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MONTREAL SCENE '76

**OLYMPIC PREPARATIONS
IN FULL SWING**

GRANDFRIENDS

**A NEW ROLE FOR OLD
PEOPLE**

LATEST ISSUE

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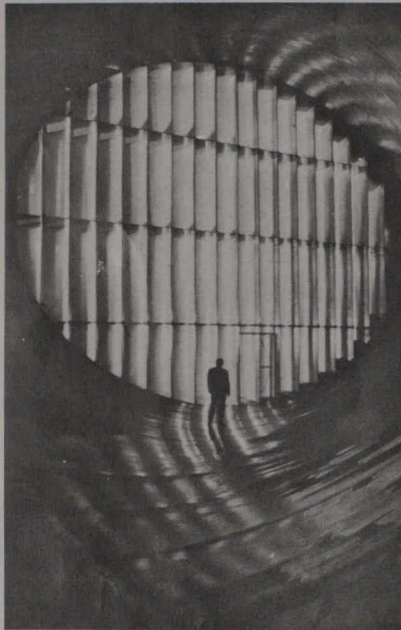
MONTREAL SCENE '76
OLYMPIC PREPARATIONS
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CANADA

CANADA

VOLUME 9 NUMBER 3



COVER: One of the world's largest closed circuit wind tunnels is a modern testing facility offered at the Canadian National Research Council's subsidiary, the National Aeronautical Establishment. A comprehensive illustrated article on the National Research Council appears on pages 3-5. Back cover shows a painting by a child and depicts the famous Canadian Mountie in a rather lighthearted perspective. We also reprint poems and other paintings by young people on pages 10-11.

ARTICLES

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ACKNOWLEDGEMENTS: The poems and paintings by children reproduced on pages 6 and 7 are taken from the book 'All About Us' edited by Betty Nickerson and published under a programme assisted by the Local initiatives Programme.

For the article on Lockheed's subsea oil exploration system the factual data was taken from a special release by the Lockheed company.

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The Canadian Prime Minister, Mr. Pierre Trudeau, addressed the Conference On Security And Cooperation In Europe in Helsinki, Finland, on July, 30, 1975. The following is an excerpt from the Prime Minister's speech :

Whatever stability this conference anticipates in Europe will be shortlived if we do not seize the opportunity now offered to us to create elsewhere the conditions necessary to permit standards of living to be raised, to permit the economies of tropical countries to be improved, to ensure that rural development is encouraged and food production is increased, to provide hope for a better future to the hundreds of millions of people outside of Europe now existing at the subsistence level.

We have long recognized and accepted that Europe is an environment of interdependence. We are only now beginning to realize that the entire world is equally interdependent, incapable of being divided by continent or physical barrier. The security which we have sought in two years of negotiation must now be extended beyond this region. This document we are to sign represents our acceptance of the principle of change, of our awareness of the fluidity of the human condition. It is our personal testament to the maturity of the international community. It is as well our recognition of man's irrepressible desire to seek starrier heavens in his quest for spiritual fulfilment.

That quest for peace, justice and individual dignity will require of men and women, as it has since ancient times, stamina and firmness of purpose. Yet in an age as tumultuous and potentially threatening as this, the quest demands of us especially that we be wise, that we avoid the glitter of false promise and the fragility of haphazard arrangements.

In the nuclear age, wisdom is often caution. Our responsibility as leaders is to express caution in the face of our generals and our scientists who may make to us extended claims of the benefits of nuclear activity both peaceful and otherwise. Should those claims prove illusory, the responsibility will be ours. Unfortunately, few nations now enjoy the benefits of peaceful nuclear knowledge. Even more unfortunately, all too few nations are convinced of the irreversible holocaust which will surely follow the irresponsible spread and employment of nuclear weapons. One of our priorities in the immediate future must be to devise and implement techniques which will permit the broad application of nuclear benefits to all nations, while at the same time eliminating the likelihood of weapons proliferation. I express Canada's continued devotion to it and to the work begun at the recent meeting of nuclear suppliers.

Canada has joined fully in this conference exercise, as it is committed to participate fully in the activities to follow. Though separated from Europe by the breadth of an ocean, Canadians are deeply conscious that the fortunes of this continent have moulded our fate through history and that events here will continue to influence us in the future. Certainly any breakdown in European security would have the gravest consequences in Canada. For this reason, we have been dedicated participants in this conference from which we see emerging a new European spirit of confidence and co-operation.

It is clear, Mr. Chairman, that this gathering in this beautiful city is far from a finality. Though we have come far, we have a considerable distance still to travel. We have learned that our nations share much in common with one another, but nothing more basic or more widespread than a desire for peace and liberty. We have understood, too, that truth is not singular, in a modern world it embraces a plurality of beliefs, ideals and systems. And we have found that our two paramount goals of security and cooperation are mutually reinforcing and are also related to the world beyond this continent.

NATIONAL RESEARCH COUNCIL



This 12-foot diameter stainless steel sphere placed near the NRC's Administration Building symbolises knowledge and science's contribution to mankind.

SIXTY years of research. Sixty years of development. A million questions. A million answers. That's the National Research Council of Canada. Ever since it came into being in 1916, it has played a major role in Canada's scientific development. Today it has blossomed into a national science laboratory, a patron of research, and a vital link between the scientific interests of the government, industry and universities in Canada all rolled into one.

Building research, transportation, engineering systems, aeronautics, astrophysics, communications, farming, hydraulics — you name it, and NRC is doing it. The marvels of space, the mysteries of atoms — NRC is at it too. In the laboratory and outside, along the rivers and inside tunnels, at the launching base and atop the world's tallest tower — it's all NRC's province.

Some of the special research endeavors undertaken in the past have grown into separate programs — a few of them as large as NRC itself. Atomic Energy of Canada Limited, for instance, was established in 1952 as the fruit of a wartime nuclear energy project coordinated by NRC.

Today, applied research is focused on select areas related to long-term problems such as energy, food, building, construction and transportation. NRC also provides

research support for such social objectives as public safety and security, protection of property, health and environment. NRC's network of associate committees, with members drawn from universities, industry and government laboratories, is geared to actively study, coordinate and promote research.

Dr. W. G. Schneider, the NRC President, underscores the importance of science to Canada's future and foresees a consolidation of NRC's pivotal research role in the years ahead. "In the future," he says, "NRC activities will be centered largely around its laboratory programs, with more emphasis on effective ways of using the demonstrated capability of NRC for our development. NRC's role must remain clearly defined within the overall Canadian and international scientific effort."

NRC thus is the principal agency for liaison between Canadian scientists and those in other countries. It is the official Canadian member for 12 of the constituent unions of the International Council of Scientific Unions and it adheres to 10 international engineering associations, including the World Federation of Engineering Organizations. NRC is also the coordinator of Canadian participation in the Global Atmospheric Research Program, The International Hydrological Decade, and Man And The

Biosphere.

The groundwork for all this, of course, has to be done at home and NRC's activities are concentrated into 10 major research divisions spanning life sciences, physical sciences and engineering: the newest of these, the Herzberg Institute of Astrophysics, is named in honor of Dr. Gerhard Herzberg, winner of the 1971 Nobel Prize for Chemistry. Dr. Herzberg is a distinguished NRC scientist.

The focal point for much of the research is the sprawling 400-acre Montreal Road complex on the outskirts of Ottawa. Here, some 550 scientists and engineers, helped by 1,500 other workers, are doing pioneering work. Other facilities include the original Sussex Drive laboratories in Ottawa, dating back to 1932, and the regional laboratories in Saskatchewan and Nova Scotia.

NRC maintains numerous other scientific and technical facilities all over Canada. Intended for a variety of users, these facilities would otherwise be too expensive or too specialized for most Canadian industries or scientific organizations to support on their own.

THE DIVISION OF BUILDING RESEARCH, for instance, provides a comprehensive research service for the construction industry, gives technical and secretarial assistance to the NRC's Associate

Dr. Gerhard Herzberg, NRC Distinguished Research Scientist and recipient of the 1971 Nobel Prize in Chemistry for his advances in molecular spectroscopy.



Committee responsible for the productions of the National Building Code, and carries out commercial testing on a limited basis when the special facilities offered by it are not available elsewhere.

THE DIVISION OF MECHANICAL ENGINEERING, established in 1936, looks after research and development in transportation (marine, road, rail, pipeline, air, air cushion technology), manufacturing, standardization in the engineering industries, computers, engineering and biological control systems and medical and surgical

instrumentation. The division also maintains and operates a selection of unique engineering and test facilities.

