a life. If it is defective when the test comes, a life is not saved.

Actually the parts of the mask are made in different Canadian factories. The rubber breathing tube comes from a rubber factory, the air-tight goggles are made in optical plants and the web straps and fittings in other places.

All parts come to one inspection depot where they are tested individually. Then they go through an assembly line, coming out completed masks, except for the chemical filter which takes the poison out of gas-laden air.

Officials say the rejects on parts of gas masks are small once manufacturers get into production on them. There is no fooling with a rejected mask. If it fails to pass inspection it goes to the junk pile. Never does it go back for fixing up.

In the army every mask gets a further test when it is issued to a soldier, who puts it on and enters a chamber filled with tear gas. This test also gives the wearer confidence in his appliance, because he is also given a taste of tear-gas without the mask.

No. 76. Fri. Dec. 15, 1939 -- Hydro-Electric Progress

Canada's hydro-electric industry continued to make progress this year. New water-power installations aggregated 97,040 horse-power, which brings the total for the Dominion at the end of the year to 8,289,212 horse-power.

Extensions to existing stations in Saskatchewan, Ontario and Quebec, amounting to 87,441 horse-power, made up the greater part of the increase. New developments included a 3,300-horse-power plant of Consolidated Mining and Smelting Company Limited at Wellington Lake in northern Saskatchewan; a 2,000-horse-power plant of Berens River Mines Limited on Duck River in Northern Ontario; a 1,500-horse-power plant of Ontario Paper Company Limited on Black River near Heron Bay in Northern Ontario; a 999-horse-power plant of Gananoque Electric Light and Water Supply Company Limited on Cataraqui River, Ontario; a 700-horse-power plant of La Sarre Power Company on La Sarre River, Quebec; a 600-horse-power plant of the Town of Bridgewater on Petite Riviere, Nova Scotia, and a 500-horse-power development of the Nova Scotia Power Commission on Barrie Brook, Nova Scotia.

In addition to the installation of new generating capacity, considerable activity took place in the extension of transmission and distribution facilities in many parts of the Dominion. There was, as well, a substantial increase in the demand for power, reflecting steady growth in domestic use and increased activity in mining, pulp and paper and many other industries.

All time records of electric energy production were established when the output of central electric stations for each month of 1939 showed an increase over the corresponding month of 1938, and for the ten-month period January-October an aggregate increase of more than nine per cent was recorded. Canada's hydro-electric industry appears to be favourably situated in most areas to meet increasing demands for power.

No. 77. Sat. Dec. 16, 1939 -- Sheep in Canada

Canada can hardly be described as a great sheep-raising country. There are only about 3,600,000 head in the Dominion. Australia, with about half the population of Canada, has 113 million sheep. It is the greatest sheep country in the world. India comes second with 94 million sheep and goats. We have very few goats in Canada, comparatively speaking.

There are several obvious reasons why sheep-raising has not so great an appeal for the Canadian farmer as the raising of swine, but one reason has been stressed recently by the Department of Agriculture. It is the menace of the prowling dog.

Many sheep breeders in Canada are of the opinion that it is practically impossible to raise sheep profitably on account of the large number of dogs which are allowed to run at large. This they consider is serious in a country that uses more wool per capita than any other country and which in war time finds itself under the necessity of importing large quantities of wool for war contracts and for general use.

One farmer in Ontario reports losing 16 head of sheep killed by dogs in one night, another 11 head and others smaller numbers. As a result of the menace from dogs there has been a reduction of 75 per cent in the number of sheep raised in one district in which sheep are regarded as the best paying class of live stock. A similar statement might be made by groups of farmers in many sections or districts of the Dominion.

Unless something is done to lessen the danger from dogs it is certain less sheep will be raised. Such a condition might not be regarded as serious in normal peace time but with a war on, when wool is one of the most important agricultural commodities used exclusively for soldiers' clothing, it is very dangerous. Then there are possibilities of lamb being required much more extensively in Canada to replace either bacon or beef.

Sheep raisers throughout Canada are urging that legislation to deal with the menace be considered as a war time necessity by the Provincial Legislatures, so that more sheep and wool may be produced.

No. 78. Sun. Dec. 17, 1939 -- Empire Air Training Schools - 1

A momentous announcement was made over the radio this evening by the Prime Minister, Mr. Mackenzie King. He told of the British Commonwealth air training plan and foretold an opportunity for many thousands of young Canadians to serve the Empire in the Air Force.

