

## Oceanography: Job potential, but no system

By Roselle Green

The problem with choosing oceanography as a career is not that there is no job potential, but rather that there is no system in Canada of absorbing the oceanographers the country trains.

This is the view of Dr. Peter Wangersky, professor of oceanography and of others in his profession.

Dr. Wangersky says that in Canada support for the training of graduate students in all fields of science comes ultimately from provincial and federal governments, but if such support is not forthcoming it could adversely affect the number of students going into oceanography.

Dr. Wangersky is of the opinion that Canada could use all the oceanographers it trains, but whether it will or not is another question. At the moment, most Dalhousie students who complete a science degree in oceanography migrate to research establishments south of the border.

Of the few who stay in Canada, they go to government-operated labs where a small percentage are picked up by either the provincial governments or consulting firms. In the private sector, the role of the oceanographer as part of the management team has not yet been fully appreciated.

Dr. Wangersky is confident that with a good honours degree in any of the sciences (geology, biology, chemistry or physics) plus graduate training, a Dalhousie student should not encounter any difficulty in being placed. He feels there is a potential for trained oceanographers in a number of areas. The demand for specialists in fisheries management, for example, cannot be satisfied. Dalhousie is now working to get such a program off the ground. Interdisciplinary in nature, it is ideally suited for private industry as well as for government work, he says.

The increase in marine environmental hazards is bound to create a demand for oceanographers with a biology or chemistry background. To date this need is

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## The Image of Man in Modern Thought



The KILLAM Lectures

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# Nerves shattered?

(LITERALLY, THAT IS)

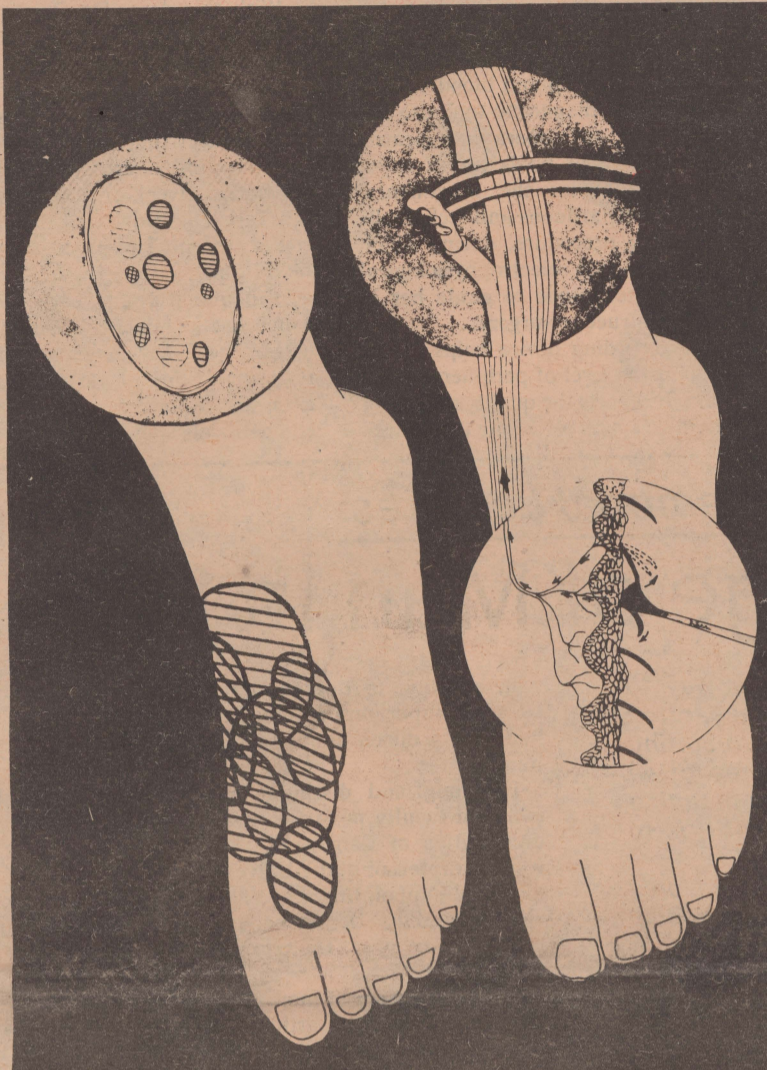
The old adage that two heads are better than one is a truism.

Take a physiologist whose specialty is sensory perception and a plastic

surgeon who is an expert in dealing with injuries to nerves, and put their

heads together. Result: the development of objective criteria for the

repair of peripheral nerve injuries, plus the establishment of a team that has built for itself a handsome reputation among its colleagues.



FEET — for walking, dancing, running, kicking. But the dorsal (the top) part is also a good source of material suitable for grafting. The sketch illustrates the sensory mapping technique, a unique application of basic physiological procedures used to outline donor areas in the body which can provide sensory skin/tissue for demanding anaesthetic areas.



Dr. Dykes and Dr. Terzis check their graphic illustrations before delivering a Friday-at-Four presentation to faculty and students in the medical school.

## This Dal team can repair them

The team consists of Dr. Robert Dykes and Dr. Julia Terzis, both members of the Department of Physiology and Biophysics in the Faculty of Medicine.

The thrust of their work, reported recently in the *Journal of Hand Surgery*, has been in the application of electrophysiological recording techniques not only to assess the extent of injuries to nerves, often the result of industrial accidents, but to determine the distribution of innervation of the skin and muscle that will serve as a donor area for a graft. This is a primary consideration for a surgeon whose job it is not only to repair a broken limb or other part of the

By Roselle Green

anatomy, but also to restore feeling to a sensory-depleted (anaesthetic, or numb) limb.

As a physiologist, Dr. Dykes is interested in the way nerve fibres transmit information from the surface of the skin to the central nervous system.

(In the physiological definition, a nerve is any one of a vast network of cord-like bundles of fibres that convey impulses of sensation, etc., between the brain or spinal cord and other parts or organs of the body; in crude terms, the nerve bundles can be likened to a telephone cable which carries thousands of lines along which messages are carried. Stick a pin in your finger and you'll feel the pain there, but what has happened is that at an incalculable speed, the message of the pin-prick went automatically to the brain to tell you where it had happened and how it felt — sharply painful, in most cases. But stick that same pin in a finger that is numb with cold, or injured to the extent that it has no feeling, there will be no pain

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# Nerves shattered?

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because the message doesn't get through to the brain.)

Dr. Dykes' interest, therefore, makes him a "natural" to supply the preliminary information needed by Dr. Terzis.

Simply by brushing an area of the skin surface, a neural (nervous) message is initiated at the sensory nerve endings. The impulses travel along the nerve, being picked up by a tiny recording electrode, which allows Dr. Terzis to map the receptive field of a nerve and ultimately to choose the best graft donor area for surgical repair.

An interesting aspect of the donor areas, that is those parts from which

the most suitably sensitive skin, muscle and nerve fibres can be taken for grafting elsewhere, is that the dorsal part of the foot — the top, bony ridge leading in a line from the big toe to the front of the ankle — is an excellent source, being crammed with nerve bundles and blood vessels.

