

# Canada Weekly

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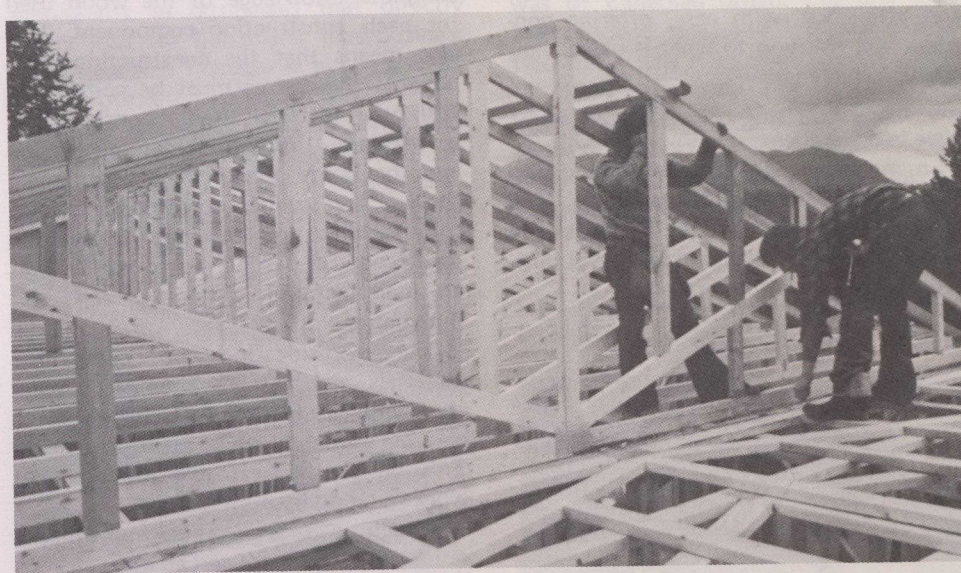
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## Batimat 83: Canada builds top reputation in wood construction



Canada will demonstrate its knowledge of "wood through-and-through" at the International Construction Exhibit — Batimat 83 — being held at the Parc des Expositions, Porte de Versailles, Paris, November 11 to 20. A display of top quality products will illustrate the technology and know-how that have earned Canada its international reputation in wood construction.

Visitors at the Canadian exhibit can explore the numerous advantages of timber-frame, a proven construction method that meets the challenges of controlling construction costs and conserving energy.

In response to the energy crisis of the mid-Seventies, many West European countries have adopted new regulations that advocate a major reduction in the energy consumed by heating private homes. In France, the reduction is hoped to reach 60 per cent by 1984. Stringent standards require a re-evaluation of the art of building and European countries are slowly rediscovering methods they first brought to America 400 years ago.

The wood industry is one of the cornerstones of the Canadian economy. With one-tenth of the world's forest resources, Canada has become one of

the leading international suppliers of wood products.

Canada's abundant resources have also given rise to a manufactured wood products industry that is constantly perfecting both its techniques and its products, including doors and windows, flooring, wall panelling and cabinets. Today, this industry comprises about 20 sub-sectors and includes close to 2 000 firms which employ 45 000 Canadians. In 1982, sector shipments totalled \$1.1 billion with about 15 per cent of the exported products directed to the European market.

### Skills brought from Europe

Half-timbering techniques actually originated in Europe. Carpenters relocating to New France and other parts of North America brought their skills in timber-frame construction with them. Since then, these skills have become so widespread that today, 98 per cent of all Canadian houses (3.5 floors or less) are built with timber-frame construction methods.

Timber-frame holds no secrets for Canada — nor any surprises. With the exception of post-Second World War breakthroughs in compatible components



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and element standardization, modern carpenters have not modified traditional building methods. An already-mastered art, with advantages recognized even 400 years ago, timber-frame construction has not changed. Its advantages, though, have become more pertinent to many of today's major housing concerns: in particular, control of increasing construction costs, and energy conservation. Timber-frame also responds to the ageless consumer demand for comfort, appearance and efficiency, with ease, offering contractors a solution to what is often their greatest challenge.

**Vive la différence**

In many ways, it is impossible to distinguish between today's masonry and timber-frame houses. This is because the identical exterior cladding is used in both types of construction.



*Half-timbering techniques originated in Europe 400 years ago. Carpenters relocating to North America brought their skills in timber-frame construction with them.*

Other factors also contribute to the resemblance of the two types of construction. Masons and carpenters both use newly-designed materials such as gyprock panels, heavy plastic finishes and fibrous insulation. They also use common building techniques, especially in the upper part of houses.

The similarities, however, are cosmetic in comparison with the great and fundamental difference between masonry and timber-frame construction: the primary building material, and the method of building the floors and the supporting frame.

For the contractor, one of the greatest advantages of timber-frame construction is its short assembly period. While a masonry house takes between 12 and 16 months to build, a timber-frame house takes one-quarter of that time. Assembly is quick simply because of an entirely dry-process construction system.

This system, as used in Canada, is based on the standardization of materials used in construction and results from a complete knowledge of the wood used for each construction component. This also means that the construction components themselves must be compatible with other materials used in construction: for example, insulation materials which are the same thickness as the frame timber, and which correspond exactly to their on-centre spacing; or, plywood sheathing and particle board panels that are manufactured in standard sizes and thicknesses.