While the exact number or even the approximate number of skilled airmen to pass through the giant university of the air being set up in Canada must remain a military secret, Mr. Mackenzie King went so far as to say it would be many thousand.

A few weeks ago Lord Riverdale, head of the British air mission which negotiated the Empire air training agreement here with the governments of Canada, Australia and New Zealand indicated 25,000 to 30,000 men might be trained in Canada for the Empire's fighting air services each year.

The size of the training system outlined by Mr. Mackenzie King tonight

indicates Lord Riverdale was not exaggerating. For some 67 training schools will be established in Canada, including three large schools for initial training, 16 service flying schools, 10 air observer schools, 10 bombing and gunnery schools, two air navigation schools and four wireless training schools.

To staff these schools no fewer than 40,000 men will be needed, including 6,000 civilians, 2,700 commissioned officers and thousands of airmen for ground work which would include the maintenance and servicing of aircraft. Some 20 existing air fields must be enlarged and some 60 new ones constructed.

For the duration of the war or the term of the agreement, something over three years, the training establishment of the Royal Canadian Air Force will be merged in the Empire training scheme which centers in Canada.

The scheme, in fact, will be a Canadian proposition, largely financed by Canada, exclusively managed by Canada and to a great extent manned by Canadians both in its student, instruction and administration personnel. It will probably be Canada's major contribution to the Allied cause in the war against Hitlerism.

Within the next few months scores of Canadian towns and cities will bustle with aviation activity. Barracks will be erected, landing fields, and hangars constructed, aircraft and supplies of all kinds shipped in. Men in the airforce blue will be hard at work perfecting themselves and others for the supreme tests of skill and daring which come with active service in the air.

No. 79. Mon. Dec. 18, 1939 — Empire Air Training Schools - 2

The training contemplated is for pilots, observers and air gunners. The starting point will be three large initial training schools where a four-weeks course will be given. Into these schools will go all men accepted for flying training. There they will receive the primary military training which under the present scheme constituted part of the ground course given after the elementary training at the flying clubs.

At the end of this four weeks' course the men will be sorted out according to their adaptability; some will be rejected altogether or given an opportunity to proceed into some non-flying duties. The rest will be divided up according to their adaptability as pilots, observers and air gunners.

The students selected to proceed as pilots will enter an elementary flying school for the course now given in the flying clubs. Whether this work will continue at the flying clubs or in new schools remains to be seen. A considerable number of these schools will be needed. The course will be eight weeks.

Pilots completing this satisfactorily will then spend 14 weeks in one or more of 16 service flying schools where they will receive their intermediate and advanced training.

Air observers after their initial training will pass through air observer schools, bombing and gunnery schools, for they must aim the bombs and be able to handle machine guns, and air navigation schools, for one of their duties is the navigation of the aircraft.

The air gunners will be wireless operators as well, and from the initial training school will pass through one of four wireless training schools. The wireless course is the longest of all, 16 weeks. From it they will proceed to the same bombing and gunnery schools as the air observers for a four weeks' course.

The time required to turn out a pilot or an observer is 26 weeks, for an air gunner, four weeks. Thus assuming the objective is a production of 30,000 trained men a year, the schools would have to accommodate 15,000 men at one time.

No. 80. Tues. Dec. 19, 1939 -- Canadian Army Flag

It is announced officially today that the first Canadian contingent for overseas service in the war against Hitlerism had arrived in the United Kingdom and, when the veil of secrecy was lifted, the strapping young men of the Dominion were given a tumultuous reception. As the C. B. C. would say: "Further details may be found in your local newspapers."

But there was one announcement in connection with it that is of more than even war interest. The story was made public that the First Canadian Overseas Division had received a flag of its own. This flag is, of course, not only representative of the Empire, but it is distinctively Canadian as well. The new flag was delivered to Major-General Andrew McNaughton immediately prior to his departure from Ottawa.

This new flag has the Union Jack of Empire in its rightful place in the upper half next to the staff. Opposite it in the corner of the flag are three golden fleur-de-lys on a blue ground within a circle. In the lower half are three red maple leaves veined in green. All of these emblems are shown on a white field. The whole has been adapted from the armorial bearings of the Dominion as authorized by Royal proclamation in 1921.

