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Four Canadian parks join World Heritage list

Canada's Rocky Mountains, which encompass four national parks, was designated a World Heritage site by the United Nations Educational, Scientific and Cultural Organization (UNESCO) late in October, at the UNESCO World Heritage Committee meeting in Buenos Aires.

The UNESCO World Heritage list designates cultural and natural properties throughout the world which are considered to be of outstanding universal value. Properties nominated should represent the major stages of the earth's evolutionary history, important ongoing geological processes, biological evolution and human interaction with the natural environment. As well they should contain superior natural phenomena, formations or features or areas of exceptional natural beauty and contain the foremost natural habitats where threatened species of animals or plants of outstanding universal value still survive.

Announcing the designation of the Canadian Rockies World Heritage Site, Environment Minister Suzanne Blais-Grenier said that "about nine million visitors come to the mountain national parks each year to admire a

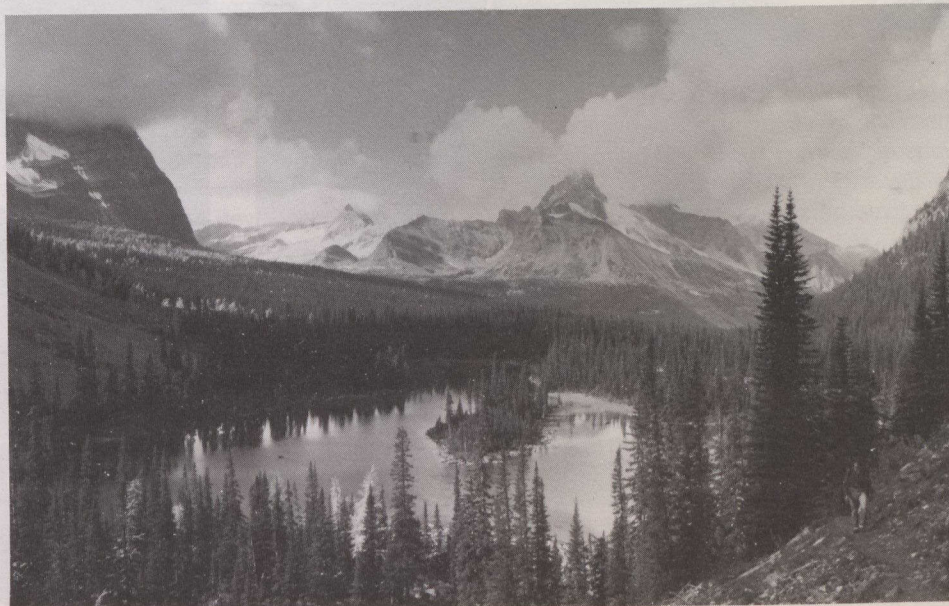
natural setting of exceptional beauty". She added that "the Canadian Rockies area also provides unparalleled opportunities for experiencing nature and for appreciating the value of conserving Canada's natural heritage".

Canada's four national mountain parks in the Canadian Rockies World Heritage Site, Banff, Jasper, Yoho and Kootenay, are in Alberta and British Columbia.

First national park

Banff National Park, established in 1885, was the first of its type in Canada. During 1985, Canada is celebrating the one-hundredth anniversary of the establishment of Banff and the beginning of Canada's system of national parks. Located 130 kilometres west of Calgary, Alberta, on the Trans-Canada Highway, Banff attracts more than three million visitors each year. It is noted for its breathtaking scenery and excellent facilities.

Visitors can travel to the top of 2 500-metre mountains in gondolas, from where they can see the sandstone statuary, mineral hot springs, glaciers, lakes the colour of jade and milky blue, and an extensive variety of wildlife and wilderness.



Mary Lake in Yoho National Park, which lies in the heart of the Rocky Mountains.



External Affairs
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There are picturesque and challenging downhill ski runs that are world famous, and there are mountain peaks to challenge even experienced climbers.

Visitors can camp at one or more than a dozen campgrounds with facilities for tents and recreational vehicles. Commercial accommodation in Banff townsite is also available.

Rich history

Jasper National Park, named after trading post operator, Jasper Hawes, has a history rich with fur trade and Indian adventure.

Located 370 kilometres west of Edmonton, Alberta, Jasper is one of the largest

natural areas on the North American continent. The park shares a border, mountain ranges and icefields with Banff as well as the Icefields Parkway, considered by many as one of the world's most scenic drives.

There are some 1 000 kilometres of back-country trails throughout its mountain valleys for the wilderness traveller. Backpackers can camp overnight at primitive campsites located along most remote trails.