Another NRC subsidiary, THE NATIONAL AERONAUTICAL ESTABLISHMENT, takes up fundamental and applied research in aeronautics structures and materials science, and aircraft and motor vehicle safety.

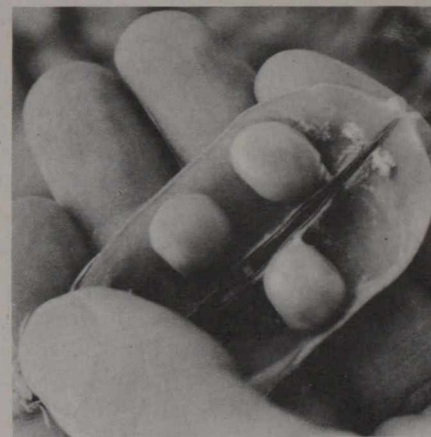
One instance of the facilities offered by it is a large (30 ft x 30 ft test section) closed circuit wind tunnel which can accommodate models of up to 20 ft. wingspan.

It is of the largest of its kind in the world. Test data are fed automatically to a central computer which provides a readout of model performance converted to full-scale aircraft performance.

Other facilities include a blow-down wind tunnel with a 5 ft x 5 ft test section capable of operating at airspeeds ranging from the low subsonic to high supersonic; and low-speed tunnels for sensitive instrument calibration, and a vertical tunnel to study V/STOL models at low airspeeds.

Scientists at NRC's DIVISION

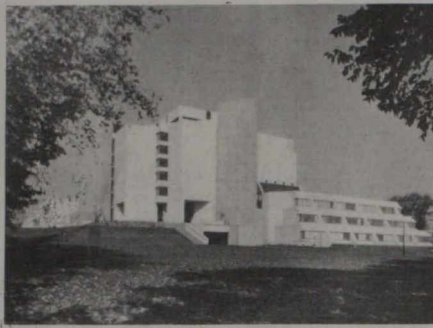
Research conducted at NRC's Division of Chemistry has provided engineers and scientists the world over with a better grasp of the corrosion process, how it is caused, how it proceeds and how it can be stopped. Here, a scientist studies the electrochemical oxidation of nickel.



The NRC's Prairie Regional Laboratory is in the process of developing field peas as a high protein crop for Canada's Prairie provinces.

NRC MILESTONES

- 1916 — NRC is founded to link science with industry; programs instituted for scholarships to graduate students and research grants to university professors.
- 1925 — The council's first research laboratory begins work in Ottawa.
- 1932 — Laboratory activities are concentrated in four research Divisions; Physics and Engineering, Biology and Agriculture, Chemistry and Research Information. A new central laboratory is opened in Ottawa.
- 1936 — The Division of Mechanical Engineering is established.
- 1940 — 21 other laboratories are established from Halifax to Vancouver. Spurred by wartime needs, Canada matures in scientific research and development.
- 1942 — A joint British-Canadian atomic energy project is set up under the NRC in a laboratory in Montreal.
- 1946 — The atomic energy project is transferred to Chalk River, Ontario.
- 1947 — Research in support of Canada's military functions is transferred from NRC to the newly-organized Defence Research Board.
- 1947 — The Division of Building Research is added to the NRC fold and organized to study the problems of construction in Canada's climate.
- 1947 — The Radio And Electrical Engineering Division is established.
- 1948 — The Prairie Regional Laboratory, oriented towards the bio-sciences, is set up on the campus of the University of Saskatchewan in Saskatoon.



This new building on the outskirts of Ottawa is the Canada Institute for Scientific and Technical Information founded on the combined resources of two major NRC information delivery services—the National Science Library and the Technical Information Service.

OF CHEMISTRY have developed a chemical process called “reverse osmosis” which can be used to separate the components of liquid and gaseous solutions. It has considerable potential as a large-scale engineering process for salt water conversion and in tackling many of the environmental problems.

The Metallic Corrosion And Oxidation Laboratory has gained international reputation for its studies of the fundamental reaction in corrosion, the formation and breakdown of a metal's protective oxide film.

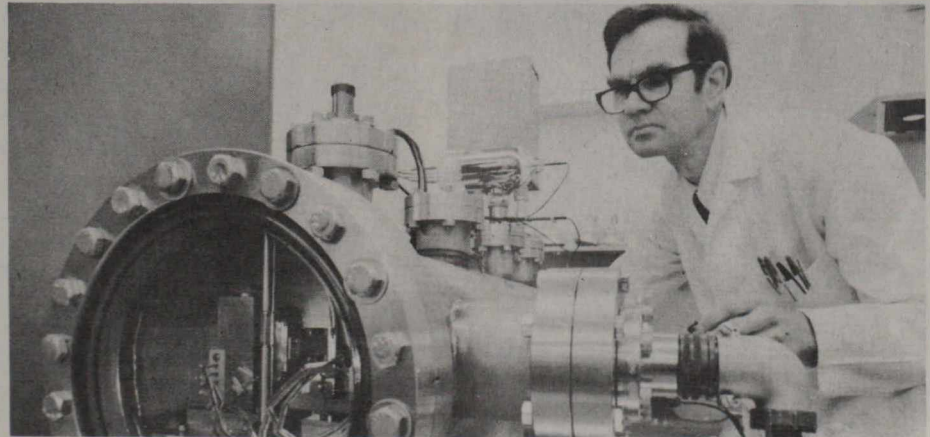
One of the typical projects of THE DIVISION OF PHYSICS, established by NRC in 1932, is the development of improved instruments to generate reference standards of measurement. A new cesium beam instrument made by it is the most accurate and stable clock in the world, off by no more than three seconds in one million years. THE HERZBERG INSTITUTE OF ASTROPHYSICS is the newest of the research divisions of NRC, established in April this year. The nucleus of the institute is Dr. Herzberg's worldrenowned spectro-

scopy section at the Division of Physics in Ottawa. Important laboratory work is under way here on detection and analysis of light and other emanations from the universe.

Part of the strategy for the future is NRC's long-term program of support for university research in Canada, including research grants to university staff members, negotiated grants for group research projects, conference grants and publication grants, as well as scholarships and fellowships to young graduate students and post doctorate fellows.

Canada's National Radio Astronomy Observatory in Algonquin Provincial Park, Ontario.

A significant advance in atomic timekeeping has been a large (4 m long) new cesium beam standard designed and constructed by the NRC's division of Physics. It is the world's most accurate continuously-operating clock.



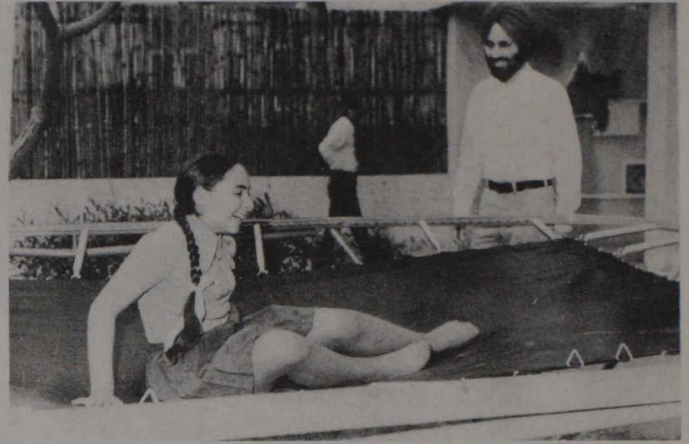
- 1952 — The Atlantic Regional Laboratory begins operation on the campus of Dalhousie University in Halifax, Nova Scotia.
- 1952 — NRC gives birth to a new Crown Corporation, Atomic Energy of Canada Ltd., established to further Canada's stake in nuclear energy.
- 1959 — The National Aeronautical Establishment, comprising the aerodynamics, flight and structural activities of the Division Of Mechanical Engineering, is formed to meet the aeronautics research needs of military and civil aviation.
- 1960 — The Medical Research Council is set up as an autonomous unit responsible for policy in the field of medical research but functioning initially within the administrative framework of NRC.
- 1966 — NRC observes its fiftieth year of operation.

- 1971 — NRC scientist, Dr. Gerhard Herzberg is honoured with the Nobel Prize in Chemistry for his outstanding contributions in the field of spectroscopy.
- 1974 — The Canada Institute For Scientific And Technical Information (CISTI) is formed by combining NRC's principal information systems, the former National Science Library and the Technical Information Services.
- 1975 — The newest research division, The Herzberg Institute of Astrophysics is established.
- 1978 — Target date for completion of the Canada-France-Hawaii telescope project.