This organization of compatible materials enables them to be easily available, and allows the prefabrication of certain elements such as roof trusses. This greatly reduces and modifies the work to be done on site.

Finally, a quickly-erected frame means quick shell enclosure and an early start to the interior finishing work. An enclosed building also offers weather-protected storage for materials.

**Economical high-yield insulation**

In the two decades following the Second World War, "energy conservation" was an unknown phrase in the world's vocabulary. Energy resources seemed plentiful, and no great cost was associated with this valuable resource.

In that period, masonry construction methods spread. Although a variety of factors contributed to the popularity of this technique, including the shortage



*Timber-frame construction has been proved to be both cost effective and energy efficient.*

of qualified carpenters and building timber, the difficulties in heating and insulating masonry houses did not discourage builders.

Times have changed. Energy conservation is now headline news. The small inconveniences of yesterday are today the most important problems facing public authorities, private enterprise and consumers in general.

In many European countries, new regulations are advocating a significant reduction in the energy consumed to heat private homes. In France, the reduction is expected to reach 60 per cent by 1984. This will undoubtedly require a re-evaluation of the art of building. Consequently, certain materials and techniques now used by masonry builders will no longer meet increasingly stringent standards.

This is not, however, the case with timber-frame construction. Wood insulates naturally, and this is a great advantage when it comes to reducing, or even eliminating, K linear losses (thermal tapings). But more important, timber-frame lends itself admirably to running in very thick layers of insulation in the various frame sections. This construction method reduces costs, at equal insulation performances, by 8 to 15 per cent as compared to masonry techniques.

**Safe and sound**

Materials in timber-frame houses more than meet fundamental fire safety standards. The chemical decomposition of wood, for example, is slow enough for the structure's mechanical characteristics to be maintained even at extremely high temperatures. Gyprock panels also offer the structure a great deal of protection. In addition, fibrous insulation contributes to the thermal protection of the structure.

Canada's role in wood construction, particularly timber-frame building, is being featured at Batimat 83, being held in Paris at the International Construction Exhibit, Parc des Expositions, Porte de Versailles, Paris, November 11 to 20, 1983.

For further information, please contact Commercial Division, Canadian Embassy, 35, avenue Montaigne, 75008 Paris, France.

Tel: (01) 723-0101  
Telex: (destination code 42) 280806 (CANADA 280806F).

Canada's reputation in timber-frame construction is a proven one. In a country which has one-tenth of the forest resources in the world, the wood industry is vitally important in the Canadian economy. Canada has a rich variety of forest species, all of which are in great demand. Forest research centres across the country conduct advanced silvicultural experiments and intensive stand management. This ensures that Canadian technology will maintain its already enviable international reputation.

For many years, Canada has been active in training programs for the various construction trades, and in missions to Europe and elsewhere. Many countries, including Japan, are already using Canadian know-how to convert their building methods to timber-frame. These countries have found in timber-frame construction a secret to successful house building that Canada has known for four centuries.

### Job-creators welcome immigrants

Minister of Employment and Immigration John Roberts has announced new measures to promote the admission of entrepreneurs as immigrants. These measures come into effect January 1, 1984.

"We are looking for immigrants who can establish job-creating businesses and bring a new investment spirit as well as new skills and product lines to Canada," Mr. Roberts said. "These measures have been developed with the provinces to ensure that the program is flexible enough to support and enhance each of their plans for regional development."

The new measures include a higher processing priority for entrepreneurial applicants, the posting of specially trained entrepreneurial development officers in key source countries, and a two-year provisional admission for well-qualified applicants who have not fully developed their business ventures.



Those admitted on a provisional two-year basis will be closely monitored and the province concerned will be consulted before immigration formalities are completed. Applicants who already have firm business commitments that create jobs

for Canadians will continue to be admitted as landed immigrants. The counselling, selection and processing of business applicants will be completed on a priority basis, second only to family class members and refugees.

"To be accepted, entrepreneurs will need sufficient capital to start a business; however, financial status alone will not guarantee a visa," the minister said. "The active personal involvement of these immigrants in businesses that directly create jobs for Canadians, plus business know-how and managerial skills, are the most important considerations."

Under previous guidelines entrepreneurs were required to participate in the day-to-day management of their businesses in Canada, thus overly restricting the entry of persons whose special knowledge and skills would directly benefit Canadian industry on a broader scale. The new program places greater emphasis on the background, expertise and entrepreneurial spirit of the business immigrant.

Between 1980 and 1982 almost 5 500 business immigrants were admitted to Canada. These immigrants brought an estimated \$1.5 billion into the country and created about 10 000 new jobs.

Although the program applies equally to all countries, the main sources of business immigrants have been West Germany, Hong Kong, France, the United States and the Netherlands.

### Canada ratifies convention for salmon conservation

Canada has ratified the International Convention for the Conservation of Salmon in the North Atlantic Ocean, it was announced recently.

The convention is the culmination of several years of negotiation with the other North Atlantic salmon-producing and salmon-fishing countries. The final act of the convention was signed on January 22, 1982, in Reykjavik, Iceland, by Canada and six other participants, and has been ratified by the United States, the European Economic Community, Iceland, Norway and Denmark for the Faroes Islands.

