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A Fact a Day about Canada December, 1937.

from the

Dominion Bureau of Statistics

No. 62 -- Co-eds

The 100th anniversary of college education for girls was celebrated this fall at Oberlin College in Ohio. There, in the autumn of 1837 "four timid young women" matriculated, the first in the world it is claimed, to be admitted to a standard college course. A million or more have followed in their footsteps, but it was some years later in most countries before the first began.

According to the archives of the Canadian Federation of University Women it was not until the 1870's that the first women entered Canadian universities, and their admission was not generally allowed until the 1880's -- only about 50 years ago. Earlier than that a few had gone to colleges in the United States, including Canada's first woman doctor who began practising at Toronto in 1867.

Today there is hardly a branch of university studies that girls have not penetrated. Among each year's 6,000 graduates from Canadian universities they number more than 1,500, and include doctors, dentists, druggists, lawyers, theologians, architects, librarians, teachers, graduates in social service, science, commerce, agriculture, veterinary medicine and a host of other specialties. Forestry is one of the few departments of study that numbers no women among its graduates.

Many have become college teachers in their turn, nearly 500 in Canada having full time positions of this kind. Among them are deans and principals.

Such are some of the changes that have come about within the lifetime of the earliest women graduates in Canada. Co-education has indeed become a fact.

This information comes from the Education Branch of the Dominion Bureau of Statistics.

No. 63 -- Custodians of Beauty

At this season of the year, we instinctively turn our thoughts to churches in general. Throughout the year we have attended one in particular but, as Christmas draws near, the realization of its meaning makes us think of all Christian denominations as one. Not only is this feeling true for the present day congregations, but somehow we feel a closer bond of fellowship with the congregations of the past. We marvel at the faith of our ancestors in the pioneer days. Many churches built by their hands remain today as mute reminders of the spiritual heritage they bequeathed us.

Such a building stands in the city of Toronto, a beautiful example of pioneer construction. We are told that it is one of Upper Canada's earlier achievements, with stone and timbers now almost a century old.

The beginning of this cathedral dates back to the early years of the Victorian era. Bishop Power, in 1842, sealed in its cornerstone some pillar fragments and small oaken pieces from the roof of England's Cathedral of York, relics then over

five centuries old. Pine trees from the forest, now the busy streets of Toronto, were hewn by hand and are firm and sound today. The Franciscan monks drew their own designs, built and fired their kilns to fix the colours of the huge original window of stained glass behind the high altar. St. Michael's of today is still the same cathedral that it was when it was built, little changed by the years.

Of course, in time buildings lose their fresh youthful appearance but their mellow tones of wood and paint remind us of old and tried friends. In order to preserve their original beauty often sculptors and artists are called upon to touch up the fading colours.

Last year, the redecorating of this beautiful Toronto cathedral was begun. The work involves the equivalent of transferring a gallery of art to plaster. There are more than one hundred individual paintings, murals, coats of arms and symbols and the decoration work is an emphatic refutation of the statement that the craftsman's day is ended.

A report by the Education Branch of the Dominion Bureau of Statistics shows that those graduating in the fine arts, artists, art teachers, sculptors and painters, have more than doubled in the last thirty years. The power not only to create beautiful things, but to preserve those already in our possession lies within the hands of 2,600 men and women at the present time.

No. 64 -- Young Men's Christian Association

The voluntary organization of world wide scope, called the Young Men's Christian Association, was designed to promote the spiritual, social, intellectual, and physical welfare of young men.

The first group was organized in London, England, by Sir George Williams. His aim was to establish religious services and Bible classes among the young men employed in business. Seven years later, in 1851, seven additional associations had been established in London and sixteen in other parts of the United Kingdom, all of which were affiliated with the original body.

On December 9, 1851, the first North American Association was founded in Montreal and twenty days later another in Boston. From these two cities the movement spread quickly. Three years later, nineteen organizations were represented at the first convention of North American associations at Buffalo. At this meeting an alliance of the associations of the United States and Canada was established.

In the meantime, the movement had spread to Germany, France, Holland and Switzerland. At the World Conference in Paris in 1855, 97 delegates came to represent seven nationalities. A world membership of 30,000 members was reported. In 1935, this membership was over one and a half million.

The present programme of organized activities covers youth's problems in religious, educational, physical and social welfare. Work amongst young boys was begun in 1869 and this activity has dominated in the programmes during the last decade. Hi-Y groups or clubs are composed of high school boys affiliated with the Y.M.C.A.

During the World War, the work of the Young Men's Christian Associations was a vital factor. Over 4,000 associations huts or shelters were erected where physical, social and religious needs were attended to.

According to the Census Branch of the Dominion Bureau of Statistics, in 1931 there were 1,134,000 single young men between the ages of 15 and 29. A report from the Y.M.C.A. shows an annual membership of between 45,000 and 50,000 young men. The inference drawn is that a goodly number of young Canadians are seeking the assistance of this organization for a fuller life.

No. 65 -- Carelessness or Fate?

During 1936 enough people died as the result of accidents to make a community the size of Prince Rupert, British Columbia. The Vital Statistics Branch of the Dominion Bureau of Statistics has made an interesting study of accidental deaths and one wonders if a large number of them could not have been avoided.

Nearly all the accidental deaths of children under one year of age were due to some form of suffocation, either while sleeping with the parents or when the child rolled over on its face or was smothered in the bed clothes. In one case a cat slept on the little victim's face. Deaths due to burns, especially scalding with hot liquids, took the next greatest number.

Small in stature but ceaseless in activity, children from one to four years old, can certainly find a number of ways to get into trouble. Burns ranging from hot liquids to grass fires headed the list. Eating poisonous pills and such preparations, falling into wells or shallow water, running into automobiles or falling from balconies or chairs are all part of the list. One little fellow was strangled by buggy harness.

The school age takes children away from home and naturally most of the accidental deaths are caused from vehicles such as automobiles and street cars. Drownings are frequent and when firearms are played with something serious is bound to happen. Twice as many boys as girls between the ages of 5 and 14 are taken by the Grim Reaper in accidents.