Dr. Dykes' diagnostic tool also has a place in the operating theatre, where Dr. Terzis holds centre stage. Here she tackles the microneural repair, a long arduous and technically demanding procedure, during which she applies the electrophysiological recording technique to guide her in the reconstructive surgery.

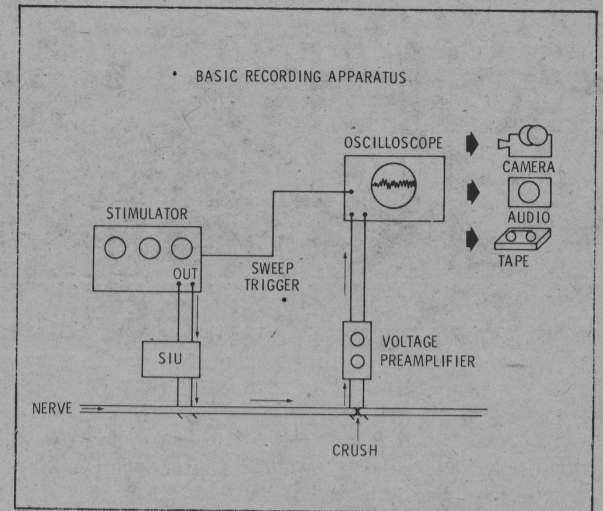
The recording device helps her to pinpoint the level of peripheral nerve lesion. It reports the quality of sensory response as it travels along the injured

nerve and identifies the place where the nerve function ceases — much as a telephone repair crew would find a severed or damaged cable.

With this data, Dr. Terzis knows where the good nerve stops and where re-innervation begins, and she can position the graft, the connecting piece, accordingly.

A pioneer in nerve anastomosis (reconnecting, or cross-connecting, as in arteries, rivers, or telephone lines), Dr. Terzis has advanced the perspective of a number of procedures in the field of microsurgery.

Although it is too early to make conclusive statements about the success of the Dykes-Terzis technique in restoring feeling to a nerve-deadened area, the evidence gathered during clinical trials shows promise.



In the operating room an electrical stimulus is applied to the injured nerve through an isolation unit (SIU). The nerve signal travels down the nerve and stops at the point of injury (crush). Once pinpointed by the recording equipment (voltage preamplifier and oscilloscope), repairs can be made.

## The 1977 Killam Memorial Lectures:

# The Image of Man in Modern Thought

*Men and women go out of their way to develop knowledge in particular areas, often at the expense of other areas. The resulting knowledge, or speculative hypotheses, often have an effect on the definition, or meaning of humanity and, especially, of what it is to be a human being.*

*This changing definition affects not only the individual in his most private existence, but also affects the society, often by way of the University, the central purveyor of ideas in which he lives now and in which his children will live in the future.*

### March 3: Dr. HENRI PEYRE

A New York Times book reviewer referred to him as "an author who has read everybody and everything... as a man who embodies his own theory that scholarship has a duty to the public to lead adventurously."

The man in question is Dr. Henri Peyre, chairman of the Department of French at CUNY. Halifax audiences will have an opportunity to hear this distinguished scholar and critic on Thursday, March 3 when he takes part in Dalhousie University's Killam Memorial Lecture series.

His talk, to be given at 8 pm, in Theatre A of the Sir Charles Tupper Medical Building, is the third in the Public lecture series which focuses on the general theme of **The Image of Man in Modern Thought**.

Professor Peyre has touched countless people with his published works which deal with literary topics, education and political thought. In his talk, entitled **The Crisis of Modern Man as Seen by Some Contemporary French Writers**, he will look at the broad issues of human liberty and the need for imaginative and ethical solutions.

In addition to degrees earned by study at Ecole Normale Supérieure and the Sorbonne, Henri Peyre has had over a dozen honorary doctorates bestowed upon him.

His long and distinguished teaching career has included faculty positions at Bryn Mawr College, the universities of Cairo and Lyons, as well as that of visiting professor at the University of Buenos Aires. He took up an appointment at Yale in 1938 and was named chairman of its Department of Romance Languages the following year. He served in that capacity for 25 years.

He is the author of more than 40 books and scores of learned and popular articles, and his comprehensive survey of **Men and Works of the Twentieth Century** has become a standard reference book not only for French departments but also for instruction in history and literature in many colleges and universities.

Peyre, often referred to as one of the truly well-read scholars of the day, is among 24 leading American and European literary experts now serving on the advisory committee for the publication of the Boswell Papers of the Yale Library.

The first two speakers in the series were geneticist **DAVID SUZUKI** (Feb. 4) and **RICHARD HOGGART** (Feb. 11).

## Fee increases possible

Following their letter to the three Maritime Premiers last month in which they asked for a minimum operating grant increase for 1977-1978 of at least 12.5 per cent, Maritime university representatives last week met the Council of Premiers in Charlottetown.

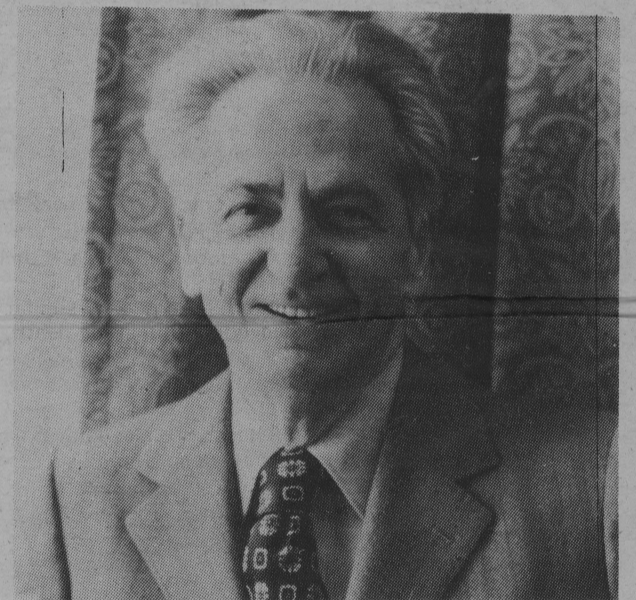
Professor Ronald Baker, chairman of the Association of Atlantic Universities, said after the private talks that the Maritime universities might have no alternative but to increase tuition fees if they did not get the increase they needed.

## Oceanography

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being filled by consulting groups, but the fisheries industry will find that it will eventually need its own oceanographic experts to deal effectively with these problems.

Although it has not taken hold here, aquaculture and its associated industries provide career opportunities in some countries, notably Japan. Looking well into the future, Dr. Wangersky sees the real possibility of oceanographers becoming involved in deep ocean mining ventures.



Dr. HENRI PEYRE: A well-read scholar.

### March 11: ALAN C. WALKER

The series will conclude on March 11 with an address by **Alan C. Walker** whose major research interest is in early humans. A recognized paleontologist, anthropologist and anatomist, the Harvard professor will discuss current inquiries into the origin of species and their implication for the image of man.

