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Canola — Canada custom-designs an oil seed for the world market



Agriculture Canada

Fields of brilliant yellow canola blossoms stretch for acres under Alberta skies. Today Canada leads the world in production and technology with this unique form of rapeseed.

Beneath Alberta's summer skies, fields of brilliant yellow canola blossoms stretch to the horizon. As the plants ripen, long, narrow pods fill with canola seeds so tiny that 15 of them laid side by side would not measure the length of a standard paper clip. These little seeds have a fascinating history.

Canola is a new, special form of rapeseed, an oilseed that has been known for centuries. While some countries have long used rapeseed as a source of edible oil, Canadians used it only to lubricate machinery until the early 1950s. Then, new export opportunities for Canadian rapeseed appeared, leading eventually to a significant agricultural genetic revolution.

Traditional rapeseed contains an abundant amount of the long-chain fatty acid, erucic acid, a nutritional disadvantage that limits rapeseed's use as an edible oil. The same type of problem applies to the glucosinolate content in rapeseed meal. When the potential for export opened up, the federal and provincial governments, university researchers, industry and innovative farmers decided to do something about these natural disadvantages and the rapeseed revolution was under way.

By 1978, Canada's rapeseed was so radically altered and improved it needed a new name. "Canola", roughly meaning "Canadian oil", was adopted. The choice seemed appropriate because canola was rapidly becoming the nation's most important and popular edible oil. Today, Canada leads the world in production and technology with this unique, more wholesome form of rapeseed.

At present, up to 95 per cent of the rapeseed grown in Canada is double-low canola — low in erucic acid and low in glucosinolate. The rest is grown in response to the market for higher glucosinolate rapeseed used in industrial chemicals such as paint. Says Robert Prather, section manager for crop and horticultural development with Alberta Agriculture, "The fact that we've gone from 100 per cent non-canola rapeseed to less than 10 per cent non-canola in so short a time is the true miracle. Increased production and yield are very significant, but the important factor is that we've almost completely changed the crop — from rapeseed to canola."

Alberta is Canada's canola province. In fact, Alberta accounts for 44 per cent

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External Affairs
Canada

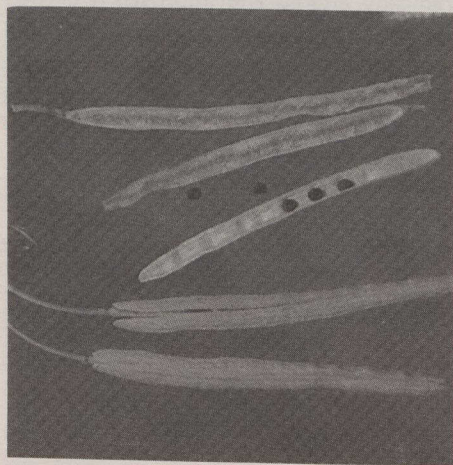
Affaires extérieures
Canada

of total national canola production. Although 1982 was not the best year for this crop, Alberta farmers grew 975 000 tonnes on 770 000 hectares. Spring planting for 1983 saw a 31 per cent increase over that of 1982 in Alberta's canola seeding, with canola ranking third behind wheat and barley.

Ideal conditions

Wheat is still the king in Alberta, but the cooler temperatures and shorter growing season on the Canadian prairies are ideal for canola. So, when a soft world market for cereals depressed western Canada's oats and barley markets in the late 1960s, canola was introduced as a viable alternative in certain areas, including the Peace River district in the northwest corner of Alberta. Canola caught on so well there that the area has virtually become Canada's heartland for this custom-designed rapeseed....

The crushing and refining of canola is a sophisticated technological process. After cleaning and grading, the seeds are passed through rollers to crack the outside coat and rupture most of the interior oil cells. The resulting wafer-thin flakes are then cooked to break any remaining oil cells and coalesce the droplets. The resulting mash is pressed to remove about 28 per cent of the oil. Then it is treated with normal hexane, an easily removed solvent that extracts the last of the oil.



The long, narrow canola pods are so tiny that 15 seeds laid side by side are no longer than a paper clip.

The product can then be sold as crude oil, put through another step and sold as crude degummed oil or be refined and further processed into consumer products.

"Canola oil is an extremely versatile product," says Gay Thomson, section manager for processed foods with Alberta Agriculture. "It has equalled or bettered

Canola on the world export market

The future of canola on the world export market looks as vibrant as a field of the crop in bloom if gradual changes in the global edible oil picture are any indication. In the past ten years, production of animal source oils dropped 5 per cent and marine source oils 1 per cent. Meanwhile production of vegetable source oils (including canola oil) increased 6 per cent. During the same period, world consumption of rapeseed oil rose only 1 per cent, but Canada's new double-low canola was just beginning to influence the market.

As appreciation of canola's special properties grows, world demand for seed, oil and meal will continue to rise. For example, in 1982 world consumption of rapeseed jumped 15 per cent. Since well over half of Canada's 1982 production was exported as seed, a considerable portion of that 15 per cent was canola. By comparison last year's soybean and sunflower seed production increased 8 per cent and 14 per cent respectively.

