

Canada Weekly

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Research helps handicapped children become self-sufficient

The National Research Council of Canada (NRC) has been engaged, for over 25 years, in a biomedical engineering research program designed to assist both the handicapped child and adult. Communication and mobility are the two themes that have formed the base for the program.

It is through language that the young child interacts with and gains information about the world around him; through speech, the verbal use of language, the pre-schooler is able to satisfy his immediate physical needs, ask questions, form ideas, develop socially and cognitively, and attain a sense of individuality and self-worth.

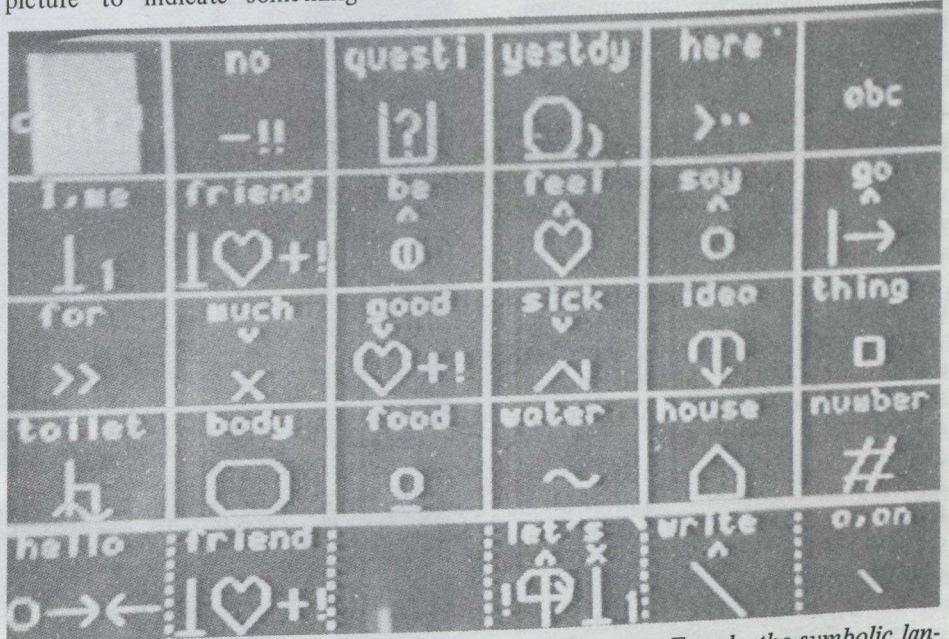
But what of the child that cannot speak? That cannot communicate? Even though that child may be aurally and mentally astute, no viable mechanism for communication with people exists. As a result, social and cognitive development are retarded, often compounded by some physical impairment. Even pointing to a picture to indicate something that is

needed becomes a tremendously complicated task usually requiring assistance from an adult.

Communication is Bliss

Since visual perception is usually not impaired, however, a visual means of communication lends itself naturally to the problem. One approach which is proving quite successful is the use of a symbolic language called Bliss- (named after its Australian inventor) symbols. Instead of employing alphabetic characters as in English or French, this language makes use of a large number of graphic symbols, at times pictographically related to the concepts they represent.

The symbols represent both objective concepts, such as "house", "food", and subjective concepts such as "this", "happy", etc. During operation of the system, the child selects an item of information using input interfaces specially constructed by NRC to accommodate varying degrees of dexterity. A child with



Instead of employing alphabetic characters as in English or French, the symbolic language of Blissymbols makes use of a large number of graphic symbols, at times pictorially related to the concepts they represent.

Thirteen years ago today...
A bronze bust of Ellen Fairclough, Canada's first woman cabinet minister, was presented by the Zonta Club of Hamilton to the House of Commons.

DEE



A system of gears on this specially modified version permits backward motion of the pedals to produce forward motion of the bicycle. Forward (normal) motion of the pedals also moves the bicycle forward. The rider proceeds by rocking backwards and forwards on the pedals, which can be done without bending the knees.

sufficient manual ability, for instance, could depress large keys, but a child with poor arm- and hand-control would use a light-sensitive input device.

The large number of symbols in the system — some 100 to 500 or more — creates the need for new devices to manipulate the symbols for communication. Under an NRC program designed to carry forward the development of laboratory initiated projects to an eventual marketable product, a microprocessor-based graphics generator is being developed by Norpak Ltd. of Pakenham, Ontario, which will display the Blissymbol messages on a conventional home television screen.

This equipment will permit a child to build up a message at his own speed, selecting the symbols one at a time and displaying them in a normal left-to-right sequence on the TV screen where they are held for others to read. At school, a child could also “write” his answer to a question on a large TV monitor at the front of the classroom, or persons could send Blissymbol messages to each other over the telephone.