The visiting speakers represent a group of leading thinkers who will show how their particular field of endeavour defines and redefines the meaning of being a person within the general theme of the series: **The Image of Man in Modern Thought**.

—Roselle Green

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## \$6,000 grant for MSVU Art Gallery

Mount Saint Vincent University Art Gallery has received a \$6,000 Canada Council grant for catalogue assistance and honoraria for the exhibitions of three Nova Scotia artists.

The works of Charlotte Hammond, Jim Shirley and Ron Shuebrook will be shown during the next few months. The grant will be used to produce illustrated catalogues for each exhibition and for artists' fees.

The Clam Harbour Collection by Charlotte Hammond will run from February 11 to March 6; Works by Jim Shirley from March 11 to April 3 and Works by Ron Shuebrook from April 7 to May 1.

## No life after brain death — Puccetti

There's no such thing as life after brain death. So says Dr. Roland Puccetti, of the Department of Philosophy.

During a two-day visit at the end of the last month to the University of New Brunswick, where he gave two lectures as a guest of the philosophy department there, Dr. Puccetti talked about "The Experience of Dying" and "The Duality of Consciousness in Humans".

Dr. Puccetti, who wrote about the duality of consciousness (man's two brains) in the Dec. 9 issue of University News, told his UNB audience in his "Experience of Dying" lecture that because the central nervous tissue in the higher vertebrates did not regenerate, it was impossible for anyone who had suffered brain death to return to life and tell about their experiences.

His argument was against the life-after-death theory expounded by Raymond A. Moody, Jr., in his 1975 book, *Life after Life: The Investigation of a Phenomenon - Survival of Bodily Death*, in which the cases of 150 people pronounced to be clinically dead, reported a common post-death experience.

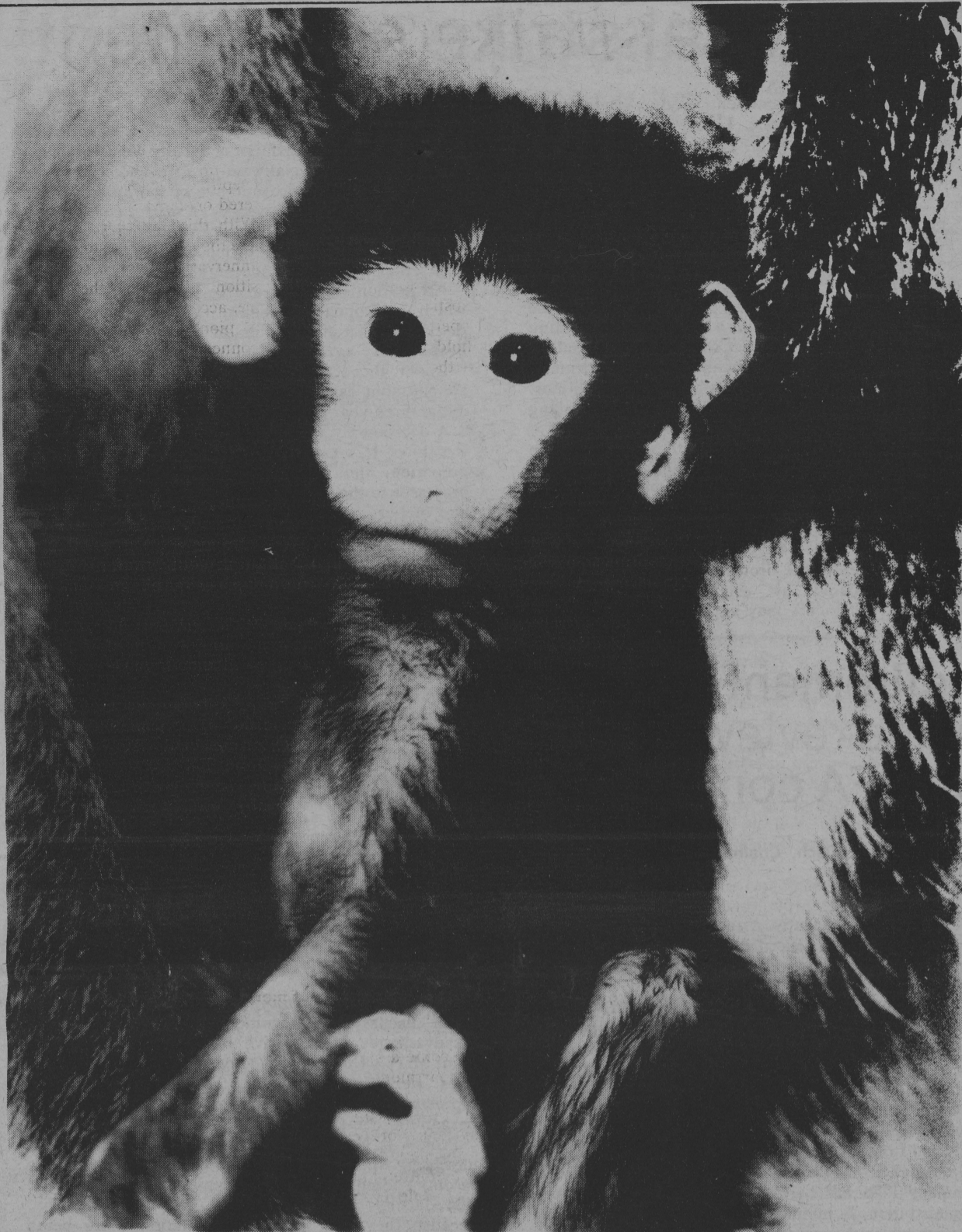
All said they had heard a loud ringing or buzzing sound, followed by the sensation of moving quickly through a long, dark tunnel, and all felt they were outside of their own bodies watching resuscitation efforts. They also reported meeting the spirits of friends and relatives, and finally a barrier they felt was between them and earthly life; before they reached the barrier, however, they were recalled to their bodies.

While unexplained, said Dr. Puccetti, the similar experiences were not evidence of life after death, because brain death, which occurs generally from five to eight minutes after other vital signs cease, had not been suffered.

There were, however, similar experiences known of people who thought they were about to die but in fact were not; survivors of car crashes, for example. Such experiences did show evidence of hallucinations which were last-ditch defence mechanisms against a frightening situation.

Many such people had heard a doctor pronounce them dead while to all intents and purposes they were unconscious. But this was possible because hearing was always the last sense before lapsing into unconsciousness.

Some people who had undergone surgery were able to recall under hypnosis things that were said while they were under an anaesthetic, said Dr. Puccetti.



*Remember Maggy? She was the first baboon born in the Atlantic provinces. That was on Oct. 28 last year, in the Animal Care Centre of the Sir Charles Tupper Medical Building. Since then Maggy has thrived. According to Dr. Jim Love, director of the centre, she has done all the usual things a baby does, and is now an agile youngster with the facility for rope-swinging. She is also at times a handful for mother Gizelda (UN, Nov. 11, 1976), but is kept in place by a bite on the wrist or tail. Maggy has remained with her mother, another adult female and an adult male — "the idea of this is so we can get some experience in studying their interaction, and so that Maggy herself can learn how to interact with others in a non-natural setting," says Dr. Love. She is not involved in any research activity, nor is any planned for her. And since before the birth, no dental research on the mother has been carried out by Dentistry's Dr. Ian Vogan. (Photo by Alan Floyd)*

## Far-reaching experimental plays being produced this week by Theatre Dept.

The Dalhousie Theatre Department is presenting two inter-related one-act plays by Edward Albee, **BOX** and **QUOTATIONS FROM CHAIRMAN MAO TSE-TUNG**, this week.