Uncrushed canola seed is in greatest demand on the export market, since most countries prefer to process the seed domestically into oil and meal. About 47 per cent of Alberta's canola production is exported in the form of seed — 90 per cent of that to Japan, which has traditionally been Canada's largest importer of canola seed.

In 1982 Algeria was the second largest market for seed and the dominant market for Canadian canola oil. India, herself a major rapeseed producer, was the second greatest importer of oil, Hong Kong the third, and Japan the fourth. Norway took the greatest share of Canadian canola meal last year, 54 per cent of the total export product. The Netherlands and the United States ranked second and third in this area.

its competitors in salad and cooking oils, salad dressings and mayonnaise, margarine and shortening, proving it can be substituted for any of the other vegetable oils."

Since most salad oils and dressings are refrigerated, canola's natural "winterizing" has special importance: it remains completely clear and free-flowing after 12 hours at 0 degree Celsius. Other vegetable oils can pass this test but usually only after they have been "winterized" by light hydrogenation.

When blended with egg yolks and vinegar, as in salad dressings and mayonnaise, canola oil has an excellent emulsion stability and shelf life. This is why it is also used as an emulsifier in peanut butter.

The cooking of fried foods demands high quality, light/heat stable, heavy duty frying shortenings or oils which are reasonably priced. Such products made from 100 per cent canola oil have been very successful, providing bland flavour, light colour, a smoke point comparable to that of sunflower, soy or corn oils, and a resistance to oxidative breakdown at normal frying temperatures.

Canola in shortening

Pastry and baked goods have been produced very successfully using pure canola in shortening. And the possibility of using liquid canola oil in place of hydrogenated shortening in commercially made cakes is being tested....

Consumer products made from canola

oil have been well-received internationally, with the main exports going to Pacific Rim countries.

Canadians use a lot of canola themselves. On the domestic consumer market, canola is definitely number one. In 1976, canola made up 39.3 per cent of all vegetable oils used in the country. By 1982, that figure had shot up to 51.8 per cent. In the same year, soybean oil captured 27 per cent of vegetable oil sales and corn oil accounted for 6 per cent of total Canadian oil usage. Figures for the first quarter of 1983 indicate canola oil is still gaining on its competitors.

Canola also makes a superior addition to livestock feed programs. After all the reasonably recoverable oil is removed from canola seeds, a high protein, solvent-free meal remains. The main feature of this meal is that it contains less than one-tenth the glucosinolate found, for example, in European rapeseed. This amount is considered negligible in livestock and poultry feed. Canola meal is used to replace or sometimes to complement higher priced soy meal, the standard for poultry and livestock mixed feed, in sophisticated nutritional meal balancing.

Canola is still a relatively minor oil in the world market. But with all its special qualities and extreme versatility, plus the fact that it produces 40 per cent oil compared to soybean's 18 per cent, it is receiving serious attention....

(Article from Alberta Venture.)

Chair of Italian-Canadian studies

A \$700 000 endowment trust account has been established to provide income for York University in Toronto to conduct research and establish teaching programs in Italian-Canadian studies with a view to developing a better understanding of Canada's pluralistic nature.

A federal grant of \$350 000 towards a chair of Italian-Canadian studies at York University matched a grant of a similar sum raised by the Murray Anthony Elia Charitable Foundation.

The government's Endowment Assistance Program makes funds available to promote the establishment at Canadian universities of chairs of studies in the fields of humanities, social studies, communications and fine arts relating to Canadian ethno-cultural groups. Government contributions must be matched by a voluntary organization.

The York chair is the seventh established under the program.

Other chairs already established are for Hungarian and Ukrainian studies at University of Toronto, Mennonite studies at University of Winnipeg, Acadian studies at University of Moncton (New Brunswick), Gaelic studies at St. Francis Xavier University (Nova Scotia), and studies of native and aboriginal cultures of Atlantic Canada, at St. Thomas University (New Brunswick).

Sale to Egypt

The Export Development Corporation (EDC) has signed a \$31 million (US) approval under a multiple disbursement loan agreement signed last June, to support a sale by Canada Wire and Cable Limited of Toronto to Egypt.

The Canadian International Development Agency is providing parallel financing of \$8.2 million (Cdn.) in connection with the sale.

The sale involves the turnkey design, supply and installation of high-pressure, oil-filled, pipe-type, high-voltage underground transmission lines for the inter-connection of the Shoubrah El-Kheima power project.

The multiple disbursement loan agreement signed last June supports a sale of goods and services of up to \$77.4 million (Cdn.) by various Canadian exporters, of which Canada Wire and Cable Limited is the first to receive approval.