The device will be a completely self-contained communication aid, accepting a variety of methods of operation — joysticks, push buttons, etc. An alphanumeric

mode is also provided for those who have progressed to an alphabetic language. In this mode, a teletypewriter or similar device can be connected to give printed copy, turning the system into a typing aid. Alternatively, a synthetic speech module can be connected, giving audio reinforcement to the Blissymbols. A preproduction model has now been built and field trials are currently being carried out at three Canadian centres.

Over the years, a long line of devices have been developed for children and adults alike by a Council scientist (blind since childhood himself) to assist the blind in almost every area of daily living. Many can now be gainfully employed as computer programmers and in recording studios and photographic or electronics laboratories with the substitution of tactile or audible signals for visible “read out”.

Cart lets kids explore

In order to explore his environment — to find out what makes things “tick” — a child must be able to move from one place to another. This stage in the child’s development usually begins at about seven to nine months. But the child with a physical ailment — especially if it affects the spine — is severely restricted and often, unable to crawl around, spends this

crucial phase of his life lying in his crib.

The Caster Cart, developed in collaboration with the Ontario Crippled Children’s Centre of Toronto, for children from nine months to two years, not only enables them to explore at floor level with their peers, but also provides them with the motivation to move from place to place and thus develop a measure of independence.

At the same time, the child’s hands are free for bilateral functional activities rather than being used for balancing. In addition, the Cart helps increase sitting balance and strengthens the upper limbs and trunk. It can be used either before a bracing device is fitted or in conjunction with one. Children can easily propel it with their hands by pushing on the large wheels, and it is directed into a turning position by the swivel caster. A detachable handle enables parents to wheel the child indoors, or outdoors to parks or shopping centres. Donlee Plastics, manufacturers of plastic toys, designed the mold for the first preproduction units of the cart which were completed last summer (also under an NRC contract). Cost per unit is expected to be about \$75.

Children with learning disabilities (it is estimated that from five to 20 per cent of Canada’s student population has some
(Continued on P. 8)



Children can easily propel the Caster Cart (resembling the Big Wheel) with their hands by pushing on the large wheels, and it is directed into a turning position by the swivel caster.

Bruce Kane, NRC photos

Soviet spies expelled

Three Soviet Embassy officials have been asked to leave Canada because of their involvement in espionage activities.

Secretary of State for External Affairs Flora MacDonald has requested that the U.S.S.R. Ambassador withdraw from Canada the three in question: Captain 1st Rank Igor A. Bardeev, military, naval and air attaché; Colonel Eduard I. Aleksanja, assistant military attaché; and V.I. Sokolov, chauffeur, all with the military attaché's office.

Miss MacDonald announced that the three Soviets had paid an American, who was employed in a "sensitive position" in his own country, in exchange for classified information on the United States.

During a 16-month period, the Soviet officials met clandestinely with their American contact in the Ottawa area. They used traditional signal arrangements and "dead letter boxes" to exchange information and make payments.

Miss MacDonald noted that the present expulsions follow by less than two years the most serious case of espionage in Canada since the Gouzenko affair of 1946. Despite the expulsion of thirteen members of the Soviet Embassy in February 1978, and the severe warnings of the Government at that time, the Embassy had resumed, within months of the 1978 expulsions, a pattern of activity violating basic standards of diplomatic behaviour, she said.

Miss MacDonald expressed particular concern about the use, in this instance, of Canada by the Soviet Union as a base from which to conduct espionage operations against one of Canada's allies.

New ties with Ivory Coast

In Abidjan recently, Canada's Minister of State responsible for the Canadian International Development Agency, Martial Asselin, and his counterpart in the Ivory Coast signed a memorandum of understanding on the establishment of a Canada/Ivory Coast bilateral commission.

The commission, whose purpose will be to promote relations between Canada and the Ivory Coast in all fields of mutual interest, will serve as an advisory body on the state of relations between the two countries and will set general objectives for stimulating bilateral relations based

on mutual benefit and interests.

The minister also announced Canadian support for the fourth Ivory Coast/Canada rural electrification program, estimated to cost \$41 million.

The purpose of the fourth program is to link the towns of Odienné and Séguéla with the Ivory Coast electric energy network and supply electricity to the surrounding towns and villages, benefiting an estimated 90,000 people.

Through the electrification program, Canada and the Ivory Coast have sought to reduce regional disparities and promote economic, social and cultural development in these rural areas in order to integrate them into the national economy.

Canada's contribution includes engineering services, equipment and fittings needed to install power lines in the two areas, development of senior managerial staff, training of transportation and distribution technicians and sending line installation and maintenance instructors.