Adult deaths are the result of accidents in which some form of transportation is concerned more than anything else. Drownings also take a heavy toll. But as people pass the 70-year mark, they are more subject to accidents in the home such as those due to falling or to being burnt.

Strangely enough, there were more women fatally injured over 70 years of age than men. The opposite was the case under 70 years of age.

Of the 6,351 deaths due to accidental causes, 780 of them were due to the unusual heat wave in July, mainly in Manitoba and Ontario.

Whether these people were the victims of carelessness or supposedly to fate, we do not know, but wiping out a whole city within the period of one year seems to be a terrible waste of human life.

No. 66 -- December's Birthstones

Two blue stones are selected for the month of December, the turquoise and the lapis lazuli.

The name turquoise, which is said to come from a French word meaning Turkey, came into use in the thirteenth century. The stone was mined as far back as 5500 B.C. The oldest known jewelry is said to have been a set of bracelets of gold and turquoise which probably came from these ancient mines.

The turquoise was supposed to possess the power to protect the wearer from injury by falling, especially from horseback. Horses having a little bit of turquoise fastened on the bridle or even to the mane or tail were said to be sure-footed. Today, few religious rites of the Indians of New Mexico and Arizona take place without turquoise because of its supposed powers of healing and because it is an emblem of all beautiful and sacred things. In Tibet it is valued above all else. We value it for its colour alone. Turquoise should never come in contact with soap or grease; they discolour it.

The lapis lazuli has been known for centuries. In ancient Babylonia and Egypt it occupied a most important place, being mentioned before gold or other precious objects in all reports of loot brought back from vanquished nations. It was used in all kinds of jewelry, decorative objects, mosaic and inlaid work. Emperors and bishops of old Russia made luxurious use of lapis as wainscoting in palaces and pillars in cathedrals. Early in the history of art the powdered stone furnished the pigment known as ultramarine for fine oil paints.

According to the External Trade Branch of the Dominion Bureau of Statistics over half our imports of precious stones come from the United States.

No. 67 -- Tea from Ceylon

While you are sipping a cup of tea one of these cold winter days let its fragrance carry you to the place where it was grown, away to the Indian Ocean for instance.

There, lying under the tropical sun is the island of Ceylon, 270 miles long and 140 miles wide, Lake Superior would just about float it. In the warm sunshine parrots and monkeys play about in the palms and tree ferns, peacocks strut among the orchids.

Like a vast garden this island is devoted chiefly to agriculture, but many precious gems are found there, diamonds, opals, pearls, rubies and many others.

The population is about five million; Europeans numbering about eight thousand. A very old country whose history begins about 543 B.C. its entire sovereignty passed into British hands in 1815.

The 3,000 factories on the island are engaged chiefly in preparing the agricultural products for market. About half of them produce tea, rubber and cacao. The villagers make furniture, lace, jewelry and brassware in their homes.

In Ceylon, the tea plant reaches its full perfection due to the very fertile soil and moist climate. Here in the wild state the tea plant grows to a height of twenty feet and over and bears leaves as large as a man's hand. Under cultivation it is kept at a height of three feet by pruning and can be picked all the year round.

Another interesting fact is that the higher the altitude of the gardens the finer the tea. The most delicate leaves are from plants grown more than 5,000 feet above sea level.

Enough tea came from this island last year to give everybody in Canada 300 cups apiece; 14 million pounds of leaves picked in Ceylon. This is about one third of all our imports of tea last year, according to the External Trade Branch of the Dominion Bureau of Statistics.

No. 68 -- Who Ate the 1936 Cheese?

Last year the Canadian production of cheese was 118 million pounds. Now, who ate it?

It may be supposed that the cheese made on the farm would be used mostly by the farmer's family. That would account for over one million pounds.

According to the Agriculture Branch of the Dominion Bureau of Statistics the domestic consumption is only about 32 per cent of the cheese produced. That is, Canadians eat only about a third of the cheese that is made in Canada. As the mice can't eat the other two-thirds, many pounds of cheese must be leaving the country. Then again, some particular brands improve with time and would therefore not appear on the market during the year they were made.

About 82 million pounds of cheese were shipped from Canada last year, most of it going to the United Kingdom. Lately investigations of the opportunity of marketing cheese in the United Kingdom took place and it was discovered that quantities of Canadian cheese were being sold as cheese from the United States. Steps to stamp the product with special identification marks are under way. The export to the United States last year was over eleven million pounds.

The prospect of selling our cheese abroad seems encouraging when we consider that it is sold in many other places, some of which are Bermuda, Belgium, Malta, Jamaica, Japan, China and Newfoundland.

In Canada cheese making is encouraged and prizes are awarded to the best cheese maker. The 1937 champion is J. M. Bain of Ontario whose Cheddar cheese was pronounced of top quality in a competition in which 500 Cheddars were judged. Entries came from every province of Canada, South Africa, New Zealand, Britain and Australia.

No. 69 -- Young Agriculturists

The official census taken in 1931 by the Census Branch of the Dominion Bureau of Statistics showed that over one-third of the male population was gainfully employed in agriculture.

This is not a surprising fact when we consider that Canada is suited to agriculture. The earliest attempts at permanent European settlement were intended as agricultural settlements. At the present time about 58 million acres produce field crops such as wheat, oats, barley, corn, beans, peas, potatoes, turnips, sugar beets, etc. and eight million acres are devoted to pasturage.

With such a vast farm area to work the Dominion has need of farmers who are experienced and who are willing to keep abreast of the times in respect to agricultural developments. For this reason, some twenty years ago the first Young Farmer's Club was founded. Many young farmers are unable to attend an agricultural school or college so these clubs are helping to provide some degree of education.

The members are not all young men, there are many young women interested too. This year no fewer than thirty-one teams of two members, each made up of 55 boys and seven girls made their way to the finals at the Royal Winter Fair held in Toronto. Contests with the older opponents in agriculture as well as among the younger members, stimulate and create interest.

There are at the present time well over 2,300 clubs with a membership of 36,000 and the number is growing. Most of the members are interested in livestock and poultry, then field crops followed by horticulture and economics.

The Dominion and Provincial Departments of Agriculture take an active part in promoting the work of the clubs and assist generally in financing.