Canada and United States sign Skagit River Treaty

Deputy Prime Minister and Secretary of State for External Affairs Allan J. MacEachen and United States Secretary of State George Shultz have signed, on behalf of their governments, the Treaty Between Canada and the United States of America Relating to the Skagit River and Ross Lake, and the Seven Mile Reservoir on the Pend d'Oreille River — known as the Skagit River Treaty. The treaty was signed at the conclusion of two days of the latest in the regular bilateral meetings between Mr. MacEachen and his United States counterpart.

The Skagit River settlement package involves three documents — the treaty, a British Columbia-Seattle agreement and a Canada-British Columbia agreement. The settlement marks the successful resolution of long-standing Canadian concerns over the proposal to raise the Ross Dam in the State of Washington flooding the Skagit River Valley to supply electricity to the city of Seattle, which had been given international sanction in 1942.

The treaty was negotiated under the aegis of a Joint Consultative Group on the Skagit chaired by Commissioners

Olson (Canada) and Bulen (USA) of the International Joint Commission, which included representatives of the governments of Canada, the US, British Columbia, as well as the city of Seattle.

The Skagit River Treaty, together with related implementing agreements involving the city of Seattle, the province of British Columbia and the government of Canada, will be in force for a period of 80 years and ensures that flooding of the Skagit Valley into British Columbia will not take place.

In return, British Columbia will supply electric power to the city of Seattle equivalent to that which would have been generated had the Ross Dam been raised. As payment for the electrical power, British Columbia will receive payments equivalent to the cost of building and maintaining the dam.

The signing ceremony represents acceptance by both governments of the treaty and opens the way for the Canadian and United States governments to initiate the legislative and ratification processes necessary for the treaty to enter into force.



Canada's Secretary of State for External Affairs Allan J. MacEachen (left) and US Secretary of State George Shultz converse as Genevieve Bell (right) of the State Department and Sheila Tooze of the Canadian Embassy exchange documents after the signing of the Skagit River Treaty.

One-man sub to search for oil on ocean bottom

Deep in the sea off the Nova Scotia coast, the strange creatures that inhabit the murky bottom are about to get their first view of a human, reports *The Globe and Mail*.

This spring, a Canadian-built one-man submarine that looks like a fishbowl with robotic arms will begin manned trials in the Atlantic depths. Propelled along the bottom by battery-powered motors, the *Deep Rover* will permit divers to explore nearly a kilometre beneath the sea without connection to the surface. It will give its driver the closest feeling yet to swimming free in the deep.

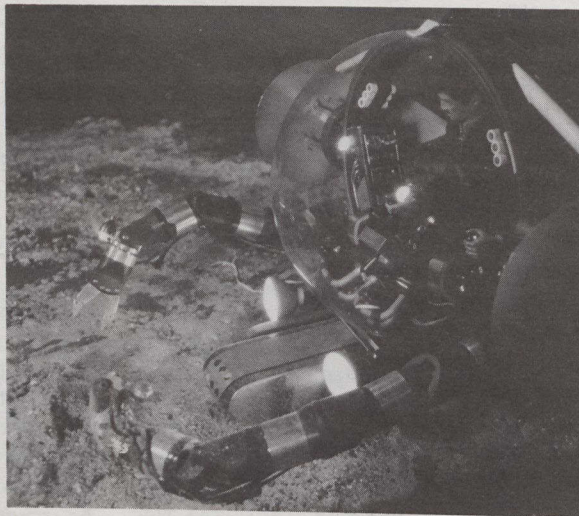
The most advanced of deep-ocean research vessels, *Deep Rover* solves several problems facing divers who want to work or stay for long periods under more than about 300 metres of water. That is about the practical limit for diving suits, which require bulk to withstand pressures many times greater than surface air pressure.

Pressurized submarines and diving spheres are useful for long dives but they are ponderous and do not give the diver much chance to closely view or interact with the things he or she encounters.

Micro-submarines such as *Deep Rover* offer the advantages of both diving suits and submarines. Manoeuvrable and usable at depths of 1 000 metres or more, they can dive quickly and return to the surface without problems of decompression, because the atmosphere inside the bubble is maintained at surface pressure.

Deep Rover has already spent more than 4 000 hours underwater, testing the ability of its molded plastic bubble to stay watertight and withstand high pressure. Graham Hawkes, who developed the *Deep Rover* concept, will probably be the first person to crawl inside the 1.3-metre-diameter bubble for a test ride. Seated in a padded chair, he will be able to look in all directions and observe the sea floor with the help of powerful lights mounted on the body of the craft.

"The vision behind *Deep Rover* is that ultimately, it will be possible to have comfortable, affordable access to the ocean in a manner as commonplace and accepted as driving an automobile or flying an airplane," Mr. Hawkes said. *Deep Rover* is self-contained and can



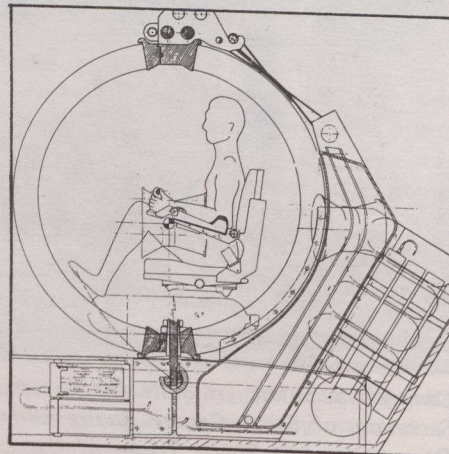
Deep Rover, a Canadian-built one-man submarine allows divers to explore beneath the sea.

operate free of links to the surface. The driver has hand controls that order the crab-like manipulator arms in front of the craft to make remarkably accurate movements.