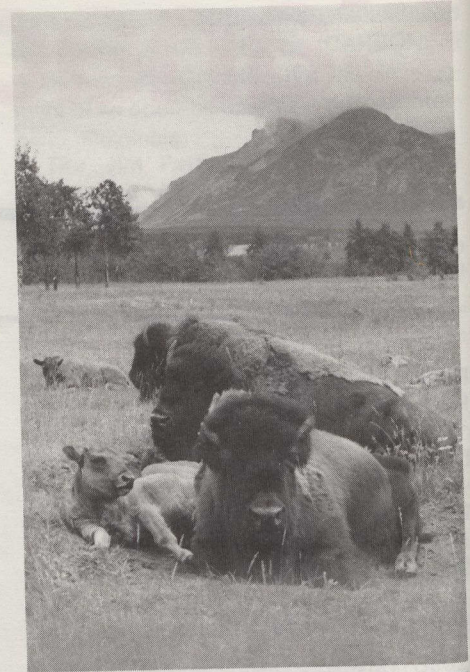
Camping facilities in the park range from primitive walk-in sites to sites with three-way trailer hook-ups. Commercial accommodation, restaurants, and stores are located in the Jasper townsite.

Heart of the Rockies

Yoho National Park, some 95 kilometres northwest of Banff townsite on the Trans-Canada Highway, is in the heart of the main ranges of the Rocky Mountains. Filled with lofty peaks, glacial lakes, primitive forests, spectacular valleys, powerful waterfalls, and alpine meadows ablaze with wildflowers during the summer, it was named from a Cree Indian word expressing awe.

One of the many unique features in the park is Takakkaw Falls, the highest in Canada and one of the highest in the world. Another is the natural bridge carved in rock over the Kicking Horse River. Visitors can stand on the Great Divide where water flows on one side to the Pacific and on the other to the Atlantic. The spiral tunnels on the "Big Hill" near Field rekindle the excitement of building the railway through the confines of Kicking Horse Pass.

Yoho National Park also includes the Burgess Shale, which was placed on the World Heritage list in 1980 as one of the



National Film Board Photos

Buffalo in Canada's first national park, Banff.

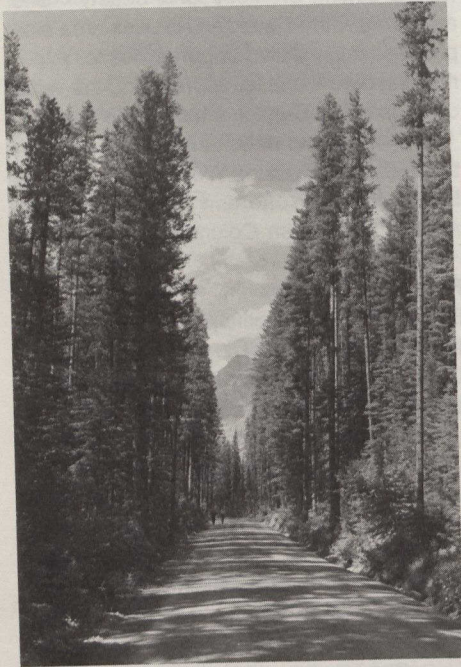
most significant fossil sites in the world.

Campers must hike the short distance to the tent campground at Takakkaw Falls, which is so popular that visitors may stay a maximum of only four days. Visitors to Lake O'Hara campground may either hike in 13 kilometres or take a private bus. Non-campers can also find commercial accommodation within the park.

Rich in special features

Kootenay National Park, some 888 kilometres northeast of Vancouver, British Columbia, is also rich in scenery and unique features.

Inside the northern entrance to the park along the Banff-Windermere Highway, are



"Snow Peak Avenue" on the road to Emerald Lake in Yoho National Park.



Lake Edith and Pyramid Mountain, in Jasper National Park.



Cross-country skiing on one of the many trails in Banff National Park.

the "paint pots". These ochre beds were the source of vermilion paint used by the Kootenay Indians to decorate their bodies and teepees.

Viewpoints along this scenic highway look out over avalanche slides, animal licks, waterfalls, and Rocky Mountain goats climbing the steep slopes of Mount Wardle.

Trails within Kootenay lead to hanging glaciers, alpine lakes, and deep canyons in the back country. The Radium Hot Springs Aquacourt offers year-round soaking and swimming.

Kootenay has a less severe climate than other Rocky Mountain parks, especially in the southern sector where summers are hot, winters are moderate, and precipitation is

Data link for Arctic operations

Miller Communications Systems Ltd. of Kanata, Ontario has won a \$1.6-million contract from Environment Canada's Atmospheric Environment Service to develop an air-to-ship data link to help ships in the Arctic avoid ice blockages and icebergs.

The air-to-ship data link will be used in Atmospheric Environment Service's ice reconnaissance program, which provides information on ice patterns and blockages to such users as Canadian Coast Guard ice-breakers, drilling rigs and other ships in ice-infested waters.

The Miller system takes data gathered by the radar systems in specially-equipped de Havilland *Dash-7* planes and instantly transmits the data to a ship in the area.

Another firm, Canadian Astronautics Ltd. of Ottawa, Ontario, has developed the air-borne radar systems for the ice reconnaissance planes.

The "real-time" feature of the Miller system means that a ship travelling in icy waters can get immediate information about ice patterns, instead of having to wait several hours for a report, and can plan its route accordingly.