No. 70 — Barite

There are minerals found in Canada with which most of us are unfamiliar; some of them have little commercial value as yet but who knows when or how soon some scientist will find a use for them.

Barite or barytes is one such mineral. The Department of Mines at Ottawa reports that some interest was taken recently in the possibility of shipping barite to Trinidad for oil drilling. Finely ground barite mixed with a clay and a suitable suspending medium is effectively employed in the heavy liquids used as well-seals in drilling for petroleum. A well-seal is a device or trap to prevent a backward flow of gas or oil.

Barite is a white mineral occurring frequently in granular or crystalline shape. It is usually found in veins, quite commonly in lead ore mines. Near Spillimachen in British Columbia barite replaces limestone in thickness of from 10 to 60 feet and the possibility of producing commercial barite as a by-product from the milling of lead ore has been suggested. So far most of the barite comes from deposits in Nova Scotia, Quebec and Ontario.

This mineral is a common ingredient of paints. Last year the paints, pigments and varnished industry of Canada used two and a half million pounds of it. It is also employed in the manufacture of artificial marble, explosives, printer's ink, sealing wax, soap, glazes, linoleum and artificial ivory. The textile industry uses it for dressing cloth and leather while the paper manufacturer finds it gives a smooth coat to "art" paper.

According to the Mining Branch of the Dominion Bureau of Statistics the last commercial shipments from Canadian deposits were made in 1933 in which year 20 tons were produced. In 1936 three million tons were imported; most of it came from Germany.

No. 71 — The "Santa Claus" Ship

At this time of the year, we are thinking of the jolly, old fellow called Santa Claus. Most of the time we picture him driving along behind his prancing reindeer but now some times people say he uses an aeroplane. Here is a story that tells of a "Santa Claus" ship.

Steaming into the harbour of Halifax, Nova Scotia, a week before Christmas came the big passenger liner Montrose. Safely tucked away in her hold were 10,000 bags of Christmas mail from the United Kingdom. The Montrose has played this happy role on three occasions in the past four years and has brought over 30,000 bags of Christmas mail to the Dominion.

Waiting the arrival of the vessel was a special train. Thirteen or fourteen mail cars transferred the westbound letters and parcels to Montreal. From that point fast trains carried the seasonal greetings to the rest of the Dominion.

No doubt the postmasters and postmistresses were prepared to handle the additional mail because they knew that in every one of the 12,000 post offices in Canada, eager-eyed children would be standing in line waiting for mysterious-looking packages or bright cards.

People living the rural areas have mail boxes on posts in front of their homes with their names on them. Many a little nose would be pressed against the window watching for the postman drive from farm to farm putting the letters or parcels in their owner's box.

Some people live in lonely places where dog-teams or aeroplanes have to be brought into service. Maybe a parcel from the "Santa Claus" ship went north to Aklavik on the MacKenzie River; that would be a very long trip.

A system of rural mail delivery was inaugurated in 1908, a delivery limited at that time to existing stage routes. The service was greatly extended by new regulations taking effect in 1912. The number of rural routes increased from 900 in that year to over four thousand in 1935. Mail boxes increased from 25,000 to 242,000.

No. 72 — Wheat and Flour Situation in China

The official crop returns of the National Agricultural Research Bureau of China for the current crop year ended July 31, are estimated at over 636 million bushels. The Canadian wheat crop this year, which was considerably below the average, amounted to 188 million bushels.

"The leading grain trade houses in Shanghai are of the opinion that there will be very little activity for at least the next six months in the importation of wheat from foreign countries," states the Commercial Intelligence Journal. The coastal shipping blockade has paralysed the normal movements of flour from Shanghai and the Shanghai millers who depend upon the coastal trade are running on greatly reduced schedules. They are not drawing their usual supplies of wheat from the interior, nor are they interested in quotations from overseas. Canadian shippers have not been able to participate substantially in this trade for several years past.

Until recently the Shanghai market for imported flour was largely confined to the requirements of the foreign population, together with a limited use among the better-class Chinese. The loss in trade due to hostilities is compensated for to some extent in the trade returns by the direct importation of flour to meet the requirements of the British and American forces stationed in Shanghai.

The market for imported flour moves independently of the local milling industry. The flour millers believe that although the 1937 crop has been rather poor, it will probably take care of the most of the needs of China until such a time as the new crop is harvested.

In 1936 Canada shipped 73,000 barrels of wheat flour and 117,000 bushels of wheat to China, according to the External Trade Branch of the Dominion Bureau of Statistics. In 1937, 40,145 barrels of wheat flour were shipped but no wheat.

No. 73 — A Bird City

Great ocean liners approaching the Gaspé Peninsula silence their whistles when they pass Percé where the Dominion Government and the Province of Quebec have established a bird sanctuary. Steamships may sail within close range of this famous bird city and afford their passengers a close-up view without disturbing the feathered citizens who nest on the lofty cliffs of Bonaventure Island and on the top of Percé Rock. But whistles are out, because a loud blast would so startle the birds that, in their haste to take flight, they would upset hundreds of their eggs or young into the sea.

Percé is a small fishing village near the tip of Gaspé Peninsula. Standing guard with its feet in the sea is the great Percé Rock and a few miles off shore Bonaventure Island lies like some gigantic petrified whale grounded on a sandbar or reef.

Tradition has it that Jacques Cartier stopped long enough to plant a cross on the high bluff along this part of the coast. Later on several occasions the religious and fishing stations of Percé were destroyed by those seeking the conquest of the new colony. The fleets of Phipps and of Wolfe ravaged and completely destroyed Percé and other settlements on that part of the Gaspé coast.

Bonaventure history dates back early in the 1600's when some Biscay fishermen settled there. The island was the former home of Captain Duval, privateer and freebooter, who was the terror of French seamen during the wars between France and England. Some of the old homes still remaining on the island are real museums.

Today Percé's importance lies in its tourist attraction. According to the census taken in 1931 by the Dominion Bureau of Statistics the population is slightly over 1,500 and nearly all of French origin. But all local records for the number of tourist visitors were broken this year when this sanctuary was seen by 22,000 visitors. Half of these, or 11,000, made the trip by small motorboat around Bonaventure Island, three miles off shore, to see the astonishing multitude of birds nesting on the ledges of the tall red cliffs.