Delicate building tasks

The Hawkes manipulator system was originally designed for an oil-rig vehicle called the *Rig Rover*. The arms can move in five different ways and the hands can move in four ways, making it possible to do very delicate building tasks and to pick up scientific specimens. In laboratory tests, the mechanical claws picked up eggs and served glasses of champagne without breakage. The controls are so simple to use and so precise they can make the mechanical arms draw intricate pictures and even sign cheques.

Deep Rover was built in Halifax in a joint venture by Can-Dive Services Ltd. and Mr. Hawkes' Deep Ocean Engineering



Lateral view of Deep Rover.

Inc. When testing is completed, Can-Dive will operate *Deep Rover* for Petro-Canada to explore for oil as deep as 800 metres below the surface. Because Petro-Canada wants television pictures, *Deep Rover* will operate tethered to a platform floating near the surface. An umbilical cable will carry television signals from cameras mounted on the microsub.

Alberta-New Mexico sign joint research venture

The University of Alberta and Summa Medical Corp. of Albuquerque, New Mexico, have agreed to establish a joint research venture to seek new diagnostic tests for cancer.

Summa's research is aimed at using monoclonal antibodies — and other molecules that seek out and stick to cancer cells and cancer-related proteins shed by malignant cells — to develop blood and urine tests for detection of cancer. Such tests could be used for early detection of the disease, and for determining whether surgery or chemotherapy had cured the patient of the disease.

Summa Medical Corp. has set up a wholly-owned subsidiary, Summa Biomedical Canada Ltd., that will have its head office at the university. A 450-square-metre research and development laboratory housing eight Summa researchers will be built in the university's dentistry-pharmacy building within the next year.

Researchers at many centres have had considerable success in attaching radioisotopes to monoclonal antibodies. The antibodies then bond with cancer cells, allowing them to be detected with diagnostic tools, such as gamma counters or nuclear magnetic resonance imaging devices.

Summa's parent company in the United States is seeking to develop diagnostic methods in which the antibodies would be injected into a patient's body, but the Canadian research will concentrate on in-vitro (test tube) techniques.

The company will gain access to the equipment, scientific expertise, research results and library at the university. In return, Summa will pay an overhead charge for its laboratory and office space, and will pay the university a fixed percentage of gross profits from the sale of any diagnostic kits manufactured. Except for limited clinical trials, no product manufacturing will take place at the university.

Nortel sales to Hong Kong

Northern Telecom Ltd. is breaking new ground in the Asian telecommunications market with a \$1.7-million contract to supply a data switching network to Hong Kong Telephone Co.

The company has already supplied other telecommunications products to the Hong Kong market, but the SL-10 packet switching network is the first public packet network sold in Asia by Northern Telecom International Ltd., a Northern Telecom subsidiary. The system will be manufactured at Northern Telecom's data networks division in Belleville, Ontario.

"This sale is significant because, as our first public packet switch in Asia, it provides Northern Telecom with an operating public network in the Asian market we can use to demonstrate the capabilities of the SL-10," said Harold Rosser, managing director of Northern Telecom (Asia) Ltd. The SL-10 is a computer-controlled digital switching system that bundles data into packets and sends the packets to individual destinations.

The Hong Kong network will be ready to go into operation this summer. Northern Telecom SL-10 networks are already operating in Canada, the United States, Britain, Portugal, Austria, Belgium, Switzerland, Ireland and West Germany.

Bell-Northern wins US contract

Ottawa's Bell-Northern Research Ltd. (BNR), the research and development arm of Northern Telecom and Bell Canada, has signed a research and development contract with NYNEX Material Enterprises Co. of New York.

Under the agreement, BNR will prepare a signalling specification that defines the transmission of digital information between the telephone company's digital central office switches and the digital private branch exchanges (PBXs), which channel calls through businesses and other organizations.

At present, these digital signals have to be converted to an older, less efficient technology, called analog signals, before they are transmitted. New York Telephone wants to encourage PBX and central office manufacturers to develop digital interfaces so that voice and data messages can be transmitted between PBXs and central offices switches more quickly and efficiently.

Company converts records to computer packages

Many large companies want to convert their dusty filing cabinets into computer bits, and a Canadian engineering firm could soon become the leader in this fast-growing market.

"Converting to conversion" is the gospel at Monenco Ltd. of Montreal, said to be one of the world's top ten consulting engineers' firms, with annual sales of nearly \$200 million. "We're sitting at the forefront of this," boasts Charlie Rabie, the computer services manager. "We're running second to no one."

