A Fact a Day about Canada

from the

Dominion Bureau of Statistics

No. 124. Tues. Feb. 1, 1938 -- Mutual Friendship

Much is said these days about friendly relations between various countries. Just as the harmony in a community depends upon the neighbours so does the peace of the world depend upon the attitudes of countries towards one another. We rejoice in the international friendship existing between the United States and Canada. Here is a little story to show how this relationship is maintained.

On the international boundary between New Brunswick, Canada and Maine, U.S.A., there are four towns, St. Stephen and Milltown in Canada and Calais and another Milltown in the United States. Co-operation and the deepest friendship mark all their activities. For instance, the water they all use comes from a common spring, a Canadian plant supplies the electric power and the United States supplies gas.

The hospital at St. Stephen serves the other three towns. Many of the American children are born on the Canadian side. If a lady of Calais wants her son to be an American citizen she must say so when she goes to the hospital in St. Stephen. If she neglects to do so, then her little son will automatically become a Canadian citizen.

We are also told that the firemen enter into friendly competition in being first to extinguish fires, contests which have saved many thousands of dollars over the past few years. Golf clubs and women's clubs and so on are international. On the Canadian national holidays the flags fly in the American towns and vice versa.

Such neighbourly activities as these linked with the tourist traffic between the two countries are valuable in coming to a mutual understanding. This, of course, cannot be estimated in dollars and cents. But some idea of the travelling back and forth can be gained by the fact that United States tourists spent $159,-000,000 in Canada during 1936 and Canadians spent about $44,000,000, according to the report on the tourist trade to the Dominion Bureau of Statistics.

No. 125. Wed. Feb. 2, 1938 -- Microscopic Babies

Great oaks from little acorns grow, and clams worth a couple of hundred thousand dollars a year to Canada from tiny creatures which at two weeks old are only about one-twenthieth of an inch in size. Nor are clams as long a time as oaks in growing. In two or three years the microscopic new-hatched clam has reached marketable size.

The Fisheries Department goes on to say that the Canadian production runs to more than 70,000 barrels a year. All five of the Dominion's sea fisheries provinces have productive clam-beds, New Brunswick and British Columbia are the biggest producers.

Clams go upon the market both fresh and canned. Many of the fresh clams go to the United States. The "little-necks" of New-York restaurants, a delicacy eaten raw, are young clams of the "quahaug" family and are not larger than half-dollar pieces.

The clams to be canned are opened by steaming them slightly or passing them through hot water. The meat is extracted, dipped in cold water to prevent toughening, and thoroughly cleansed of grit. Finally it is packed in cans, sealed and cooked at 240 degrees Fahrenheit for a certain length of time. This is the usual way of canning clams on the Atlantic Coast, but in British Columbia canneries the clams are cooked in their shells and then put in the cans.

The Fisheries Branch of the Dominion Bureau of Statistics reports that 72,000 barrels of clams were taken from Canadian waters in 1936. About 42,000 barrels were marketed fresh, the rest being canned or made into chowder.

No. 126. Thurs. Feb. 3, 1938 -- The Zipper

The zipper typifies our modern craze for speed, one quick pull and there the purse or dress is securely fastened. Most of us consider this time-saver a very recent invention but on the contrary, it was conceived nearly fifty years ago.

The story of the zipper goes back to the time of when in the 1890's a certain man named Judson became weary of lacing his boots. An idea to avoid this monotonous business resulted in a fastening that would close the boot in a quicker way.

Three years later a friend became interested but it was 25 years later before the invention came to the public's attention, at which time the navy found many uses for it. Then followed an improvement which enabled the zipper to be stopped or locked at any point along its length. There it would stay without slipping back to the bottom. Then the problem came where an article had to be opened from top to bottom. This was overcome by having the fastener open at the bottom. Now a wind-breaker or sweater doesn't have to be pulled over the head, and, as we all know, this very convenient fastener is used in countless ways.

Canada's production of zippers increased from $461,000 in 1935 to $645,000 in 1936. The imports for the same period nearly doubled.

No. 127. Fri. Feb. 4, 1938 -- Building Construction in 1936

It is exceedingly encouraging to see that the total value of the construction work performed in 1936 was an increase of $42,000,000 over the previous year. An upturn in building and construction is invariably followed by business and industrial expansion. Directly or indirectly construction affects the greater number of Canadian industries and private or residential construction is the most important force in the well-being of a community.

Building is only one phase of the construction industry but it contributed $22,000,000 to the total value of 1936. Other phases are engineering construction which deals with paving streets, care of sewers and drains, wrecking and demolition, etc.; care of harbours, canals and waterways; trade construction such as plastering, electrical work, air-conditioning, excavating, etc. New construction amounted to $17,000,000. Factories and warehouses accounted for the greatest sums, government and municipal buildings, though not as many in number as the year before, followed in value. New construction of mine buildings showed great activity.

Other remarkable spurts in building were shown in new construction of theatres, a jump from $348,000 to $1,636,000; stores, $909,000 to $2,857,000; hotels, clubs

and restaurants from $440,000 to $1,241,000. Farm buildings showed little increase while service stations showed a decrease. New construction of single and double dwelling houses was less in 1936 than in 1935 but duplexes and apartment houses showed an increase.

Alterations, maintenance and repairs to buildings showed an increase over the year before, factories and warehouses costing the most, followed by single dwellings and then stores.

This information is taken from a report on the construction industry from the Construction Statistics Branch of the Dominion Bureau of Statistics.

No. 128. Sat. Feb. 5, 1938 -- Sockeye for Nanaimo River

Back in 1935, one million dollars went into circulation as a result of the Sockeye salmon fishing in one British Columbia district. The catch was sufficient to produce about 166,000 cases of canned fish -- forty-eight one-pound cans to the case.