"Ice conditions can change in a matter of hours, and getting information in real time for applications in the far North is really important," said Terry Rubino, manager of Miller's telemetry system division.

"The system will also extend the time ships can navigate safely in the North, which will be a real bonus for the oil and other natural resource industries," he said.

This type of data link could also have many other applications, including aerial surveillance for drug-smuggling control, fishing-boundary control, monitoring oil spills and military applications.

Radio transmission system

Miller Communications has also signed a \$400 000-contract with the Department of Communications to develop a digital radio program delivery system to transmit data and stereo radio signals over satellites.

This equipment could eventually be used by the Canadian Broadcasting Corp. and other North American broadcasting companies to distribute stereo radio programming via satellite, said Brian Mazur, manager of Miller's satellite communications systems division.

Mr. Mazur said existing stereo transmission equipment is limited because it is based on an older technology known as analog.

The Miller system is based on digital technology, which provides higher-quality transmissions.

Consultation on nuclear waste

Atomic Energy of Canada Limited (AECL) has announced a public consultation program to obtain input from a broad cross-section of public and special interest groups on the issues associated with the safe permanent disposal of nuclear fuel waste.

The two-year public consultation program is being established to help create the conditions that society feels are necessary for the disposal of nuclear fuel wastes to be acceptable. A disposal facility is not expected to be required for several decades.

Disposal technology

Since 1978 AECL has been working to develop the technology for disposing of high-level wastes from CANDU reactors. The technical research program is aimed at developing a disposal technology where the highly-insoluble waste would be sealed in corrosion-resistant containers and emplaced in a disposal vault up to a kilometre deep in a stable hard rock formation in the Canadian Shield. The objective of this program is to ensure that there will be no significant adverse effect on humans or the environment from nuclear fuel waste at any time.

"Our scientists are confident, from the results they've achieved so far, that we will be able to overcome the technical challenges in this task and develop an extremely safe disposal system," said Egon Frech, head of Waste Management Public Affairs for AECL. "But we think it's also important that the waste disposal technology meet the expectations of the public. We're consulting with public and special interest groups as one way of finding out what those expectations are," he said.

The consultation process is open to any group wanting to participate. AECL will issue invitations to participate to groups representing a broad range of interests that are important to the program. In addition public opinion polls and more intensive surveys with specially selected small discussion groups will be conducted.

Conference planned

A public conference, where the various groups that have participated in the program will be able to discuss possible solutions to the issues they have identified, is planned for the end of the two-year consultation program.

"We expect that many different groups will be represented, and that they may not always share the same point of view, but we hope to be able to arrive at preferred solutions that can be accepted by most Canadians," said Mr. Frech.



Snowshoeing is a popular winter sport in Kootenay National Park, British Columbia.

low. There are campgrounds both in and adjacent to the park. Commercial accommodation is available in places like Radium Hot Springs and Vermilion Crossing.

The Canadian Rockies site is the ninth in Canada to be named to the UNESCO World Heritage list. Other sites designated in previous years are: Nahanni National Park Reserve in the Northwest Territories and L'Anse aux Meadows National Historic Park in Newfoundland, 1978; Dinosaur Provincial Park in Alberta and Kluane National Park Reserve in the Yukon, 1979; The Burgess Shale, Yoho National Park in British Columbia, 1980; Anthony Island Provincial Park in British Columbia and Head-Smashed-In Buffalo Jump in Alberta, 1981; and Wood Buffalo National Park in Alberta and the Northwest Territories, 1983.

Development projects aided

Minister for External Relations Monique Vézina has signed two agreements authorizing the Canadian International Development Agency (CIDA) to contribute \$2 724 236 to the Confédération des Caisses populaires et d'économie Desjardins for projects that affect some 20 countries in Latin America and in western and central Africa.

The first agreement for \$1 676 236 will be used as institutional financing to consolidate the Desjardins group's international agency, the Société de développement international Desjardins (SDID). Over the next three years, the amount will mainly finance about 75 per cent of the budgets for general administration, development information and education programs, research and development, and employee training and development programs.

The additional \$1 048 000 will go to SDID program funds to finance co-operative projects in savings and credit, agri-food, general and co-operative education, housing, handicrafts and community services, the advancement of women, and co-operative integration. This amount is in addition to CIDA's previous \$1.1-million contribution to this operating fund for the current year.

World acceptance of Telidon

The coding scheme known as the North American Presentation Level Protocol Syntax (NAPLPS), which contains Telidon as a fundamental component, was officially approved by the International Telegraph and Telephone Consultative Committee (CCITT) and the membership at the eighth plenary assembly in Malaga-Torremolinos, Spain, in December.

The CCITT is an organ of the International Telecommunication Union (ITU), a specialized agency of the United Nations. The incorporation of the NAPLPS standard by CCITT is an important step for the introduction of Telidon systems in other parts of the world.

In addition, videotex system operators, information providers, equipment manufacturers and consumers now have the assurance that NAPLPS (Telidon) products and services will not become obsolete as a result of unexpected changes in the standard.