Among larger firms that can afford full conversion to digital record-keeping, utilities are obvious prospects. Two major United States utilities have begun the switch. Monenco landed both projects.

Monenco was selected among 100 companies to run a pilot project for United Telephone Co., based in Atlanta, to computerize customer records. This expanded into a \$2-million contract to convert 18 telephone exchanges and the total could reach 80. The utility serves five million customers in Florida, Georgia and Alabama.

Not only did Monenco beat all competition, but the company's key personnel on the project are Canadians. A Monenco subsidiary, Baymont Engineering Co. of Clearwater, Florida, is managing the contract.

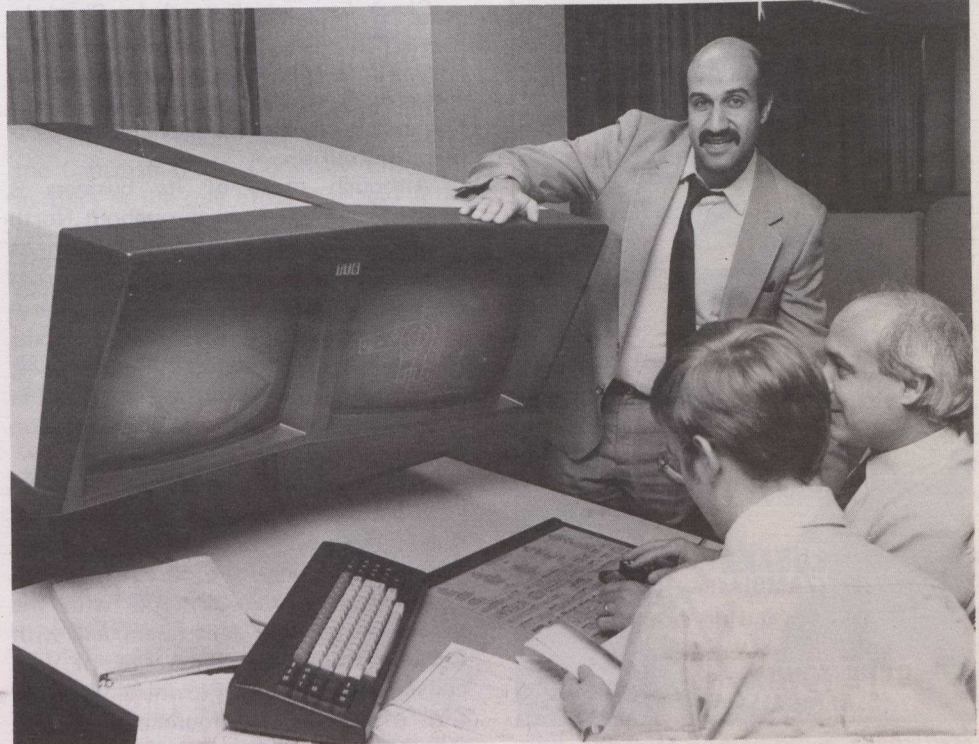
Utilities, already a specialty for Monenco engineers, have a lot to gain by computerizing their records, says Monenco's Franco Grasso. A telephone company has a complex network of poles, cables, manholes and exchanges, not to mention phone sets and customers.

Files have to include type of equipment, date of installation and maintenance schedules. Each department such as accounting, billing and maintenance must keep separate records, and each time a telephone is installed or a wire moved, records must be updated.

Monenco developed its own software for record-keeping, as well as converting records. What Franco Grasso dubs "super software" is the final package that speeds up the labour-intensive job of converting manual records to bits and bytes.

A Monenco team based in St. Catharines, Ontario worked about six man-years on the super-software, and Franco Grasso believes that "no one in this world has mastered what this system can do".

Monenco got into computers the way any company does — for its own use. It was the first engineering firm in Canada to adopt CAD — computer aided drafting and design — in 1978. Now used by most major engineering firms, the video screens have revolutionized tedious blueprint drawings.



Monenco's computer services manager Charlie Rabie with computer-aided stations.

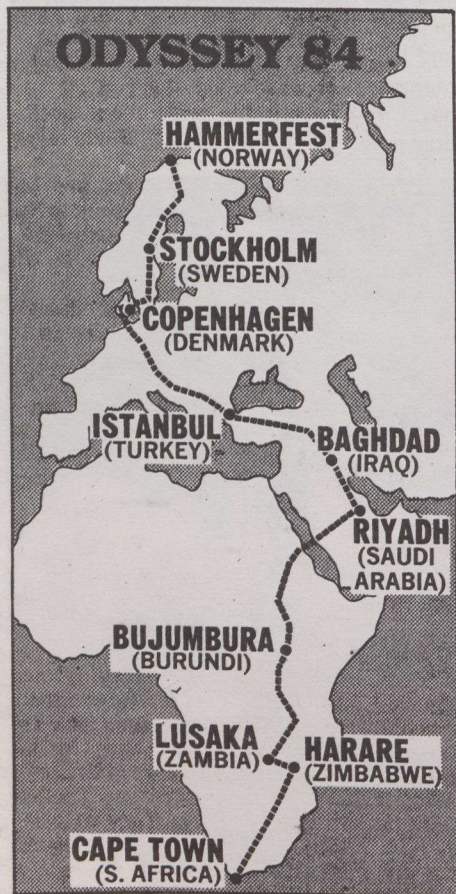
Africa to Arctic odyssey

Two 33-year-old Canadians are setting out to establish a world record by driving from Cape Agulhas at the southern tip of South Africa to Nordkapp, Norway, the most northern point of Europe.