Written in 1968, Albee considers these plays to be an experiment in theatre. According to the director of this production, Professor Alan Andrews, of the Department of Theatre, "one of the functions of a university theatre department is to carry out experiments, just like our scientific brothers". He notes that these plays are "experimentally far-reaching as they relate to our normal expectations in the theatre and the actual potential of the art".

The plays examine such rudimentary themes as: life; death; revolution; memory; love; hate; being alone and many more.

Prof. Andrews notes that the plays' contents "remind us of some of the abiding and unanswered questions which constitute the human predicament today".

Members of the cast and crew for his production are

theatre students at Dalhousie. The voice of the **BOX** is Genie Stevens, a second-year student. In **QUOTATIONS FROM CHAIRMAN MAO TSE-TUNG**: Jon McKenzie a fourth-year student, plays Chairman Mao; Sandy Bagwell, also in her fourth year, plays the long-winded lady; Ferne Downey, a second year theatre student is the Old Woman; and Jim Moreira, second year, plays the Minister.

Intriguing and intellectually stimulating, **BOX** and **QUOTATIONS FROM CHAIRMAN MAO TSE-TUNG** opened last night in the Sir James Dunn Theatre in the Dalhousie Arts Centre, and continues tonight, tomorrow and Saturday evenings. Tickets are free and can be obtained from the Central Box Office in the Arts Centre (2298).

In Studio I of the Arts Centre last week, **Play Strindberg**, by Friedrich Durrenmatt, was presented by the department. The play, which ran four nights, was directed by Charles Gosling, a fourth-year honours theatre student.

## Newsmakers ...

CBC Radio fans got a history lesson last November when Dalhousie professor Mike Cross talked about his forthcoming book on the Riel Rebellion.

Martha McDonald of IPA was heard from coast to coast on Dec. 28 as was Edgar Gold, who did the national commentary on Dec. 23.

Cannie Ademec's Psychology of Women course was featured on Maritime Magazine early in January. Hattie Shea appeared on Radio Noon Three to talk about High Blood Pressure.

Morningside, CBC Radio's morning talk show, asked Ron O'Dor to talk about squid on Jan. 13. Dean Ian Bennet was heard on the airways one Saturday talking about the lack of dentists in the area and the need for expanded Dental School facilities.

Discussing Canadian Children's Literature on both CBC Radio and TV was School of Library Service professor Dorothy Broderick.

Practically every day, on radio or on television, one of Dalhousie's faculty talks to the public. Others contribute by providing background information on a certain subject which is their particular area of interest.

# The Laval strike settlement: the CAUT view

A new collective agreement of the Syndicat des professeurs de l'université Laval (SPUL) has been described as "a decisive victory for principles of academic freedom" by the Canadian Association of University Teachers (CAUT). The Laval strike ended on Dec. 23 after 107 days. The agreement was ratified by 85 per cent of the professors present.

Following is a summary of the main features of the agreement, as interpreted by CAUT.

## Collegiality

As originally requested by the faculty, the department assembly will play a key role in the running of the university. The contract states that all members of an administrative and teaching unit (department, faculty, school, etc.) are members of its committees.

Committees will have important decision-making roles regarding the promotion and workload of professors. They will also define criteria to be used in evaluating professors for promotion and tenure. Committees will be consulted in the hiring of new professors.

## Dossiers

A professor's dossier, kept for purposes of evaluation, will now be open to the professor in question, and its contents regulated by established criteria. No anonymous documents may appear in the file.

## Grievance procedures

The collective agreement sets out a grievance procedure. Any grievance not settled satisfactorily by the head of the department or faculty concerned, is to be referred to a specially set-up grievance committee, comprised of one representative of the union and one representative of the university. A matter not settled by the committee within 30 days can result, at the request of the professor in question, in a three-member arbitration tribunal being established.

Arbitration will be available on every question for which an appeal procedure is not specified, e.g., disciplinary action, violation of rights, dismissal, etc...

## Probationary agreement

Under the terms of the contract, a probationary appointment cannot be for more than five years: an initial three-year contract and a final two-year contract.

A decision not to renew the first three-year contract is subject to an appeal. At the end of the five-year probation, the university must either appoint the professor to the rank of associate professor or dismiss him or her.

## Tenure

All associate and full professors have tenure under the new collective agreement.

Lecturers or assistant professors who completed their five years of probation at Laval at the time the contract was signed, automatically receive tenure but remain at the same rank, unless they have not fulfilled any conditions in their contract regarding obtaining a degree or using the French language.

## Job security

The contract states that if the University Council (unicameral body governing the university) decides that a position for which a tenured professor is qualified is redundant, then the professor and the university must try to find a new position for the professor with or without retaining.

All tenured faculty and faculty on probationary appointments have job security as long as their contracts are in effect.

## Sabbatical leave

This will now be a right of all associate and full professors after six years of service. Sabbatical leave will be at full salary, plus up to \$4,500 in expenses, plus 20 per cent of any grant awarded for the purpose of the sabbatical.

Maternity leave will also be a right, giving to the professor a leave beginning any time during pregnancy and extending to 60 days after delivery.

## Salary scales

One of the demands of the union was that a salary scale be established at Laval, replacing the system where salaries were worked out through individual contracts between each professor and the university. The proposal was not accepted by the administration; this issue was the major compromise made by the faculty in accepting the agreement.

## Back-to-work agreement

In addition to the collective agreement, SPUL negotiated a return-to-work agreement that saved the academic year for students. The first semester, which began Jan. 13, will end April 8, with the second term commencing April 12 and extending into July.

The SPUL contract runs until May 31, 1978.

## Debt

The 15-week strike was costly. Upon resumption of salary, the Laval professors will be obliged to pay a union levy to retire the outstanding debt of approximately \$800,000. CAUT is urging its members who had planned to contribute to the Laval strike fund before the strike ended, to do so now, "in order to lessen ...the financial penalty for the defence of academic freedom that the Laval professors now face".

## Retirement savings plans reviewed by DFA committee

—Dr. J. Philip Welch, Chairman, Fringe Benefits Committee

The Dalhousie Faculty Association Fringe Benefits Committee has experienced its usual crop of inquiries concerning the Registered Retirement Savings Plans currently available.

Under the revised income tax regulations, Dalhousie employees currently contributing to the Dal pension scheme are permitted to invest up to 20% of their income (up to a maximum of \$3,500) less the amount of their contribution to the pension scheme, to a Registered Retirement Savings Plan of their choice.

Monies so invested prior to March 1, 1977 can be deducted from 1976 income tax.