Telidon, an advanced information communications technology originally developed by Canada's Department of Communications, is recognized by both the Canadian Standards Association and the American National Standards Institute, and is well established as a North American videotex standard.

The technology allows business people, consumers and others to access graphic and textual information stored in data banks by using a normal telephone or data circuit and a decoder connected to a television set. Picture description instructions at the core of Telidon permit the encoding of pictorial information in a very compact form. This code is ideally suited for accessing information in data banks not only by telephone, but also other media such as cable television systems, satellite links and optical fibres.

Its applications include: information retrieval, electronic messaging and mail services; audiovisual presentation systems; computer-aided learning systems; transactional services for banking, shopping, or making reservations; tourist and public information systems.

At its eighth plenary assembly CCITT also approved the Japanese CAPTAIN and the European CEPT Standards. In addition a companion standard on international videotex services was approved at the assembly.

More efficient iceberg jigger

Offshore Technology Corporation Limited of St John's, Newfoundland, has developed an iceberg towing device known as an iceberg jigger, that will be able to move small icebergs away from oil rigs.

The jigger is expected to greatly increase the safety aboard oil rigs when threatened by small icebergs. Current methods of moving them are only effective about 50 per cent of the time.

Ice melted to attach rope

A working model of the iceberg jigger unveiled by the firm recently, has a triangular steel frame through which three cylindrical elements are fitted, like a tripod.

Consisting of an asbestos-wrapped copper core in a titanium shell, the elements are heated to between 300 and 400 degrees Celsius by an electric or gas heater. Once heated, the elements are fitted into a steel frame and lowered onto an iceberg, where springs press the hot cylinders into the ice.

The iceberg jigger can be placed on an iceberg by a boom aboard a vessel or by helicopter. It would then melt its way into the ice, and a rope already attached would be used to tow the iceberg.

Currently, most icebergs that are towed have been lassoed. As a vessel encircles an iceberg, a heavy floating rope is paid out over its stern.

There are many difficulties involved in this method. Sometimes the rope slips over or under the iceberg, depending on its shape.

In other circumstances the iceberg may roll and when it does, the rope can get badly snarled. Then it has to be spread out on deck and tediously untangled.

Lassoing is the least effective on smaller icebergs such as the "growler" which is about the size of a desk or a piano. The "berg bit" is closer in size to a large truck or a house.

The smaller an iceberg, the more it rides the waves thereby increasing its destructive force as it is hurled about in high seas.

Secured quickly

The main attraction of the iceberg jigger is that it can be secured rapidly to an iceberg and quickly reattached if it breaks loose said Peter Gammon of Ice Engineering Limited, a consulting firm to Offshore Technology. This would dramatically reduce ship time, a major part of the cost of towing icebergs.

Other attractions are the jigger's simplicity and the fact that it can be used without installing expensive or complex equipment.

Although the working model weighs about seven kilograms and has a load bearing capacity of one tonne, Mr. Gammon said the design could be scaled upward to produce a half-tonne model with a 50-tonne load bearing capacity.

New customs rates

Effective January 1, an Act to Amend the Customs Act and the Customs Tariff came into force and established new customs values and tariff rate increases.

The amendments to the Customs Act were made as a result of Canada's international commitment, established during the 1979 Tokyo Round of Multilateral Trade Negotiations, to adopt the Customs Valuation Code of the General Agreement on Tariffs and Trade (GATT).

Under the new law, the value for customs duty is based on the "transaction value", which is essentially the price paid for the imported goods. Canada's previous method of valuing imported goods was based on the "fair market value" of like goods sold for consumption in the country of export.

The amendments to the Customs Tariff introduced tariff rate increases, recommended by the Tariff Board to prevent a decline in the level of tariff protection under the new system of valuation. The increases, which are compatible with Canada's GATT undertakings, have been accepted by Canada's trading partners. Other amendments to the Customs Tariff include the removal of the duty on aircraft parts in line with the expanded product coverage of the GATT aircraft agreement.

Atomic Energy's spectrometer advances Canadian nuclear physics research

An "eight pi gamma-ray spectrometer" is being installed at the Atomic Energy of Canada Limited (AECL)'s Chalk River nuclear laboratories, where operating in conjunction with the laboratories' new superconducting cyclotron, it will help to keep Canada at the forefront of research in nuclear physics.

The Natural Sciences and Engineering Research Council (NSERC) and AECL are sharing the \$5-million cost of the spectrometer that will be designed and constructed by the University of Montreal, McMaster University in Hamilton, Ontario and AECL at Chalk River. Once the facility is operational, it will be opened to qualified researchers from across Canada and throughout the world.

More capabilities

The three-metre diameter spherical spectrometer, which will be used to investigate nuclear shape, structure and binding forces, is expected to be the most advanced of its type in the world. It will have greater versatility and over-all data-gathering efficiency than other existing spectrometers.

The eight pi spectrometer is so named because of the properties of its two independent spherical arrays of detectors. The inner array covers a sphere and is said to subtend a solid angle of four pi. Each of the outer detectors is surrounded by an anti-Compton-scattering shield and thus has a solid angle of four pi for rejection.