The convention recognizes that countries in whose rivers salmon originate and spawn have the primary interest in and responsibility for such stocks. Since Atlantic salmon migrate long distances, feeding and maturing in the ocean before returning to their rivers of origin to

spawn, international co-operation is required to minimize the interception of salmon by fishermen in waters of other states.

This agreement is important to Canada, since many salmon originating in Canadian rivers are caught along their migratory route in Greenland waters. Last year, 1 077 tonnes of salmon were caught off West Greenland. Of this amount, it is estimated that 45 per cent was of Canadian origin. Limiting these interceptions is essential to the protection of Canada's Atlantic salmon stocks. In 1981, the value of commercially landed Atlantic salmon in Canada was approximately \$7 million and revenue generated by the salmon sport fishery is estimated to be in excess of \$27 million.

### Exhibit reaps lucrative sales



Phil Stevens, chairman for the Woodworking Machinery and Furniture Supply Fair held in Los Angeles, September 22 to 25, dropped by to visit the Canadian exhibit. Here, Mr. Stevens (centre) receives a book on Canada from Jim Nutt (right), Canadian Consul General and David Taylor (left), Consul and Senior Trade Commissioner in Los Angeles. Canadian exhibitors made on-site sales of \$197 550 and projected sales of \$1 373 800 during the coming year. In addition, ten agents were appointed, 22 agents were pending and there were 827 serious enquiries.

## Nobel prize for Canadian scientist

Canadian-born Henry Taube, a professor at Stanford University in California, has been awarded the 1983 Nobel Prize in chemistry by the Royal Swedish Academy of Sciences. The academy described him as "one of the most creative contemporary workers in inorganic chemistry".

In honouring the 67-year-old Professor Taube, a native of Saskatchewan, the academy noted "his work on the mechanisms of electron transfer reactions, especially in metal complexes". Professor Taube dominated the development of this subject both theoretically and experimentally, making 18 major discoveries, the citation added.

Although Professor Taube's esoteric work was confined to the inorganic, it had important implications for biochemistry because respiration involving oxygen consumption is also associated with electron transfers.

## Alberta cities lead in growth

The populations of Calgary and Edmonton, Alberta grew by an average of more than 3 per cent between June 1982 and June 1983, posting the highest growth rate among major metropolitan areas in the country, Statistics Canada reported recently.

The population of Saskatoon and Regina, Saskatchewan registered annual average increases of more than 2 per cent, while the pace of growth slowed to less than 0.5 per cent in Hamilton, London, St. Catharines-Niagara, Ontario; Montreal, and Quebec City.

Sudbury and Windsor, Ontario were the only two cities to experience a population loss since June 1981, the agency said. Quebec City had a drop of about 3 000 between June 1982 and June of this year, but its population was still 4 000 more than in June 1981.

The statistics also showed that 13.979 million of the total 24.9 million people living in Canada resided in the 24 metropolitan areas covered in the census. The figure was up marginally from 13.820 million in the previous 12-month period.

Metropolitan Toronto maintained its position as Canada's largest urban area, with a population of 3 067 100 followed by Montreal at 2 862 300 and Vancouver, British Columbia at 1 310 600.

## Automobile sales earn top export dollars

A look at Canada's top ten domestic exports show that the natural resources still bring in big dollars.

But it is the export of passenger automobiles and chassis, mostly to the United States, that is Canada's chief income earner. These exports accounted for \$7.3 billion in trade in 1982.

Resource sales were close behind, with natural gas, wheat and newsprint as No. 2, 3 and 4 on the list, bringing in a total of \$13.2 billion during the same year.

The US bought all of Canada's natural gas exports, for \$4.8 billion. The USSR bought the lion's share of the wheat crop, a reported \$1.4 billion of a total of \$4.3 billion. The rest was exported to China, Britain, Japan, Brazil and various other countries.

### Newsprint sales

Sales of newsprint, considered a semi-manufactured product, in 1982 were \$4.1 billion with \$3.2 billion of that exported to the US.

Trucks, truck tractors and chassis made up the fifth-largest export category, totalling \$3.9 billion. The US market

gobbled up \$3.8 billion of those products. Motor vehicle parts, except engines, accounted for another \$3.9 billion in trade. Again the US was the prime buyer, purchasing \$3.6 billion in parts.

The seventh-most-exported product was wood pulp and similar pulp, another semi-manufactured item, with total sales recorded at \$3.2 billion. The US spent \$1.7 billion on wood pulp with the rest exported to Japan, Britain, West Germany, the Benelux countries, Italy, France and others.

### Lumber sales

Softwood lumber was No. 8, with sales of \$2.8 billion to the US (\$1.9 billion), Japan (\$382 million) and Britain (\$350 million).

Crude petroleum, the ninth-best-selling item, accounted for \$2.7 billion in sales exclusively to the US.

In tenth place are petroleum and coal products, ranging from semi-manufactured to refined products. They earned another \$2.5 billion in sales, the bulk going to the United States.