Information regarding the Great West Assurance Company Plan has been circulated by the university administration. A number of plans are now available, however, which though generally similar, differ in detail as to the nature of the investment, the amount of interest and its mode of calculation, and the administrative cost.

We would advise Dal employees intending to take advantage of this tax saving to investigate the various possibilities and to choose a plan best suited to their individual needs.

A few of the locally available plans have been reviewed by the Fringe Benefits Committee and details are given in the accompanying table. We stress that this does not include all the plans currently available locally and that some of the interest rates quoted may vary slightly from day to day.

Plan	Initial Fees (front end load)	Annual Maintenance Fees	Termination Fees	Interest
<b>Montreal Trust</b>				
Guaranteed Investment certificate	None	None	None	83/4% G
Savings a/c	None	3/4%	None	81/2% S
Mortgage Plan	None	1%	None	9.1% S
<b>Royal Trust</b>				
Guaranteed Investment certificate	None	None	1% (max. \$100)	83/4% G
Mortgage Plan	None	1%	None	91/4% S
<b>Great West Life Plan</b>				
	\$15 opening fee			
	3 1/2% of all deposits	\$6.00	None	9.5% (1977)*
<b>Bank of Nova Scotia</b>				
Mortgage Fund	4% of all deposits	1/2% (max. \$20)	\$10	9.3% S
Fixed (5 yr) Deposit a/c	None	1/2% (max. \$20)	\$10	81/4% G
<b>Central &amp; Nova Scotia Trust</b>				
	None	None	1% (max. \$100)	9% G

G = Guaranteed 5 yr rate

S = Subject to change (current rates shown)

\* = Guaranteed for one year - 1977 rate shown

## The pros and cons of collective bargaining

The Dalhousie Faculty Association (DFA) held a panel discussion in December on the advantages and disadvantages of collective bargaining. Acadia and Saint Mary's University faculty association representatives were in attendance, as well as a CAUT representative and the chairman of the DFA's collective bargaining committee.

Prof. A.D. Northey of Acadia described events at the university which led, in 1975, to the faculty association recommending collective bargaining. It was explained that faculty agreements with the administration, because they had no legal foundation, were being unilaterally abrogated by the administration when it was convenient to it. The initial sign-up campaign at Acadia was successful and was followed by a government-supervised vote at which 60 per cent of faculty members cast votes in favor of collective bargaining. Librarians, deans and board members are excluded from the Acadia faculty association.

Three years ago, Saint Mary's University Faculty Association resorted to union certification as a final recourse after informal collective bargaining had failed and after the university had refused voluntary

recognition of SMUFA. At the government supervised vote, about 80 per cent of the faculty favored unionizing. Speaking at the panel discussion, Professor A.P. Monahan of Saint Mary's outlined some advantages of certification: a) the agreement specifies precisely the obligations of both faculty and administration; b) improvements in working conditions are more easily achieved; c) salary improvements have been achieved; a salary scale is part of the SMU contract.

Prof. Monahan said he felt a disadvantage of certification was the pronounced division between faculty and administration. He also said that perhaps increased financial and time commitments demanded from faculty were a disadvantage: dues are about half per cent of gross salary with major expenses being legal fees and arbitrators.

Prof. Robert Comeau, chairman of the DFA's collective bargaining committee said that collective bargaining was a "mature way" to conduct negotiations with an employer. He also said it appeared that without the element of legal compulsion, faculty requests were ignored by the administration. He cited an example of this happening: four years ago a report of a Senate committee advocated increased faculty responsibility in university management, but the administration ignored the recommendation. Prof. Comeau said he felt that in the future when the effects of financial exigencies made themselves felt, collective bargaining might be the only way to ensure fair treatment for faculty. Disadvantages to collective bargaining, according to Prof. Comeau, would be that it would cost money and make demands on members' time. "A poorly managed union," he said, "could also do a great deal of harm."

Prof. David Braybrooke, representing CAUT, explained that CAUT had entered the field of collective bargaining when it was apparent that many faculty associations were resolved to unionize, and that if CAUT did not assist them other organizations (e.g. CUPE) would. CAUT, he said, now had representatives who would advise faculty associations about unionization.

# Preventive Maintenance measures increased

By Allison Berry

Last weekend, the duplex I live in was without water. Two days later, we had cold but no hot water. Why? In the first instance, a 38 cent valve on the pump had corroded, causing a leak. When the landlord went to tighten things, it blew in his face. It was a rusty pipe in the second case, but luckily he noticed it before major damage occurred in the basement. Some Preventive Maintenance would have done away with the inconvenience, and the costly repairs.

Preventive Maintenance is generally cheaper than remedial maintenance. Anyone who ever let his car engine run out of coolant or oil can attest to that!

Preventive Maintenance (commonly known as PM) has been done at Dalhousie University for a number of years. In the Life Sciences Centre, the university's largest and most sophisticated, two maintenance mechanics work 100 per cent of their time doing preventive maintenance. They check oil and water levels on compressors, circulators and motors and test filters and belts on fans in the mechanical equipment rooms.

In Howe Hall, Shirreff Hall, the Dunn Building, Killam Library and the Greenhouse, this type of work is done by a qualified steamfitter.

At Carleton Campus, two men spend about 25 per cent of their work day on PM in the Tupper, the Pharmacy Building, the Forrest Building and the Clinical Research Centre, and the Dental Building.

Departmental houses get a weekly check when there is a man to spare. The tenanted houses owned by Dalhousie do not receive any preventive maintenance, but supply service on request.

The carpentry and painting departments check the exteriors of houses and buildings periodically.

In the electrical department, the fire alarms and the emergency lighting in all buildings with such systems are checked monthly.

One boiler operator works about 40 per cent of his time doing PM in the Thermal plant, assisted by a junior operator who devotes about 25 per cent of his total time to funding and fixing minor malfunctions.

In the Power House, one boiler operator works on PM 25 per cent of his time, oiling, greasing and checking belts, etc.

Preventive Maintenance is an important part of the grounds department work. The late summer and fall months are perhaps the time of the year that is most important. At this time, 50 per cent or more of the work force would be used for this purpose - protecting trees, shrubs, and lawns for the winter.

But the price isn't yet right...

Dalhousie has avoided most long and costly

expenditures by periodically practising PM. Yet more dollars can be saved.

At the beginning of this year, the Physical Plant department embarked on a large scale planned operation designed to minimize deterioration by detecting and correcting deficiencies, through planned and properly scheduled preventive maintenance.

To date, Jack Sheehan, William Rent and Roland Gaudet have made a full inventory of equipment to receive PM in the Dunn, Chemistry and A & A buildings, and the Macdonald Science Library. An inventory number (composed of machine classification, detail type, size, etc.) is assigned each piece of equipment, its location noted in detail, the action code (function(s) to be performed) fixed and the time interval for maintenance coded.

Each piece of equipment in each building on campus will eventually receive this treatment. The data will be cross-referenced at Physical Plant headquarters and a scheduling system devised, taking into account manpower available for PM duties. The program provides insurance that all equipment will be maintained when its time is due. It also provides cost information on equipment, to standardize equipment where possible. The system will be computerized when the bugs are ironed out.