Sockeye are the most valuable Pacific salmon and are known far and wide. Practically all of Canada's output of canned salmon is packed in British Columbia, one of the world's chief success of this product, although there is a small production in the Dominion's Atlantic coast area.

The Nanaimo River, however, was lacking in this profitable species of salmon and the Fisheries Department decided to introduce it to this particular body of water. Physical conditions were found to be fairly suitable but there were two possible adverse factors -- plankton seemed rather scarce and there was a large trout population. Plankton is floating organic life found at various depths of the ocean. Trout are enemies of the young salmon.

Eggs were planted in the Nanaimo in 1933. The young fish swam to the sea and returned five years later when matured. That was last summer. They were believed to be the same fish because the Nanaimo River is not naturally a Sockeye residence and the "homing" instinct after five years is a family trait.

The marketed value of salmon in 1936 was close to $14,000,000, of which 96½ per cent is credited to British Columbia and the remaining amount to the four Atlantic coast provinces, according to the Fisheries Statistics Branch of the Dominion Bureau of Statistics.

No. 129. Sun. Feb. 6, 1938 -- Apples to Harden Steel

Wonders will never cease, we say to ourselves, when we pick up a publication of the National Research Council and find that apples are being used to harden steel. Think of it, pectin from the waste apples of the orchard, with which we are familiar in jelly making, finds a new role in the steel industry. It may also be made into a resin or into a plastic composition which may be employed as a binder for abrasive substances and composition wood. The disintegrated mass pressed from apples and known as pomace now makes a good cattle feed.

The surplus production of potatoes has recently become a problem to Canadian farmers, particularly in the Maritime Provinces, as their markets in the New England States have been much lessened. Although some of the excess potatoes can be used as feed for livestock and in the production of alcohol and starch, this does not solve the difficulty. But fusel oil, a by-product from the distillation of ordinary alcohol produced by fermentation, contains an alcohol which is used as a solvent of cellulose in making so-called "dope" for covering the fabric of aeroplanes. Fusel oil may also be used in lacquers and varnishes.

Coming back to silk, one of our commonest proverbs is that you can't make a silk purse out of a sow's ear. That may have been true in past times but at an exhibition of cellulose products in Montreal, a purse was exhibited made of artificial silk obtained from the cellulose in a sow's ear.

By the way, the chemists are working on a cement or filling which will stick metal to glass as well as metal to stone. And they'll find it.

Long ago, when ladies wanted to make their hands soft and white, they rubbed them with wet oatmeal, and for many years it has been used in soaps and as a skin application. Recently a special process has been developed whereby oats are made into a soft powder and incorporated into a perfumed cosmetic.

No. 130. Mon. Feb. 7, 1938 -- Substitutes

Even those of us who are not scientists are becoming quite familiar with two words that mean a great deal to the present generation and are likely to prove of very much greater value to the generations to come. Synthetics and plastics are fast becoming household words. By synthetics we mean compounds formerly obtained from natural sources, that are now built up artificially by the union of simpler compounds or elements. For ordinary purposes however the words alternatives or substitutes seem to convey the meaning.

For example, we all know what rubber is, and that we, in this country, get most of the raw material from British Malaya. We know also that there is now such a thing as synthetic rubber, a compound which can be made to take the place of rubber.

We know that indigo blue was obtained originally from a plant in India. It is one of the oldest known dyes, but it has been largely supplanted by various synthetic blues, including indigo. Chemists have given us the artificial varieties and, since the beginning of the present century, natural indigo cultivation has greatly declined.

A plastic is a synthetic substance that can be moulded under heat and pressure to any desired shape and which, when cooled, retains that shape. It becomes useless for any other purpose. One of these is plastacele which makes the new boxes so light in weight, durable and easy to clean -- a great thing for the dressing room for you can see what is contained in the boxes without opening them. They are just as clear as glass.

These new raw materials tell us golden stories of progress that in the hurley burley of modern life we lightly consider.

No. 131. Tues. Feb. 8, 1938 -- Substitutes - 2

The scientist gives us the stories of substitutes in a way all his own. He is an adventurer just as much as was Cook or Magellan. He is urged to his task by the thrill of discovery and he works on and on and on, dominated by the desire to find something that will be of benefit to his fellow men. So, it is not unexpected to find that these hardworking adventurers preface the announcement of the records of their achievements with simple, easily remembered tales.

In the year 1868, billiard players were alarmed at the prospect of a shortage of elephant tusks from Africa. Billiard balls were made from that ivory. To protect the growing market for billiard balls and piano keys a manufacturer offered a prize of ten thousand dollars to anyone who could find a reliable ivory substitute. A young American printer, John Hyatt, found it. By treating cotton linters with nitric acid, Hyatt produced a cellulose nitrate solid which filled the bill. It was the world's first plastic.

Young girls of today, practising their piano exercises, touch with their fingers beautiful cream-white keys, but their mothers and grandmothers fingered keys that were yellow with age, for natural ivory became yellow very quickly. The first time you have a chance to examine an old spinet, look at the keys. What we call the white ones, will be brownish.

The arrival of substitutes was not welcomed by all, particularly by those who are forever searching for gems. The Hindus prize the ruby above all other precious stones. It is said to bring its wearer, health, wealth, wisdom and happiness, and is the emblem of true love. It is called the most previous of the twelve stones God created when He made all creatures. By the Lord's command the ruby was placed on Aaron's neck.

Synthetic rubies were first placed on the market in 1900 and synthetic sapphires about ten years later. Those which most perfectly reproduced the genuine were exported to the Orient where they were cut by natives and often sold to tourists as genuine ones. A zealous young missionary, with a sparse pocketbook, once purchased a ruby ring for his lady, and when he returned home to Toronto to marry her, presented the ring to her. She learned later on that it was an imitation, but, like the true lady she was, she never told her husband that he had been gypped.