In addition, Senator Asselin stated, CIDA's contribution would call for the participation of other financial institutions. This presented Canada with an opportunity to begin the transition from traditional forms of assistance to industrial and commercial co-operation with the Ivory Coast.

Emergency energy supplies board

The Minister of Energy, Mines and Resources, Ray Hnatyshyn, has announced the appointment of members to the Energy Supplies Allocation Board, pursuant to the Energy Supplies Emergency Act, 1979.

Mr. Hnatyshyn stressed, as he has previously in the House of Commons, that this does not mean a national petroleum emergency is imminent; rather that the Government intended to anticipate potential problems rather than waiting for them to develop.

The Board's initial role, as provided in the Act, will be to review the plans made by officials of Energy, Mines and Resources, in conjunction with the provinces and industry, to ensure that Canada is fully capable of meeting any petroleum supply emergency.

In the event of a supply emergency being declared by Parliament, the Board is empowered, as required, to allocate crude oil and petroleum supplies and to implement a gasoline rationing system.

The Minister said that in making appointments to the Board, the Government placed great importance on obtaining a wide range of expertise. The Board will consist of the following members: John Bechtold, manager of crude-oil supply for Petro-Canada; Robert Bonner, chairman of British Columbia Hydro; Claude Dumas, a Quebec government official and legal advisor; Philip Gordon, a retired Shell Canada executive from Toronto; Anne MacLellan Malick, a lawyer with Nova Scotia Legal Aid active in energy issues; Gordon MacNabb (Chairman), President of the Natural Sciences and Engineering Research Council, and Frank Mink, manager of the economics department of the Alberta Energy Resources Conservation Board.

Mr. Hnatyshyn hoped it would not be necessary for the Board to implement its contingency plans and programs. If Canadians practised more efficient energy consumption, he said, supply allocation measures would likely not be needed.

Conservationists consulted on migratory caribou agreement

The Canadian Government is consulting with the two territorial governments and with native and conservation groups in preparation for a proposed agreement with the United States on migratory caribou.

A letter is being sent to these groups covering a list of questions on significant issues which may arise in formulating such an agreement. A similar list of questions is being circulated in the United States by the Department of State. Canadian responses are being requested by January 31.

Some of the same groups were involved in a series of discussions last year organized by the Canadian Wildlife Service. Although the letter is being sent to those groups most directly concerned with conservation or use of caribou, comments from other members of the interested public regarding the proposed agreement are also welcome.

The proposed migratory caribou agreement would cover caribou herds which migrate between Canada and the United States across the Yukon-Alaska border. The major migratory herd covered would be the Porcupine herd of some 100,000 animals on which a number of Indian and Inuit communities in both countries depend.

Cabs come quicker by computer

An Ottawa taxi company is believed to be the first in North America to install a computer system which has cut in half response time to customer calls and has simplified dispatching operations. It is in use at the city's largest cab company, Blue Line Taxi.

Initially, Blue Line converted 100 of its 500 cabs to the new method (450 will be using it by late 1980) and the results from the first group have been described as "dramatic". In addition to reduced response time to customer calls, management is reporting more efficient use of its cabs.

D.S. Montgomery, President of Blue Line, who conceived the idea of automating the dispatch operations, asked Digital Methods Limited (DML) to transform it into reality. The taxi terminals are manufactured by Gandalf Data Communications Ltd. of Ottawa.

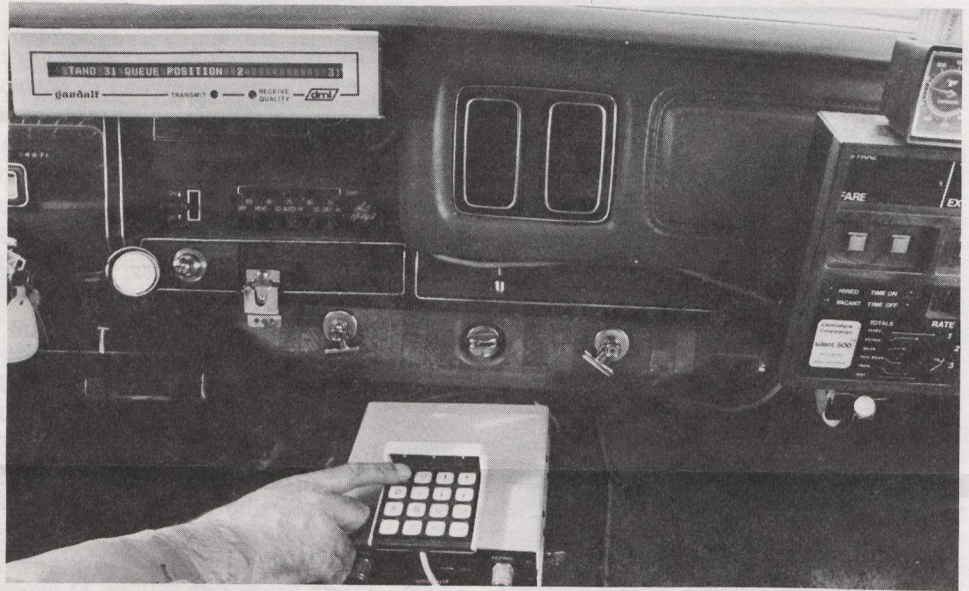
The system will, by the end of 1980, replace all voice communications in taxi dispatch, except for emergencies.