Rapid results

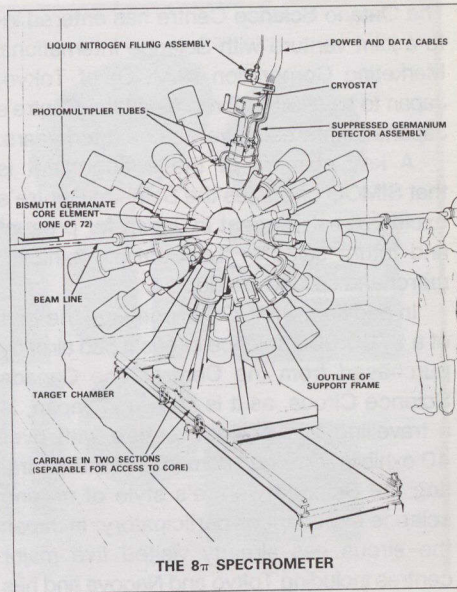
The inner sphere, consisting of 72 counters made of bismuth germanate, will give researchers an overview of each nuclear event by measuring the total number of gamma rays emitted and their total energy.

Small holes in the inner sphere allow some of the gamma rays unobstructed passage to the outer array of 20 special germanium detectors to give highly precise information on individual gamma ray energies and intensities.

Fusion of tin and silicon

The importance of the role of the spectrometer can be seen in an experiment conducted with tin and silicon.

Using the Chalk River cyclotron, scientists accelerate silicon nuclei to enormous velocities, then aim them at a target made of tin, positioned in the centre of the spectrometer. When one of the silicon nuclei hits the tin nucleus, the collision energy is so great that it overcomes the powerful electric forces that normally keep individual



Atomic Energy of Canada Ltd.

Artist's conception of the eight pi gamma-ray spectrometer being constructed in Canada for advanced nuclear physics research.

nuclei apart. The two nuclei then fuse together, spinning at the rate of a billion trillion revolutions per second.

Several neutrons escape the bonding process and "boil" away from the surface

of the newly-forged nucleus. The nucleus itself then slows rapidly by radiating 20 to 30 bursts of energy in the form of gamma-rays, each having a characteristic wavelength corresponding to a precise unit of energy lost by the nucleus. The result is the creation of an atom of gadolinium — a rare element whose atomic nucleus combines the exact number of protons (64) found in tin and silicon.

The entire process takes only a billionth of a second. Almost the entire sequence of these nuclear events can be reconstructed from data collected by the gamma-ray spectrometer.

Knowing that if two or three rays are detected simultaneously, chances are good that they came from the same nucleus, nuclear physicists can then deduce partial information about that nucleus's energy levels. A statistical combination of gamma data for many collisions completes the picture of the rotation, structure, and even the shape of the nucleus.

As many nuclei in their ground state are not completely round, one of the tasks of the new spectrometer will be to examine the changes in shape and bonding that occur at the most rapid spin rates.

Canada-US firms create largest insurance brokerage

Reed Stenhouse Companies Limited of Toronto is finalizing arrangements to merge with Alexander and Alexander Services Inc. in New York city.

The deal, valued at \$347 million (Cdn) or \$20.90 a share to Reed Stenhouse shareholders, will form "the strongest truly international insurance broking group", said Reed Stenhouse president William Wilson.

The trust companies expect to complete the merger by the end of May, but the closing is subject to obtaining regulatory consents and the approval of shareholders of both companies. Shareholders are to receive full details by the end of March.

Reed Stenhouse, the largest publicly traded brokerage firm in Canada, has operations in the United States, Britain and 30 other countries.

The merger of the two firms will be effected through a recapitalization of Reed Stenhouse and an exchange offer under which Reed Stenhouse holders would receive the equivalent of two Alexander and Alexander shares for each three Reed Stenhouse class A or class C shares held.

Reed Stenhouse shareholders will own

about 28.8 per cent of the common stock of Alexander and Alexander when the merger is completed. Alexander and Alexander will acquire all the class A and class C shares of Reed Stenhouse.

Continued Canadian dividends

As a result of the recapitalization, Reed Stenhouse shareholders will continue to have shares that pay Canadian dividends with correspondingly favourable tax treatment. Their shares are exchangeable into shares of Alexander and Alexander, which will own 100 per cent of the voting securities of Reed Stenhouse.

The corporate headquarters of the merged company will be in New York, but Mr. Wilson, who becomes chairman and chief executive officer of operations outside the United States, will remain in Toronto.

Mr. Wilson said the deal "enhances the development of a process to which we have been committed" since Reed Shaw Osler in Canada and Stenhouse Holdings of Scotland were brought together in 1973. Earlier, Reed Stenhouse acquired Stenhouse, which in turn owned 48.9 per cent of its equity.

Northern science award

John Ross Mackay, professor emeritus of geography at the University of British Columbia, has been awarded the first northern science award, the Centenary Medal, and a cash prize of \$5 000.