The two men — Kenneth Langley and Gary Sowerby, a professional engineer and former Canadian Forces pilot — have known each other since they were undergraduate students at Mount Allison University in New Brunswick. Their friendship was cemented in Ottawa in the 1970s, when Mr. Langley was working for a member of Parliament and Mr. Sowerby, an Armed Forces officer, was stationed in the capital.

This is not their first such expedition. In 1980 they circled the globe from east to west in 74 days setting a record for the fastest around-the-world trip by car. They then planned to take part in a Peking-to-Paris race which fell through last year.

But, bitten by the adventure of their first trip, they decided to sell the *Guinness Book of World Records* on another idea: a Cape-to-Cairo record trip. They



Map shows route of two Canadian travellers.

went to England to present the idea to the Guinness people and were countered with another: they proposed the trip from the southernmost tip of Africa to the northernmost tip of Europe. The Canadians agreed and mapped out their trip through East Africa, across the Red Sea, around the Mediterranean via Yemen, Saudi Arabia, Kuwait, Iraq and Turkey, into Europe through Greece and due north.

Their trip will cover some 21 000 kilometres and they are expected to reach their destination in about 25 days.

Nova Scotia boasts innovative travel service

When Jim Myles started making travel and accommodation arrangements for 9 500 conventioners attending the Canadian Offshore Resources Exhibition in Halifax, Nova Scotia last fall, he shunned private travel agencies and the convention bureau.

Jim Myles called a Nova Scotia Crown corporation, Check In Ltd., which handled travel, car rental and accommodation for the entire convention.

"The people there are very good," he said. "There is no other city that I know of in North America that has this set-up."

Check Inns, which stands for Check In Nova Scotia, is a province-wide information system, administered by the Tourism Industry Association of Nova Scotia and financed partly by the provincial Department of Tourism.

Although most of its business is aimed at tourists from throughout North America, 10 per cent of all reservations handled by the corporation are from business travellers. They book everything from airplane seats to hotel rooms by calling the system's toll-free lines, which are available throughout Canada and the United States, director Gordon Stewart said.

For its services, Check Inns reaps the standard travel agent's fee of 10 per cent. But unlike most agencies, it does not collect for customers who do not show up.

Check Inns has contracts with the provincial tourism department and with Canadian Pacific Air Lines Ltd. of Vancouver and Eastern Provincial Airways Ltd. of Gander, Newfoundland, to provide custom mailings of tourist and convention information.

The system lists more than 90 per cent of the province's hotel rooms, in 290 hotels and motels, 80 campgrounds, 20 car rental companies and CP Air and EPA.

It also provides restaurant information and lists coming events. Five hotels have already signed up for the system, which "starts when the guest walks in the door".

Physicist awarded Killam Prize

Dr. Werner Israel of the department of physics at the University of Alberta has received the 1984 Izaak Walton Killam Memorial Prize, worth \$50 000, in recognition of his outstanding contributions to the theory of general relativity and its applications in theoretical physics and astrophysics.



Dr. Werner Israel

Dr. Werner Israel's researches into general relativity and gravitation have been internationally acclaimed as landmark in theoretical physics. He is best known for his proof of the uniqueness of static black holes and his contributions to the concept of the event horizon. As the result of his work and follow-up theorems developed by other researchers we now have a full mathematical description of the black holes which exist in the distant universe.

Dr. Israel's work on relativistic shock waves and continuity equations is also well known, as are his studies of relativistic kinetic theory, in which he has investigated the thermodynamics of black holes and the theory of spinning objects. He also has done important research into gravitational collapse, the thermodynamics of non-stationary processes, relativistic thermodynamics, and the theory of polarization. At present he is studying non-equilibrium statistical mechanics in general relativity.

Dr. Israel was educated at the University of Cape Town and Trinity College, Dublin, where he received a Ph.D. in mathematics. He has taught at the University of Alberta since 1958. He has served as a visiting professor in universities and institutes in the Republic of Eire, France, the United States, Britain and Switzerland.

News of the arts

Quebec City featured in exhibit

Fifty-six watercolours and drawings from the collection of the National Gallery of Canada provide a vivid portrayal of Quebec City.