*(Article from The Citizen.)*

## New Canadian-made Massey Ferguson tractor unveiled



*The first Massey Ferguson 400 series four-wheel-drive tractor produced in Canada rolled off the company's Brantford, Ontario assembly line recently. The tractor, a 375-horsepower MF 4900, represents a milestone in Massey Ferguson's world-wide production plant consolidation. The company announced in July 1982 that it would move assembly of the large, articulated four-wheel-drives from Detroit, Michigan to Brantford. Four tractor models involved range from 225 to 375 engine horsepower.*

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# Canada Weekly

Supplement

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## Canada retains its position as the world's leading fish and seafood exporter

Now in its sixth year, November Fish and Seafood Month has resulted in increased domestic sales and consumer interest. The major promotion effort in Canada is carried out by the Department of Fisheries and Oceans in co-operation with the Canadian fishing industry. Over 100 000 Canadians earn their living directly from the fishing industry, either as fishermen or processing-plant workers and managers. Thousands of Canadians depend on the industry for their livelihood, including those employed in vessel design and construction, fish-equipment manufacture and supply, wholesale and retail operations, and fisheries-resource management. In this special colour supplement — a first for *Canada Weekly* — we salute all involved in the fishing industry.

*(Source material and photos courtesy Department of Fisheries and Oceans.)*

For the fifth consecutive year, Canada was the leading fish exporting country in 1982, in terms of value, according to statistics from the Organization for Economic Co-operation and Development (OECD).

Next came the United States, Denmark, Norway, Japan and Iceland, in that order, among the OECD-member countries. The OECD, with headquarters in Paris, is an organization of industrialized nations whose objective is to facilitate trade and investment, and to analyze and deal with general economic problems.

Improved fishery resources through sound stock management, a steady demand for fish and seafood, and a continued effort both nationally and internationally by the Canadian Department of Fisheries and Oceans to protect species and to promote fishery products, have sustained the growth of Canada's fishery sector despite prevailing economic hardship in recent years.

Not only the leading fish and seafood exporter in dollar value in 1982, Canada was one of the leading producers of fishery products in terms of volume. The total market value of the 1.39 million tonnes of fish and seafood landed in 1982



was \$1.9 billion, with \$1.6 billion coming from exports. Salmon and herring from the west coast and cod, flatfish, crab, lobster and scallop from the east coast were the main species exported. East coast fisheries accounted for 70 per cent of exports, west coast fishery 23 per cent and freshwater fisheries 7 per cent.

Canada has held its position as the world's leading fish exporter in dollar value since 1978. Ranking sixteenth in the world in terms of volume of catch, Canada's share of international fish trade is approximately 7 per cent. Department of Fisheries and Oceans (DFO) inspection and quality improvement programs guarantee customers in some 50 coun-

tries the very best that Canadian waters have to offer.

The establishment of the 200-mile exclusive fishing zone in 1977 and sound resource-management practices have provided the Canadian fishing industry with an incomparable and growing resource of more than 100 commercial species.

Almost 80 per cent of Canada's fish production is exported. Markets are: United States, 55 per cent; European Economic Community, 16 per cent; Japan, 15 per cent; other European markets, 6 per cent; and other markets, 8 per cent.

Canada's main export product forms are: frozen, 49 per cent; cured (salted, smoked, dried), 15 per cent; whole or dressed fresh fish (including fish fillets), 9 per cent; fresh and frozen shellfish, 9 per cent; canned, 6 per cent; and other products, 12 per cent.

### Consumption and catch

Canadians consumed about 20 per cent of total Canadian production of fish and seafood in 1982. While their *per capita* consumption of 7.2 kilograms is modest compared to the 32 kilograms *per capita* consumed in Japan and 18 kilograms in Scandinavia, it represents a 30 per cent increase over the consumption in 1972.

The domestic market for fishery pro-



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ducts is estimated at 176 800 tonnes (edible weight) for 1982. This represents an improvement of close to 1 per cent over the 1981 figure.

Commercial fish landings in Canada in 1982 of approximately 1 389 300 tonnes had a landed value of \$843 million, compared with 1 407 124 tonnes valued at \$859 million in 1981. Volume of landings declined by 1.3 per cent and landed values by 2 per cent from 1981 levels, mainly due to a poor catch off the Pacific coast.

#### Atlantic coast

Groundfish landings on the Atlantic coast were 817 917 tonnes valued at \$290 million, moderate increases of 5 per cent and 10 per cent in volume and value respectively over the amounts recorded in 1981. This was mainly due to recovery of the Newfoundland inshore cod trap fishery and increased allocation of northern cod, resulting in increases of 18 per cent for total cod landings and values.

Atlantic coast landings of pelagic and estuarial fish declined from 224 012 tonnes in 1981 to 209 826 tonnes in 1982. The total landed value, however, showed a slight increase from \$51 million to \$53 million. Herring, mackerel and salmon landings showed declines of 9 per cent, 15 per cent and 29 per cent respectively, while capelin registered an increase of 18 per cent.

Molluscs and crustacean landings on the Atlantic coast also showed declines in both volume and value: 169 447 tonnes valued at \$238 million in 1982 compared with 188 349 tonnes and \$242 million in 1981. Scallop and squid landings were down by 28 per cent and 36 per cent respectively, while crab registered an increase of 28 per cent.

#### Pacific coast

Landings on the Pacific coast suffered a decline; over-all landings and landed values were some 134 210 tonnes and \$191 million compared with 166 071 tonnes and \$237 million in 1981. Landings of the two most important species, herring and salmon, declined by 29 per cent and 17 per cent respectively. Groundfish and shellfish landings were down by 18 per cent and 7 per cent respectively.