The significance of the flag is obvious. The Union Jack and the Fleur-de-Lys represent the mother countries of Great Britain and Old France, and the Maple Leaves represent Canada. The banner has been approved officially for use by headquarters of the senior formation of the Canadian Active Service Force.

The manufacture of flags and bunting in Canada is quite an important business. A few years ago when depression was upon the land there was not very much incentive to flag flying and in 1935 the production value at factory prices was only about \$65,000, but when we became more cheerful and had a real good year in 1937 it went up to \$135,000. When the 1939 figures are completed they should be quite revealing, for there were more flags and bunting around when the King and Queen were here than were ever seen in this Dominion before.

No. 81. Wed. Dec. 20, 1939 -- The Czechoslovakians

We in Canada are greatly interested in the Czechoslovakian people, not alone because of the tragedy that has overtaken their beloved country of Bohemia and Moravia, but also because there are very many of that race in Canada, and they enjoy a high reputation as good citizens.

There are probably about 50,000 Czechoslovakians in Canada today -- we do not know exactly. But there were more than 30,000 at the last census eight and a half years ago. The 1941 census will give us the new figures. Close to one-third of them were in Ontario and most of the rest in the Prairie Provinces. There were twice as many men as women. Considerably more than half of the Czechoslovakians were Roman Catholics, but there were also many Lutherans, United Church, Presbyterians, Anglicans, Greek Orthodox, Baptists, etc.

And so there was marked interest tonight in the special announcement by the Foreign Office in London that the British Government recognized the Czechoslovak National Committee as the representatives of the Czechoslovak peoples.

In a letter to Eduard Benes, the former president of the Czechoslovak republic, Lord Halifax, Foreign Secretary, said that all Government departments were advised "to afford all the requisite support to the committee in its activities."

The main functions of the committee are to organize the Czechoslovak army to fight alongside the Allies and rally the Czechoslovak peoples in the effort to remove the German armies from Czechoslovak soil and to regain the independence of the former Czech republic.

The decision to recognize the Benes committee was taken by the Supreme Allied War Council in Paris this week.

The committee has already declared "null and void" the agreement signed by Emile Hacha making Bohemia and Moravia a protectorate of Germany, and it does not recognize Slovakia as a separate state.

Mr. Benes will now proceed to conscript Czechoslovak nationals in France, the United Kingdom and other parts of the Empire.

No. 82. Thurs. Dec. 21, 1939 -- Tobacco for the Soldiers

It has been quite noticeable around Ottawa, and no doubt also at other points from coast to coast, that a favorite gift for the soldiers is tobacco in one form or another, chiefly cigarettes. It is noticeable also that most of these gifts bear the statement that they have been made in Canada.

Now Canada, for all the rapid advance that is being made in the production of tobacco, is still very far behind many other countries in this business. In round figures, out of a world total averaging about five billion pounds, or approximately 2,232,000 long tons, we are producing about 45,000 tons.

The greatest grower of tobacco, in point of quantity, is China, and the amount is the enormous one of 624,000 tons. The nearest competitors are British India and the United States. India's figure is estimated at 605,000 tons and that of the United States at 520,000. In order to make the comparison more nearly correct, the 1936 figures are used -- except in the case of Canada, where the rapid expansion in the tobacco industry during the past three years is taken into account.

There is a wide gap between the production of the three leaders and that of the fourth, which is Soviet Russia, where production was placed at 272,000 tons.

Fifth is Brazil which is the largest producer in South America, with 92,000 tons. Then comes Japan, including Korea, their combined production being about 80,000 tons.

Greece is a small country but tobacco is a staple industry. Besides, Greece benefited by receiving some tobacco-growing territory from Turkey after the Great War. This crop is also placed at 80,000 tons. Turkey produces 73,000 tons and the Netherlands East Indies over 50,000.

With reference to the last country mentioned, it may interest readers to know that we have been asked officially not to refer any longer to the Dutch East Indies, but rather to the Netherlands East Indies. The old name of Holland in that historic European country is also going into disuse.

No. 83. Fri. Dec. 22, 1939 -- Harvest Months

What is Canada's harvest month? A correspondent wants to know. The answer could be complicated, for there are many and varied crops to harvest.