No. 74 — The Porpoise Menace

Travelling along the shore of the St. Lawrence where it takes on all the outward appearances of the ocean, the tourist will notice in the distance, splotches of white amidst splashes of water which are surrounded by lakes of foam. A school of porpoises, the arch enemy of the cod fishers, is disporting itself in the sun-swept mighty stream. The white flashes are the bellies of the great fish and, as they hop out and fall back into the water, they send up miniature cataracts and geysers spurting into the air.

The porpoise is a most voracious inhabitant of the deep, and since, like all species of the whale family, he feeds mostly on small fish, he simply sweeps the waters of the smaller fry upon which the cod fish lives. The cod, as its food supply is gradually exhausted, is forced to seek his substance elsewhere, and migrates to

waters where the porpoise has not yet elected domicile. The white bellied whale may also attack and destroy a large quantity of small cod fish, and thus add to the destruction of the fisheries of the St. Lawrence.

In the old days porpoise hunting was quite a sport. Some clever devices were adopted to lure the great fish close enough so it could be either shot or harpooned. Fishers would stuff the skin of a dead porpoise with straw and so load the "dummy" that it would float in a natural manner, with its white belly just beneath the surface of the water: they would also paint the bottom of the skiffs and boats white, so that the porpoises would imagine that what they saw above them was one of their kind, and rise to the surface without suspicion.

The porpoise menace became so serious that the Government decided to wage a regular warfare upon the big fish. Boats were equipped with small guns and manned by expert fishermen, armed with high powered rifles. Planes were brought into play and by means of bombs and depth charges, attacked the schools of porpoises.

The Fisheries Branch of the Dominion Bureau of Statistics states that 577 porpoises were caught in 1935 but in 1936 only 28. The blubber when rendered supplies an oil which is nearly as valuable as that of the whale, the skin can be tanned and used for the manufacture of many leather goods, while the bone and the offal also have a certain market value.

No. 75 -- Harvesting Sea-weed

At one time the industry of collecting and drying sea-weed was a very considerable and profitable one along the shore of the St. Lawrence River. Even today if you should pass through the village of Ile Verte, whiffs of salt laden, slightly pungent air would greet you. It is the iodine impregnated atmosphere wafted from the fields along the road where the sea-wrack grass, kelp and dulse are spread in the sun, like hay on a meadow. The weed when dried is used for upholstering furniture and automobile seats and making springy mattresses. It does not pack like wool and it is cheaper and easier to get than horse hair. It is also fire-proof and largely used in finishing boards for fire-proof buildings.

Ile Verte lies east of Riviere-du-Loup along the banks of the St. Lawrence. It takes its name from an island bearing the same name, some distance off shore. The island was named by Jacques Cartier and according to the most authentic records, the first settler was a Scotsman called Peter Fraser. Fraser was about 25 years old when he was given the island as a reward for his splendid conduct at the battle of the Plains of Abraham. He married shortly after he had established himself on his land and had five sons and one daughter. Many of his direct descendants still reside on the island. Another interesting thing about this island is the large lighthouse. It was erected over one hundred years ago and has been in charge of the same family ever since.

When in 1928, the word flashed around the world that the "Bremen", the first aeroplane that succeeded in crossing the Atlantic ocean from east to west, had landed at Greenly Island, and the news became known at Ile Verte (Green Island) a number of the villagers set out in boats to visit the island a little distance off their own shore, believing that it was there the trio of flyers had dropped from the air. They knew of no other "Green Island" in the St. Lawrence. The flyers had landed at Greeneley Island, Newfoundland.

The External Trade Branch of the Dominion Bureau of Statistics shows an export of $14,000 worth of sea grasses and sea plants in 1936. Hong Kong took $2,000 worth and the United States the rest.

No. 76 — Airplane Clinics

About one-third of the deaths among the Indians is due to tuberculosis according to a report of the Vital Statistics Branch of the Dominion Bureau of Statistics. Many of the deaths occur in the first year of infancy and among the young people up to 29 years of age. Children of school age suffer greatly from this dreaded disease.

During the past few years, under the services rendered by the Indian Affairs Branch of the Department of Mines and Resources, many of the reserves in the out-of-the-way parts of Canada have been visited by plane. Medicine and supplies were flown in and sick and injured Indians brought out to hospitals.

Now progress in stamping out diseases, especially tuberculosis, to which the Indians appear most susceptible is making its greatest strides through the attention given the children in the schools.

A complete diagnostic outfit including an X-ray and electrical generator to operate it was recently flown by chartered plane from Prince Albert to Indian residential schools at Lac la Ronge and Beauval in northern Saskatchewan where tuberculosis clinics are conducted. This was the first time that the facilities of a modern clinic were brought to the Indians by plane.

A large number of the residential schools have been surveyed so that all the pupils have been examined, many of them by X-ray. The school principal and his local medical advisor have had the benefit of the advice of a competent specialist and results are promising.

This new clinic of the air will be of great assistance to the five hundred doctors and dentists who have the task of protecting the health of about 115,000 Indians living in some eight hundred separate communities in Canada.

No. 77 — The Iron Paint-box

Christmas over, it is not unusual to find paint-boxes and painting books scattered about the living room. A new box of paints brings the artistic instinct to the surface and when the enthusiastic ardour has used up all the red, the question arises "Where can I get some more?"

Now, Old Mother Nature has stored up beautiful colours in many minerals and iron is one of them. In the iron paint-box which is known to the chemists and manufacturers as mineral pigment or iron oxide, the colours are yellow, red and brown. Many of these iron-oxide minerals are used in the raw or uncalcined state and all that is required to prepare them for the paint industry is washing, drying and grinding. Others have to be calcined or "burnt" to make them the required colour. Many of these oxides are also used to purify heating or illuminating gas, products of the coke and gas industry.

Some of the more important iron-oxide colours are raw ochre (yellow); raw sienna (dull yellow); raw umber (greenish-brown); Persian Gulf red; and Spanish red.