#### Inland fisheries

In 1982, over-all landings for the inland fishery showed an increase from 49 956 tonnes in 1981 to about 57 900 tonnes. The landed value is estimated to be \$64



*Fish is weighed as it is taken from the boat.*



*Mackerel fishing off Canada's east coast.*



*Hauling in cod.*



*The Northwest Atlantic Fisheries Centre, St. John's, Newfoundland.*



#### Canadian fisheries potential

Since 1977, when Canada declared the 200-mile economic zone, the availability of fish and seafood from Canadian waters has increased dramatically. Landings of groundfish have increased by 56 per cent and cod landings have more than doubled. The value of exported products has also doubled from \$816 million in 1977 to \$1.6 billion in 1982.

On the resource side, the future of Canadian fisheries appears very bright. Stocks which had been depleted by over-fishing are now increasing dramatically.

It is expected that the resource will continue to expand so that in 1987, Canadian fishermen may be in a position to harvest 60 per cent more groundfish, twice as much pelagic fish and somewhat more shellfish than they did in 1982.

#### Fisheries management

Specific programs are carried on in all regions of Canada to ensure the conservation and protection of fisheries resources and, within the limits of resources available, their development and expansion; the upgrading of the quality of fish and fishery products, and assistance to fishermen and industry in the development of new products and of more effective harvesting, production and marketing techniques. Limits of total allowable catches are enforced by fishery officers.

Programs of fisheries and aquatic research directly supporting national and international fisheries activities are conducted from centres located in key coastal and inland areas. These include ten federally-owned research institutes across the country.

The scope of fisheries and aquatic research is extremely varied, covering studies in biology, ecology, population dynamics, distribution, and migrations of fish, marine mammals and shellfish, and the forecasting of fish stock abundance. Studies are also directed towards the quality control of fish catches and fishery products, the development and application of aquaculture techniques in salt and fresh water, the study of relationships among species, and the calculation of sustainable yields of fish and marine mammal stocks harvested in the commercial and recreational fisheries. In addition, specialists carry out social and economic analyses to assist in policy formulation for all significant aspects of fisheries use, potential and management.

## Individual crab omelettes

- 1 package (200 g) frozen crab meat, thawed OR
- 1 can (170 g) crab meat
- 125 mL sliced mushrooms
- 25 mL chopped green onion
- 25 mL butter
- 25 mL sour cream
- 125 mL grated Swiss cheese
- \*4 flat omelettes, 18 cm diameter each
- chopped chives

Drain crab. Remove any bits of shell or cartilage. Sauté mushrooms and green onion in butter until tender. Stir in sour cream, cheese and crab. Heat gently until cheese begins to melt. Spoon 75 mL filling along centre of each omelette and fold sides into middle. Top with sour cream and chives.

Makes 4 servings.

\*For each omelette use 2 eggs, 15 mL water, salt and pepper to taste.



## Classic broiled fillets

- 1 kg fish fillets, fresh or thawed
- 5 mL salt
- 0.5 mL pepper
- 5 mL paprika
- 5 mL Worcestershire sauce
- 125 mL oil
- 75 mL lemon juice
- 1 medium onion, thinly sliced

Measure thickness of fillets at thickest part and place in a shallow dish. Combine remaining ingredients, except onion. Pour over fish and marinate 1 hour turning once. Place fillets on a greased broiling pan and brush with marinade. Allowing 5 minutes cooking time per cm thickness, broil fish 9-12 cm from heat. Half way through cooking time, turn fillets, baste and arrange onions on top. Drizzle with marinade. Continue to cook, until fish flakes easily.

Makes 6 servings.

### Some of the forthcoming shows at which Canadian fish products will be exhibited:

- Upper Midwest Hospitality Show, Minneapolis, Minnesota, USA, mid-February.
- Mefex Food Show, Bahrein, February 23 to March 2.
- Seafood '84, Boston, Massachusetts, USA, February 28-29.
- Foodex, Tokyo, Japan, March 12-15.
- National Restaurant Association (NRA) Hotel and Motel Show, Chicago, Illinois, USA, May 19-23.
- Salon International de l'Alimentation (SIAL), Paris, France, June 18-22.

(A new booklet in the science and technology series, Fisheries and Oceans: The Canadian Experience, is in preparation and is expected to be published by the Department of External Affairs early in 1984.)

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## Optimistic outlook for economical home information system

Consumers and businesses will soon be able to receive all types of information sent to their television sets from computers over FM radio waves, officials of a new company say.

Telefax Communications of Hensall, Ontario says it has developed a unique communications method which will make possible within months the first electronic home information system at a cost affordable to consumers.

It says the system could also drastically cut world communication costs, speed mail service, deliver educational programs to homes and schools and make obtainable copies of movies and musical recordings at a fraction of today's costs.

"We have taken existing technology and designed a completely new medium," says Adrian Bayley, president of Telefax Communications, which has a model of its system operating in Hensall, a town 66 kilometres north of London, Ontario.

Existing systems that send computerized information to home TV sets require use of telephone or cable connections, with their attendant costs. The Telefax system eliminates those.