All automatic processing of customer calls is done by the computer, replacing a manual system which uses call-takers and dispatchers. In most cases, the manual method works well enough but in an operation the size of Blue Line, bottlenecks can develop. Last year, Blue Line handled close to 1,300,000 calls. During peak periods call-takers and dispatchers process about 1,000 calls an hour.

How it works

The computer dispatch system is currently designed to handle up to 1,500 dispatches an hour (10,000 calls daily) and can easily manage any peak period. Under the new system, call-takers will enter customer calls directly into the computer, using a display terminal. The computer prompts all the pertinent information, such as apartment number, while the customer is on the line. It validates the location, assigns a zone number, maintains a queue of available taxis, and dispatches the call to the cab at the top of the queue in one of 31 preselected "stands" or zones.

The entire cycle, from customer call-in to cab dispatch, takes only seconds compared to two to four minutes under conventional means. A beeper alerts the driver to a new message on his screen and he has 30 seconds to acknowledge the call. If no response is given, the call is



The computer dispatch system can handle 10,000 calls a day.

automatically re-assigned to another cab and the non-responding driver is placed at the bottom of the queue.

All communications go only to the selected cab rather than being broadcast to the entire fleet; radio tie-ups are becoming a thing of the past. A driver wishing to re-check an address of his fare need only press a button on his key pad and the address, which is stored in memory, re-appears on his terminal. Since the driver actually views the address rather than hearing it over a static-ridden radio, confusion over similar street names is eliminated.

New management capabilities

For management, simplified dispatching is only one of the benefits of the DML-developed system. Other advantages are significant cost savings, important new

fleet management capabilities and improved control over operations.

Last year, voice dispatch cost the firm \$50,000 for each of the three radio channels it operates seven days a week. By the time the conversion to computer is completed, it is estimated the company will save about \$100,000 annually.

Computer dispatch also enables Blue Line to make more efficient use of its cabs. The system is designed to give the supervisor all the flexibility he needs in dealing with a number of special situations (with computer dispatch, the supervisor can reserve, suspend, re-instate or give priority book-in to any taxi etc.)

At any time, the supervisor is able to monitor the loading on each stand and he can consolidate stands to adapt the fleet to changing business patterns due to time of day or changing weather conditions.

Canadian parks named international heritage sites

Dinosaur Provincial Park in southern Alberta has joined international heritage sites as a newly-announced member of the United Nation's Educational, Scientific and Cultural Organization world heritage list.

The park is unmatched in the world for the number and variety of high quality dinosaur specimens found there — 30 species in all. The discoveries represent every known group of dinosaurs living in an era marking the end of the age of reptiles. Moreover, the Badlands and the lush, diverse river environment in

the park provide habitat to a number of rare and endangered species.

Two other Canadian parks were among the first set of entries to the list in 1978 — Nahanni National Park in the Northwest Territories, a national wilderness area encompassing river canyons, hot springs, caves, lakes and glacial features, and L'Anse aux Meadows National Historic Park in Newfoundland, renowned as the site of the oldest European settlement known to exist on this continent, and the only Norse settlement site found in North America.

Northern Telecom optimistic

Northern Telecom of Montreal, the second largest manufacturer of telecommunications equipment in North America, has been making forays into the office equipment market and plans further expansion, reports Dennis Slocum in the *Globe and Mail*, December 10. A recent public issue of the firm's two million common shares was over-subscribed. "We under-estimated demand," said Walter Light, Northern Telecom's president.

Analysts expect that orders for Northern's new digital central office switching systems will allow profits to rise from \$3.33 a share in 1978 to the \$3.70-to-\$3.80 range in 1979, followed by further gains to \$4.30 to \$4.60 in 1980, despite dilution from the new offering and a soft economy, says Slocum.

Mr. Light refused to comment on the projections but he did say that future profits looked good. "We don't see any problem we can't lick."