Current staff : Approximately 3,000 employees including about 750 research scientists and engineers, and a technical support staff of 1,100.



Mr. James George, former Canadian High Commissioner in India, at the inauguration of "The Study" in March 1972.



Shauna Pasrich, the young writer of this article.

THE STUDY

The Canadian-Indian School.

It is the first Canadian-Indian School ever set up in India. Its Director is an English teacher from the Montreal Namesake school - The Study.

The Study opened three and a half years ago in Shri Fakhruddin Ali Ahmed's house; 139, Golf Links. At the time, it had only five children, on the first day, and two staff members. Today it is one hundred and fifty strong with nine staff members. The main attractions have been the Olympic-size trampoline and the fifteen-foot diameter swimming-pool given to the school by its Canadian Benefactor, Mr. Drummond G. Birks.

Mrs. Pasrich is an Indian, but went to Canada thirteen years ago, and spent approximately eight years in Montreal, Switzerland and London, all total. Of medium height, she is graceful and charming. She was the first non-Christian to teach in a Catholic School in Quebec.

The Study, as originally intended, supports a vocational school consisting of seven boys who are paid a stipend to come and learn carpentry from a master specially hired for this purpose, on the premises, after normal school hours. In this, the Convents of Jesus and Mary, both in Delhi and in Mrs. Pasrich's ancestral school in Simla, have given her a lot of help. The money obtained from the sale of the articles made by the boys goes into buying more wood and tools for them. Mrs. Pasrich hopes to start upholstery and other work with the boys soon. Many parents of children at The Study have given her help by ordering simple furniture from the vocational school.

Most of the equipment for The Study has been shipped out from Canada. Dolls, books, tricycles, records, educational toys and Lego sets among other things.

Of course, as in all other schools, there are problems. However being a small school catering to people who can afford more than most, The Study has, perhaps, more problems than is normal in the field of the standard of Education required for a Nursery/Primary School.

For instance, a good number of the parents do not treat The Study as an institution, but rather as a machine that will prepare their children for the entrance tests to bigger schools. This is because the school has no land, and so, cannot expand into buildings, compounds and fields, go all the way up to the higher classes and let the children learn at their own speed.

Teachers are not difficult to get, but the invariable problem is to find the most suitable for a certain group. There are those who cannot come down to the level of a two-and-a-half-year old after having taught a higher age-group. There are those who walk blatantly into Mrs. Pasrich's office to fill out an application, and who, though wanting the job, snigger affectedly over a salary naturally low for an unqualified teacher.



Mr. and Mrs. Pasrich.

Children at The Study spend much of their time out in the open.





In the school's swimming pool.



A play presented by the children.

The number of withdrawals are erratic, as in other schools, but unlike those, are detrimental to the revenue of The Study. This is because parents, despite the rule demanding two months notice before withdrawal, and in spite of a refundable deposit covering those two months, persist in withdrawing their children without this notice. The result is that a vacancy for an admission occurs in a class halfway through the term when the people on the waiting-list have already admitted their children elsewhere, and a good deal of money is lost. Mrs Pasrich has kept the classes with a maximum numbers of sixteen or seventeen, in order that individual attention might be given them children. However, with these withdrawals, the school contains less children sometimes than its 'breaking point.'

Of course, there is the other side too. Says Mrs Pasrich, "Some parents are so cooperative. They come to all the parent-teacher meetings, help their children at home if necessary and even volunteer help when a teacher is absent, or on the first day of the term when our "Wee Folks, are fractious."

When Mr and Mrs Pasrich moved into 139 Golflinks, the Food Minister, Sri Fakhruddin Ali Ahmed owned it. Now it is Sri Fakhruddin Ali Ahmed, the President of India, who owns it. Both he and Begum Sahiba have visited the school and been extremely helpful to it.

Mr Pasrich is a management consultant, and does work for both Canadian and Indian Companies. The Study now has a good number of Canadians as well as a collection of nationalities from both sides of Shanti Path.

His Excellency, Mr James George, the High Commissioner for 1972 inaugurated The Study on March 27th of that year. Since then, His Excellency and Mrs Williams have visited the school, as have His Excellency and Mrs Haysee, the present High Commissioner and his wife. Mrs Maysee, like Mrs Williams, gave away prizes for an art competition held at The Study and judged by herself and Mrs Gita Sukhjot Singh of Kapurthala.

Mrs Pasrich will be going back to Canada for a month this October, to teach at The Study, Montreal. She will be teaching the Middle School English once again.

This admirable lady's other pastimes include squash, horse-riding, tennis and painting. She held a private exhibition of her clubs at the same time and swims all the year round in the why the ever took up teaching as a profession, when as she says herself, she never did want to be a teacher, "But then," she says, "I suppose I feel I have to do a good job just because I am aware of the fact that I had no vocational call to teaching."

The Study has made wonderful progress in the last few years, and, I hope, will continue to do so.

Shauna

July 1975. Delhi

We present here an essay by 12-year-old Shauna (in her own handwriting) about "THE STUDY" a school run by Mr and Mrs Pasrich in New Delhi. Mrs Pasrich lived and taught in Montreal, Canada, for some years before she opened "THE STUDY" on March 27, 1972. It was inaugurated by the then Canadian High Commissioner Mr James George. "THE STUDY" is a modern school with 150 children of all nationalities on the rolls and a staff of nine.



President Fakhruddin Ali Ahmed at a school function.

President Ahmed goes round the classrooms.



These paintings and poems have been taken from a small book 'ALL ABOUT US' which featured creative writing and painting by the young and for the young. The book contained a sampling from over 25,000 paintings, poems, stories and letters received from young Canadians. The

CHILD-REN'S

thousands of pieces were sent voluntarily. They were not made to win prizes or gain fame, but to share experiences across the length and breadth of Canada.

Many contributors betrayed a wistfulness for acceptance: "I hope my painting is O.K." "I hope you like my poem." They



Leslie Powers
Grade 11
Halifax, Nova Scotia

BLIND BOY'S RING

*The poor blind boy
He can not see
You or Me
Or the great blue sea*

*He must listen
With his ears
He must speak
Through passing years*

*Yet the blind boy smiles
For he sees as we may never do
He sees as people feel
He sees what is and isn't real*

*For never is
The blind boy fooled
He simply can't be taken in
By the golden ring that's made of tin*

John Leinster Age 16
Newmarket, Ontario



Janice Douglas
Age 14
Edmonton, Alberta

LIFE

*Life is like a butterfly,
There's certain stages you have
to go through
before it becomes beautiful.*

Susan Livingston Age 16
Calgary, Alberta

John Caravistj
Age 16
New Brunswick

SNOW

*Teardrops from heaven
Crystallizing as they plummet
earthward
Each in it's own suit of ice
Blown and thrown wherever the
wind desires*

*Then the air is calmed
The drops plunge into a mass
They unite; lose their identity
They drift and mount higher*

*The sorrow is rectified
The golden god comes out
Lifts the spirits of the clouds
And the tears are gone.*

Marion Pennell Age 13
Pointe Claire, Quebec

David Colborne
Grade 11
Halifax, Nova Scotia



painted in sunshine, but most wrote about deep human concerns.

From 200 to 400 pieces of work poured in each day for the book. "We were privileged to touch on real and vital energy, on that which is surely our most valuable natural resource — the creative capacity of Canada's

ART

young people," wrote the book's editor, Betty Nickerson.

"We hope you will laugh at some, think carefully about others, admire many, and respect all. Giving shape to thought through words and pictures is communication. It is difficult. But this is the way a culture grows, and a people form."