However, our two great field crops are wheat and oats. Both bulk large in the national food bill, for both humans and the members of the animal kingdom. Wheat is more often brought to our notice because of its importance in world markets just as soon as it is harvested and threshed. The oat crop is also of vast importance because of its greater use as an animal food and therefore its value is seen more indirectly.

So the harvest month is generally reckoned as the month in which the bulk of the wheat crop is garnered. That is August, and the Canadian crop year begins on August the first. Wheat statistics are usually recorded by crop years.

August is also the wheat harvest month for such countries as the northern states of the United States, Central Russia, Poland and England.

Wheat harvest months vary throughout the world according to the climatic conditions which obtain. Take this month of December, for example. It is the harvest month of Australia and Argentina. The farmers there are busy men these days.

January brings along to maturity the wheat crops of New Zealand and Chile. In February the harvesters of India and Upper Egypt are gathering their wheat and their harvest runs into March. April brings India, Lower Egypt, Syria, Persia and Asia Minor into the picture.

May is the wheat harvest month of China, Japan, Central Asia, Algeria and Morocco, and these two countries produce great crops. June brings in the southern states of the United States, Italy, Spain, Southern France and Turkey.

July is the harvest month of the middle states of the United States, South Russia, Roumania, Bulgaria, Austria, Hungary and Germany.

No. 84. Sat. Dec. 23, 1939 -- New Variety of Oats

The oat crop of Canada this year was 386 million bushels. Sometimes the harvest of oats is greater than of wheat, as reckoned in bushels, but this year the wheat crop was 479 million bushels. Of course, when weight is considered, it is a difficult proposition, for a bushel of wheat weighs 60 pounds and a bushel of oats 34. There are other comparisons which might be made in a round-table discussion, particularly if one of the party belonged to that race which stands staunchly for an oatmeal porridge breakfast.

However, the fact remains that Canadian oats have acquired a great reputation, not only for quantity but quality, and there is a constant effort to improve. Accordingly a report from the Department of Agriculture concerning a new variety of oats is of special interest. The report says:

Eagle oats were first distributed from the Dominion Experimental Station at Lacombe, Alberta, in the spring of 1937. They were introduced in a small experimental way to ascertain if they had the qualifications necessary to meet the need for an oat to grow on the rich black loams of the park belt of Central Alberta where standard varieties tend to lodge badly. Encouraging reports as to yield, quality of threshed grain, and strength of straw are being received from growers who are giving this variety a trial, says an official of the Experimental Station at Lacombe.

Eagle oats is a variety somewhat similar to Victory in appearance in the field, but, is slightly earlier maturing and has a shorter and stronger straw than Victory.

Variety tests show that Eagle is a high yielding variety, being in the same class in this respect as Victory and other high yielding sorts. Many growers report that it out-yields any other variety they have ever grown. The kernel resembles Victory and makes an attractive sample of threshed grain.

Because of its shorter straw, the growing crop of Eagle may not appear as attractive as Banner or Victory, but yields of threshed grain usually exceed field estimates made in the standing crop by fifteen to twenty bushels per acre. Loads of oat bundles have given yields as high as seventy-five bushels per load.

Eagle oats are not resistant to rust, and for that reason it is doubtful if it would be wise to introduce them into areas subject to oat rust. On the other hand, rust has never been a problem in oat production in Central Alberta, hence the farmer who is growing commercial oats need not so far be concerned about rust.

Since the Eagle variety of oats has given a good account of itself in an experimental way and under actual farm conditions, it is suggested that growers who wish a variety that is likely to stand up well on new breaking or summer fallow in Central Alberta would be well advised to give this variety a trial.

No. 85. Sun. Dec. 24, 1939 -- A Christmas Message

Christmas Eve, and it is Sunday as well. Deep down in the old morris chair that nobody else covets, because the springs are gone, and gazing into the blue flames that are blazing in the inglenook from a maple stick, do not one's thoughts turn to the War and the boys who are so bravely facing the enemy in defence of our

hearths and homes? Surely they must. The atmosphere is full of it. There is a pall upon us.

Here is something from a little booklet that came in the mail from a friend, and if it is not quite a statistical Fact, it certainly is one which is at the very base of the changes in statistics that war or peace brings. The booklet contains the thoughts of President Roosevelt of the United States, the Earl of Athlone, uncle of King George, Senator Harry S. Truman of the United States, and Rear-Admiral Richard Byrd, of the United States Navy. Admiral Byrd is the famous Antarctic traveller and explorer, you will remember.