These are the uncalcined group. The calcined group has red ochre, burnt sienna, burnt umber, metallic brown and Canadian red oxide.

Raw ochre or yellow ochre is the French yellow ochre which has world-wide use and has been adopted as the standard for ochres. Sienna takes its name from the province of Sienna, Italy, the original source. Umber or raw Turkey umber is a product from the isle Cyprus, exported through the port of Constantinople, in Turkey, and received its name thereby. Persian Gulf red has a crimson shade and comes from Ormuz island in the Persian Gulf. The Spanish red is not quite so bright in shade as the Persian and comes from the province of Andalusia, Spain, and is exported through the port of Malaga.

Last year Canada produced nearly 6,000 tons of iron oxides and imported nearly as much according to the Mining Branch of the Dominion Bureau of Statistics. The paints, pigments and varnishes industry used 700 tons of iron oxide pigments and 600 tons of ochres, siennas and umbers.

No. 78 — Rock Wool

Rock wool is soft, light, and fibrous consisting of interlaced exceedingly fine, flexible, glassy fibres. The wool is made by melting a suitable rock or mixture of rocks at a temperature approaching 3,000 degrees F. and then converting the molten rock into fibres, either by a blast of steam or air, or by a mechanical device. Reminds one of the pink candy fluff sold at fairs.

The use of rock wool has expanded rapidly in the last two or three years owing to its excellent qualities as a sound and heat insulator. It is both fire-proof and vermin-proof and of relatively low cost. Most of the output is used for dwelling house insulation and can be obtained in loose form in bulk, in batts, and in the form of nodules or pellets that can be poured or blown into spaces in the walls of houses already erected.

It may be of interest to note that the International Nickel's 500-foot chimney is insulated from top to bottom with the material. It is used for the insulating of electric stoves, refrigerators, tank cars, oil tanks and stills, steam pipes, water mains, air ducts, etc. and for making offices, theatres and radio studios sound-proof.

This industry was established in 1934. Except in the Niagara Peninsula, large deposits of rock of the proper chemical composition for the direct production of rock wool have not been disclosed in Canada, and, as a result, particular attention is being given to its manufacture by blending several rocks in order to obtain the correct composition.

According to the Mining Branch of the Dominion Bureau of Statistics the industry started out with a production of 229 tons in 1934. Five plants with a total capacity of 50 tons daily are now in operation, and the erection of several others is proposed. The output is marketed almost entirely within the Dominion.

No. 79 -- The Fireplace in History

Now trees their leafy hats do bare,
To reverence winter's silver hair,
A handsome Hostess, Merry Host,
A pot of ale now, and a toast,
Tobacco and a good coal fire,
Are things this season doth require.

So wrote Robert Herrick some time between 1591 and 1674. The heating apparatus used by our forefathers in those days was the open fireplace and as we have become converted to modern ways of heating, we do so with a certain amount of regret at the passing of "an old friend". Not infrequently, however, is one room reserved where one may lounge in comfort and dream luxurious dreams in front of the open fire.

Many interesting stories are associated with the fireplaces of olden times. One of the oldest coal fireplaces in England, which has served generations since soldiers first started fighting at the Crusades, is in the well-known inn "Ye Trippe to Jerusalem" underneath Nottingham Castle. The chimney itself is large enough to allow two men to climb to the top.

That last remark brings to mind that many of the old country mansions in England and Wales had fireplaces with flagstones which, when removed, revealed a monk-hole through which priests, in the days of persecution, were able to escape from the enemy and at the same time keep warm.

In the reign of Edward I a man was actually tried, convicted and executed for kindling a coal fire in his house. He disobeyed a decree forbidding householders to burn coal as a fuel. Centuries later "Earth Tax" payable to the Crown was levied on domestic fires, and at one time an additional tax known as "Smoke Farthings" was levied by the Church.

Then comes the cosy thought expressed by Hondesworthe Holt who says that he is of the opinion that "Old King Cole" had his origin in the flames of an open fire because its cheeriness conveys the feeling of contentment and good fellowship. "Where did the dear old gentleman originate from, if not from the hearth; in other words, from blazing 'cole'?"

If Santa Claus had to have a fireplace for every home he visited, carpenters would be very busy indeed for according to the 1931 Census of the Dominion Bureau of Statistics there are close to two million dwelling houses and we know there are plenty of homes without this unique way of entrance for Santa on Christmas Eve.

No. 80 -- Casein

A recent report on the activities of the National Research Laboratories at Ottawa states that casein, the main protein constituent of milk, is used in Canada to the extent of many tons in the manufacture of buttons. Through research the proper methods for producing the best grade of casein from skim milk for this purpose have been developed, and furthermore, this information is now available to all dairy manufacturers and other interested parties in Canada.

Casein is the most important of the three protein compounds contained in milk and on the addition of acids or rennet the casein is precipitated, and the milk is said to have curdled. The natural souring of milk which has been kept long is due

to the formation of lactic acid. Rennet is employed to coagulate casein in the preparation of cheese, which consists of the casein and the fat contained in milk. The Latin word for cheese is caseus.

The industrial uses of casein are of great importance, and its preparation is carried out on a large scale. Dried milk, which is mainly casein when it is made from skimmed milk, contains the natural sugar of the milk. It is made on a large scale by leading milk on to hot revolving metal drums and scraping off the dried milk. Other methods are also employed.

Many plastic substances used as substitutes for horn, ivory and celluloid are made from casein and possess the great advantage over celluloid that they are non-inflammable. It is also used in the textile industry for sizing cotton warps, producing water-proof fabrics, non-inflammable photographic films, surgical bandages and paper coating, for clarifying wines, making water-paints, in soap making and leather dressing.

The Agricultural Branch of the Dominion Bureau of Statistics states that nearly one million pounds of casein were produced by the dairy factories of Canada in 1936.

No. 81 -- One British Possession in South America

The only British possession in South America is British Guiana lying along the north coast and flanked east, south and north by Dutch Guiana, Brazil and Venezuela. The Dutch first settled the territory but the present British colony was founded in 1814.

The area is 90,500 square miles or about one-quarter the size of the Province of Ontario. The population of 333,000 is 42 per cent East Indian, and 38 per cent African extraction. Portuguese number over eight thousand and other Europeans two thousand.