Professor Emeritus John Ross Mackay receives the Centenary Medal, Canada's first northern science award, from Governor General Jeanne Sauvé.

The Centenary Medal, created in recognition of the hundredth anniversary of the International Polar Year 1882-83, symbolizes Canada's participation with 11 other countries in the first international co-operation in northern science.

At the presentation ceremony in Ottawa, Minister of Indian and Northern Affairs David Crombie said, "this medal is awarded in recognition of Dr. Mackay's important contribution to scientific research in the North. The northern science award will help to give recognition to the importance of furthering scientific knowledge and research for the development and future of Canada's North".

Dr. Mackay has been a pioneer in research on the effect of ice on the earth and waters of the North. For more than 35 years, he has contributed to the understanding of this area and has published more than 150 scientific papers on his research.

A number of honours and awards have been given to Dr. Mackay for his work including the Order of Canada, the Willet G. Miller Medal of the Royal Society of Canada, and the first G.K. Gilbert Award for Excellence in Geomorphology by the Association of American Geographers.

Centre's new agent in Japan

The Ontario Science Centre has entered into a joint venture with Science International Marketing Corporation (SIMCO) of Tokyo, Japan to have SIMCO represent the Centre's Japanese interests over the next ten years.

A key element of the arrangement is that SIMCO becomes the Science Centre's exclusive sales agent in Japan for present and future sales of the Centre's exhibits, merchandise and products.

In addition, SIMCO will continue the tour of a \$700 000 science circus it had already purchased from the Centre. The Canada Science Circus, as it is known in Japan, is a travelling mini science centre with over 40 exhibits, films and demonstrations illustrating the Science Centre's style of making science experiences participatory. In Japan the circus has already visited five major centres including Tokyo and Nagoya and has been seen by more than 500 000 people.

"As the Science Centre and its exhibits begin to attract more international attention, this step of appointing our friends at SIMCO as agents for exhibits and products in Japan is natural and appropriate," said Dr. J. Tuzo Wilson, director general of the Centre. "The relationship between SIMCO and the Science Centre has been a particularly rewarding one," he added.

White pelican population increase in Manitoba

Some of the islands in southern Manitoba lakes are being used as the summer home for the largest breeding population of white pelicans in Canada. While the white



White pelicans at Kawinaw Lake southwest of Grand Rapids, Manitoba.

Archaeological discoveries

Some important archaeological vestiges related to the architectural evolution of the fortifications of Quebec have been unearthed at the site of the Quebec Citadel.

The discoveries are the result of archaeological monitoring by Parks Canada of stabilization operations being carried out at the Mann Bastion by the Department of National Defence during the past months.

Masonry work of considerable size dating from the time of the temporary citadel built between 1779 and 1783 by British military engineer Twiss Workers has been unearthed in the gorge of the bastion. In addition, excavators have uncovered the traces of a walled-in passage on the right flank of the bastion.

As the postern is not referred to in any historical records, archaeologists suggest its origin probably dates back to the period of the French regime.

Further, the vestiges of a brick structure designed to protect the observatory's clock-work mechanism from lightning, have been found near the site of Quebec City's first astronomical observatory, built in 1850 on the terreplein of the bastion.

The discoveries are important to ensure that a number of aspects of Canada's military heritage will be conserved.

pelican is considered threatened in Canada about one-half of the Canadian breeding population of white pelicans, representing one-third of the world's total, can be found in southern Manitoba.

Biologists attribute the increase in pelican numbers to ideal habitat conditions and the protection afforded to its eggs, nests and young.

In the first year of a three-year study on colonial nesting birds undertaken by the World Wildlife Fund Canada and the Department of Natural Resources, biologists counted 20 000 pelican nests on 34 islands within eight Manitoba lakes. They also identified 15 kinds of waterbird nesting on roughly 200 islands.

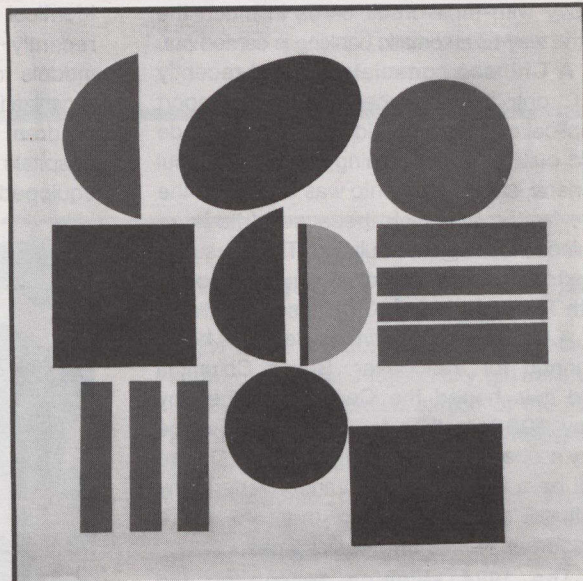
Other survey results show double-crested cormorants and ring-billed gulls as numerous as have ever been recorded although eared grebes, western grebes, common terns and caspian terns appear to be declining. This is attributed to pesticide poisoning, marsh drainage, water-level fluctuations and human disturbances.