Nowadays we have all sorts of substitutes for the expensive jewellery that at one time could only be purchased by the rich. They are very beautiful, which after all is the main object and, when a young girl can procure for a few cents what her mother had to pay as many dollars for, why not? The pleasure is hers just the same, and she is adorned just as much as her wealthy sister. Go into a ten-cent store and you will see baubles on display that a king's ransom couldn't have bought before synthetics arrived and yet a robber would not think it worth while to steal. The scientists have done much to put all people on a level. They are great socialists.

No. 132. Wed. Feb. 9, 1938 -- Substitutes - 3

During the Great War, when the Germans ran short of coffee, they invented a substitute. It was made of malt and grape sugar. Large quantities are sold yet. Oleomargarine is a favourite substitute for butter in many countries but is banned in Canada.

The Italian scientists have turned out a synthetic wool which they call lanital. It is made of skim milk.

This brings us to the farm yard. The days have long passed when the farm was looked upon only as a place from which milk, butter, eggs, cheese, beef, mutton, grains, root crops and a few other things could be obtained for human consumption. The farm is now a major producer of the materials which go into the manufacture of synthetics.

Buttons, for instance. They were originally made of horn or bone, but now most of them are made from skim milk, others of metal and wood.

The National Research Council is a congregation of scientists who are doing a great work for Canada. We learn from them that most of the casein hitherto made in Canada has been of a type which, while suitable for use in the manufacture of coated paper, is unsuitable for the production of casein plastics, such as buttons and buckles. The art of making it suitable for plastics has been developed in France and most of the plastic casein used in Canada in the button trade was formerly imported from that country. We now get our largest supply of casein for all general purposes from New Zealand.

It is curious to reflect that the mother-of-pearl button which used to be made from the inside lining of an oyster shell now comes from the milk of a dairy cow.

Towards the end of the last century a German schoolmaster wanted, paradoxically, a white blackboard. After numerous efforts, he met with success. By mixing sour milk with formaldehyde he developed a shiny hornlike substance which has as its base casein. It was the second plastic. The first was the celluloid billiard ball.

Research on plastic casein has been undertaken in the laboratories of the National Research Council, in order to make possible the giving of reliable, practical advice to the several firms in Canada wishing to take up the production of the material.

The soya bean is another agriculture product that is now much used in manufacturing plastics. Soya bean cake offers immense possibilities, in the manufacture of radio cabinets, containers, flooring tiles, table tops, buttons, spools and shuttles for the textile industries. From the soya bean we make a strong glue that is used much in the plywood industry.

We have now a synthetic resin made from acetylene. It goes into varnishes and lacquers. It also makes cups and saucers, drinking vessels and other containers.

No. 133. Thurs. Feb. 10, 1938 -- Substitutes - 4

Perhaps the most wonderful of all the newest plastics is the substitute for glass. A magazine arrived at the Bureau of Statistics a few months ago which featured the picture of a young lady looking through a cylinder of lucite, nine and a half inches thick. It was perfectly clear. It seemed to be clearer than optical glass and was only half the weight and non-shatterable.

Raw materials which go into its manufacture are coal, air and water. Unlike glass, this new substance may be dropped on the floor or thrown against a wall without breaking. It is very light in weight.

One of its unusual qualities is its ability to bend light around corners. No plastic appears to have a more promising future. It is taking the place of glass in automobiles, and when one learns that the framework of the windows, steering wheel, dials and other automobile fittings are made of plastic casein or soya bean meal, the whole thing becomes marvellous in our eyes.

The lady's dressing room illustrates the extent to which synthetics have carried us. The lingerie is, no doubt, of imitation silk made of wood, for there are not enough silk worms in all the world to supply the great demand for that material. Silk stockings may contain no real silk. The scientist is also busily engaged endeavouring to discover an effective remedy for runs in stockings.

The tooth brush handles, combs, brushes, mirrors and vanity boxes are all plastic productions. So are the shoe heel coverings and buckles and countless other articles, big and small.

The plastic bottle tops are particularly interesting. They screw on to the containers. The pop of the cork as it is pulled is rarely heard now and the corkscrew has already become an old-fashioned household implement. Occasionally when one is required, nobody can tell where it is.

Down in the living room there are the clock cases, the electrical fittings, lamp shades in delicate colours, book-ends, picture frames and the fish bowl. Even the piano frame, or part of it, may be of that same substitute for glass, through which we can see all the works. It is made of cellulose sheeting instead of wood. The ends are of wood, however, covered in the same material, and the bench is made entirely of the plastic.

No. 134. Fri. Feb. 11, 1938 -- Recovered Greases

In the City of Bradford, England, recent research work has been done in the recovery of grease from the textile industry, particularly the wool industry. Raw wool contains oil from the sheep's body and has to be cleared of it before being prepared for the market.

At Bradford, a solvent plant which cost a very large sum of money in the late stages of the Great War, and which has been in disuse ever since, now comes into useful service again. Within its walls, machinery to recover one-third of the output of raw grease is being installed. It is hoped that further research will not only save the waste grease but introduce entirely new and valuable products.

The new development consists of a series of processes, each one operating on the product of the previous one. Process one converts the grease into crude soap, which may be made into powder. Many users are interested in this crude soap powder; many tons have been sold from the first experimental plant, and the material has given satisfaction.

Process two separates the almost pure soap from the less soluble fats or oils. These fats can be used in lubricating oil and there are possibilities for it in the making of dyestuffs. Processes three and four treat the pure soap from process two to obtain stearin and other fatty acids. A by-product is a hard pitch for which there is plenty of demand on the English market.

Stearin and other fatty acids are used in the manufacture of soap. In 1936 nearly two million pounds of these fatty acids were used in Canada by this industry according to the Mining Branch of the Dominion Bureau of Statistics.