The model now in use sends information to a TV set in Bayley's living room from a radio station tower 100 kilometres north of Hensall.

### Spare bands

The information is fed into the television through a briefcase-sized decoding box that can act as a computer and would retail for about \$150. That compares with the cost of about \$300 for a small home computer on the market today.

FM radio stations have spare bands that they do not use for broadcasting their programs. The Telefax model uses a band from a local radio station which can send information continuously over the station's broadcast area, without interfering with regular programming.

Mr. Bayley says that by next May, Telefax will set up a national franchising system with FM radio stations, offering to sell them equipment and information programs which the stations can then market to consumers and businesses.

Basic user costs for leasing equipment will be about \$12 a month. That compares with leasing costs of \$47 to \$70 a month for the Grassroots system now used in Manitoba by about 1 000 farmers, and operated by Infomart of Toronto.

That system uses Telidon technology



The Toronto Star

*Telefax Communications of Hensall, Ontario have developed a home and business information system that uses FM waves to feed information into your home TV. Adrian Bayley (top right) company president, Noel Moore (left) of Scriptonics Corp. and his son Aidan demonstrate system.*

for transmitting colour and graphics, and is a two-way system. Users can ask the computer directly for information.

### One-way system

The Telefax system also sends colours and graphics but only one way: users cannot communicate directly with the computer sending information.

But by using a hand-held keypad, a user can bring into his control box, and on to his television screen, specific information from the continuous flow emitted by the radio tower.

William Hutchison, president of Infomart which is owned by Torstar Corp. and Southam Inc., says the Telefax system is apparently the first to be able to receive colour and graphics over FM radio waves.

"It opens up opportunities for alternate and less expensive means of transmitting information to homes and businesses, and that's very important for the development of the industry," Mr. Hutchinson said.

Telefax is owned 51 per cent by Agripress Canada Ltd. of Hensall and

49 per cent by Scriptonics Corp. of Toronto.

Scriptonics is a consulting company owned by Noel Moore. Mr. Moore says the system cannot yet use Telidon technology, but developments in microchips and circuitry should make this possible by next year. That will expand the use of Telidon-type information to people outside of cities, who now must pay long-distance telephone charges to obtain the information.

### System tested last June

Mr. Bayley says it is possible that subscribers to the proposed radio information network could pay a small amount — say \$1 — for a station to send a movie or musical recording to them. A cassette machine plugged into the subscriber's receiving equipment could make a permanent copy of the movie or record.

There are legal problems involved with that idea, but Mr. Bayley says that if movie or record producers were paid royalties, such a system would not be infringing on copyright.

Telefax could theoretically be used to send mail, he says. Messages sent using the system are private because they are sent in digital form — a series of electronic pulses received by individually coded equipment.

Telefax also sees the possibility of expanding its system world-wide by using satellites. It plans to test satellite transmission by next March.

*(Article from The Toronto Star.)*

## Institute to study design, materials

The University of Waterloo has established an Institute for Experimental Mechanics to study new design methods and new materials. The institute will promote international co-operation among researchers and help support provincial and federal efforts to promote high technology industry, according to institute director Jerzy Pindera.

Its activities will include establishing a research centre on the University of Waterloo campus in Waterloo, Ontario, to do research and provide consulting services for industry and to train researchers and laboratory personnel.

Work will be undertaken in analytical mechanics, modelling and measurement, materials science, applied physics, applied optics and applied mathematics as well as in a range of studies of behaviour of engineering components and structures.



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## Montreal twins tops in triathlon

The sensational Puntous twins of Montreal finished one-two in the women's section of the Ironman triathlon world championships held in Kailua-Kona, Hawaii recently.

Sylviane Puntous set a women's record for the 226.27-kilometre endurance test with a time of ten hours, 43 minutes and 39 seconds while her sister was clocked in 10:49.45.

The 22-year-old twins, sensations on the gruelling distance race circuits of North America, usually can be seen winning with their hands joined at the finish line.

But Patricia had a flat near the 113-kilometre mark of the bicycle race. Both women bettered the previous women's record of 10:54.08.

The race, considered one of the most challenging athletic events in the world, combines a 3.8-kilometre open ocean swim, a 180.3-kilometre bicycle race and a 42.2-kilometre marathon.

The sisters now plan to give up triathlons to begin training for the women's marathon at the 1984 Olympics.

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## Canada's religious history recorded

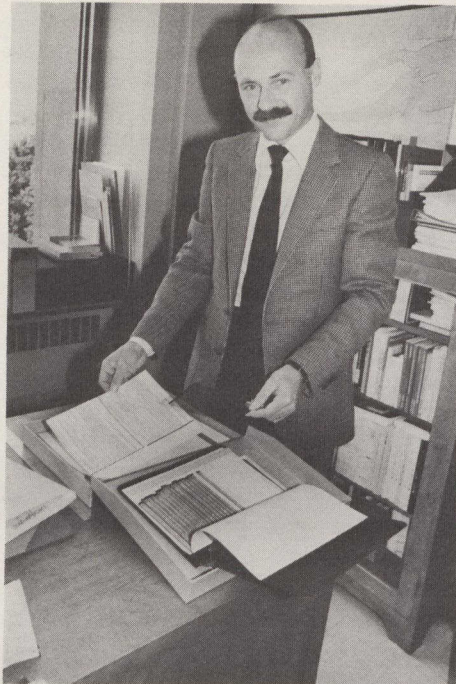
Under a joint project of the Public Archives of Canada and Ottawa's Saint Paul University, about 2 000 important documents relating to Canada's religious history are being made readily available to Canadians on microfiche.