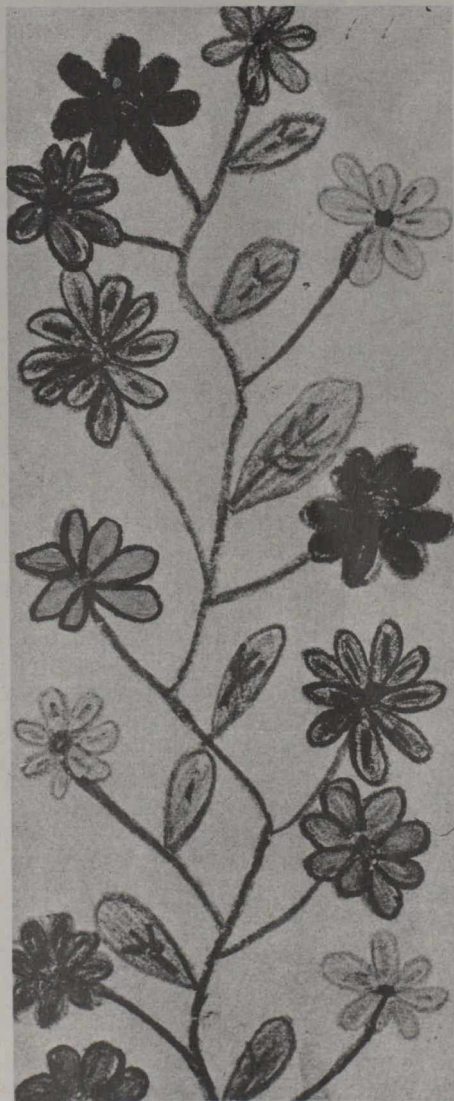
WORK

*I meant to do my work to-day,
But a brown bird sang in a tree,
Butterflies fluttered cross the field,
And all the leaves were calling me.*

Nicholas Harper Grade 11
Winnipeg, Manitoba

Johanne Hamel
Age 16
Quebec, Quebec

Age 15
Ross River, Yukon Territory



Karen Litton
Age 8
Gainsborough, Saskatchewan



MY CLASS

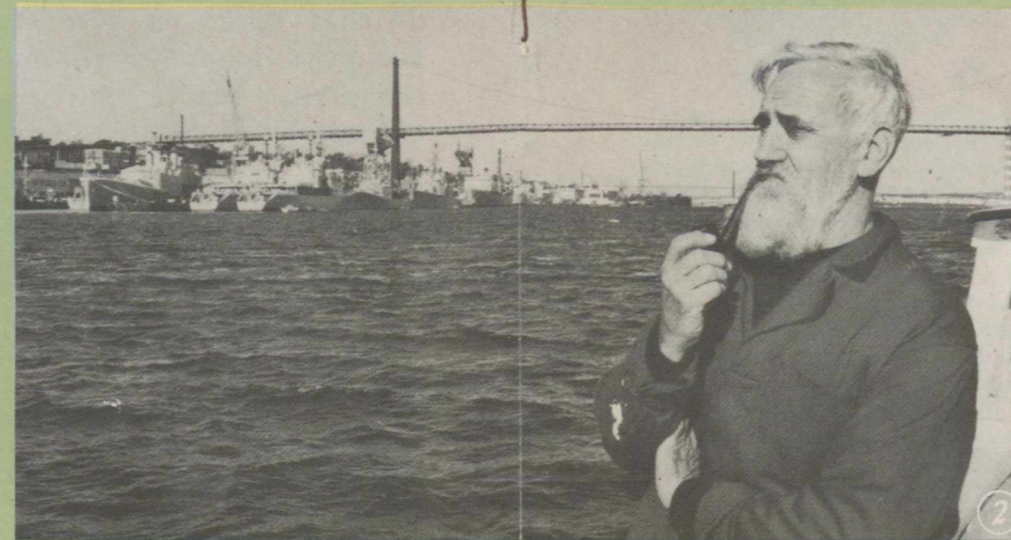
*My class has some windows
That have no glass.
My class has a chalkboard,
That doesn't last.
My teacher has a desk,
That is always in a mess,
But I think she is the best.*

Wendy Christie Age 10
Bathurst, New Brunswick

HALIFAX

CITY OF CONTRASTS

1. The Halifax skyline near the waterfront.
2. Commander MacGowan looks out from his boat.
3. They build the new Halifax — Construction work never ceases.
4. Students near a Halifax College.
5. An old Halifax seaman.
6. A young Canadian merchant navy officer.
7. Cmdr. MacGowan's old stories and old ships draw crowds of children.
8. Inside a Halifax hotel.
9. On the dockside.
10. A young architect explains models for modern Halifax.



“A city of contrasts — old history alive in stone-and-timber buildings alongside glass-and-metal skyscrapers — that’s Halifax,” says Lt. Commander W.T. “Mac” MacGowan of the Royal Canadian Navy (Retired). And he should know.

Commander MacGowan worked with the Canadian Merchant Marine in the 1930s, then joined the Royal Navy in London in 1939, and was back with the Royal Canadian Navy in 1942, serving as Lieutenant-Comman-

der aboard a depot ship servicing motor torpedo boats on anti-sub-marine work out of Halifax until 1945.

“She has grown and changed a lot in my 68 years here. We are trying to preserve what’s worth keeping of the old city, without standing in the way of the new investment represented by all these new skyscrapers,” Commander MacGowan gestures with his pipe-stem towards the city skyline — we were out in the harbour aboard his motor-boat—

and the panorama is breathtaking: the shipyards, Canada’s peace-keeping fleet at anchor, the stone and shingled warehouse along the old waterfront, behind them the modern office towers, hotels and apartments, and above them all the stone fortress and Georgian cupola of the old Town Clock on Citadel Hill.

“Of course, the last decade has brought a lot of culture — art exhibitions, music and live theatre. The tourist industry is prospering too, with new hotels and

gourmet seafood restaurants.”

Ever since it came into being some 226 years ago (it was a British naval base then), Halifax has continued to be the hub of government not only for the Province of Nova Scotia but for Federal Government administration for the whole Atlantic region of Canada. The port and railhead and the highways make it a natural focal point for transportation.

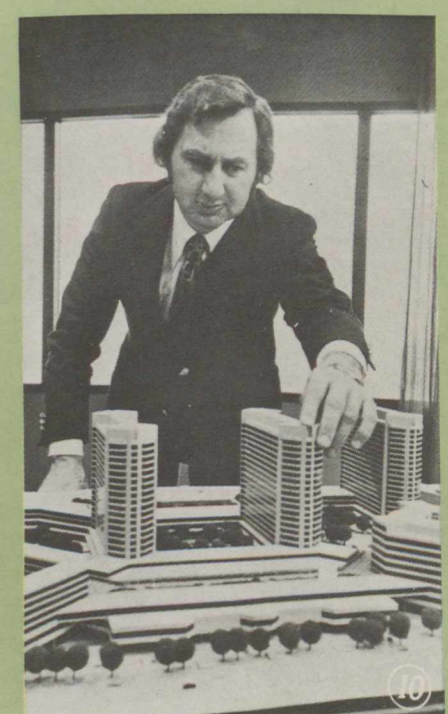
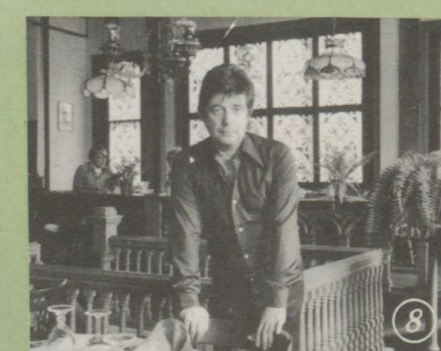
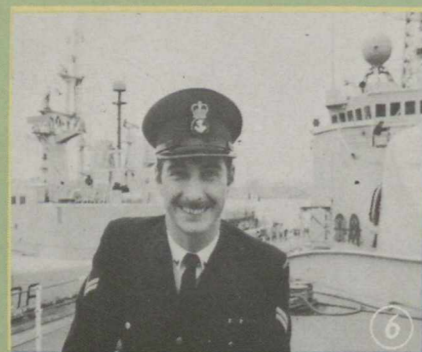
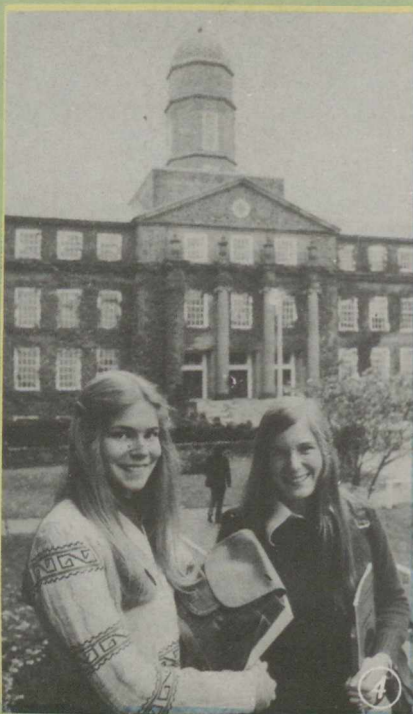
Almost entirely destroyed by the “Halifax Explosion” of 1917

—the result of a harbour ship collision which damaged every building in the city and killed 1,630 persons — Halifax was rebuilt into an important trading centre. It continues to be Canada’s chief Atlantic port (ice-free in winter).