Geometric abstraction gives expression to optical effects

New Perspectives on the Art of Denis Juneau, on view at the National Gallery of Art in Ottawa until February 3, features 30 works by the artist produced between 1956 and 1983. Denis Juneau, considered an important member of Montreal's geometric abstraction movement, has had a major influence on Canadian painting since the 1950s.

The works in the exhibition, which include paintings, drawings, watercolours, models and sculptures, summarize the artist's lifelong production of abstract art. They were selected by National Gallery research curator of Canadian Art, Jean-René Ostiguy, to represent important turning points in Denis Juneau's career. Mr. Ostiguy said that the exhibition "will provide an opportunity to reflect deeply on the work of an artist determined to integrate without compromise his innovative work into the life of Quebec society".

Starting with his first abstract compositions painted in Italy in 1956, the exhibition traces Mr. Juneau's development from his use of areas of solid colour to a more "tachiste technique". All the works exhibited consistently illustrate Mr. Juneau's search for expressive optical effects, with an em-



Demi Circle Rouge/Red Half Circle, 1960.

COC extends broadcasting in the United States and Canada

The Canadian Opera Company (COC), enjoying a highly successful 1983-84 season, embarked on another record-breaking season and continued to expand its broadcast programming on radio networks.

Audiences in Canada were able to hear COC productions on the Canadian Broadcasting Corporation (CBC) stereo network and United States listeners were introduced to Canada's largest opera producer and a company that has earned international recognition for its high artistic standards and innovative spirit.

US expansion

During the summer, the COC, with the support of Ontario's Ministry of Citizenship and Culture, launched its first series of radio broadcasts in the United States. Called *Ontario, Canada Presents The Canadian Opera Company*, the series was broadcast on more than 200 non-commercial and commercial stations in major cities across the United States, reaching audiences estimated at between five and ten million people.

This first series of Canadian opera broadcasts in the US featured some of the greatest Canadian and international artists performing with the COC. Performances included

phasis on the artist's "plasticien" works of the 1950s and on his kinetic and optical compositions of the late 1960s.

Public involvement

As a member of the Montreal "plasticien" group, Denis Juneau often sought public participation in the creation of abstract art and a number of pieces designed by the artist in 1969 and 1973 are included in the exhibition specifically for the public to handle and change.

Most of the works were selected from the collection of the artist and from the National Gallery's permanent collection.

A didactic room co-ordinated by the National Gallery's Education Services has a presentation of photographs of Denis Juneau at work in his studio, his working stencils and a photograph of a "play art" sculpture designed by him for an amusement park in a working-class area of Montreal.

the 1983-84 productions of *Turandot* and *Lohengrin*, and 1982-83 productions of *La Belle Helene*, *Elektra*, *The Coronation of Poppea* and *La Fanciulla del West*. The broadcast series also included intermission features on the operas being broadcast, as well as special features on the wealth of cultural attractions in Ontario — dance, film, theatre, art galleries and museums among others.

With this series, the COC joined a select group of only four other North American opera companies which broadcast throughout the United States — the Metropolitan Opera, Dallas Opera, Lyric Opera of Chicago and San Francisco Opera.

Second Canadian series

The COC also entertained Canadian audiences in the fall with its second annual radio series of Saturday matinée opera broadcasts.

Great Opera Performances was inaugurated in 1983 through the support of Texaco Canada Inc., the sponsor of the Metropolitan Opera broadcasts on CBC for more than 40 years. In its debut season, *Great Opera Performances* enjoyed an all-time weekly cumulative audience record of 98 000.

The 1984 series began with the COC's

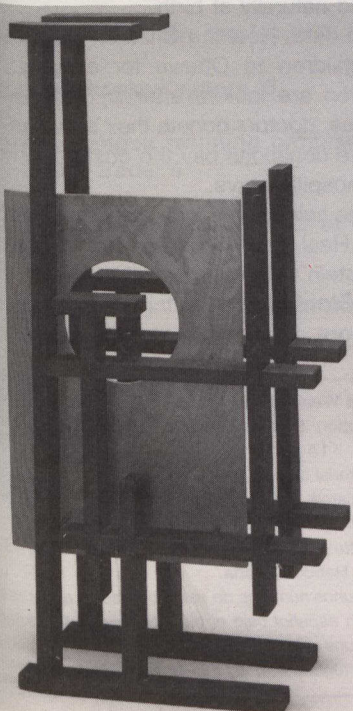


Allan Monk



Janet Stubbs

National Gallery of Canada



Circle spatial/Circle in Space, 1959, in wood with oil paint.

opening production of the 1984-85 season, Giuseppe Verdi's *Il Trovatore*. The broadcasts continued on subsequent Saturday afternoons with Georges Bizet's *Carmen*; Franz Lehar's *The Merry Widow*; Giacomo Puccini's *Tosca*; Benjamin Britten's *Death in Venice*; and Gaetano Donizetti's *Anna Bolena*.