The step marks the first time all religious documents from Canada during the period from 1622 to 1799 have been brought together and presented in a more accessible form.

Until now, the collection of correspondence has been stored in the Archives of the Sacred Congregation de Propaganda Fide (Propagation of the Faith) in Rome, a special department of the Vatican established in 1622 to promote the Catholic faith in the face of growing Protestantism. Those researching the religious history of Canada who went there for information had to sift through mountains of letters to find those pertaining to Canada.

In 1977, Luca Codignola, an Italian professor at the University of Pisa began searching the Vatican archives for historical correspondence from Canada.

He made copies of the documents —



Victorin Chabot helps to compile letters.

The Citizen

usually written in French, Italian or Latin — and attached to each a summary of their contents in English.

The Ottawa end of the project was carried out by Victorin Chabot, chief of the Public Archives' French archives section, and Reverend Pierre Hurtubise, director of Saint Paul University's Canadian religious history research centre.

The summaries are available on microfiche to researchers, libraries, religious communities and parishes for \$13.50. The accompanying documents will be available on microfilm within a year.

Together they provide a valuable record of early religious life and the struggle of orders such as the Capucins, Jesuits and the Récollets to survive.

Mr. Codignola will soon begin work on the next phase — nineteenth century documents.

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## Greenhouse effect poses threat

According to experts a predicted warming of the earth's climate — known as the greenhouse effect — could alter the landscape of Canada, flooding some areas and turning others into dustbowls, reports the *Canadian Press*.

While balmy temperatures will moderate Canada's cold winters, Prince Edward Island will probably be cut in half by a rising Atlantic Ocean and the Hudson Bay low lands could become the

country's foodbasket, studies predict. The arid southern prairies would get drier and many crops would be eliminated and possibly replaced by rangeland.

Scientists believe that such dramatic changes could occur world-wide because industrial air pollution is forming an insulating blanket around the planet.

The polluting gases — mostly carbon monoxide from the burning of fossil fuels such as coal, oil, gas and wood — permit sunlight to reach the earth, but slow the natural escape of infra-red heat from the planet's surface. As a result, scientists say that the earth will heat up like a pot of flowers in a greenhouse.

Two US studies say the first effect of the global warming may be noticeable in a decade and severe changes will take place in the next century, possibly including mass movements of population.

Henry Hengeveld, adviser to Environment Canada on the issue, says the greenhouse effect "is the global environment issue of the century.

"For the first time, man will change his environment on a global basis."

Although experts predict that the amount of carbon monoxide in the atmosphere will double before the year 2100 and will probably raise the earth's temperature two degrees, the greatest effect will occur near the poles.

Southern Canada can expect a temperature increase of three to five degrees, while the north will be about ten degrees warmer.

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## Study on oil substitute

The federal government and the government of the Northwest Territories will fund a feasibility study to cost \$125 000 on the use of propane and natural gas as substitutes for oil in the Northwest Territories. The government of Canada will provide funding up to a maximum of \$75 000 and the Territorial government the balance.

The study, part of a \$19-million program of Federal Energy Initiatives for the North, was first announced by the federal government in April 1982. The initiatives were undertaken to assist the Territories in their efforts towards off-oil conversion and energy conservation, and involve among other activities the examination of local supply options for remote communities and the enhancement of existing energy programs to make them more responsive to northern needs.

## Seven-part television series examines modern warfare

*War*, an unprecedented series of seven one-hour films examining the nature, evolution and consequences of modern warfare, has been produced by the National Film Board of Canada. Presently being screened on the CBC television network, the series was written and conceived by Canadian international affairs journalist and military historian Gwynne Dyer, who also appears as on-camera host.

For three years, a team of researchers, directors, cameramen and editors has worked at the National Film Board in Montreal to create this unique seven-part series on war. Extensive original shooting took place in ten countries, on two oceans and with the armed forces of six nations.

The series includes exclusive film interviews with Soviet military leaders and strategists, the result of a year of careful negotiations with the Soviet government. The filmmakers who have drawn on film and picture archives throughout the world, have visited dozens of important battlefields, from the Golan Heights in the Middle East to the plains of western Russia. Also featured are interviews with famous soldiers, eminent historians, senior commanders and professional observers of combat.

### Rare archival material

The first episode of the series, *The Road to Total War*, was shot in Europe and



*Soldier in combat training exercise at Camp Gagetown, New Brunswick.*

North America and moves from locations in Kursk, Russia to an American Civil War battlefield in Virginia and the New Mexican desert testing site of the first atomic bomb. It includes rare



*NFB director Paul Cowan (right) with Gwynne Dyer (centre), who conceived, wrote and appears as on-camera host of War. They are seen here on location on the Golan Heights.*

### Series honoured in Switzerland

It has just been announced that the NFB series *War* has won two major awards at the fifteenth International Film Festival in Nyon, Switzerland.