“The container has given shipping everywhere a real shot in the arm and Halifax has the most modern facilities,” beams Commander MacGowan with pride. “But they filled in the basin of the Royal Yacht Squadron to

build the container port — Halifax is one of only four Royal Squadrons in the world—and now we have our basin in Halifax’s North West arm. I guess that’s progress for you, and we have to keep up with the times.”

It’s this combination of pride in the place and her traditions, only with the flexibility to accept and make changes, that will keep Halifax a strong, proud and thriving city for the next 226 years and beyond.





MONTREAL SCENE '76

'THE GAMES WILL OPEN ON TIME'

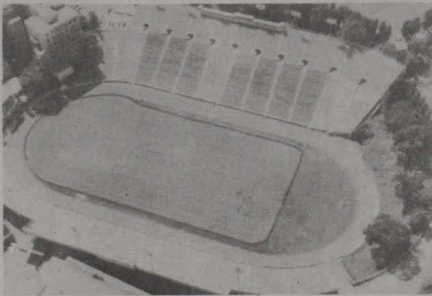
"Barring a world cataclysm, there is absolutely no doubt the 1976 Olympic Games will open in Montreal on July 17, 1976, as scheduled," Lord Killanin, President of the International Olympic Committee (IOC), said during a recent visit to Canada. The assurance followed a whirlwind tour of all Games sites — much of it by helicopter. Doubts raised by a skeptical world press had been quelled completely as a result of the tour, he said, particularly a visit to one of the factories which manufactures prefabricated stadium components. "Not until you have seen what's going on in these factories can you understand how everything will be ready on time," said he.

CONSTRUCTION WORK AHEAD OF SCHEDULE

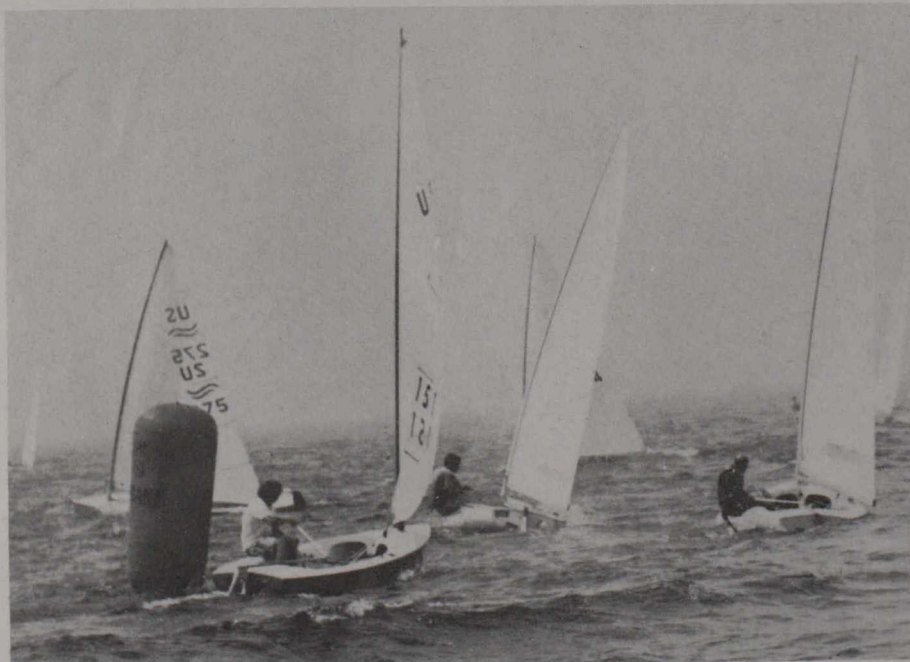
THE foundations for the stadium-pool complex are already in place and three of the 34 concrete pillars which will support the building have been erected. The pool, at the base of the tower which rises above the stadium's north end, is in fact ahead of schedule and should be ready by February next. The Velodrome, where the track events for cycling will be held, will be ready in December, eight months before the Games open. Other construction projects now in full swing include the Bromont equestrian centre, the shooting facilities at L'Acadie, the archery centre at Joliette and the Olympic yachting centre at Kingston. The Olympic Village, across the street from the main Olympic site, was originally due for completion January 28, 1976, but work is ahead of schedule and it may be finished late this year.

LONG QUEUES ALREADY FOR TICKETS

LONG queues appeared outside Olympic Games booking windows all over Canada when sales opened last May; in many cases the eager purchasers spent the night in front of the windows. Available to Canadians are 65% of the 4.5 million tickets — about 3,055,000. It was first come first served for the best tickets. Because of the demand, tickets for the opening and closing ceremonies will be allotted by a draw later this summer.



Kingston, Lake Ontario—where the Olympic Yachting events will be held



Montreal





THE OPENING CEREMONY TO BE SHORTER

THE opening ceremony will be shorter — curtailed from its traditional duration of three hours to two. It begins at 3 p.m. with a parade of athletes lasting an hour. Two thousand young Canadians will welcome the competitors with a display of rhythmic dancing. The torch-lighting ceremony will take approximately 12 minutes. The finale, presentation of the Olympic Flag to Mayor Hean Drapeau by the Mayor of Munich, is scheduled for the last seven minutes of the ceremony. Seventy-five teenage dancers and musicians from Montreal and Munich will provide the climax.

OLYMPIC FLAME VIA SATELLITE

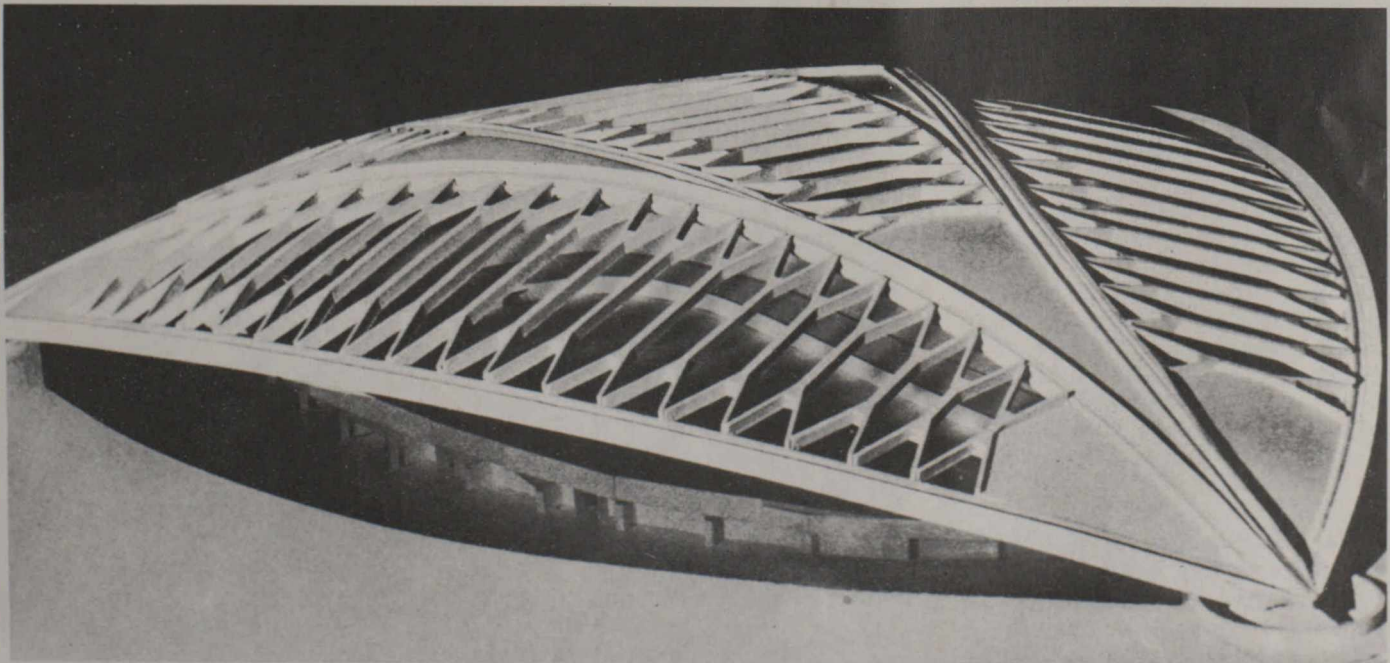
THE Olympic Flame will be transported to Canada from Greece via satellite as modern technology and Games tradition become one. The procession will start traditionally at 11 a.m. (local time) on July 13, 1976, with the flame being lit by sun rays at the Temple of Hera in Olympia (Greece). Runners will carry it to Athens, arriving there on July 15, and a Canadian athlete will light the flame at the Panathenian Stadium. The torch will then be carried to another urn, where, through an electronic sensor, the particles will be transformed into electric impulses which will be transmitted by satellite to Ottawa (Canada). A laser beam at the receiving end will convert the impulses back to the flame's original form and Canadian runners will carry the torch to Montreal where, at 4:30 p.m. on July 17, it will enter the Olympic Stadium.