Organized in conjunction with the four-hundred-and-fiftieth anniversary of Jacques Cartier's discovery of Canada, *The Gateway of Canada: A Visit to Quebec City* illustrates the charms, landscapes and major architectural landmarks of that provincial capital. Artists from across the country have responded creatively to Quebec's quaint streets and dramatic history: the selection of watercolours and drawings by Canadian artists spans almost 150 years and includes such artists as W.H. Bartlett and A.Y. Jackson.

The earliest work, produced by James Peachy in 1781, shows Cape Torment and the Isle of Orleans. A mature A.Y. Jackson sketched a series of drawings of Quebec in 1934. Seven of his latest works are included which show his fascination with the city's snow-covered streets and rooftops.

The watercolours and drawings range from a two-metre panoramic view of the Basin of Quebec painted by Charles Ramus Forrest in 1823 to a fine series of small watercolours by an anonymous artist, dated 1818.

Horatio Walker, James Pattison Cockburn, Lucius O'Brien, Arthur Lismer and

many other Canadian artists have walked the plains and peaks of Quebec's surrounding area. They have often captured the city's majesty and beauty from high vantage points or from across the St. Lawrence River. "The works of art selected for the exhibition offer views of Quebec City from different points of perspective," says Rosemarie Tovell, associate curator of Canadian prints and drawings at the gallery and organizer of the exhibit. "It also emphasizes how little the city has changed."

Canadian sings Carmen

Canadian mezzo-soprano Katharina Megli, former member of the Canadian Opera Company, made her New York debut April 5 as one of the Carmens singing the title role in Peter Brook's *La tragédie de Carmen* at the Vivian Beaumont Theatre.

This unusual adaption of the opera *Carmen*, using four singers and two actors, was first created by Peter Brook in Paris and opened in New York last November. It runs for 90 minutes and since no singer could perform the demanding roles seven or eight times a week, there are five Carmens and several Don Joses sharing the duties.

Three of the Carmens recently left for other assignments. Miss Megli, a native of Edmonton, was selected in Toronto during recent auditions by producer Bernard Lefort. The show first was performed in French in Paris and now is done in French and English. Miss Megli sings the role in both languages.

Katharina Megli first appeared with the Canadian Opera Company Ensemble in 1981 in the role of *Carmen* and in the recent winter season, she sang Zozo in *The Merry Widow* and Mercedes in *Carmen*.

Best mystery of the year

Canadian author Eric Wright, author of *The Night the Gods Smiled*, has been named winner of the John Creasy memorial award for the best first mystery of the year by the Crime Writers Association of Britain.

Eric Wright, 55, an English teacher at Ryerson Polytechnical Institute in Toronto, also was a co-winner this year of the City of Toronto book award, for works of literary excellence evocative of Toronto.

Canada-Switzerland literary prize

Canadian writer Marie José Thériault has won the Canada-Switzerland literary prize for *Invariance suivi de Célébration du Prince*, a long poem published in 1982 by Editions du Noroît. The prize will be presented in Switzerland this spring.

The Canada-Switzerland prize, established jointly by the Canada Council and the Foundation Pro Helvetia of Switzerland, provides \$2 500 in alternate years to a Swiss or Canadian writer for a work published in French during the preceding eight years.



Marie José Thériault

Born in Montreal in 1945, Marie José Thériault has published five collections of poetry and two of short stories since 1972. In the course of her career in publishing, she has written for several periodicals and literary reviews.

In her long poem in two parts, Marie José Thériault creates a poetic universe where tenderness and passion merge in an outpouring of words and images.

The juries for the Canada-Switzerland prize choose a different literary genre each year — the novel, poetry, drama, or non-fiction.

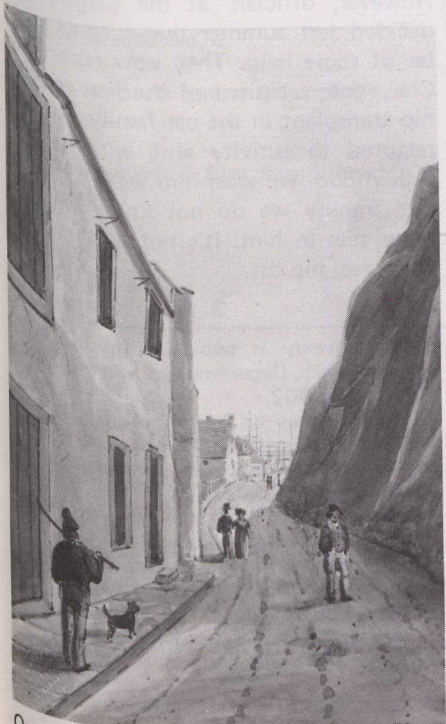
Hong Kong gallery hosts Canadian photographic works

An exhibition entitled *Unconventional Photographic Images by Canadian Artists* will open at the Alvin Gallery in Hong Kong May 16 to June 6 in conjunction with the Canadian Trade Exposition being held May 17 to 20.

Very little of the exhibition is photography in the sense of a traditional snapshot. Each of the eight artists uses the camera or other photographic tool with another medium to build a series of images. It may also relate to the written word.