Mr. Sheehan has been in correspondence with other universities in Canada and the United States, exchanging information to come up with the best PM program for Dalhousie. He's found that most universities have had good intentions of PM, but construction booms, redecorating and other activities were always considered more important and took manpower from the PM program.

"Since a PM program is not very squeaky, it's pushed aside. If a motor is making a terrible racket, most likely it's past PM!", says Mr. Sheehan.

However, he explained, now it's become a necessity of economics. "As inflation drives prices up, more mileage is demanded from equipment new in use. PM becomes workable."

Thousands of dollars can be saved in relation to dollar expenditures with a Preventive Maintenance program.

And you can help save those dollars at Dalhousie - dollars that can then be redirected elsewhere.

You can help by "keeping your ears and eyes open". If something doesn't sound quite right to you, or if you spot a leaky faucet for instance, call the PM crew. Jack Sheehan's office number is 424-2470. He'd also like to hear any PM suggestions you might have implemented in your own home, or heard about from some other source.

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SERVICES  
NEWS



## New policy for control of keys

A new policy for the control of keys has been approved by the President on the recommendations of Vice-President Louis Vagianos (University Services) and the Board of Management of Campus Security.

The policy, which is now being implemented, was designed to entail a minimum of inconvenience to users consistent with adequate security.

Questions, comments and suggestions for improvements should be directed to Security Services.

Following are the new key control policy rules:

### 1. Academic Buildings

A department will authorize an individual to obtain keys as needed, and will issue a chit enabling the individual to obtain keys from the locksmith, who will maintain records of keys on loan. The individual receiving the key is responsible for its safety and eventual return.

Requests for all master keys and especially for grand master keys are to be justified to the Director of Security.

### 2. Keys for Residences/Residential Buildings

Keys for these areas will be issued by the respective Dean or the individual delegated by the Dean.

### 3. Broken Keys

Broken or damaged keys will be replaced providing the person responsible for that key returns the broken or damaged key to the locksmith.

### 4. Lost Keys

When a key is lost, the person responsible for that key must report this to his/her department and to the Security Office.

Requests to replace keys are to be made in writing to the Director of Security by the authorized person, and are subject to a \$2.00 charge.

### 5. Found Keys

Keys found on campus should be turned into Security, who will try to trace the owner.

### 6. Changing or Repinning of Locks

All requests to have locks changed or repinned are to be made by the authorized person for the department involved. Such requests are to be in writing and justified by that department.

In order to properly control keys, all such requests are to be made through the university locksmith, Security Office, Central Services Building.

### 7. Replacement Keys

No department may authorize the replacement of a key, a lock change, or additional locking hardware item other than through the Director of Security. The locksmith will see that adequate repair parts and key blanks are available for normal needs.

### 8. Verification of Need for Keys

On a periodic basis, individuals holding keys may be asked to check the keys in his/her possession to verify the continued need for such keys.

### 9. Charges for Locksmithing Services

In the past some departments requesting services of the university locksmith have been charged for those services and there is every possibility that some departments have not been fully charged.

In the future, all departments will be charged for services such as additional keys, replacement of lost keys, changing and repinning of locks where such change is the result of loss of security of the key system through action or inaction of the department.

In the immediate future the cost of such services will not be charged to those departments which do not possess budgetary funds for locksmithing services; but it is anticipated that in the next budget year (1977-78) each department will be responsible.

## Maritime universities ask for 12.5% grant increase

Universities in the Maritimes need an average increase of 12.5 per cent in their 1977-78 operating grants over the current year to meet unavoidable salary and inflation increases.

In a letter to the Premiers of Nova Scotia, New Brunswick and Prince Edward Island, the Association of Atlantic Universities emphasized that the 12.5 per cent increase represented the minimum need, and that even if it were granted, the Maritime universities would still be falling further below the national average support for universities.

The letter, signed by Professor Ronald Baker, president of the University of Prince Edward Island and chairman of the AAU, went to the three premiers following the AAU meeting held at Dalhousie three weeks ago.

It is the first time that the association has appealed as a group to the premiers.

"We had no choice," said Prof. Baker. "We have to pay our faculty and support staff a fair wage within the AIB guidelines. We have been hit hard by increases in fuel, power, books, paper and supplies such as chemicals, all increasing at rates much higher than 20 per cent. And our student fees are already the highest in the country."

The AAU recognized, however, the difficult financial situation of governments in the region and in its plea for a 12.5 per cent operating grant increase, did not

include any funds for catch-up, or improvements in the quality of education.

Most universities have no operating income except government grants and student fees. As a percentage of operating budget, the government grant varies from university to university, but is about 80 per cent of the total budget for the Maritime universities as a group.

"So even an increase of 12.5 per cent in the government part of our income does not mean we would have 12.5 per cent more to spend. That has to be spread across the whole budget and really means an increase of only about 10 per cent," said Prof. Baker.

Full text of the letter to the premiers is as follows:

The Association of Atlantic Universities recommends to the Council of Maritime Premiers that it provide for an average increase in operating grants of 12.5% for 1977-78. This increase is needed if the Universities are to operate effectively and to avoid a state of crisis.

In recommending 12.5%, the AAU considered primarily two factors: wages and salaries; and the very high inflation rates of university non-salary items.

Some 75% of operating budgets are for wages and salaries. Most settlements last year were below the AIB-permitted maximum and the faculty was hard hit in comparison with their opposite numbers in other provinces. Since faculty salary levels in this region were already the lowest in the

(Continued on page 6)

# Revolution in the Offshore

By  
DOUGLAS M. JOHNSTON

"Revolution" is one of the more overworked words of our time. Usually it is brought out when it is believed a change of overwhelming importance is taking place, commanding awe and apprehension. I suppose it is possible to be underwhelmed by recent developments in the law and technology of the offshore, but it takes a special kind of obstinacy not to be impressed by their potential importance.

Few countries in the world will be more deeply affected by these changes than Canada, and no business community has more at stake than the ocean industry of the Canadian Atlantic.

Law very rarely precedes technology — although it might be thought this happened in outer space in the 1950s and early 1960s, before the establishment of a continuous human presence.

In the law of the sea, at least, it is clear that legal development has been dragged along, kicking and screaming, in the wake of ocean technology. The classical international law of the sea, dating from the Phoenicians or even earlier up to the 1930s, showed all the marks of a long period of gradual, almost imperceptible, change in ocean technology limited mostly to vessel design and construction.

Faithfully reflecting this primitive stage of ocean technology, the law was simple, designed to facilitate the movement of ships across the oceans, mostly for reasons of trade. Subject only to these limited uses the ocean was viewed simply as a space; and legal concepts like the high seas and the territorial sea were essentially spatial in character.

But the age of romance has gone. Spectacular accomplishments both in fixed and moving technology have ensured the need for something much more cumbersome that may have to fit the pretentious description of **ocean management**. Although the ocean will always be a dangerous environment, much of the adventure and risk is likely to pass from the seafarer to the policy-maker, the administrator, the investor, and the entrepreneur.