INSTANT RESULTS FOR GAMES SPECTATORS

TWO giant screens, each 33 by 66 feet, will provide Olympic Stadium spectators with instant results. They will be situated for maximum visibility with projected images being easily discernible at any distance up to 1,100 feet. The scoreboards resemble massive television screens capable of displaying a wide variety of video presentations. Computer-operated, they have memory banks of at least 1,000 images, record times down to one-hundredth of a second and can follow the progress of each athlete from starting line to finish, to then flash the official result. Each scoreboard weighs 40 tons and has more than 20,000 bulbs with wattages of zero to 40.

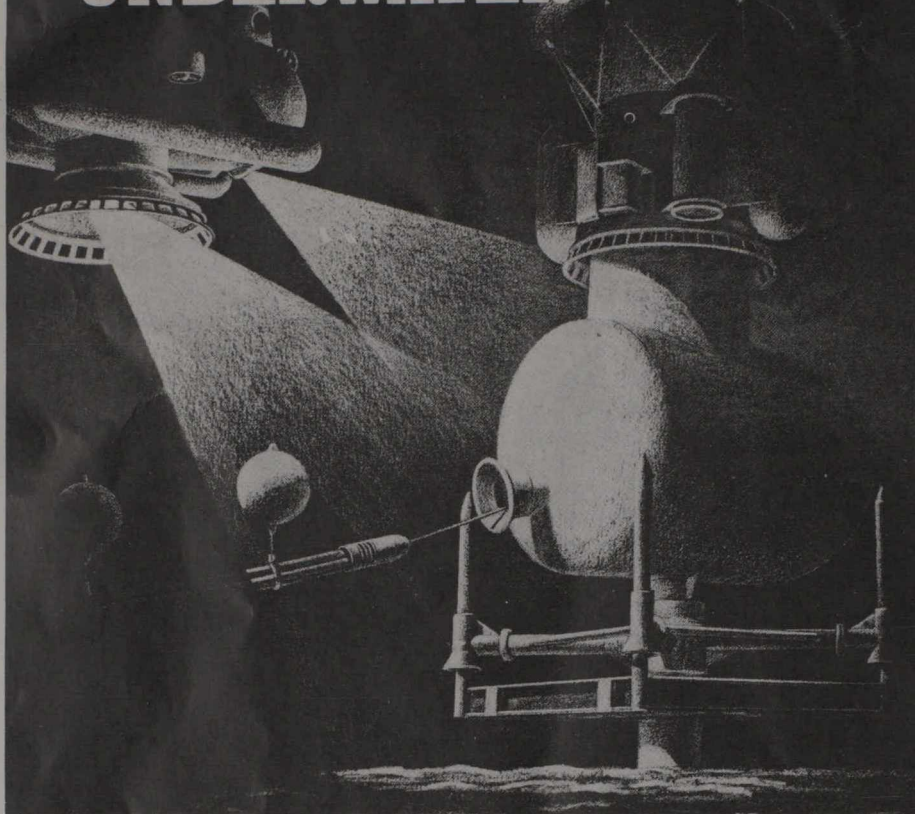


Below : A scale model of the Olympic racing track and stadium with 7,500 seats. Right : The Maurice-Richard Boxing Arena



SEARCH FOR NEW ENERGY SOURCES

LOCKHEED GOES UNDERWATER



CANADA has been a leading contributor to ocean technology. Canadian drilling crew travel the world's oceans sharing their mining experience with other nations. According to the United Nations, Canada spends more per capita on oceanographic research than any other country. Because she fronts on three oceans and has an unusually large continental shelf, the expenditure is in her own interests, but the benefits are also universal.

At present, Canada is leading all countries in the development of a total subsea oil production system that will provide the most economical means of exploiting deep water wells below the ocean floor.

Currently pumping up oil from a well at 375 feet in the Gulf of Mexico is a semi-spherical chamber, part of a system in which men can descend more than 1,000 feet under water to work at a wellhead in shirtsleeves. Considering that all productive wells until not long ago were located in less than 400 feet of water, the system, developed by Lockheed Petroleum Services of New Westminster (British Columbia) is ahead of its time and paves the way for exploration in deeper waters.

First tested in 1970, the system consists of the wellhead chamber or cellar, a service capsule and a sur-

face support vessel, and eliminates the need for divers, breathing masks and remote manipulation of tools. It also simplifies the procedure for connecting flowlines to wellhead plumbing which has caused the offshore oil industry some problems.

Fitted together, the cellar and capsule, each approximately 10 feet in diameter and 30 feet high, resemble a gigantic steel hourglass. The cellar is lowered to the seabed from a drilling rig until it locks over imbedded piping, and there it stays until the well runs dry.

Extensive testing of the diving bell and flowline connecting techniques has taken place in conjunction with Shell Oil Company. In 1972 a wellhead chamber was placed on an oil well for Shell in the Gulf of Mexico at a water depth of 375 feet. This well has produced almost one million barrels of oil since, requiring only one maintenance visit by the diving bell during that time. Two more such wellhead chambers are currently installed for Shell as well as several more for other companies, all in the Gulf of Mexico. LPS will enter the North Sea in 1976 for the installation of a number of pipeline connection chambers.

The system has great advantages over alternative platform developments. Not only is the overall cost less (depending on water depth),

but the construction lead times are generally much less, resulting in earlier production of much needed oil reserves. The accelerated cash flow can then be used to finance further oilfield development. The maximum capital investment in advance of income from oil production is considerably less with the LPS system.

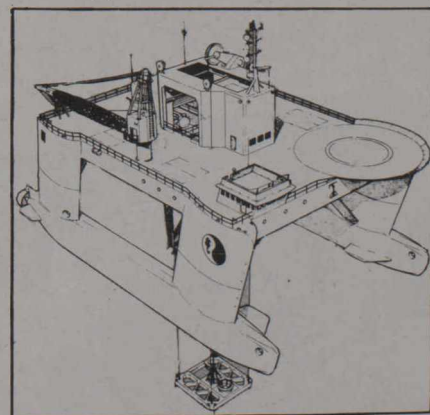
Conditions in the Bombay offshore area are particularly advantageous to the system, because of the rather shallow depth of the oil bearing limestone formations. This decreases the reach of wells drilled under an angle from a single location, such as a platform. In the Bombay High area, not more than three, or perhaps four, wells could be drilled from a single platform. This would require a large number of these costly structures for a total field development. They would also form quite an obstacle to shipping and other surface hazards, while the LPS chambers would be safely located on the sea bottom.

Canada has introduced other innovations in the production of self-propelled dynamically positioned drilling ships, of mini-submarines and sophisticated oceanographic measuring equipment that we propose to present to our readers in subsequent issues of this magazine.

Early this year Lockheed presented the subsea oil and gas production system to a group of interested Indian Government officials and businessmen at Ashoka Hotel in New Delhi. Mr. K. D. Malaviya, Minister for Petroleum and Chemicals, was present on the occasion.

Offshore drilling rig construction, which requires considerably more skill than conventional shipbuilding and is, therefore, undertaken by fewer countries, is a growing industry on Canada's Atlantic coast. Halifax Shipyards, a division of Hawker Siddeley Canada Ltd., has produced three of the largest rigs in operation; two more of a more sophisticated design are under construction.

Artist's conception of the Lockheed surface support vessel



GRANDFRIENDS are just that — senior citizens who give their time once a week — and sometimes more — to work with young school children.

A Grandfriend will read you a story, help build a tower of wooden blocks, play make-believe, stroke your head or just sit and talk.

Sponsored by the New Horizons program of Health And Welfare Canada, the project took off with a \$10,225 grant in February 1973. In 1974, it was awarded an additional \$6,235 for further expansion.