The handling of the new issue raised complaints by some Canadian brokers. The shares were allocated on the basis of ownership and more than two-thirds of the shares, excluding 60 per cent owned by Bell Canada, were held in the United States. Trading on the New York Stock Exchange has been running at almost five times the Canadian turnover this year.

The issue was not increased because the company raised all the cash necessary, said Mr. Light. The current emphasis is "on digesting recent acquisitions".

Capital spending in 1980, forecast to be over this year's \$135 million, is slated for new equipment and facilities, in response to demand growth and record order backlogs. Mr. Light said that the company was confidently stepping into the 1980s because it could improve productivity. The new technology required less manufacturing space and labour, plants were modern and the growing use of mini-computers offered savings. "We can offset rising cost pressures and keep our price hikes to a minimum," he said, noting that Northern's increases over the past five years had averaged 5 percent below those of most industries.

A wholly-owned subsidiary of Bell Canada until 1973, Northern Telecom is rapidly expanding as it capitalizes on the successful launching of its fully electronic digital switching equipment, moves into the computer market and focuses its

expansion efforts on the United States.

Real growth in the Canadian telephone market (Northern has 70 per cent of the business) is estimated at 3 to 4 per cent a year at best during the 1980s, Mr. Light said.

Meanwhile, says the *Globe and Mail* article, "Analysts are impressed with Northern Telecom's ability to consistently make the right marketing decisions, meet delivery deadlines and take a hard-nosed profit-oriented approach."

Direct-to-home satellite TV

A national pilot project that has made Canada the first country in the world to install small satellite earth stations at private homes to test direct satellite TV broadcasting is being extended to northern British Columbia, the Yukon and the Northwest Territories.

The complete daily service of both the Canadian Broadcasting Corporation's (CBC) Pacific TV network and Vancouver's CTV affiliate, CHAN, will be relayed via Telesat Canada's *Anik B* satellite to individual homes, small cable TV systems, community halls and low-power rebroadcasting stations in some 45 remote locations, all with only limited or poor-quality reception.

The 1.8-metre, Canadian-made earth terminals purchased by the Department of Communications for the program will be loaned free of charge to users for the duration of this Western phase of the Federal Government's *Anik B* satellite broadcasting pilot project.

Home sites in the British Columbia communities of Cassiar, Dease Lake, Telegraph Creek, Anahim Lake and Tatla Lake will be among the first to be served, with stations also being installed shortly afterward in Yellowknife, Northwest Territories and Whitehorse in the Yukon.

The current *Anik-B* direct broadcasting satellite trials are enabling the widest possible evaluation of the viability of such a service on a commercial basis and giving the new generation of Canadian-designed and -manufactured earth terminals a thorough check-out in a broad range of environmental and climatic settings.

The pilot program was inaugurated September 25 when several dozen similar communities in Northwestern Ontario began receiving 12 hours of daily programming from the provincial educational broadcasting agency, TV Ontario.

Fuel-saver system

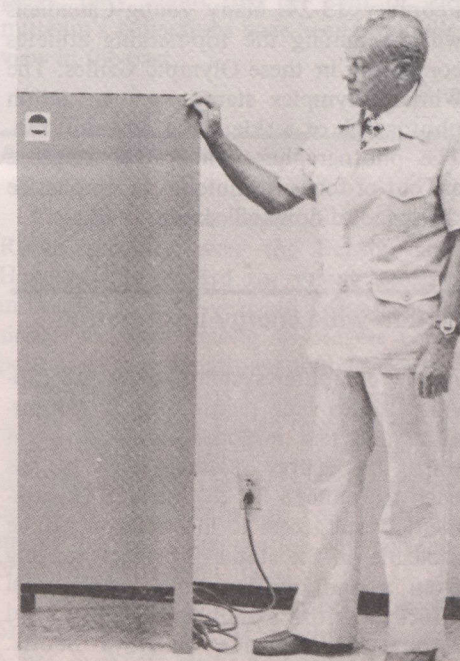
A Canadian company has produced a heat-recovery system which not only adds comfort to the work environment but conserves energy and reduces fuel costs. Quanta 410 is manufactured by Quanta Systems, Limited, Mississauga, Ontario.

Usually, when large amounts of fuel are needed to heat the work place, much of the warmth never reaches the worker. The upper air becomes overheated, while legs and feet remain cold. Optimum temperatures are attained only at thermostat level — about the eye level of a six-foot tall person.

The Quanta 410, when placed in a large area, quickly draws in the low-lying air and forces it to the ceiling. On a cold day, the low-lying air may be about five to ten degrees colder than the setting on the thermostat, while the ceiling air may be as much as 15 degrees warmer.