No. 135. Sat. Feb. 12, 1938 -- Canada's First Movies

In 1896 John Griffin, popularly described as "the father of motion picture houses in Canada", opened the first regular Canadian motion picture theatre on Yonge Street in Toronto. Shortly afterwards, L. E. Ouimet opened a similar theatre in Montreal. Pictures were shown of the Corbett-Fitzsimmons fight in 1896, Queen Victoria's jubilee procession in 1897, and the departure of the Canadian contingent for South Africa in 1900.

Films of this early period consisted of only one reel and, as the novelty wore off, interest in them began to die out. In 1903 Edwin S. Porter made a picture which told a "story". The narrative was conveyed to the audience by means of pantomime, printed dialogue flashed on the screen to explain the actions of the characters or what they said.

In 1926 Warner Brothers presented the first talking and sound pictures in New York. Over night Canadian theatres installed sound equipment and the "silent" picture practically disappeared.

"Talking" or "sound" pictures, technicolor and many other improvements demand a high degree of skill and technical knowledge, as well as heavy capital investment. However, "short subject" informative films have been produced with a considerable success.

The number of motion picture theatres increased from 862 in 1935 to 959 in 1936 according to a report on the census of service establishments from the Internal Trade Branch of the Dominion Bureau of Statistics.

No. 136. Sun. Feb. 13, 1938 -- The Order of the Garter

The Most Noble Order of the Garter is a famous British order of knighthood instituted by King Edward III. The often-cited tradition as to the emblem and motto is that the Countess of Salisbury dropped her garter when dancing with the King. He picked it up and tied it around his own leg, but when he observed the glances of the Queen, he returned the garter to its owner with the remark, "Dishonored be he who thinks ill of it."

The Garter, which was at first of light blue silk with the motto sometimes set in pearls, rubies and diamonds is now of dark blue velvet about one inch wide. The motto is in gold letters and is now translated as "Evil be to him who evil thinks." The Garter is worn on the left leg a little below the knee but when the sovereign is a queen, she wears it as sovereign of the order on the left arm above the elbow.

Knights of the Garter write K.G. after their names. For two centuries past the companions have been almost exclusively peers or the eldest sons of peers. Queen Elizabeth belongs to the Order as Lady of the Garter. All the male members of the Royal Family are members. The Kings of Italy, of Sweden, of Norway, of Denmark, King Alfonso XIII and the Emperor of Japan are other members. Sir Austen Chamberlain and Stanley Baldwin were two Commoners to receive this rare distinction. The member-

ship originally was 25 but has been increased to about 50.

This story was brought to mind by a report on Men's Furnishing Goods by the General Manufacturers Branch of the Dominion Bureau of Statistics wherein was the following statement, "Exports in this industry were very small and in 1936 consisted mainly of braces and suspenders to the value of $9,894". They were sent mainly to Jamaica, British South Africa and the United Kingdom.

No. 137. Mon. Feb. 14, 1938 -- St. Valentine's Day

This is St. Valentine's Day, the day devoted to the memory of that Roman priest, the Bishop of Spoletto, who was martyred on February 14, 271. St. Valentine is regarded as the patron saint of lovers. How that came to be is somewhat vague, but it is generally agreed that he was so famous for his love and charity that the custom of choosing valentines upon his festival took its form.

The Emperor Claudius ruled Rome. He was surnamed the Cruel. Near the palace was a Greek temple whose high priest was Valentine. He was very popular and his church was crowded with worshippers. War broke out and the citizens were summoned to battle. But the wars continued year after year and many were loath to join the ranks. The married men did not want to leave their families and the unmarried men openly demurred at leaving their betrothed. At this the angry Claudius issued a decree that there should be no more marriages and engagements should be broken. There were heavy hearts in Rome.

One day the good priest married a couple in secret, standing under the holy altars. Other couples came to him and he married them. Before long the marriage business was as good as ever.

Claudius was furious and ordered Valentine cast into a dungeon. In vain did the Emperor's counsellors plead for him. Powerful friends warned Claudius that trouble might result. However, it is said that Valentine was beaten with clubs and then beheaded. The greater part of his remains are in a church at Rome.

To keep his memory green, many couples were married on February 14, St. Valentine's Day.

No. 138. Tues. Feb. 15, 1938 -- Smoking Fish at Home

The simplest and oldest methods of preserving the surplus catch of fish are drying in the open air and smoking. The methods of smoking vary endlessly, though the principle is the same, namely to impregnate the flesh sufficiently with creosote from the wood smoke to prevent the growth of bacteria and moulds.

The principal requisite for a prime smoked product is that the fish be fat and oily. Before the smoking takes place the fish are "salted" in brine for two or three days.

Smoking fish at home is similar to that done by commercial firms but, of course, on a much smaller scale. When the haddock or cod has been removed from the "pickle" it is dipped into fresh water, allowed to drain, and then hung on rods in the smoke house or smoking chamber. A hardwood or sawdust fire produces the smoke. The longer the soaking in brine and the hours of smoking, the longer the keeping qualitites.

More than a dozen kinds of fish are marketed by Canada's fish smokers. The biggest production comes from the Atlantic provinces.

In 1936 smoked herring came first so far as volume was concerned, followed by cod. All save a small part of the smoked cod production consisted of fillets. Total smoked herring amounted to 60,000 cwt and cod 54,000 cwt. There were 26,000 cwt of smoked haddock supplying the market with the well-known "finnan haddie".

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

No. 139. Wed. Feb. 16, 1938 -- See the Snowshoers

When a hundred snowshoers set out on an afternoon tramp, they make a bright and picturesque appearance on the white landscape. They provide a thrill that no other out-of-door sport in Canada can emulate, for there are several things about it that make it unique. It is the one all-Canadian means of winter transport that is left to us after the inroads of such an attractive means of travel as the Norwegian ski and other things. It has come down to us from the aboriginal inhabitants of the country.

It is a means of winter transport, moreover, that leaves bdhind it a trail that is beautiful and artistic, for the mark of the snowshoe is pretty.