The chief agricultural products are sugar, with its by-products rum and molasses, rice, coconuts, copra and coffee. Next to sugar bauxite for the manufacture of aluminium was the Colony's most valuable export last year. Gold and diamonds and greenheart timber are other important products.

British Guiana is served with direct sailings from Canada and many tourists visit this tropical country when their own native land is covered with a blanket of snow. There they may see ships being loaded with commodities for the Dominion.

Canada is the second major market for British Guiana products and the value of the exports increased from $4,511,000 in 1935 to $4,643,000 in 1936. The gain was due largely to bauxite and molasses although sugar is Canada's largest requirement.

Imports from Canada were valued at $1,314,000 a slight increase over 1935. First place among the suppliers of flour belonged to Canada. Increased shipments of pickled meats; peas and beans; cheese; cement; metal furniture, motor cars; paper and rubber shoes were noted. Recent importations from the Dominion of textiles and wearing apparel such as hosiery, hats and ladies' footwear showed moderate but encouraging increases. Decreases were shown in potatoes, oilmeal, oats, manure, condensed milk and machinery.

This information was based on reports from the External Trade Branch of the Dominion Bureau of Statistics.

No. 82 — The Wheat Mixing Law

A report in the Commercial Intelligence Journal of December 11, by the Canadian Trade Commissioner in the Netherlands runs as follows: "With no currency restrictions, a comparatively low milling percentage for the home-grown product and without a high import duty, the Netherlands is one of the few remaining important purchasers of foreign wheat. As a traditionally free trade country and all adapted for the production of cereals, the Netherlands was one of the last nations of Europe to interfere in any way with the grain trade. Up to the middle of 1931 only foreign wheat which was admitted without restriction was used by Dutch mills grinding white flour for ordinary bread-making purposes. The domestic crop, which averaged about six million bushels a year, was used exclusively for feeding purposes and for the manufacture of whole wheat flour".

The Wheat Mixing Law of 1931 prescribed that bakers must use flour containing a specified percentage of home-grown wheat. It was then apparent that the domestic milling industry would have a monopoly on the inland market and that the import trade would cease entirely. In order to prevent this and give the flour importers a chance, further legislation allowed the continued use of limited quantities of unmixed flour.

Before this Law was introduced the Netherlands was one of the leading flour markets of Europe with annual imports averaging 150,000 tons. In 1935 they had dropped to 42,000 tons and in 1936 to 63,000. The United States supplies most of the imported flour now because of a commercial agreement between the two countries.

According to the External Trade Branch of the Dominion Bureau of Statistics, the exports of Canadian flour to the Netherlands was 296,000 barrels in 1929 and 104,000 in 1931. This has dropped to 50,000 barrels in 1935 and 61,000 in 1936.

No. 83 — Densities of Population

Density of population simply means the number of people for every square mile of the land area. If the density is one, then one person would have one whole square mile of land for himself or, if the density is 200, one person hasn't very much of the square mile.

We hear a great deal about over-population in different countries today and their demands for more room for their people. Here is the picture as given by the Statistical Year Book of the League of Nations.

Belgium, the peace-loving little country, has the greatest density of the 25 countries listed. There are 698 people for every square mile of land. The Netherlands follow with 606. The United Kingdom, including the Channel Islands and the Isle of Man comes third with 491.

Then follow in order Japan with 470, Germany 361 and Italy 344. China's vast area has a population density of 235. That is less than the teaming population of British India where there are 248 persons per square mile.

Poor war-torn Spain whose population density in 1930 was 121 will probably have a greatly reduced figure by now. In 1934 mysterious Russia in Europe had a density of 58 persons.

It makes one breathe more freely when the United States shows 41 persons but the figures for Canada and Australia make one absolutely lonesome. In Australia two

people would share a square mile while in Canada it would be three. If the Territories were left out, Canada's population density would be five.

Of the Provinces, Prince Edward Island has the greatest density amounting to 40 persons. Nova Scotia follows with 25, New Brunswick 15, Ontario 9, Quebec 5, Saskatchewan 4, Manitoba 3, Alberta 3, British Columbia 1. The Yukon shows one person for 50 square miles and the Northwest Territories one for every 100. No wonder it's the land of silent men and, who knows, maybe the occasional woman.

The figures for Canada are based on data supplied by the Census Branch of the Dominion Bureau of Statistics.

No. 84 -- Holly and Poinsettia

Next to the Christmas tree in popularity is holly. Maybe someone will disagree and say mistletoe, but a sprig of white berries is certainly not so colourful as a bit of holly with its cheery red berries.

Holly trees or shrubs are mostly inhabitants of temperate regions. The flowers are white and usually inconspicuous. The fruit is the attraction; the scarlet berries nestling among the glossy green folliage make a beautiful sight.

Many people cultivate the tree simply for its ornamental value, others use it for a hedge as well. Not only is the tree valued for its fruit but it is also put to other uses. The inner bark contains a sticky substance which when softened in water makes birdlime. Birdlime is smeared on twigs to catch small birds. The wood of the tree is ivory-white, fine-grained and hard and is used for inlays.

Most of the holly used in Canada is said to grow in British Columbia, as unfortunately, that species used and known as English holly, is not hardy in any other province. Last year an owner of a 28-acre holly farm at Victoria said he shipped nine tons of the Yule-tide evergreen.

The great vermilion poinsettia for decoration belongs to a family of plants which have their upper leaves brightly coloured and whose true flowers are yellow or green and are too inconspicuous to be readily seen. The plant grows to a height of six feet or more and is a greenhouse plant in many countries. It is a native of South America and Mexico.

There is no figure obtainable for the production of Canadian holly but the Agricultural Branch of the Dominion Bureau of Statistics reports that over 15 thousand poinsettia were sold by the nurseries in 1936.

No. 85 -- Adrift

Remember Homer's poem describing the wanderings of Odysseus on his homeward voyage to Ithaca after the battle of Troy, how his homecoming was delayed for ten years and in travelling far and wide lost all his comrades? Well, in the museum of the Forest Products Laboratories at Ottawa there is a weather-beaten forest fragment which has made an Arctic odyssey.