Earl of Athlone: "Throughout her long history this country never failed, and has not failed now, to meet recurrent crises with the courage which each demanded. But the spiritual crisis remains and calls for action. Nation and Empire must stand or fall by our response to that call."

Senator Harry S. Truman: "The battle is for a new world, a world of peace and love. In every walk of life our citizens are awakening to those Christian virtues of honesty, purity, unselfishness and love which form the bedrock of national character and which enlist the citizens of a democracy in constructive national service."

President Roosevelt: "The underlying strength of the world must consist in the moral fibre of her citizens."

Rear-Admiral Richard Byrd: "I went exploring because I was fired by those pioneers of history who felt the urge of charting uncharted seas and discovering unknown places. However, today in the crisis which threatens to destroy freedom and civilization, the most important pioneering to be done is in the realm of the spirit. A country's first line of defence is the character of her citizens. Character cannot be taken for granted. If we are going to preserve freedom, it has to be battled for by every man, woman and child -- every day and every generation."

These are thoughts, are they not, that are apt at this season of the year and in the present crisis of our national life?

A Happy Christmas to you all!

No. 86. Mon. Dec. 25, 1939 -- Christmas Day

This morning we were up early. Earlier than usual. Why? Because the junior members of the family were making much noise and clatter. They were busy over the Christmas Tree and acclaiming with shouts of glee the paraphernalia that Santa Claus brought down the chimney while they were asleep. They had vowed the previous evening they would remain awake to see him arrive, or at the very least to listen to the sleigh bells on the reindeer that had galloped him through the air from the faraway Arctic.

This is a fine old custom. The observance of a festival having the object of marking the turn of the year and anticipating the return of the season of light and warmth has been traced to Egyptian, Scandinavian, and early Roman sources; and, whatever its eventual origin may have been, the early Christian church took advantage of it to associate with the season their celebration of the birth of the

Christ-child, with His message of peace on earth and goodwill to men. Associated with this observance eventually came in the custom of giving gifts, especially to the children of the family -- in some countries through the medium of the Christmas tree.

Little known in England prior to the marriage of Queen Victoria to Prince Albert of Saxe-Cobourg and Gotha in 1840, the Christmas tree has steadily gained in popularity (especially since the introduction of safe electric lighting), and its vogue may now be said to be universal throughout the English-speaking world. To the children especially it means much, emblematic as it is of the happy spirit of gift-giving and of goodwill within the family and without. So great, indeed, is its emotional and inspirational value that the maintenance of the custom may well be worth some sacrifice from the material and conservational standpoint.

Although undoubtedly there are few who would wish to see the custom discontinued, like other good customs it has points connected with it that need to be safeguarded. The demand for the Christmas tree has led to a very active seasonal industry, the supplying of the trees to the markets of various Canadian and American centres -- an industry which is particularly active in the Maritime Provinces and Quebec, on the one side of Canada, and in British Columbia, on the other. In recent years lumbermen, jobbers, and farmers in many places in Canada have found in the cutting and sale of such small evergreen trees a steadily growing business, which finds customers not only on the North American continent but even in Hawaii, Bermuda, and Jamaica.

Canadian producers are now exporting almost six million of these trees, 99.7 per cent of which go to the United States. In addition it is estimated that about one million are used for home consumption. Canadian trees -- especially balsam fir and spruce from the Maritime Provinces and Quebec, and Douglas fir from British Columbia -- are particularly prized by American buyers because of their attractive form, bushy growth, and dark-green lustrous foliage.

The attitude of the general public towards the cutting of trees for Christmas use, however, still tends to be somewhat critical and uneasy, as reflected by articles in the press toward each year-end. As a conservation measure, many people would ban the use of Christmas trees; but in view of all the facts this idea of conservation seems extreme and even illogical.

The Christmas tree is a symbol of all that is best in our spiritual natures. We may, therefore, welcome its ever-increasing use, cherish the message of goodwill that it brings, and leave to the good sense and enlightened self-interest of our people the future guidance of the Christmas tree industry along sound and proper lines.

