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CRESS studies ISIS - II data

The magnetic storm which nobody noticed

Few people remember the great storm which occurred over Canada this time last year.

In fact, even at the time, it went unnoticed by most of the population.

It's not really surprising, because the storm which occurred Dec. 17, 1971, was not meteorological in nature but magnetic, referred to by scientists as a magnetospheric storm.

Its most obvious effect was a brilliant red glow covering the arctic skies, emanating from the earth's ionosphere.

Residents of Saskatoon, Winnipeg and Thunder Bay would have seen spectacular red aurora to the north. At Inuvik it could be seen overhead, while Churchill, Alert and the North Pole were imbedded in it.

Resolute Bay, normally auroral free at the magnetic pole, would have experienced aurora. But all that southern Canada could witness was a faint band of light — a rare phenomenon called a mid-latitude red arc which was observed by ground based photometers at Toronto.

What exactly is a magnetospheric storm?

Well, as York physicist Dr. Gordon Shepherd puts it, the magnetosphere is a teardrop shaped magnetic cavity surrounding the earth and shielding it from the flow of electrons and protons from the sun called the solar wind.

Outside the magnetosphere the sun's environment is dominant; inside, the earth's

magnetic field is in control.

The solar wind is usually steady with small gusts. But when a storm develops it resembles a gale. The effects penetrate the magnetosphere and reach to ionospheric levels.

The ISIS-II spacecraft, the fourth joint Canadian-U.S. scientific satellite, launched April 1, 1971, studies these magnetospheric-ionospheric effects.

One of the experiments aboard is the York University atomic oxygen Red Line Photometer, conceived, designed and developed by Dr. Shepherd. It surveys the globe from its 875 mile vantage point and maps the intensity of the red glow emitted by atomic oxygen from the ionosphere.

This emission is caused in many ways, but the aurora borealis or northern lights is by far the most spectacular result.

The Red Line Photometer is a sensitive indicator of aurora, particularly the aurora produced by direct penetration of the magnetosphere by the solar wind.

Data from the ISIS-II Red Line Photometer are being analyzed at the Centre for Research in Experimental Space Science (CRESS) here on campus by Dr. Shepherd and three grad students, F.E. Bunn, K.S. Gordon and F.W. Thirkettle.

An international meeting to discuss their findings will be held at York in January with participants from Canada, the U.S., England, Japan and Norway.

Israeli scholarships

The Israeli Government is offering scholarships for unrestricted post-graduate or research studies. It has been suggested that the Schools of Divinity, Archeology and Semitic Languages would be of particular interest to Canadian students.

Value of each scholarship is 480 Israeli pounds per month. It does not cover travel expenses.

The language of instruction is Hebrew. For research, generally, knowledge of English or French is needed with Hebrew being desirable but not essential. An intensive tuition free course in Hebrew beginning in July may be arranged, if necessary.

Candidates must be Canadian citizens or hold landed immigrant status for at least one year prior to date of application. They must also hold a first degree from university. Age limit is 35.

The 9-12 month scholarships are tenable at The Hebrew University, Jerusalem; Tel Aviv University, Tel Aviv; Bar-Ilan University, Ramat Gan; The Weizmann Institute of Science, Rehovoth; Technion, Israel Institute of Technology, Haifa.

For application forms contact the Director

of Awards, AUCC, 151 Slater St., Ottawa, Ontario K1P 5N1.

Applications must be received by Dec. 31.

Six Thailand fellowships are being offered within the UNESCO Program 1973-74 to nationals of all countries.

Candidates must hold at least a Bachelor's degree, except when the research is in Fine Arts, when the candidate need only submit a recommendation from a Canadian art school or institution recognized by the AUCC.

There is no age limit but candidates should be mature persons who are of scholarly or professional status in any given field. They must have a good knowledge of either the English or Thai languages and must return to their own countries on completion of the award.

Value of the one-year fellowships is 14,000 bahts (approximately \$700) per annum. It does not cover travel expenses.

For application forms contact the Director of Awards, AUCC, 151 Slater St., Ottawa, Ontario K1P 5N1.

Applications must be received by Dec. 31.

University



Eric (he's in grade two at Elmlea Public School) wishes you a merry Christmas. So do the staff of the Department of Information and Publications which publishes University News Beat. Eric's drawing was brought to our attention by the Faculty of Education — their students are practise teaching in Metro schools.

Energy dilemma seminars

A nine-session course titled The Energy-Environment Dilemma is being offered by York's Centre for Continuing Education in the new year.

The course will explore the problems of meeting man's increasing demands for energy while giving regard to the resulting depletion of resources and impact on the environment.

The non-degree course is designed for those with limited technical background.

Subjects to be discussed include: present and potential means of energy production, nature and extent of fuel resources, environment impacts of energy generation, and public policy issues concerning energy and the quality of life.

Led by Dr. Arthur C. Johnson, the course will be held Thursday evenings, Jan. 25 -

March 29 on the Glendon campus. The fee is \$40.

For registration and further information call The Centre for Continuing Education at 667-2525.

The Meszaros Appeal

Close to 300 faculty members have contributed \$1,000 to the Meszaros Appeal Committee which is collecting signatures for an open letter to the Minister of Immigration.

Another \$400 is needed for a quarter page advertisement in the Globe and Mail.

If you'd like to sign the petition, copies of it can be found in Room 245 and 227, Winters College and in Room S757A, the Ross Building. Everyone who signs is asked to donate \$5.00.



Former York student Tom Gordon teaching a child gymnastics.

Videotapes help retarded

There's a group of people on campus working to get the mentally retarded out of institutions and into the community. The project is called normalization. The people are the staff of the National Institute on Mental Retardation.

Last spring NIMR got together with a number of York students and the Federal Government. The result was a summer Opportunities For Youth program involving 10 students in the production of three instructional videotapes showing how to teach sports to the mentally retarded.

The project was scheduled for 16 weeks, May to September. Two months after the \$16,000 OFY grant had expired, John Martin, York psychology grad and unofficial project co-ordinator, was still deeply involved, as were a number of other students.

The three videotapes are now a reality — in fact, they're being viewed this month by the University of Manitoba. Each tape is 20 minutes

in length and is accompanied by an in-depth instructional manual. The tapes deal with the areas of volleyball, soccer and gymnastics.

And this is an interesting point. Not only did the students on the project direct, film and produce the tapes, they also set up the sports training programs and actually taught the retarded themselves.

For seven weeks, two hours a day, they worked with children at the Harold Lawson Residence for the Mentally Retarded.

The 25 children involved had no developed skills in gymnastics, volleyball and soccer. Neither did the students (majors in departments such as phys. ed., psychology and English) have professional qualifications for working with the retarded.

Nevertheless by "accepting the children as ordinary kids", as John Martin puts it, and by "adding a little extra time and patience" the project was rewarding for all involved.

Further-ranging results include future distribution of the film to phys. ed. instructors, classroom teachers, parents and groups interested in working with the retarded in a sports capacity.

"NIMR is starving for such films," says Henry Botchford, Co-ordinator of Physical Fitness and Recreation Programs at the Institute. "We're interested in covering a number of other sports in the future such as archery and track and field."

He adds it's hoped the tapes will act as building blocks in the construction of better sports programs for the retarded at the local and provincial level.

NIMR worked closely with the students on the project, providing office space, video equipment and editing facilities. Videotape was chosen since, unlike movie film, it has built-in technical advantages especially when used as an instructional tool.