As the cold air is removed from the lower levels, warm air flows down to fill the void left by the removal of the cold air. With the Quanta 410, all air is heated uniformly and the temperature is maintained as long as the system is working.

The Quanta 410 operates at optimum efficiency and therefore uses less fuel to keep areas at comfortable temperatures. In addition, less energy is lost through ceilings and upper walls.



Uneven, uncomfortable temperatures are no longer problems when the Quanta 410 is installed in the work area (above).

First two stamps for 1980

Canada Post issued the first stamps of 1980 on January 23.

A 17-cent stamp marking the one-hundredth anniversary of Canada's acquisition of the Arctic Islands, and a 35-cent stamp commemorating the 1980 Winter Olympics were issued.



Britain had originally offered the Arctic Islands to Canada as early as 1874, but boundary disputes and legal wrangling over the method of transferring the title delayed the handover until 1880. The Arctic Islands stamp features the islands depicted in white against a dark blue map of Canada.

The 1980 Winter Olympics will take place in Lake Placid, New York, from February 13-24. Many young Canadians will be among the top-ranking athletes competing in these Olympic Games. The Winter Olympics stamp uses an action photograph of a skier on a downhill run. The photographer deliberately employs an out-of-focus technique to emphasize the speed of downhill skiing.

Nation-wide energy information

A new computer system, which will provide Canada-wide distribution of information and fast response to enquiries on some 400 energy research projects, has been announced by the Federal Government. More access to information will be available on the status of projects ranging from a multi-million dollar geothermal effort in British Columbia to a large wind turbine development in Nova Scotia. Salient features of each project, management, funding and location will be described.

Conservation will be covered as well as

renewable energy demonstrations carried out by the Federal Government alone or in co-operation with the provinces. International Energy Agency projects, and those funded by federal grants to universities and other groups will also be included. The system is expected to be widely used by universities, industries, consultants, and all levels of government.

Information is obtained by dialing a local telephone number from a computer terminal in any major city in Canada or the United States to receive access to the system, maintained by Q.L. Systems of Kingston, Ontario. The flexibility of this low-cost system lets the user design his own search for specific information with the computer.

For further information contact: Cam McNeil, CREB, EMR, 580 Booth Street, Ottawa, Ontario K1A 0E4.

Outstanding athletes

Ken Read and Helen Vanderburg, two of Calgary's most illustrious athletes, were the 1979 recipients of the Sports Federation of Canada outstanding athlete awards announced recently.

Read, 25, is a three-time winner on the World Cup ski circuit, while Vanderburg, 20, was the undisputed queen of world synchronized swimming before announcing her retirement after sweeping all major swim events in 1979.

Read recently won two consecutive



Ken Read races in World Cup downhill.

World Cup downhill races in Kitzbuehel, Austria and Wengen, Switzerland, and placed second in a race on another Swiss course. The wins boosted Read into fourth place in downhill points on the World Cup Circuit.

Vanderburg, a two-time world singles champion, closed out a career that included the Canadian, Pan-American and Pan-Pacific titles in 1979. It marked the second year in a row Vanderburg had been honoured by the Sports Federation. Last year she was named the outstanding junior female athlete in the country.

The awards were presented during ceremonies at which The Canadian Press athletes of the year were also recognized — race car driver Gilles Villeneuve of Boucherville, Quebec, and pro golfer Sandra Post of Oakville, Ontario.

Post, second leading money winner on the Ladies Professional Golf Association tour in 1979, received the Bobbie Rosenfeld Award, while Villeneuve, who finished second to Ferrari teammate Jody Scheckter of South Africa in the 1979 world driving championship, received the Lionel Conacher award.

Detectors are a gold mine

A new Canadian gold rush is on as hundreds of people seek rings and gold and silver coins on the beaches, deserted fairgrounds and abandoned homesteads with metal detectors.

Sales of the detectors have increased so rapidly this year that Keith and Mary Ann Edwards of Waterford, Ontario, are about to give up working their 100-acre farm in Waterford, north of Hamilton.

The Edwards started selling the detectors from their farm home after Mr. Edwards purchased one last year to hunt treasure as a hobby. He teamed up with Larry McCormick of Camden East, near Kingston, and together they have sold nearly 1,000 detectors across Canada this year.

The price ranges from \$75 to \$500. The average price paid by hobbyists and treasure hunters is about \$350. The couple also sell plastic pans for gold panning at \$7.95.

Mr. Edwards said that, because of the high price of gold and silver, treasure hunting is becoming one of the country's fastest growing hobbies. Instead of the traditional gold watch, detectors are given for retirement gifts.