No. 87. Tues. Dec. 26, 1939 -- Reindeer Steaks

Most of us had turkey for Christmas dinner yesterday, and today we have disposed of most of what was left after the traditional meal. Away up in the far north, however, there is not much turkey around, and the Eskimos have had in recent years a special fare of their own. It is reindeer meat, a comparatively new treat for the citizens of our Arctic regions.

The reindeer herds on the roof of the world, which are maintained by the Government, are increasing in numbers and quality. The superintendent of these herds has

been reporting personally to the authorities at Ottawa. He is on his first trip outside since 1927. Since his last visit south, cities are growing up, to wit Yellowknife, and there are more automobiles around, along with aeroplanes, radios and movie houses.

The reindeer provide food and clothing for the Eskimos, and it is the intention of the Government to gradually change some of these nomadic people into domesticated reindeer ranchers. One herd of some 1,000 reindeer is already under Eskimo management, and a number of young Eskimos are with the main herd, learning how to herd and care for reindeer so that some day they might tend their own small herds.

When the herd first came to Canada, the Government brought three experienced Lapp herders from Norway, but the Eskimos have proven such apt pupils that all but one of the Lapps have returned home.

The reindeer have some 650 square miles of grazing land along the bleak Arctic coast. They feed on grass and shrubs in the summer and paw aside the snow and eat Arctic moss in the winter. Every March, guided by some natural instinct, they migrate to Richards Island, some 150 miles from their winter feeding ground, and there the females give birth to their fawns.

The herd summers on the island, where the ocean breezes blow the flies away and the sea water provides the salt all animals must have at some time or other.

The herders work in shifts with two men on the job for a full 24 hours. Reindeer draw the sleds on which are packed the herders' tent, stove and supplies. A cross between a collie and a sheep dog aids the herders in keeping the animals together, and the herders' rifles keep the wolves at bay. Nervous and timid, the reindeer run for the herders' tent whenever they scent a wolf.

When the annual roundup is held in July, Eskimos come from scores of miles to make the event something of a festival. Reindeer are killed to provide a feast, and the Eskimos aid the herders in rounding up the reindeer and counting them.

Next big event after the round-up is the annual slaughter of some 300 or 400 reindeer, largely defective or infirm animals and some aged females. The meat is distributed to missions, hospitals and residential schools, and also to the needy Eskimo families.

No. 88. Wed. Dec. 27, 1939 -- Rats in Canada

Last evening this writer went down to the cellar of his home to do some chores. A rat was endeavouring to climb into a metal garbage pail, although that accessory was well lidded. The beastly thing scurried for the back door and escaped into the snow before the poker was ready for its annihilation. A youngster had, as youngsters will, left the door not quite closed. Of course, if the rat had made up its mind to enter by the closed door, a very few minutes would have sufficed to gnaw a way.

To miss killing that rat was a little tragedy, for the rat is probably the worst of the enemies of man, outside of man himself in the guise of war lords. The Dominion Bureau of Statistics has no record of the number of rats in Canada, but there are statisticians who have a pretty fair idea how many there may be and how much direct damage they do.

It is estimated that there are 25 million rats in Canada from coast to coast and that they consume food to the value of 50 million dollars a year. The rat is also a destroyer of property.

As a menace to health the rat is a prodigious enemy. Disease carrying insects infest his body. Fleas, lice and mites, which thrive and multiply on him, are the great mechanical carriers of disease. The rat is the chief source and reservoir of human plague.

Rats are prolific. The family runs from seven to fourteen in number, and all sorts of contrivances and poisons have been requisitioned to keep the numbers down. The natural enemies we have in Canada to fight the rat are hawks, snakes, skunks, weasels, mink, dogs and cats. They congregate where food is plentiful that is why the storehouses on the farms and in the cities are especially troubled.

Read Robinson Crusoe for an excellent description of a devastating epidemic caused by rats.

No. 89. Thurs. Dec. 28, 1939 -- Lumbering in Canada

Canada's lumbermen are busy in the woods felling the trees. It is a great Canadian industry. The clearing of forest land was the primary step toward the settlement of Eastern Canada by the early pioneers. The material so removed was at first more than sufficient for building purposes, fencing and fuel. In many cases logs and clearing debris were burned in order to get them out of the way. Later on, inroads were made into the forest surrounding the farms and settlements to supply the needs of the growing population. Lumbering as a business developed gradually as the settlements extended; the demand increased and the supply receded. The industry which started in the Lower St. Lawrence valley and Maritime Provinces spread northward and westward during the period of rapid advance in settlement.