The technology already available in the late 1970s opens up a totally new vista of opportunities for development and of dangers of environmental damage at sea. Government intervention at various levels is inevitable: to resolve the more serious conflicts of uses; to direct the flow of public investment and regulate the flow of private; to provide the research and management; and to police the permitted activities.

In the Northwest Atlantic region, as in many others, the offshore is an extension of the modern mixed economy, attracting an uneasy combination of public and private enterprises. Locked together in a not-too-friendly embrace, the public and private sectors look to each other for support, knowing how much might be gained through enlightened cooperation.

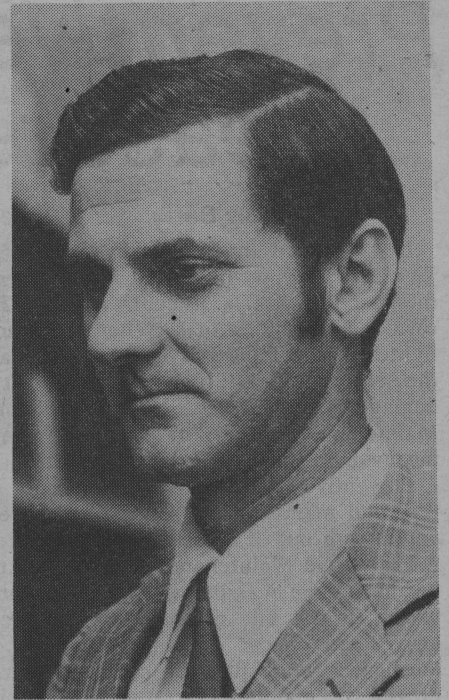
What has happened is that our view of the ocean has undergone a basic — yes, revolutionary — change in barely 40 years. In the eyes of almost everyone, the ocean has become a **resource**; or, more properly, a set of resources, living and non-living, renewable and non-renewable.

With this change in perception, the sea has become a focal concern in the trendy context of resource development, conservation, and management. Moreover, it is also now seen to be a living **environment**, endangered by abuses, capable of dying under the continuing weight of human follies.

In direct response to this new perception, which is itself the product of technological change, the law has now begun to adapt itself to the new imperative for ocean regulation and management. Rightly or wrongly, most nations today have less faith in the existing systems of management at the global and regional levels than in their own potential capability for management at the national level. More important still, most of the new forms of ocean technology are seen to be **available**, even to the poorer developing coastal states. Of all these forms, only deep ocean mining continues to be regarded as beyond the reach of the poorer nations in the absence

## OPINION

*Professor Johnston, international fisheries law expert, has studied his subject for 20 years. At the conference on The Future of the Offshore at Dalhousie next week (See Page 3), Prof. Johnston, a member of the Faculty of Law at Dalhousie, will be the commentator after the opening addresses in the section on the New Legal Environment.*



## The age of romance has gone

of a massive reorganization of resources at the global level.

The result, of course, has been the steady "encroachment" of coastal state jurisdiction on areas previously designated as high seas, and the prospect of 200-mile zones of national authority with the designation of "exclusive economic zones". Pending the outcome of the Third United Nations Conference on the Law of the Sea, many countries may follow the lead of Canada and the United States and limit their claims to **fishing zones** within 200-mile limits, but the best guess is that this limited claim will be followed soon after with less limited multi-functional zones for the exercise of coastal state

jurisdiction over mineral resources, scientific research, and the preservation of the marine environment.

It may be difficult to trace the firing of the first shot, but the call of the offshore revolution has long been heard around the world. In addressing itself to **The Future of the Offshore** later in the month, Dalhousie will be marching in line with most nations, accompanied by the drum-beat of national expectations. But in Atlantic Canada our approach is coloured with concern for the future of our local coastal communities and indeed for the economic and social stability of our region as a whole, made more vulnerable than ever by new uncertainties regarding the future of political union.

(Continued from page 5)

## 25% increase

country, the widening gap over the past few years has had a bad effect on morale.

An average pay increase of up to 10% for faculty and support staff would be within AIB guidelines, especially when this increase includes merit and promotion increments — which are excluded from the guidelines. Some institutions could award more than 10% without contravening the guidelines and faculty and support staff are aware of this. Not to grant the permissible catch-up increase would cause trouble.

The other 25% of operating expenses is for items such as fuel, power, books, paper, and supplies ranging from paper clips to potassium chloride. All these costs are increasing at a rate much higher than 10%.

As one example, power rates in Nova Scotia may increase 60%, although most institutions are using an "optimistic" 30% in striking budgets. One horror story from a New Brunswick university shows electricity increases of 9% in 1974-75, 56% in 75-76, and 24% in 76-77. Heating costs went up 51% in 74-75, 31% in 75-76, and 13% in the current year. All forecasts are for major increases in the coming year.

It is ironic that many of the increases are the result of decisions by governments, or government utilities, or government-appointed boards. Salary settlements are frequently the outcome of arbitration under the labour code and increases to meet minimum wage changes are mandatory. On the supply side, the recent federal imposition of import duty and sales tax on chemicals means up to a 30% increase, quite apart from inflation.

Averaging anticipated increases gives a conservative 20% for non-salary items. The calculation, then, is:

10% on wages and salaries, or 10% of 3/4 of operating costs  
and 20% on non-salary items, or 20% of 1/4 of operating costs.

Giving an overall increase of 12.5%.

We stress, however, that an increase of 12.5% in the government operating grant does not mean an increase of 12.5% in university income.

Government grants as a percentage of operating income vary by university but for most institutions they fall in the range of 75%-85%. The balance comes largely from student fees, with some endowment and other income.

Student fees in the Maritimes are the highest in the country and have been for years. Students, of course, should pay a reasonable share of the costs of their education. And there is some feeling, we recognize, that many students in universities can afford to pay more. Against this, there is the

problem of those students just able to scrape together enough each year to pay for room, board, and fees. And there is the bigger problem of teenagers from poor families, for whom each \$100 increase in fees is another layer on the financial/psychological barrier to university education.

Other income is virtually on a plateau and raising student fees offers the university the only chance to get additional operating revenue. If we hold the line on fees, the increase in the government grant has to be spread across the whole budget.

The increase of 12.5% shrinks to 10%, when applied right across the budget, using 80% as the regional average of government support per institution. Any increase of less than 12.5%, then, will force the universities to raise tuition fees...a move bound to create student opposition and to further disrupt university operations during the coming year.

This is the first time the AAU has made a direct or public submission to governments on operating grants. Doing so implies no criticism of the MPHEC's work in advising the three Maritime premiers in this area.

The AAU, however, sees its institutions caught in a squeeze...a squeeze which has persisted since the early 70's. On the one hand, a rate of inflation well above average and a desire to pay fair wages; on the other, the concerns of Maritime governments over total public spending. Recent MPHEC figures show higher education support increasing 52.4% from 1973-74 to 1976-77, compared to a total government ordinary expenditure figure of 59.4%. And increases in government support for universities last year were the lowest in Canada.

Facing serious financial difficulties even in maintaining existing programmes, the AAU sees a duty to explain the universities' minimum needs directly to governments and to the public.