Tempest-tossed, ice-worn, and greyed from exposure in Arctic waters a lone piece of driftwood was picked up in Bellot Strait on September 6, 1937. You can trace

its journey of some 1500 miles from the mouth of the Mackenzie river around McClintock Channel and Franklin Strait to Bellot Strait which divides Somerset Island from Boothia Peninsula, the most northerly point of the mainland on the North American continent. It must have come this way as adverse currents render any other route improbable.

The stump is about six inches in diameter and three and a half feet in length and was identified as black spruce. A count of the annual rings indicate that the tree was over one hundred years old before it was uprooted. It is not the age or size of this satin-grey piece of driftwood that is of interest, however, but the fact that it made the Northwest Passage is what stirs the imagination. The definite locality from which it came will never be known nor the time occupied in its long tortuous journey, but from Bellot Strait to where trees of this size grow is far away, indeed.

On account of its small size black spruce is not so important a lumber species as white spruce, but it is a very valuable pulpwood. As sawn lumber in Canada, spruce, in volume of output, is second only to Douglas fir but, when its use for pulp and paper is also taken into account, it is Canada's most important wood.

According to the Forestry Branch of the Dominion Bureau of Statistics over five million cords of spruce and balsam went into the manufacture of pulp last year.

No. 86 -- National Park Films

Where are you going to spend your summer holidays this year? Rather early a question perhaps but, if you are like most of us, you will have to start now putting nickels and dimes away. Make up your mind to see something of Canada. If you have been fortunate enough to see the two new motion pictures recently produced by the National Parks Bureau "Colourful Days in Prince Albert National Park" and "Playgrounds of the Prairie" you will realize that this country is more wonderful than you had dreamt.

These films have been produced in natural colour and bring to the screen the scenic, recreational and wild life features of the National Parks. But these are not the only films produced by this Branch. The library of the National Parks Bureau contains more than 1,300 prints on 84 subjects which are available to conservation societies, universities, schools, writers, lecturers and other organizations and individuals interested in wild life conservation and in making known the many attractions of Canada's national playgrounds.

These films are now in circulation in the United States, Great Britain, France, Austria, Czecho-Slovakia, Holland, Norway, India, Australia, New Zealand, Hawaii, South Africa and the British West Indies as well as throughout the Dominion.

From a questionnaire sent out by the Education Branch of the Dominion Bureau of Statistics to all types of educational institutions -- city, rural, teacher-training and private -- the returns show that 131 reported they made use of films on travel and geography and 38 on nature study.

No. 87 -- Early Toys

We are told that the rarest of all relics from the past are toys. The playthings which got lost or were placed in the tomb to amuse a grown-up in the hereafter

have given us an insight into the habits and customs of early civilizations.

Animals carved out of limestone dragging wooden carts on wooden wheels have been found in the excavations where once a Persian temple was built. Tiny bakeshops, hair dressing establishments and small scale ships and houses have been found in the old Egyptian graves.

Some of the earliest dolls came from Egypt. They were made of wood; sometimes just a stick covered with rags, sometimes elaborately carved. Wool dolls have also been found. The Greeks used terra cotta, a mixture of clay and sand which was heated or burnt, and covered it with a colourful glaze.

Mechanical toys seem to be almost as old as the nursery itself. In ancient Egypt, in tombs, there were discovered a crocodile whose jaw moved up and down when he was dragged along, bakers kneading their bread and a mongoose tackling a snake.

The people of the Middle Ages were essentially mechanically minded. Toys reflected this. Birds in cages would flap their wings and even whistle a tune. Whole villages of men and women were made to do everything the people in a real village would do.

The following eras of the Renaissance and the Reformation were followed by a century of religious warfare. When the wars came to an end people felt that the younger generation should be provided with a better education. So toys of the 17th and 18th centuries were meant not only to amuse but to instruct.

When we think of the variety of toys on the market today, exact in every detail, we wonder what next. What effect will they have upon the children who use them?

The import of mechanical toys about doubled in 1936 when their value amounted to $258,000. According to the External Trade Branch of the Dominion Bureau of Statistics most of them came from the United States. Germany, Japan and the United Kingdom supplied the rest.

No. 88 -- Gift Bells

The largest bell in the world was a gift. It was the present of an empress but it was never hung nor rung. It weighed about two hundred tons and was broken while still in the casting pit during the great fire which swept Moscow in 1737. But the people used it for a chapel, entering through the "doorway" made by the fracture.

The world's largest ringing bell was a gift, too. It hangs in the Kremlin and weighs about one hundred tons. It was the gift of a czar and hangs in the Ivan Tower along with over 30 more gift bells.

The second largest bell in the world is in an ancient Buddhist temple in Japan. It is literally covered with inscriptions and the names of those who contributed to its cost.

A native king of Burma wished to be remembered as the ruler who cast the largest bell. The Great Bell of Mandalay was made and is large enough to let a football team lounge comfortably within it. This ninety ton bell is surrounded by the Royal family -- so the legend goes -- for in the massive walls of its unfinished pagoda are buried one hundred images of members of the king's family, each done in solid gold.

The Great Bell of Peking has a tragic legend attached to it. The Emperor of China ordered the bell in 1420. Twice the casting failed to hold together and the Emperor was furious. He threatened the bell founder with death. The story goes on to say that a famous astrologer told the founder's little daughter that blood was needed to make the bell hold together. So to save her father's life, she stole into the great bell at night and hurled herself into the boiling metal. In the echoes of its sweet note, the Chinese hear the voice of the little girl.

Just as in the days of old when the holy man called the people to worship with a little hand bell, so the churches throughout the world ring bells, little or great, today. In 1936 bells for the use of churches were imported to the value of $24,000, according to the External Trade Branch of the Dominion Bureau of Statistics. They came from the United Kingdom, the United States and France.

No. 89 — They Cut Down the Old Pine Tree

A copy of the "Canada Lumberman" carries two delightful stories about pine. Somehow or other we lose sight of the fact that the lumber industry has in large measure been the origin of our greatness as a nation and also the hope of our future progress. There is a Scottish proverb which tells us not to forget the cradle in which we were cradled. So here are two stories to jog our memories about the faithful pine tree.