The Ottawa Valley became the first important centre of commercial activity in the industry with the rafting of square timber to Quebec for export. The Georgian Bay and Rainy River districts were later opened up, and although the industry is now established over the entire Dominion these two districts are still the chief lumbering regions in Eastern Canada. Lumbering to the north of the Prairie Provinces has progressed with the settlement of this region, but the production does not usually supply the local demand. Exploitation of the extensive forests of British Columbia proceeded simultaneously with similar development in the Pacific States across the border, and is steadily increasing in relative importance. In 1908 this province contributed less than 20 per cent of Canada's total lumber production while in 1937 this proportion was about 51 per cent.

The total forest area, including 41,637 square miles of forest of occupied agricultural land still forested, is estimated to be 1,223,522 square miles, and of this about 1,100,000 square miles is essentially forest land which can be utilized to the best advantage under forest. The accessible and productive forest area is estimated to be 769,463 square miles, of which 360,548 square miles carries timber of merchantable size and on 408,915 square miles there is young growth which if protected from fire will eventually produce merchantable timber. The remaining area of 454,059 square miles carries forests of value either because of their influence on water control, climatic conditions, game conservation, or by reason of their attraction to tourists, and their value as a source of wood for local use.

On account of their geographical location or because of unfavourable growth conditions the forests at present are considered as non-productive from a commercial viewpoint. As a result of the constant and inevitable improvement in conditions affecting profitable operation, much of this inaccessible timber will eventually become commercially exploitable. It is estimated that of the productive forest area 442,354 square miles are producing softwood or coniferous timber, 221,138 square miles, mixed softwoods and hardwoods and 105,971 square miles, hardwood or broad-leaved species.

About 136,974 square miles of forest land in Canada have been set aside in reserves, parks and experimental stations and permanently dedicated to forest production.

No. 90. Fri. Dec. 29, 1939 — Scientific Forestry

The practice of scientific forestry in Canada is at present largely in the experimental field. The Dominion and Provincial forest authorities and private companies controlling timber lands are chiefly engaged in the administration of existing forests and their protection from forest fire and other damage. Considerable experimental work has been undertaken, together with the work of segregating land capable of forest production but unfit for agriculture. The planting or reforestation that has been done has been chiefly in connection with farmers' woodlots or shelter-belts and only a small proportion can be considered as commercial forest. Natural reproduction which is generally prolific is relied on for the greater part of our forest area and only a small part can be considered as under scientific management with sustained yield as its object.

For a considerable part of the present forest area there is little reliable information as many regions have not yet been thoroughly explored. A national survey is being conducted by the Dominion and Provincial forest authorities which is throwing new light on many problems. In 1937 the total stand of timber in Canada was estimated to be approximately 273,656 million cubic feet, of which 222,076 million cubic feet was of coniferous species and 51,580 million cubic feet of broad-leaved species. Of the total stand it is considered that only 170,144 million cubic feet are accessible under existing means of transportation and values. This accessible timber includes 245,313 million feet, board measure, of saw-timber, of which 215,044 million board feet are softwood and 30,269 million board feet, hardwood. Smaller material, suitable for pulpwood, fuelwood, etc., is estimated to amount to 1,107 million cords, of which 789 million cords are softwood and 318 million cords, hardwood.

Of the total accessible stand, the Eastern Provinces have 67 per cent, British Columbia 18 per cent and the Prairie Provinces 15 per cent. Of the saw-timber, however, British Columbia has 47 per cent, the Eastern Provinces 45 per cent and the Prairie Provinces eight per cent.

No. 91. Sun. Dec. 30, 1939 -- Operations in the Woods

Differences throughout Canada in soil, climate, topography, average size of trees, density of stands and numerous other local conditions give rise to differences in logging methods not only between provinces but between adjacent logging units in the same district. Generally speaking throughout Eastern Canada the climate is such that cutting and hauling logs can be carried on most economically during the fall and winter months.

The trees are felled and the logs hauled mostly on sleighs by horses to the nearest stream or lake where they are piled on the ice or sloping banks. Logging railways are also used, in some cases hauling the logs directly to the mills. Tractors and trucks are being substituted for horses in many operations. The nature of the topography,— the presence of connected systems of lakes and streams, makes it possible in most cases to float the logs from the forest to the mill at a minimum cost during the annual spring freshets.