Among the many outstanding singers heard in the series were mezzo sopranos Judith Forst and Janet Stubbs, tenor Ermanno Mauro and baritone Allan Monk from Canada; soprano Johanna Meier and tenor Kenneth Riegel from the US; tenor Giorgio Lamberti from Italy; soprano Margarita Castro-Alberty from Puerto Rico; soprano Livia Budai from Hungary; and Dame Joan Sutherland from Australia.

News briefs

Minister of Agriculture John Wise and Minister for International Trade James Kelleher have announced that the government will impose restrictions on the quantity of beef and veal that will be permitted entry into Canada during 1985. Under the Meat Import Act, a global import quota is being established at a level of 66.5 million kilograms which is equivalent to Canada's Global Minimum Access Commitment under the GATT. The government's decision to invoke the Meat Import Act was considered necessary in view of the surge in imports of beef which took place in 1984 and the anticipated high level of imports in 1985.

Air Canada will become the world's first carrier company to place a twin engine civil airliner in scheduled passenger service on the North Atlantic, when its twin-engine *Boeing 767* aircraft starts operating on the over-water flights in May. The 200-seat aircraft will fly from Halifax, Nova Scotia to London and Prestwick, Scotland and eventually, will be used to fly to other European destinations from other points in Canada. The introduction of the new generation "twins", such as the *Boeing 767* and the *Airbus A-300* and *A-310*, is expected to help the airlines to make money, by not only cutting costs but also adding frequency.

The Export Development Corporation (EDC) has announced the signing of a \$340 000 (US) allocation under a line of credit agreement with Magyar Nemzeti Bank of Hungary to support a sale by Phoenix Geophysics Limited of Willowdale, Ontario of a magnetotelluric geophysical system to Chemokomplex of Budapest, Hungary. The equipment will be used for the determination of natural earth resistivity.

Nordair Limited of Montreal, Quebec has installed experimental self-ticketing

machines at Dorval Airport in Montreal. The system enables travellers to make flight reservations and buy their tickets 24 hours a day with their credit cards in much the same way as automatic banking is carried out.

A Chinese consulate opened recently in Toronto to help process visa and passport applications and provide details on trade and cultural affairs. Quing Hou, the consul general, said that Toronto was chosen as the site for the consulate because of its large Chinese-Canadian population. The consulate is expected to foster closer cultural bonds with Toronto's 200 000 Chinese Canadians.

A Multicultural Services Centre is being planned for Vancouver, British Columbia and it is hoped the Centre will open by May 1986, in time for Expo '86 and the city's one-hundredth birthday. The Centre will be a focal point for Vancouver's many cultural groups allowing them to share resources, ideas and social times.

The 1984 shipping season on the St. Lawrence Seaway, which ended New Year's Day, was the longest on record. The 3 768-kilometre waterway, which links the Great Lakes and the Atlantic Ocean, usually closes for the winter December 15, but the closure was postponed by a jammed lift-bridge near Valleyfield, Quebec that blocked navigation for three weeks. The previous seaway closure record was December 25, set five years ago.

A manufacturing-assembly plant is being located at Steinbach, Manitoba by Toro Company of Minneapolis, Minnesota through the assistance of a \$625 000 loan provided by the Manitoba Jobs Fund. The five-year loan, plus a \$96 000 grant from the federal Department of Regional Industrial Expansion, will allow Toro, described as the world's largest independent manufacturer and marketer of outdoor maintenance products, to move into the building being constructed by a Steinbach firm. In exchange for the loan, Toro guarantees employment of at least 25 persons at the Steinbach plant, that it will implement an equal employment opportunity program and that it will use Manitoba goods and services wherever possible. Toro is the first company to sign a development agreement with the provincial government under a program announced earlier this year.

Silvia Ruegger of Newcastle, Ontario won the women's competition of the 35-kilometre Houston Marathon in 2:28.36 and established a Canadian record. Jacqueline Gareau of Montreal finished second in 2:29.32. In the men's division Dave Edge of Ancaster, Ontario, placed thirteenth with Marty Froelich of Houston and Sam Ngatia of Kenya placing first and second respectively.

Model payment for surgery

Identical twins Chong Min and Hyun Min recently made their *débuts* as fashion models to help raise money for an Ottawa organization, Heal the Children, which brings children to the city for operations that hospitals in their own countries are not equipped to perform.



Identical twins Chong Min and Hyun Min as models after successful heart surgery.

Heal the Children had brought the twins from South Korea for identical operations to close ducts in their hearts which should have closed naturally at birth.

To date, Heal the Children has brought 21 children to Ottawa for surgery. The children are looked after by Ottawa-area families, doctors donate their services, and private donations pay the costs of surgery and hospital stays.

The twins came with five other children, and Heal the Children founder Naomi Bronstein will take them all home together. Ms. Bronstein will return from Asia with six more children in need of surgery.

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