Pierre Ayott from Montreal combines the projected slide image with photo-silkscreen and objects he has found to create his exhibit. David Joyce uses life-size photocopy images of figures in "flattened" versions of typical themes, while Bill Vasan uses a series of photographs to communicate a larger picture.

National Gallery of Canada



Quebec, watercolour and graphite by James Pattison (1778-1847).

News briefs

Canada will provide a grant of \$500 000 to aid Afghan refugees in Pakistan and two grants totalling \$750 000 for victims of the fighting in Lebanon. Continued fighting and civil unrest inside Afghanistan stemming from the 1979 Soviet invasion have generated a massive refugee flow from Afghanistan into Pakistan and Iran. The Afghan refugees in Pakistan constitute one of the most critical refugee situations in the world; Pakistan now has more refugees than any other country. In Lebanon, over 100 000 people were displaced by fighting and urgently require medical and relief supplies.

A crew headed by University of Calgary physics professor Alan Clark braved chilly winds recently to begin construction on Canada's first solely infra-red telescope, located near Priddis, Alberta, 25 kilometres southwest of Calgary. Mr. Clark said the \$600 000 installation at the Rothney Astrophysical Observatory will allow astronomers to study the longer wave-length part of the spectrum closed to the naked eye and ordinary optical telescopes.

Beauregard Press, a 77-year-old printing firm has won a National Association of Printers and Lithographers award for the second consecutive year. The Ottawa-based firm knocked out competing entries to take the gold in the North American contest for best-managed printing house of its size at the Canada-United States annual competition held recently in Phoenix, Arizona. Beauregard won in the category for firms with annual sales of between \$3 million and \$5 million, after judges evaluated all areas of operation and management in company reports submitted.

Canadian Commercial Corporation (CCC) has awarded a \$7.4-million (US) contract to Northern Sales Co. Ltd., Winnipeg, for the supply and shipment of 20 000 tonnes of canola seed to Compania Nacional de Subsistencias Populares (CONASUPO), the Mexican state-owned agency for the import of food products. This sale, concluded with the collaboration of the CCC, brings the total value of canola products exported through CCC during the past 12 months to \$30 million.

The Centenary Medal for Northern Science and a \$5 000 award will recognize annually superior achievement in northern science, Indian and Northern Affairs Minister John Munro announced

Friendly feathered friend



Crumbs enticed this hungry chickadee onto the hand of a passerby walking in an Edmonton, Alberta park last month.

recently. The award, created in recognition of the Centenary of the International Polar Year 1882-83, recalls Canada's participation with 11 other countries in the first international co-operation in northern science. It will be made annually to an individual who has made distinguishing contributions to any field of science while working in northern Canada.

Boston's transport authority has approved a \$65-million subway-car contract to Ontario's Crown-owned Urban Transportation Development Corp. The formal signing should occur in a few weeks and design work on the 54 subway cars will begin immediately afterwards, with production slated for the fall.

The 1984 Miss Universe Pageant will be broadcast live from Calgary, July 9 on CBS-TV when a total of 85 contestants from around the world will compete for the Miss Universe crown. It will be the first time a Canadian city has hosted the event. In recent years, the pageant has originated from Peru, Korea, Hong Kong, the Philippines, El Salvador and New York.

Mainline Construction Equipment of Woodbridge, Ontario has been awarded its first contract valued at \$749 000 by Canadian Commercial Corporation for the supply of ten Liftking rough terrain forklift trucks to the United States Defense Construction Supply Center. The trucks are being procured under the Canada-US Defence Production Sharing

Arrangement. The vehicles will be delivered by the end of October 1984.

United Tire & Rubber Company Ltd., Rexdale, Ontario has won a \$306 000 (US) contract from Canadian Commercial Corporation for the supply of off-the-road tires and tubes to be supplied to Danubania of Romania, a state-owned agency which manufactures rubber, plastics, tires and tubes. United Tire is a 100 per cent Canadian-owned company that has grown internationally to a point whereby 50 per cent of its revenue is derived from a total of 60 markets outside Canada.

North South Resources Ltd., International Petroleum Ltd. and Peninsula Petroleum Corp. say they have signed a concession agreement with the Omani government. The concession area is divided into two blocks covering the entire continental shelf area of Oman. The agreement is for 30 years, with an option for another ten years. The agreement calls for reprocessing 1 000 kilometres of existing seismic data and taking 1 500 kilometres of new data during the first 18 months. After that, one well is to be drilled each 18 months.

There are fewer than 300 snow leopards in the world's zoos. If that situation is to improve, an arthritic eight-year-old leopard named Cheyenne with limited matrimonial prospects would not appear to have much of a contribution to make. However, officials at the Calgary Zoo decided last summer that surgery might be of some help. They now report that Cheyenne, recipient of the first artificial hip transplant in the cat family, has been restored to activity and, with luck, to fatherhood. We wish him well, of course, but frankly we do not know what his mate sees in him. It's not as though he was a real hip cat.

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