The first comes from near Albuquerque, New Mexico, where an old pine tree was cut down. Timber experts who examined a cross-section of the trunk estimated that the tree was "born" about the time the Pilgrims left for America. They counted 311 annual rings. The tree, one of the largest in the mountain forests in that section, produced 880 feet of timber — enough for at least twelve "coffins of pine" or a whole chorus of hill-billy singers.

The second story is about one of Canada's many ancient wooden houses. The building is 147 years old and was built of white pine. It is still occupied by the descendants of the owner and is visited by many people who are interested in such a remarkable relic of early days in Ontario.

The interior layout indicates the methods of life of our Ontario forefathers. Nearly all houses built in those days were similarly planned.

On the ground floor there is a large dining room and two bedrooms — one for the parents and one for the minister, who presumably lived with his flock, changing homes from time to time. The kitchen was generally in an adjoining room, frequently under a separate roof. The first floor was one large room occupied by all the girls in the family and the top flat, also a single room, was for all the boys. This particular house was the home of no fewer than 16 children; all the sons stood six feet and over.

White pine has throughout the years been a good friend to man. The Forestry Branch of the Dominion Bureau of Statistics tells us that about 250 million feet of white pine were cut in the lumber industry last year.

No. 90 — Shoes

There is an ancient legend that tells of the first pair of shoes. Many, many

years ago a great ruler demanded that wherever he walked there must be a carpet laid so as not to dirty or hurt his feet on the ground. Unfortunately one day he stepped off the carpet and the royal feet trod upon the rough stones. Then he ordered that his whole kingdom should be covered with carpet. His wise men told him that it was impossible. He gave them a day to solve the problem.

At the twenty-fourth hour a poor leather apron-maker appeared before the king. He knelt and presented two queer looking objects. The king was amazed but the problem was solved. Wherever the royal feet went, they were protected by a pair of shoes. In gratitude the ruler permitted all his subjects to enjoy the benefits of the strange, new invention.

At one time in the history of the Roman Empire different types of shoes were worn to indicate the various social classes. Only a magistrate could wear red shoes, and only senators wore black shoes with a gold or silver crescent at the top. Slippers were for comedians and shoes for tragedians. The Roman army was well-shod, an important factor when soldiers have to march and travel on foot. When the Roman legions went to invade foreign countries, a staff of shoe-makers went along also.

Shoes of the Middle ages were not made for comfort evidently. The most freakish shoe of this period was the "poulaine" worn by the dandy. It was made of soft leather and had a toe so long that it was necessary to place moss in it so that it would not double under.

"Duck bill" shoes which were sometimes eight inches in width, appeared during the reign of Queen Elizabeth. In the sixteenth century, attendants had to accompany ladies when they wore "chopini" to keep them from falling over. Chopini were clogs with a wooden heel and a sole ten inches thick.

During the eleven months ended November, 1937, about 23 million pairs of shoes were made in Canada according to the Animal Products Branch of the Dominion Bureau of Statistics.

No. 91 -- Canadian Housing

In 1931 the Census Branch of the Dominion Bureau of Statistics collected data concerning the housing of the Dominion. There were close to two million dwelling houses, over a million of them in the rural sections and 982,000 in urban centres. A dwelling house, according to census classification, is a place in which one or more persons regularly sleep. It may be a room in a factory, a store or office building, a boat, a tent, a railway car, or the like. A building containing apartments or flats counts only as one dwelling house.

The number of separate structures was 2,214,000 of which 1,678,000 were single houses, 354,000 apartments and flats, 32,000 rows or terraces and 142,000 semi-detached houses. A separate structure is defined as any room or set of rooms used for habitation and having separate access to either the street or a common landing. A row or terrace is a long building divided off into separate houses and a semi-detached house is one divided into two separate dwelling places.

The six-room unit is the more common in Canada but it is not typical in all parts of the Dominion. In rural areas the greatest number are four room houses. Nearly 60 per cent of the Canadian households occupy from four to seven rooms, 20 per cent three rooms or less and only 3.5 per cent more than ten rooms.

Rural homes in the Maritimes are larger on the average than in any other part of Canada. In Quebec they range from four to eight rooms. Ontario's are usually six-roomed. In the Prairie provinces conditions are quite different. Over 60 per cent of the rural homes contain four rooms or less. In Alberta and Saskatchewan there are more rural households occupying two rooms than any other room group. In British Columbia the four room home predominates with more households occupying fewer than four rooms than those with more than that number.

Urban homes are more uniform throughout the Dominion, the average ranging from four to six rooms.

No. 92 -- Fish Meal for Germany

About ten years ago Germany was an important buyer of Canadian fish meal, but with the introduction of currency transfer and other restrictions this trade has practically disappeared. However, the Payments Agreement between Canada and Germany of 1936 specifies that 1.4 per cent of the money received by Germany for the sale of her exports in the Dominion shall be made available for the purchase of Canadian fish meal.

Fish meal is used for feeding purposes in Germany where the prohibition against the feeding of bread grains has led to an increased demand for other cereals and for concentrated food. Corn and potatoes are being used but because of their high starch content, albumen foodstuffs must be added to give a properly balanced diet. Fish meal fills this need.

This industry was of little importance thirty years ago in Germany. Any meal produced was of rather low-quality and was used as a fertilizer. After the War it was used solely as a feedstuff and there followed an improvement in quality and quantity. Japan also became an important producer at that time. Norway and Japan are the two principal countries supplementing Germany's domestic manufacture.

To obtain the highest possible increase in output, all raw material must necessarily be used as quickly as possible after it becomes available. Fish spoils so quickly. In addition to the ordinary waste, all fish which remain unsold as well as rejected fish and fish products, must be delivered to the fish meal manufacturers. Under the new market regulations, production is increasing although, owing to the heavy demands for feeds, the imports are twice as great as the domestic supply. Every effort is being made in Germany to correct this.

Figures supplies by the External Trade Branch of the Dominion Bureau of Statistics show that during the year ended March 1937, 323,000 pounds of fish meal were shipped to Germany from Canada.