The logging industry east of the Rocky Mountains is therefore almost entirely seasonal. In many cases lumbermen co-operate in river driving operations. Improvement companies, financed by the logging operators, build dams, sluices and other river improvements to facilitate the passage of the floating logs, and tow the material across lakes and still stretches of river in booms or rafts. The logs, which carry the distinguishing stamp or brand of each operator, are finally sorted and delivered to their respective owners.

In British Columbia the scarcity of drivable streams and the greater average size of logs give rise to entirely different logging methods. Slides are built on suitable slopes to bring down timber from the upper hillsides and benches, logs are hauled and assembled by donkey engines and different cable systems or by tractors or trucks. Logging railways are used extensively to carry logs to the mills or to lakes, large rivers or tidewater where they can be assembled in booms or rafts and towed to the mills. The operations on the Coast not being dependent on frost, snow or freshet, are carried on in most cases throughout the entire year.

In Eastern Canada logging operations are usually carried on by the mill-owners or licensees of timber lands, often through the medium of contractors, sub-contractors and jobbers. In the better settled parts of the country a considerable quantity of lumber is sawn by custom sawmills or small mills purchasing logs from the farmers. Unmanufactured pulpwood, poles, ties and other forest products have a market value, but sawlogs being as a rule the property of the mill-owner are not generally marketed as such in Eastern Canada. In British Columbia logging is carried on more frequently as a separate enterprise by limit holders who cut and sell logs on the market. In many cases mill operators are not limit holders but buy their entire supply of raw material from logging concerns.

No. 92. Sun. Dec. 31, 1939 -- The End of the Year

Today the year 1939 passes into history. It has been a year of outstanding events, a year which brought misery and death to many people in far lands. Canada herself is at war again in defence of human freedom, and it makes us very proud of this splendid Dominion.

We need not dwell upon that. There are bright spots shining through the gloom.

The Hon. William D. Miller, Minister of Trade and Commerce, who presides over the Bureau of Statistics, draws attention to some of them in an article he wrote today for one of our leading publications. He says:

The year just ended was one of the most momentous in Canada's history from the viewpoint of economic developments.

Our geographical position, abundance of raw materials and efficient industrial facilities enable to Dominion to contribute heavily to the successful waging of the present war. The rapid acceleration in economic activity after the commencement of hostilities is a measure of our capacity to provide supplies in support of the Allied cause. Raw materials are available in abundance due to the productiveness of our diversified natural resources and accessibility to supplementary supplies in the United States. For the four months following the outbreak of war Canadian exports were \$370 million, an increase of 14 per cent over the same months one year ago.

Even prior to September 3, industrial operations had recorded a marked gain over the preceding year. Agricultural interests were greatly favoured by the heaviest grain harvest in more than a decade. The administration's policy of negotiating reciprocal trade treaties had borne fruit as our commerce with other countries showed encouraging expansion. Despite the handicap of recurring European crises, economic progress was unmistakably maintained throughout the year.

The outbreak of war was a signal for a sharp increase in business activity. Operations were immediately speeded up as fears of future shortages brought increased demand. As consumers placed heavy orders and inventories were augmented against possible price advances, producers were unable to cope with demand at the existing levels of operation. Plants producing foodstuffs were among the first to benefit from increased requirements. The gain in steel production was spectacular, the output reaching in October a higher level than at any time since the last year of the first Great War. Both internal and external influences contributed to the industrial expansion. The preoccupation of British producers not only reduced imports, but also provided Canadian plants with greater export possibilities in neutral countries and other parts of the Empire.

Notes:

A few months ago there appeared a statement in a Fact a Day showing the reduced numbers of the Canada Lynx. The Controller of the National Parks Bureau writes: "One fact in connection with the lynx population that is of greatest interest is that from earliest times the numbers of lynx have been known to fluctuate in a regular cycle, conforming to those of the varying hare, its chief food. Approximately every 10 years the hare population of Canada is almost wiped out by disease and a period of scarcity for hares and consequently for lynx ensues until the hare population has recovered."

In talking of tall men recently there was a slip. The Ghurkas were mentioned; this, of course, should have been the Sikhs.

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