There is something else about snowshoeing that is very beautiful. It is the costumes of the young men and the young women who set out together to spend a few hours in joyous adventure and rivalry in the race.

They wear heavy coloured blanket coats with hoods and on their heads are coloured tuques. About their waists are gay belts of red, blue, green or yellow. They have blue or scarlet leggings laced up with other coloured ribbons, and their moccasins are also embroidered with colour. They make a vivid scene.

Perhaps not many people realize, as they glance at the gaily clad snowshoers on their tramp, that they are witnessing just such a scene as occurred hundreds of years ago when Quebec was young. These present day costumes were the winter clothing of the nobility of New France. Probably the only difference was that the young people of Quebec of the old days had dyed porcupine quills in their moccasins and they wore caps of beaver or marten which were sometimes tied down over their ears with brightly coloured silk handkerchiefs. The less well-off were more sombrely caparisoned.

The splendour of the clothing and its serviceable nature were the outcome of a general training in weaving which laid the foundation of the great textile industry to which Canada owes so much today. The French were the pioneers of that trade - they were the skilled mechanics. How that came about is intensely interesting. See No. 140 on Early Canadian Industry.

The number of snowshoes produced annually in Canada is increasing, as shown by the figures for 1936. Their factory value was double that of the year before.

No. 140. Thurs. Feb. 17, 1938 -- Early Canadian Industry - 1

You will remember that from the early beginnings of both French and English colonies on this continent it was the policy and practice of the home governments to look upon colonists as commercial assets for the benefit of factory owners in France and later England who would enrich themselves through sales in the colonies and the maintenance of prices. They discouraged manufacture by the colonials.

One great man recognized the futility of the policy and set himself to overcome it. The Intendant Talon saw that the planting of domestic industries was for the benefit of the colonists and in times of need would be a relief to the home government. As early as 1671 he wrote that he had caused druggets, coarse camlet, bolting cloth, serge, woollen cloth and leather to be made in the colony of New France. He said proudly: "I have, of Canadian make, wherewithal to clothe myself from head to foot."

The Ursuline nuns had vision and understanding and assisted him in his policy. They taught the young girls of the colony to spin and weave while attending their schools. It was part of their scholastic education. The direct result was that these young girls, when they went out into the world and married the farmers and hunters of Quebec, carried with them all over the country a knowledge of their art.

Part of the equipment of every home became the wool spinning-wheel and weaving-loom. These industrious women provided every fabric required in the household. They made the clothes that they and their husbands and children wore. The towels, the carpets, the curtains and the bed clothes were all made by them. They did wonderful work, many of their descendants are still doing it and their home manufacture is much prized.

S.B. Biggar, a noted authority on the textile industry, a man of Scottish origin, wrote many years ago that those who survey with pride its present magnitude and high character must not forget how much we are indebted to the skill, patience and deftness of the French-Canadian for its early success as a native industry and for its later achievements under the modern factory system. If the French-Canadian had not become a strong element in the population, the cotton, woollen, silk and other textile industries of Canada would not have become what they are today, nor could our boot and shoe and other branches of the leather trades have attained their present enviable position. Indeed, he said, the United States itself could never have gained its prominence in cotton manufacturing and in boot and shoe manufacturing had it not been able to draw upon the Province of Quebec for its factory hands.

This, to a large extent, explains why so many French-Canadians are living in the United States.

No. 141, Fri. Feb. 18, 1938 -- Early Canadian Industry - 2

Fabrics were woven on hand looms, made entirely of wood. The reeds were of hickory. The carding was done on hand cards not unlike curry combs for grooming horses. The dyes were obtained from the roots of wild plants and butternut wood, and in the making of these dyes they received much assistance from the Indians. The coloured sashes were made by braiding. This ceinture flèche has never been successfully imitated on a loom. It took about two weeks to make a single sash and the most expert makers were the Indian women. However, it is now almost an extinct industry. A good ceinture flèche is highly prized and will bring as much as $50.

As a complement to the native woollen industry the grazing of sheep and goats and the growing of flax and hemp for linen cloth and cordage was attempted with more or less success in the early years of the French regime. The Jesuit Relations in 1668 show the existence of hat makers and shoe makers. They spoke of establishing manufactures of linen cloth and leather. Sheep raising grew steadily but the raising of goats made little or no headway.

The settlers in Acadia also learned domestic weaving and, as time went on, there were new arrivals from the north of Ireland, who were skilled in the making of linen. Among the settlers that Cornwallis brought were men skilled in the making of gloves, needles and hats.

The old trouble of jealousy on the part of the Old Country manufacturers broke out under British dominion in Canada but the settlers found a friend in Lieutenant-Governor Francklin of Nova Scotia. He seems to have had the confidence of his home government also. His letters were helpful and managed to satisfy the British authorities.

The situation led Murdock, the Nova Scotia historian, to remark: "It is obvious from this as well as from a multitude of other facts, that a close jealousy existed among the manufacturers of England against any attempts in America to do anything in that line; and this narrow policy, influenced by a few avaricious capitalists engaged in manufactures, did more to lose the old Provinces (The New England States) to England than any other circumstance."

The output of textiles remained a domestic industry until about one hundred years ago. To erect mills and establish factories had been impossible under both French and English imperial policy. But some good came out of it. When factories did come into existence, which was in the early 1800's, there were ready to hand a great many skilled workers who were able to operate the looms and machines, and who had a thorough knowledge of the arts of weaving and dyeing. It was an advantage to organized industry. It made for immediate efficiency and rapid advancement.

The first application of power was in carding and fulling. Machines of American design were introduced and they were operated with water power.

The textile industry is not the oldest in Canada. That honour belongs -- and naturally so -- to milling, for people must have food, and flour had to be manufactured for the early colonists. But weaving came next, for people must be clothed.