Says Jane Jones, chairwoman of the group which currently involves close to 40 volunteers in Winnipeg's schools and daycare centres: "As older folks, we do not intend to take on the responsibility of organizing or disciplining the children. Rather, we will be their special friends and work towards increasing their language powers and social development."

"There are any number of enjoyable tasks we could share with these little children. Many teachers of this age group say they badly need this sort of help and many youngsters require a lot of attention the teacher does not have the time to provide."

The benefits to the children are many. They have an older person with whom they can associate and interact; society being as mobile as it is, most children have never had the opportunity to know or relate to any person older than their parents or teachers.

Children also benefit by hearing about experiences not mentioned in their textbooks. Such as: How did the Grandfriends bake before electricity? Wash clothes without hot or cold running water? Farm with a horse and plow?

At John M. King School, where 20 Grandfriends spend part of their

'As older folks we do not intend to take on the responsibility of disciplining the children . . . we will be their special friends . . .

week, resource teacher Bob Davies describes the Grandfriends project in this way: "This allows us to move into other areas of learning programs instead of keeping strictly to the regular curriculum. With volunteers, we can pinpoint problem pupils and work with them. In the area of learning problems, we have a preventive program by having the Grandfriends pick up problems in nursery school, kindergarten and grade one that otherwise might not be discovered until a child is in grade three."

Grade one teacher Carolyn Lumsden admits she can do more in the class with another person in the room: "It's very hard with 28 kids. With a Grandfriend helping out, it makes things much easier. Kids learn in so many ways. Many kids need individual attention. A teacher by herself can't possibly give this kind of attention. These people are very, very warm. They mix with the kids, and the children love them."

Mary Capri, pre-primary grade one teacher, has a Grandfriend who spends 20 to 25 minutes with each child in her class. "She spends her day working with individual children. She takes them aside, walks with them, teaches them printing — whatever they need."

Grade one continuing teacher Brenda Sorensen finds that the children relate to the Grandfriends: "These people are easygoing and are a wealth of information. The children enjoy having an older person in the room. It's a new face, a new person. They have someone to tell their exciting things to."



And John M. King School is a happier place since the Grandfriends came in, according to Principal Georgina Samuels. "They care. They talk, and the children look forward to these one-to-one relationships."

Paul Resnik, a Grandfriend, gives a half-day a week to the children at William Whyte School. Other days he's busy with his responsibilities as vice-president of the Selkirk Senior Citizens Centre.

"Kids like me and I like kids," he says. "I love hearing 'grandpa' when I walk through the school. It makes me feel good."

Gladys Koppers, a Grandfriend since the project first started, says: "I think lots of them are starved for attention. I love them. I don't know what I'd do if they didn't want me. I'd have to be really sick to miss a day."

Gladys Corrie became a Grandfriend answering through a newspaper ad. "I am a grandmother but my grandchildren are in Calgary," says Mrs. Corrie who is very popular among the young children because of her special talent — playing the piano. "I like playing for the children and they love to march around. It makes me feel good to see the little ones having so much fun."

Elizabeth Gill, a retired executive secretary whom children call Aunt Bett, says the project means so much to the participants. "It's great therapy. Most of our own children are married and away. I didn't want to spend my time going from luncheon to luncheon. Women of my age have time, love and affection. The children always seem to want to touch us. It's so nice to be needed."

And that really is what it's all about.

GRAND FRIENDS

The Museum Explosion

CANADA is in the midst of a boom — a museum boom.

Once upon a time Canada was short of them. In 1903, there were only 37 museums stretched across the vast land. Fifty years later they'd inched up to 185. Now there are over 1,100. Every organization worth its salt, every country with any pride in itself, is busy putting together an object here, an artefact there, with dreams of opening a museum.

Basically, thus, a museum is an institution which collects, authenticates, preserves and interprets objects of nature and artefacts of man, primarily in the public interest, not for profit. It must entertain in an educational way; it must also provide adequate resources for research by scholars. Or, as Mr. Archie F. Key, former Director of the Canadian Museums Association, puts it, it must combine both "education and showbiz."

The common view of a museum is a dank temple paying homage to a musty past where exhibits never change; nor do the "do-not-touch" signs. In recent years, museums have striven to change all that, to let people inside, have fun, feel welcome. The unfriendly "do-not-touch" signs have largely been removed; in fact, many museums in Canada now welcome touching as part of the learning experience.

"Today, they know they have to take a calculated risk," explains Mr. Key.

A museum, for instance, can be a whole village, and Canada has several. At Hazelton (British Columbia), the most popular museum is an authentic Indian village called Ksan, from the word Gitaksan, meaning people of the Skeena. Inside are a treasure house, the replica of a native community house, feast house from potlatch days, totem poles, canoes, native symbols and implements—all making possible the recreation of rituals and symbolic festivals.

Parts of cities can also serve as a museum — and the most ambitious of them all is the Fortress of Louisbourg, 23 miles south of Sydney,

Continued



Seen against the painting "Portrait of a Lady" by Bartolomeo Veneto, a recent acquisition of the Gallery.

JEAN SUTHERLAND BOGGS

Canada's "First Lady" of Culture

Jean Sutherland Boggs is the only woman in the world to head a national art gallery. She has been the director of the National Gallery of Canada since 1966 — the fifth director since the gallery was founded in 1880, largely due to the efforts of another woman, Princess Louise, daughter of Queen Victoria and wife of Canada's third Governor-General.

As the effective "first lady" of Canada's cultural hierarchy, it is inevitable that during this International Women's Year Jean Boggs should have a busy schedule of speeches about the role of women in the arts. And in them, she maintains that "Canada is almost a haven for women in the arts — there are numerous women in prominent positions across Canada."

Born in Peru, where her father was an oil geologist, Jean Boggs grew up in Ontario. She began to study art history at 16 and completed a fine arts honours course at 20. Upon graduation, she "took a wild gamble" and went to the Montreal Museum of Fine Arts to work with Arthur Lismer. The perilous, though exciting, existence of the arts community prompted her to resume studies, this time at Harvard, where she took the famous museum training course taught by Paul Sachs. Work on a thesis in Paris and travel in Europe were made possible by a Harvard fellowship, which also led to teaching positions in American colleges and universities.

By the time she returned to Canada in 1962, to become cura-

tor of the Art Gallery of Ontario, she was well on her way to gaining international reputation as an author, art historian (a specialist on Degas and Picasso), and administrator. She says she reached her present position on the basis of experience, training, "and a certain amount of luck."

What she calls her greatest stroke of luck seems particularly relevant in the International Woman's Year. It occurred when Judy LaMarsh, as Secretary of State, appointed her to the directorship of the National Gallery, "It is possible that, as a woman, she was more ready to appoint a woman to a senior position," states Boggs.

Public appearances are part of Dr. Boggs' many responsibilities as director of the National Gallery and, "because there is a lot happening in art museums across Canada," she carries out what she considers "the delightful obligation" of travelling all over Canada, often delivering lectures about the gallery. She does a fair amount of lecturing as well on the other fields in which she is an expert and says, "It's an escape — a refreshment... and I do it to remind myself that I'm an art historian and that I should be thinking sometimes of other things besides the gallery."

The relationship between museums and the community remains one of Boggs' favourite crusades. "It is very important that the museum be based upon the interests and character of the community," she says. "It is more important to dev-



With her book the *National Gallery of Canada*, against the background of "Sunrise or the Saguenay" by Lucius R.O'Brien, in the National Gallery, Ottawa.

elop from a small collection than to impose something artificial. There should be a strong regional flavour expressed in buildings, staffs, programs and collections." And, she says, something which gives this strong regional flavour is the "contribution of volunteer groups, which make an enormously important contribution to museums throughout the country. In this International Women's Year, I would like to say that the contributions women's committees have made to Canadian art museums has been enormous, and should never be forgotten."

Jean Boggs has always believed that meaning, rather than beauty, justifies a preoccupation with works of art — with the result that not everyone cares for some of the gallery's purchases or exhibitions. She regards this as a normal and healthy situation for any large, vital gallery.

A national gallery can often follow a course of compacently continuing the sponsorship of only a few artists which it believes produce the country's finest works. But that charge cannot be levelled at Canada's National Gallery; "it is participating in an adventurous new stage in the study of Canadian painting sculpture and decorative arts." The collection of Canadian art at the gallery, the largest in existence, is constantly being increased.

"The people who work here are severe critics and perhaps we measure the gallery's success on the basis of whether we are satisfied.