UPI

News of the arts

Major expansion for ROM

In what has been described as one of the biggest moves of its kind ever made, collections comprising six million pieces will be shifted by Toronto's Royal Ontario Museum as part of a \$50-million expansion program.

The expansion will include five new galleries, a nine-storey curatorial centre and a renovated main building. The museum is using trained experts and a computer to shift its vast collections into storage. Only a third of the museum (the science galleries) will remain open to the public this year. In 1981, the building will be completely closed to reopen in the spring of 1982.

Computer keeps track

"It will be like a giant game of checkers," said Toshio Yamamoto, a museum insect specialist, who has been assigned to coordinate the operation. "Almost all the objects will stay inside the building (some will go into a warehouse near the airport) but they will shift around from place to place as construction progresses. Every piece will be numbered and coded. A computer in Ottawa, at the National Museums Corporation, will keep track of where each object is each time it is moved.

Included in the move is the museum's enormous Chinese collection. During construction a type of "bomb shelter" will be built around the Monastery of Joyful Transformation's huge wall mural, which



The Ming tomb prior to its relocation in ROM's Chinese Garden in 1959.

is 38 feet long and 19 feet high. But another priceless Chinese wall painting, known as the *Lord of the Southern Dipper*, poses a problem for museum conservation experts. They must slice the delicate fresco into 18 panels and remove it from a mahogany frame that has held it to the gallery's west wall for 43 years. It was painted on a clay plaster about 600 years ago.

In the Chinese Garden outside the museum's north wall, an entire Ming tomb and its tons of stone accessories — the *Dogs of Fu* (each weighing 12 tons), two limestone camels, two statues, an altar

and two massive gates — must be moved. It took 350 Chinese coolies and three 20-ton railway cars to haul the tomb pieces from Peking to a sea port for shipment to Canada.

The museum's entire collection will benefit from the changes, maintains Mr. Yamamoto. Old walls will be waterproofed and vapour-barriered, climate and temperature controls will be installed to save the deteriorating treasures, and new galleries will permit expanded displays; only about five per cent of the museum's collections have been on public view in the past.

Artists granted funds to perform abroad

Twenty performing arts organizations and artists have been granted financial assistance to perform abroad during 1980 through the Department of External Affairs' Bureau of International Cultural Relations.

Among the 20 recipients, involved in theatre, dance, music and artists' management are:

Coad Canada Puppets of Vancouver, the first foreign company to be invited by the Smithsonian Institution in Washington to participate in their Discover Theatre Series. The group will perform at least twice a day, five days a week from April 2 to 27. Following their month in Washington, Coad will perform in Atlanta, Georgia on May 2, 3 and 4 at the invitation of the Centre for Puppetry Arts. Le Théâtre

Sans Fil, a Montreal puppet company, will present the English version of their production *Le Corbeau Blanc (The White Raven)* at Showcase '80 — The National Showcase of Performing Arts for Young People, in Syracuse, New York on March 21 and 22. The Orford String Quartet gave two performances in the Artists of the Americas at the Y series in New York, on January 10 with soloists from Les Grands Ballets Canadiens, and on February 14 with contralto Maureen Forrester. The Canadian Brass tour of major cities in Japan from January 10 to February 10 includes approximately 15 concerts. At the invitation of Dance Umbrella Limited of London, the Danny Grossman Dance Company will tour Britain during February.

Arts briefs

Canadian mezzo-soprano Catherine Robin recently won the Benson and Hedges Gold Award for young singers, in London. The 29-year-old Toronto-born singer was first among 44 singers competing in the international competition.

The National Arts Centre has released a CBS recording of Italian opera arias featuring soprano Frederica von Stade and the National Arts Centre Orchestra under conductor Mario Bernardi. The recording marks the first collaboration between the NAC Orchestra and CBS.

Two producers for the CBC program *Stereo's Ideas*, Bernie Lucht and Len Scher, have won Major Armstrong Awards, given annually in the U.S. for excellence and originality in FM programming, in the educational category.

Research helps (Continued from P. 2)

form of learning disability) have not always been adequately served by the conventional school system, largely because of cost and lack of facilities or staff.

In a long-range program of research, development and evaluation in the field of computer-aided learning systems, the Council has collaborated with teachers and educators at all levels in an attempt to get insight into the range and nature of the problems that might be tackled using available technology. As part of the program, a terminal and related software have been developed which permit computer-controlled testing of learning abilities. This development has been carried out in collaboration with Carleton University, the Rideau Regional Hospital School and the Eastern Ontario Children's Hospital.