No. 142. Sat. Feb. 19, 1938 -- Early Canadian Industry - 3

Once on its feet as a well-organized industry, textile manufacturing made rapid progress until after not much more than a century of operation, there are now 2,230 establishments in Canada with a capital of over 300 million dollars, and 116 thousand employees, more than half of whom are women. The factory value of the output is about 400 million dollars. That is a tremendous achievement. Our exports are now running over ten million dollars and have doubled in the last four years.

A third essential in the early life of Canada, coming after, if not alongside, food and clothing was footwear. Moccasins were largely in vogue but sabots or wooden clogs were much used in summer. These could be made at home with skilful hands and very few tools. Occasionally the sabot may be seen yet in a Canadian farm yard.

But a progressive race in this climate must have boots and shoes and the cobbler was in evidence in every community. From the cobbler at his last has grown the leather footwear industry of Canada. It is one of those outstanding activities that have measured up splendidly to the needs of the Dominion. It has flourished and expanded because it has adapted itself to the special requirements of its own particular market. It has developed a type of shoe that has been suited to the climatic conditions of the city, the country, the woods and the mines.

An excellent testimony to the efficiency of those who have developed that industry is that, from the date of the transition from the cobbler, who measured a foot and fashioned a remarkably fine boot by hand, to the machine-made product, the industry has been retained to a large extent in the same places as saw its beginning.

No. 143. Sun. Feb. 20, 1938 -- Rapid Development

It seems extraordinary that it was less than a century ago that the first sewing machines were installed in a Montreal factory.

In the year 1928, the peak year of our prosperity in the post-war period, when employment was at its height and wages good, the factories had a record output of 21 million pairs of boots and shoes. When the depression came the production dropped off considerably. Then the betterment came again and the number of pairs turned out now is far ahead of the best years of the late twenties.

A point worth noting is that the majority of the output is of women's footwear. Canadian women have the reputation of being particular about their shoes and a great deal of this credit is due to the ladies of Quebec. Their country of origin has long been noted for its daintily-shod women and it is observed in our trade records that, when very expensive ladies' footwear is imported, it comes mainly from France. It is a curious little weakness in many a lady's make-up that while she may be able to get just as good an article at home, she loves to exhibit a shoe and say with pride that it came from Paris.

Three years ago our exports were 64 thousand pairs, so Canadian shoes must be appreciated abroad.

From spinning and weaving cloth and from tailoring and dressmaking we have developed garment-making factories. While some men and women still have their clothing made to order and by hand, most clothes are now made in these garment factories. We may have fewer tailors and dressmakers than we used to have, but we have more clothes and dresses. We also have fewer cobblers and makers of custom-built shoes but we have more footwear and many other kinds of leather goods made in factories.

The men and women of these handicrafts, particularly in Quebec, laid the foundations of great enterprises, created the atmosphere and skill which made possible the rapid expansion of these and many other industries that now go to form our industrial network.

No. 144. Mon. Feb. 21, 1938 -- Amethysts for February

Amethyst is a violet or purple variety of quartz serving as an ornamental stone. The ancient Egyptians used it as a gem-stone and it was largely employed in antiquity for engraved designs.

The Greeks believed that the stone had the power to prevent intoxication. For this reason wine was drunk from sparkling amethyst cups. In Biblical times it represented justice and courage and was the stone of the tribe of Dan, which stood for judgment. It is used for episcopal rings.

It is a very widely distributed mineral but fine, clear specimens fit for cutting as ornamental stones are confined to comparatively few localities. Much fine amethyst comes from Russia. Catherine the Great was very devoted to the amethyst and sent thousands of workers to the Uralian mines to search for the stone.

On exposure to heat, amethyst generally becomes yellow and much of the cairngorm or yellow quartz of jewellery is said to be merely "burnt amethyst". But, guarded from intense heat and strong sunlight, it will retain its colour indefinitely.

Uralian or Siberian amethysts are the best quality, having a deep red-purple colour. Uruguay furnishes a beautiful violet-red. Other important localities for amethysts are Ceylon and Madagascar.

Among the previous stones imported into Canada there is none shown as coming from Russia although the fine amethysts of that country are obtainable on the Canadian market. Undoubtedly they reach us as imports from another country and therefore figures are not available.

No. 145. Tues. Feb. 22, 1938 — A Canadian's Expectation of Life - 1

In the allegory of the Vision of Mirzah, Addison describes life as a bridge consisting of about 70 arches with a number of broken spans at the end. During the travel of man across this bridge, traps representing disease and premature death are constantly opening and men are falling through into the abyss. Modern science has made enormous strides in closing up the traps of early and middle life, but has done little towards repairing the broken arches at the end.

The great French writer Balzac, who reveals to us the springs of passion in the minds of his characters and creates lasting impressions on his readers as possibly no other novelist has quite so well done, gives us a picture of an alchemist at work seeking persistently for the elixir, the water of life. Every reader of Balzac will remember the story, or at least the purpose of the alchemist, and will thereby be well equipped to visualize the struggle of science to discover that element or that something which would enable mankind to live almost forever and to contrast the pursuit with the present day results achieved. The modern scientist approaches the problem from a totally different angle.

During the Dark Ages in Europe the alchemists were practically the only workers who were bent on discovering new substances or processes. For the most part, however, they concentrated upon the discovery of the "philosopher's stone" and the "elixir of life". The philosopher's stone was the element, mixture, or solid substance which would have the property of converting the baser metals into gold and the elixir of life was an imaginary liquid supposed to be capable of prolonging life indefinitely. Some of these alchemists were honest but many of them were simply charlatans.

The light of the newer world began to dawn in the 1600's with the modern conception of an element and from then until now we have gradually acquired some true knowledge of the way in which to stall off death, not indefinitely, but rather to prevent people dying prematurely.