The series was awarded the international jury's Silver Sesterce and the public jury's Grand Prize. In presenting the Silver Sesterce, the international jury commented that "*War* presents an indispensable look at the mechanism of war and the absurdity of war in the world in which we live".

The public jury judged the series to be exceptional for its "commentary and presentation, the strength of the direction, its complete lack of pretention or demagoguery, and its humane message — comprehensible to all social and intellectual levels".

The public jury "congratulates author Gwynne Dyer and the National Film Board of Canada on the success of their great work, a fine example of professional achievement. The jury hopes that their message will be understood and recognized around the world and that one day the meaning of the original title of the work, *Good-bye War*, will become a reality".

archival material documenting the early wars of the nineteenth and twentieth centuries.

The second episode, *Anybody's Son Will Do*, looks at what it takes to make a soldier, while episode three, *The Profession of Arms*, visits the Soviet Union, Israel, Canada and the United States to examine some of the career officers who devote their lives to maintaining military organizations.

Episode four, *The Deadly Game of Nations*, which focuses on the wars in the Middle East, includes footage shot during the Israeli invasion of Lebanon in 1982.

In the final episode, *Goodbye War*, Gwynne Dyer looks at why previous efforts at change have failed and why we must find another way of settling our disputes if we are to survive.

The entire *War* series will be available to purchase or borrow in 16-millimetre film and video formats from all National Film Board offices from January 1984.

NFB photos

## News briefs

An international automated teller banking service, believed to be the first in Canada, started in British Columbia this month. Customers will have instant access to their bank accounts from 1 000 locations in British Columbia and 29 US states. The service marks the first time an automated banking network has been programmed to dispense different currencies in different countries.

CN Rail and CP Rail chalked up record months in August and September, as rising volumes pushed the western Canadian rail system almost to capacity. CN public relations officer Alex Rennie said: "In terms of the total traffic handled, those are the highest months we have ever recorded in this region".

Three astronomers working in Canada have claimed their second discovery within a year of a black hole in the nearest galaxy to the solar system. John Hutchings of the Dominion Observatory near Victoria, British Columbia said the second find was also in the Large Magellanic Cloud galaxy. Called LMC-X1, the collapsed star has about a million times the energy of the sun, but is only detectable by the X-rays it is sending out into space. Last January, he, David Crampton and Anne Cowley, a visiting astronomer from the University of Michigan, were credited with discovering LMC-X3, an invisible collapsed star.

The National Energy Board, introducing a major study on energy demands and supply, assumes that the world oil high price will rise from \$28.30 (US) a barrel this year, to \$40 in 1990 and \$46 in 2005. The low price assumption is \$26.50 a barrel in 1990 and in 2005. Industry, government and major energy users are being asked to base their assessments of supply and demand on these prices, and those of a wide range of other fuels.

The federal government will spend \$10 million to design and build a deep-sea fishing trawler in the provincially-owned Marystown, Newfoundland shipyard as part of a federal-provincial cost-sharing program. The new trawler will serve as a prototype for at least 15 others, to be built during the next four to six years.

The latest census shows that 62 per cent of dwellings in Canada in 1981 were owned by the occupants, a 2 per cent increase from the decade earlier. Ownership ranges widely, from 81 per cent in



Canada's Orford String Quartet recently completed a successful tour of the Far East, giving concerts in Australia, New Zealand, Hong Kong and Japan. (Above) members of the Quartet in front of the Sydney Opera House during their stay in Australia.

Newfoundland to 53 per cent in Quebec. Three-quarters of the 8.3 million private dwellings were built after the Second World War, and one-third in the 1970s. Oil heating dropped to 34 per cent from 57 per cent, gas heating rose to 38 per cent from 32 per cent, and electrical heating up to 24 per cent from 6 per cent.

Canadian newsprint production increased 13 per cent in August to 726 000 tonnes from 642 000 a year earlier. Shipments totalled 696 000 tonnes, up 16.5 per cent from the 598 000 in the previous August. Exports to the US were 492 000 tonnes, 16.8 per cent more than the previous 421 000 tonnes. Newsprint mills operated at 86 per cent of capacity versus 75 per cent the year earlier.

Canadian Commercial Corporation (CCC) has awarded a contract valued at \$2 435 610 (US) to Computing Devices Company, Ottawa, Ontario for the supply of map display units. This contract brings the total sales of this product to approximately \$70 million. The units will be obtained by the CCC under the US-Canada Defence Production Sharing Arrangement. Delivery will begin in May 1984 and be completed in October 1986.

Sigma Security Inc. of Toronto has entered into a joint venture with a French consortium to market Sigma's anti-shoplifting system in France. Sales are expected to total \$65 million in France

during a five-year period and the net profit before taxes will be \$35 million.

The Canadian auto manufacturing industry grossed \$3.92 billion in the first seven months of 1983, according to Statistics Canada. This compares with \$2.99 billion in the same period in 1982, a gain of 31.2 per cent in dollar volume, compared with a rise of 24.1 per cent in unit sales. In the same period, Canadian car buyers spent 4.2 per cent more on imported cars, although unit sales dropped 3.5 per cent. However, imported truck sales rose 32.1 per cent in that period, and dollar value was up 36.4 per cent. Sales of domestic commercial vehicles dropped 1.9 per cent.

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