We could talk about attendance, which averages about 450,000 a year; or exhibitions sent to other centres; or acquisitions of art (the director of the British Museum has told us he thinks we are buying better than any other museum in North America) ... but none of this represents a satisfactory gauge, for we are involved in so many activities," says Dr. Boggs.

"There are," she says, "only a few of us who are somewhat spoiled, as I may be considered to be, with a highly professional staff of over 100 people, a museum which occupies over 150,000 square feet of space; the budget to mount extremely expensive exhibitions and to support Canadian artists and scholars; and to encourage interest in our contemporary artists. However, to really make use of the resources we have, and to serve the country as a whole, we need three times the budget, staff and space. Our budget, is \$5,299,000, about the same as that of the National Gallery of England, but the same amount of money must cover a much broader area."

Right now the Gallery is preparing for glorious centennial celebration in 1980, in a magnificent new building on a promontory overlooking the Ottawa River, west of Parliament Hill. Culture-conscious Canadians are also "counting down" to 1980-Minus-0, sharing the excitement of Jean Sutherland Boggs and her hardworking staff, as they anticipate that historic event.

The Museum Explosion

Nova Scotia. A French encampment in 1713, it occupied 70 acres surrounded by a two-mile wall at times 80 feet thick. Yet it was captured by a New England force in 1745, then returned to the French, then razed in 1760 by the British. The reconstruction involves many men and women who have learned again the old arts of weaving, metal work and stone-cutting, among other things.

There are, of course, around the federal capital, many other museums like the Bytown Museum on the Rideau Canal, the Film Archives, the Ski Museum, the War Museum, the Carleton University Arts Gallery, the Dominion Botanical Gardens, the Governor-General's Footguard Museum, the Laurier House, the Museum of Canadian Scouting, the National Aeronautical Display, the National Film Board Photo Centre, National Gallery of Canada, the Museum of Science and Technology, and the Public Archives, but perhaps the most prestigious is the Royal Ontario Museum in Toronto — a city, incidentally, with almost 30 museums. Its famous collection of Chinese art and archeology occupies 20 galleries and is considered one of the best in the western hemisphere. The arts of India, Japan, Korea, Pakistan and the Islamic Near East appear in other ROM galleries.

Some museums are on the move. The Vancouver Art Gallery, for instance, has a half-ton truck travelling British Columbia bringing a small collection of paintings and objects to people in small or remote areas. Other museums are on water — such as the former Royal Canadian Navy destroyer "Haida," on the shore of Lake Ontario.

Archie Key who travelled more than 52,000 miles back and forth across Canada to investigate museums for his recent book, "Beyond Four Walls," is assured that museums have a pretty exciting tale to tell. "The story of Canada is now being told chapter by chapter from Newfoundland to the Yukon," he says.

It all began in February 1973 when huge earth-moving machines went into operation clearing the site for a sleek, space-age tower. By September it was easily the tallest structure in Toronto. By January 1974 it had grown to be Canada's tallest. It is now the highest free-standing structure in the world.

Rising to over 1,800 feet, Toronto's CN Tower far surpasses Moscow's Ostankino Tower, the tallest comparable structure, which is 1,748 feet high.

The Tower is the first structure in Metro Center, a 15-year development project spread over 190 acres between the central business district and the waterfront. Its close neighbours will be the Canadian Broadcasting Corporation, the English language network, and the proposed new Massey Hall and Convention Centre.

The glass-fronted elevators on two of the Tower's three sides are meant to take visitors to a circular six-storey Sky Pod at between 1,000 and 1,200 feet. Here are sightseeing and broadcasting facilities, a 360-seat revolving dining room, a lounge, an indoor and an outdoor observation deck, and a snack bar.

Rising 335 feet above the top of the concrete is a needle-shaped steel mast, weighing 290 tons, to accommodate antennae for the Canadian Broadcasting Corporation as well as commercial stations, and education television and cable television companies. It will be used also for

all FM radio channels in the Toronto area, mobile radio systems and CN Telecommunications microwave facilities.

Although the Tower is meant as an aid to communications, it will definitely be a people's place. At a ceremony on February 5, 1973, marking the start of construction, Mr. Norman J. MacMillan, Chairman and President of CN System, described it as "one of the engineering and architectural wonders of the world." It would also be, he predicted, "an international tourist attraction."

TALL, TALLER, TALLEST



80-FOOT CRAFT CROSSES ARCTIC

The Vancouver-built Ministry of Transport buoy tender 'Skidegate' has become one of the smallest craft to complete an Arctic Ocean passage across the top of North America.

The 80-foot-long 'Skidegate' arrived at Sydney, N. S., on 1 September, after completing the 3,800-mile Arctic west-to-east trip from Tuktoyaktuk, Northwest Territories, in 19 days.

"You can count on the fingers of one hand the number of small boats that have made the Arctic passage" said Capt. Jack Ickringill of the MOT's Vancouver office. "The Skidegate is one of the smallest."

It was originally planned to send her around Alaska and south to the

Panama Canal, Capt. Ickringill said. "However, the ice in the Western Arctic was very heavy and it was much lighter in the Eastern Arctic. So we decided to send her east."

The 'Skidegate,' under command of Capt. Peter Kalis of Victoria, left Tuktoyaktuk on Aug. 13, stopped at Cambridge Bay on Victoria Island and Spence Bay on Boothia Peninsula and passed through Bellot Strait into the Eastern Arctic on Aug. 23.

The 'Skidegate's' crew of 12 is made up largely of students from the Coast Guard college.

The craft is named after an Indian village in the Queen Charlotte Islands.

STAMP TO COMMEMORATE WOMEN'S YEAR

An eight-cent stamp, issued on July 14 to commemorate International Women's Year, was designed by Susan McPhee of Montreal, using a graphic variation of the female symbol.



THE Canadian High Commissioner to India, Mr. John R. Maybee, presented a collection of Canadian books to Jawaharlal Nehru University on August 13, 1975. Dr. Nag Chaudhuri, Vice-Chancellor accepted the books, some 90 of them, on behalf of the University in an informal ceremony in his office. The presentation, the fifth to Nehru University, is part of a Canadian Government programme designed to promote a better knowledge and understanding of Canada abroad. Books selected cover such fields as Canadian history, politics, external relations, geography, economics, the arts and letters.



MR. and Mrs. Paul Lapointe arrived in Delhi on July 24. M. Lapointe has assumed the functions of Counsellor and Head of Chancery following the departure of Mr. William Jenkins. Mr. Lapointe studied law at "Université Laval" in Quebec city. He has served on the Canadian Delegation to the International Commission for Supervision and Control in Vietnam and Laos (1961-62), and the Permanent Mission to the North Atlantic Council (Paris 1962-64) and on the Permanent Mission to the European Office of the United Nations (Geneva 1968-72).



ON August 9 the Canadian High Commissioner to India, Mr. John R. Maybee, welcomed a delegation of some 15 young members of the United Church of Canada. The United Church of Canada is currently celebrating its 50th anniversary. As a means of celebrating this event, the U.C.C. has sent six groups of approximately 15 young active Church members (ages 17 to 28) to various countries to visit various missions and charitable organizations. The Church of North India has sponsored this group.



DR. W. David Hopper, President of the International Development Research Centre in Ottawa and Canada's candidate for the position of Director General of the Food and Agricultural Organization, visited Delhi from August 25 to 28. He called on the President of India, the Prime Minister, the Ministers of Finance and Agriculture and the Deputy Minister of Foreign Affairs. Dr. Hopper gave a press conference at the Canadian High Commission. Our photo shows Dr. Hopper with Mr. Gordon Cox, an official of the Department of External Affairs, meeting members of the press.



A group of some 25 young Canadian students touring India under the auspices of the Shastri Indo-Canadian Institute met the Prime Minister, Mrs. Gandhi, on July 11. The students, each of whom has a particular interest in India (music, art, history, politics, culture, etc.) toured the country for about six weeks. A few have remained to pursue their studies. Dr. R. W. S. Stevenson, Resident Director of the Institute in India, is seen on the extreme right.



Mr. Maybee presenting Canadian books to Dr. Nag Chaudhuri.



Mr. Paul A Lapointe.



Mr. Maybee and members of the Canadian High Commission with the visiting delegation from the United Church of Canada.



Dr. Hopper (extreme left) and Mr. Gordon Cox, an official of the Department for External Affairs, with members of the Press in New Delhi.



The visiting Canadian students seen with Prime Minister Indira Gandhi in New Delhi.



Children's Art
See page 6-7

Janet Guthrie
Age 14
Barrie, Ontario