Now we come directly to the question of the expectation of life of a Canadian. How many people can expect to live for a century as did Mrs. Fulsher, who passed away this year at her home in Half-Way-House, a few miles north of Winnipeg? She was the lady whom raiding Indians in 1870 called "Spotted Dog" because of her freckles and her courage in holding them at bay with an old rifle. They admired her pluck in saving the family possessions.

What gave her that longevity? She was twice married and had twelve children. She came of a long-lived family, her grandmother having lived to 106 and her mother 99. She was a very active woman, until only a week before her death. Heredity usually plays a part in reaching old age; it appears to have done so in her case. Princess Louise, widow of the ninth Duke of Argyle, who, as the Marquis of Lorne, was Governor-General of Canada in the seventies, opened an exhibition on Saturday. She leads a very busy life at almost 90. Her mother, Queen Victoria, died at 82. Her brother, the Duke of Connaught, Governor-General of Canada a quarter of a century ago, is in his 88th year. Heredity again.

No. 146. Wed. Feb. 23, 1938 -- A Canadian's Expectation of Life -- 2

What we mean by the expectation of life may be worked out in this way. Take one hundred thousand children at the age of five and keep track of them until their deaths, and the average length of time they lived would have been their expectation of life. The same can be done with any other age.

The expectation of a boy just born is 60 years; of a girl just born it is 62 years. Because of the heavy mortality in the first year of life, particularly among boys, the child's expectation increases from week to week during the first perilous year of its existence, and the anxiety of the parents decreases accordingly. The one-year old Canadian boy has the expectation of reaching the age of 65 and the Canadian girl 66. The boy has gained five years and the girl four above their expectation at birth.

It is after the age of 21 that the expectation of life steadily decreases. When a Canadian boy reaches his majority he has in prospect 48 years to live, or to the age 69. That is by the law of averages. When he gets to 40 he may anticipate 32 years more, or until he is 72. When he retires, say at 65, he may expect to have a comfortable thirteen years of retirement and pass on at 78. If he reaches 80, he should live for six years more. When he arrives at the century mark his expectation of life is two years.

Of course, the expectation of life, as long as one is not on his deathbed, never goes down quite to zero, but for statistical purposes it is assumed that zero is one hundred and ten. That does not mean, however, that one hundred and ten should be considered the extreme upper limit of life. We cannot forget the story of Methuselah, who is credited with 969 years.

The result of the Bureau's investigations tends to reinforce the Biblical dictum that the length of life is three score years and ten. At the younger ages and up to the age of 50 the improvement in Canada was very marked in the ten years of which we have record, but above 70 there was a deterioration in vitality though it was very slight. It seems that today, in Canada in particular, there are far more people attaining the allotted span than ever before in history, but there are not appreciably more centenarians than there were a hundred years ago.

On the other hand the decreasing mortality at younger ages is a token of the vastly smaller amount of illness among young people today. Life is improving at the ages of health and vigour -- at older ages Nature seems to continue her procedure of making way for new life despite all man's efforts.

No. 147. Thurs. Feb. 24, 1938 -- A Canadian's Expectation of Life - 3

It was only in 1926 that the registration area for births and deaths was extended to include all of the nine provinces and so it is only during a ten year period that we can cite positive data and make a definite analysis. We have to turn, therfore, to an old country like England to get a series of conclusions which we, in a young country like Canada, lack the figures to obtain.

The first official British life table was calculated on the bases of the census of 1841 and the most recent in 1931. The expectation of life at birth has risen in these 90 years from 40 years to 59 years. But this increase of 19 years gives a little idea of the enormous improvement in the changes of life at certain younger ages. The chance of a man of twenty dying within a year was cut down from eight out of one thousand to three out of a thousand. At the older ages, on the other hand, the improvement was small. The expectation of life to a man of 60, for example, only increased by about nine months.

In order to test whether the trend of mortality for Canada has been similar to that of England, a calculation was made by the Dominion Bureau of Statistics for the eight provinces whose deaths for 1921 were available and comparable with the mortality of the same provinces in 1931. It was found that the expectation of life at the age of five had gone up by the very considerable amount of a year and a half in the ten years, while the expectation of life at 65 had only increased by twenty days -- not a significant amount.

Thus in Canada, as in England, it appears that the chances of reaching the usual retirement age are improving with time, but that the expectation of retired life is not increasing at the same rate.

It has been shown that the Canadian boy of five can look forward to two full years more of life than the British boy of five. The Canadian at 40 has 32 years in front of him as against less than 30 for his British cousin. Even at 75 there is a difference in favour of the Canadian of a little more than a year.

What about the Americans? We find that at the younger ages the Canadian superiority is more marked over them than over the British but at ages over 50 they are longer lived than the British but not quite so long lived as the Canadians.

The same story may be told of other countries. In a list of 15 countries, only two show a higher expectation of life for boys of five than Canada, these being Denmark and Holland. An examination in detail of the yearly chances of dying indicates that between the ages of 20 and 50 these are the only two countries that give a better expectation. At the very early ages, however, Australia has a better record and at the later ages Sweden. The expectation of life of an Italian child of five is almost three years less than that of a Canadian, a Japanese child twelve years less and an East Indian 24 years less.

No. 148. Fri. Feb. 25, 1938 -- A Canadian's Expectation of Life - 4

There must be a reason for the great longevity of Canadians. Is it our healthy, rugged climate? Is it a superior resistance to disease or the stronger physique of the Canadian? Is it due to our advanced medical facilities? Is it our comparative wealth, our higher standard of living, our fine social service? What is it?

The idea of the Bureau is that all of these things enter into the picture, but it cannot be denied that there is another element which has a bearing upon the great longevity of the Canadian.

Consider for a moment the probability of a person aged 25 dying within five years. The probability is greatest in the Maritimes and least in the Prairies, being twice as high in the former as in the latter. The expectation of life at the age of five is over 64 years in the Prairies and under 61 in Quebec, to take the two extremes.