Results of initial tests conducted by these institutions have been very encouraging and the development of a prototype portable terminal based on this work is currently being undertaken by Lektromedia Ltd. of Pointe-Claire, Quebec. The terminal is packaged in units which can be carried as airline luggage and incorporates slide presentation, random access audio messages and a touch-sensitive input device permitting the tests to be administered without requiring the subject to possess any special skills to operate the terminal. The terminal also incorporates a unit to provide a printed record of the test results.

"Throughout the years," said program manager Orest Roy, "the prime objective of our efforts has been the application of science and technology to individual needs for self-sufficiency. During [the] International Year of the Child, we [felt] that exceptional children should have their fair share of attention and the assistance they need to become productive members of our society."

(From Science Dimension 1979/5.)

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Cette publication existe également en français sous le titre Hebdo Canada.

Algunos números de esta publicación aparecen también en español bajo el título Noticiero de Canadá.

News briefs

The federal and Ontario governments have signed an agreement for a pilot project to train Ontario workers in highly skilled metal machining trades in order to provide skilled manpower necessary for the expansion of Canada's machinery manufacturing industry. Ontario has severe shortages in such trades and the project is part of the Federal Government's Critical Trades Skill Training and the Ontario government's Employer Sponsored Training initiatives to encourage employers and unions to train workers in skills which have been persistently in short supply.

The papers of the late Prime Minister William Lyon Mackenzie King for the year 1949 were opened to the public by the Public Archives of Canada at the beginning of the new year. The diaries for 1949, contained in almost 700 pages, describe in detail the public and private life of Mackenzie King. This year, for the first time since 1938, most of the diaries are handwritten, although typed transcripts for the entire year also exist. The year 1949 marks the end of Mackenzie King's more than 40 years of public service as politician and civil servant. While the 1949 diaries are mainly concerned with his private life, they also describe King's new role as "elder statesman" in meetings with Prime Minister St. Laurent, Secretary of State for External Affairs Lester Pearson, Prime Minister Nehru of India, and British Foreign Secretary Ernest Bevin.

The University of British Columbia has set a budget of more than \$3.5 million to complete its Asian Centre in time for occupancy in 1981. The Centre will house an Asian Studies Library of more than 200,000 books, as well as offices for members of the Department of Asian Studies and the Institute of Asian Research. There will also be a 250-seat auditorium for the performance of Asian music, theatre and dance, and an exhibition area.

The Federal Government will continue to give financial support to northern co-operatives for the third year of a five-year self-development program. Economic development contributions totaling \$1,750,000 and bank loan guarantees of over \$6 million have been authorized for 50 co-operatives and their two federations: Canadian Arctic Co-operative

Federation Ltd., for native co-ops in the Northwest Territories, and La Fédération des Co-opératives du Nouveau-Québec. The money is being used to develop native management skills, implement a system of financial planning, inventory control and accounting procedures, and provide sufficient working capital.

Nova Scotia Premier John Buchanan and Halifax Industries Ltd. have signed an agreement for a \$6-million loan to the company for modernization at the shipyard in Halifax. The loan will be used to modernize the company's steel fabricating facilities.

Westcoast Transmission Company Ltd. plans to build a \$260-million gas pipeline from Williams Lake to Powell River on the British Columbia coast. The pipeline is expected to be in operation in 1983. Market studies have indicated that the gas requirement would increase from 22.4 billion cubic feet a year in 1983 to 44.3 billion cubic feet in 1997.

After-tax profits of Canadian corporations in the third quarter last year totalled \$1.65 billion, a gain of 57.2 per cent from \$1.05 billion in the 1978 third quarter, according to a survey of 136 companies. The strongest sectors were textile, chemicals, mines and oil and gas, while the weakest were trust and finance companies, utilities and communications. Six firms in the textiles and chemicals group showed profits of \$56.2 million, a jump of 267.3 per cent from 1978. Sixteen oil and gas companies had profits of \$461.2 million, a rise of 63.1 per cent from 1978.

The Bank of Nova Scotia in co-operation with Sun Hung Kai Securities Ltd. of Hong Kong has been appointed sole Canadian distributor of a new set of gold coins commemorating the thirtieth anniversary of the People's Republic of China. The coins have a face value of 400 Chinese yuan or about \$312 (U.S.).

Michelle Sherren became sought after by British horse owners recently after becoming the first Canadian girl jockey to win a race in Britain. Trainer Ian Wardle is joint owner with Englishman David Milburn of *Sandra Bella*, a four-year-old filly that won a hurdle race with Michelle in the saddle. *Sandra Bella* finished five lengths ahead of *Richmede*. Michelle, from Hamilton, Ontario, took a riding job with the Wardle Stable while on a visit to Britain. Six horse owners have now expressed interest in getting Michelle to ride for them.