Why should the Prairies show better than Quebec and the Maritimes? The answer is simple. When large movements of population take place, there is a tendency for the more healthy and energetic elements to move, while the less healthy people stay at home. To move to a strange land requires, even in this day, something of the pioneering spirit. Hence it is that the Western Provinces of Canada have the lightest mortality. These Provinces have received much of their population very recently.

This completes the contrast between the science of today and the Dark Ages. The scientists of long ago searched for an elixir of life which they never found. It was a dream. The scientist of today has given us better food, better living conditions, better physicians and dentists -- all the equipment of modern life to withstand so far as humanly possible the ravages of time. We have not been given an indefinite span of life but we have been given a longer average sojourn upon this earth. The ancients worked without result, they missed what modern science discovered.

No. 149. Sat. Feb. 26, 1938 -- A Canadian's Expectation of Life - 5

In most countries women seem to live longer than men, and this is true of Canada. At birth the difference in expectation of life is two years in favour of the girl infant, although after the first year the advantage is reduced somewhat. However, as we follow their course through life we find that this lower female mortality disappears about the age of 23 and gives way to a distinctly lower male mortality. In fact the female mortality keeps rising above the male mortality until the maximum difference is reached at the age of 31. At that age it begins to fall with respect to males until at the age of 42 it falls below and remains below male mortality for the rest of life.

There is little doubt that this higher female mortality, which occurs at the point of life when the risks attached to childbirth are most present, is related to, if not brought on entirely by such risks. It is gratifying to note that it decreased considerably between 1921 and 1931.

It is rather remarkable that each of the five geographical divisions of Canada tells very nearly the same story with regard to the difference between male and female mortality in the Dominion as a whole. There is, however, one exception. British Columbia shows a higher mortality for males than for females at every age of life outside the short period from 11 to 15 years.

We have seen that the trend in mortality has been downward for 90 years in England so that the expectation of life at birth has risen from 40 to 59 years. Progress has been made at the same rate in Canada during the ten years of which we have a full and accurate knowledge. Mortality is decreasing in the middle ages of life.

Is there to be any limit to this power? Will the expectation of life at birth continue advancing until it reaches 80 or 100 years? That would depend upon a continuance of the present rate of improvement in sanitation and medical science.

But many authorities believe there is a kind of law of diminishing returns in this matter, so that beyond a certain point vast effort will bring about only a small change and that an ultimate limit to the present trend of improvement may be an expectation of life at birth of 70 years.

No. 150. Sun. Feb. 27, 1938 -- Bringing Things to Canada from Afar

Even if a great deal of the romance of the sea has departed since the glorious spread of white wings bellying to the breeze, gave way to steam, with black smoke belching into the air from ugly funnels, there yet remain intriguing stories that stir the heart and the imagination.

We have an intimacy with the ships that nose their way, by day and by night, into friendly ports, for they carry freight that is precious to us. It may be human freight, or it may be the odds and ends that make the family supper table the pleasantest place of all festivity. It may be the raw material for the factory, without which thousands of men and women would not be given employment, or it may be costly jewels to adorn the ladies whose husbands and fathers have been earning more yellow gold than was necessary just to keep the pot boiling.

You can picture a rusty trader limping into Vancouver or up the St. Lawrence. She has been on the tramp all over the world, perhaps for years, picking up things here, there and everywhere. To the eye unacquainted with the sea and its ships she is a miserable-looking object, not much better than an untended cottage whose weathered boards have been shorn of their paint by the ravages of nature.

But the sweet lines of her make the eyes of the sailor-man sparkle and he sees her as she will be when she goes into dry dock, gets a lick of paint on her sides and has the barnacles scraped from her under-water hull. She will set out again on her travels, as fresh and spruce as the young lady who, when the spring sun chases old winter away, throws aside the gear that kept her warm in the cold months and trips to church on Eastern Sunday with her new hat, looking fine and dandy.

But before the ship has been scraped and cleaned and painted she has had a busy time at the docks. She has sent ashore a cargo, every item of which is eagerly awaited by somebody. It is a fascinating mixture of goods. For days a young man has been pacing that dock to and fro. Quite evidently he is labouring under some excitement. Every now and then he inquires at the steamship offices when they think the "Westward Ho" will arive, and the clerk, knowing full well from old experience why that special ship has a particular interest for him, tells him the expected hour. Out the lad goes to the end of the pier again and scans the horizon.

At long last, a busy little tug swings the ocean traveller alongside the dock and there, leaning over the rail of the ship, is the lady who is to grace a little home, to make fuller the niche which the young man has carved for himself in his new land of promise.

This is a common, everyday sight at the great ports of the Dominion; the arrival of the most precious freight that has been carried across the seas. There is nothing in the world so fine as good people. Sometimes we forget that.

There are three million people in the country who were not born in this Dominion.

No. 151. Mon. Feb. 28, 1938 -- Trade Has Queer Angles

Trade has some queer angles. As a rule we import what we do not ourselves produce but there are times when we bring in commodities of which we have a great abundance. An example is pulpwood. While our total imports are relatively insignificant, it does seem like carrying coals to Newcastle to bring pulpwood from the United States to Canada. It happens in a few cases where a Canadian pulpmill is located near the American border, with a small source of pulpwood only a few miles from the mill, but on the other side of the line.

Canada is the fifth trading nation in the world and the fourth in exports. Canada last year was eighth in imports, in purchased goods, being exceeded only by the United Kingdom, the United States, Germany, France, Japan, Belgium and the Netherlands.

Per capita trade is interesting. The leading importing country of the world last year was New Zealand with $112 per capita. Switzerland was second and the others in order of importance were Denmark, the United Kingdom, Norway, Netherlands, Sweden and Australia. Canada was in tenth place with $53 per capita. New Zealand was also first in per capita exports with $145 and Canada was second with $91, the next eight being Denmark, Belgium, Australia, Switzerland, South Africa, Sweden, Norway and the Netherlands.