In other business at the AAU meeting at Dalhousie, the association approved a study of the possibilities of joint purchasing, to be carried out by Larry Sandford of the Council of Maritime Premiers.

It heard a progress report from Mary Moore on Phase 3 of a study to refine university accounting procedures, and a report from Anna Oxley on the progress of the experiment in shared computer cataloguing by the region's libraries.

Much of the agenda dealt with ways to make further savings in budgets that have been squeezed steadily since the start of the Seventies.

## DALHOUSIE STUDENTS IN MOSCOW

Students enrolled in the 1976-77 Russian Studies program are now in Moscow and safely settled in, according to Professor Norman Pereira, director of the Dalhousie program and the person charged with escorting the students to Russia.

Six of the total number who have travelled to Moscow were at Dalhousie for the first term.

The group is shown here in front of the Pushkin Institute where they will be involved in an intensive Russian language program until the end of April when they return to Canada. Dr. Pereira is second from the right in the back row.



# Rural teenagers drinking more, taking other drugs less

## DAL HEALTH EDUCATION STUDENTS COVER TWO N.S. SURVEY AREAS

Alcohol is the most commonly abused drug in North America and according to a Dalhousie health education professor, its use among teenagers in rural Nova Scotia is increasing.

Dr. William Shannon's statement is supported by data from student drug use surveys conducted last summer by Dalhousie University students. The surveys, funded by the Non-Medical Use of Drugs Directorate, are expected to be useful in evaluating present and planned drug use strategies in community and school education programs.

The school population from Grade 7 to Grade 12 in two rural areas of Nova Scotia were surveyed. A total of 2,241 students were surveyed, representing 10% of the total adolescent population in the schools. The South Shore area included the counties of Yarmouth, Shelburne, Queens and Lunenburg. The Central area comprised the Truro corridor and surrounding towns.

In her summary and review of the surveys, Brigitte Neumann, co-ordinator of documentation, evaluation and research at the Nova Scotia Commission on Drug Dependency, said the results supported the widely-held impression that use of the more esoteric drugs such as speed, barbiturates and hallucinogens, had declined. Tranquilizers showed the highest rate of use for any drug except tobacco, alcohol and cannabis products.

The accompanying table shows the percentage of male and female students using tobacco, alcohol and cannabis in the six months before the surveys. These were the most important findings of the two surveys.

While tobacco was once the most commonly used substance, its position had been taken by alcohol. The table shows that tobacco use was more prevalent among teenage girls than boys, although a large number of girls could be described as "occasional" smokers.

The problem was, said Ms. Neumann, referring to the information in the studies, that only a tiny fraction of tobacco users remained "occasional". A recent review of tobacco users in Canada as a whole suggested that only 37 per cent of all tobacco users smoked only occasionally.

"It seems quite reasonable to suggest that many, if not most, of the occasional smokers will be recruited into the ranks of regular smokers as they age."

### Cannabis

In a 1969 study by a Dalhousie sociologist, 6.6 per cent of the students surveyed said they had used cannabis within the six months prior to questioning. A year later, 17.3 per cent reported some use.

"Today," says Dr. Shannon, "our information indicates that the use of cannabis in the South Shore and Central areas of Nova Scotia is considerably higher than use by junior and senior high school students in Halifax in 1970."

In May last year, 24 per cent of the students in the Central area study reported using marijuana in the six months prior to the study. For the South Shore, the figure was 20 per cent, with four per cent of Grade 7 students and 40 per cent of the Grade 12 students reporting they had used it.

The data showed that males were more likely to have used marijuana than females, and that a high frequency of use was observed among males.

### Alcohol

Alcohol had become the most widely used drug by teenagers (see table), and age and grade levels influenced the rate of use. The South Shore study showed 27 per cent of Grade 7s and 81 per cent of Grade 12s having consumed alcohol in the previous six months.

The South Shore study provided some information on parents' knowledge of their children's drug use, as well as variables such as where alcohol consumption occurred, how it was obtained and so on.

Seventy-seven per cent of the parents of marijuana users were unaware of children's use, but only 27 per cent of drinkers' parents and 32 per cent of smokers' parents were unaware. Thirty-two per cent of the smokers' parents wanted their children to stop, and 28 per cent were reported as feeling that smoking by their children was "OK". In contrast, only 16 per cent of the drinkers' parents wanted their children to stop, and 27 per cent of the children felt their parents "OK'd" their drinking.

"Obviously," said Ms. Neumann referring to the study data "the significant levels of parental tolerance for tobacco smoking and drinking support use."

Thirty per cent of the respondents had their first drink at home, and 30 per cent drank mostly at their own home or someone else's.

The source of alcohol? Two-thirds of the drinking students reported they mostly had an older person buy it for them; 14 per cent were given it by their parents; five per cent used an older person's ID card or pretended they were older; 12 per cent, including a few people "of age", simply bought it themselves.

### The drinking driver

The survey in the Central area commented on the drinking driver. Two thirds of the students said they

had been the passengers of drivers "under the influence". Among the 17-19-year-old boys, 52.7 per cent reported they drank and drove; 16 per cent said they had done so five or more times.

Twenty-two per cent of girls in the same age group reported driving only once while "under the influence" and eight per cent had done so more often.

Eight per cent of the students surveyed had been involved in accidents while they were drinking and driving, and 17 per cent had been passengers in cars involved in accidents.

Of boys aged between 11 and 13, 13 per cent of those who drove after drinking had done so once or twice, and 11 per cent had done so three or four times. "If these reports are true", said Ms. Neumann, "the Central area may have a significant under-age driving, as well as under-age drinking, problem among its boys."

The results, said the survey, showed that drinking and driving was a common teenage activity, and the accident rates testified to this. "The need for both preventive and legislative intervention in this area needs no further comment."

Neumann and Shannon agreed that the use of drugs such as speed and LSD had stabilized or declined, but they were concerned by the substantial increase in alcohol and cannabis use among the high school population.

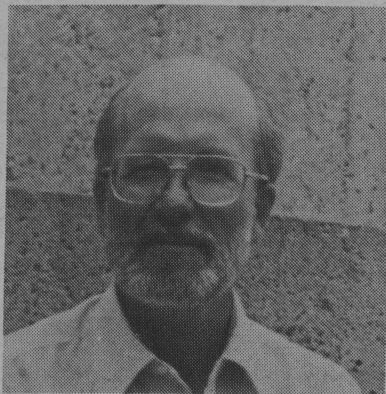
Dr. Shannon and Ms. Neumann have collected similar data for the Halifax-Dartmouth area and when the analysis of that study is complete, comparisons between urban and rural areas will be made.

"Clearly life outside the urban centres is no longer free of the problems which were once considered primarily urban in character."

Table: Percentage of male and female students using tobacco, alcohol or cannabis in the last six months, by area.

Substance	Region	Male users	% of total users	Female users	% of total users
Tobacco	S/Shore	178	40.2	218	44.0
	Central	255	42.0	306	46.4
Alcohol	S/Shore	244	55.5	248	50.3
	Central	354	58.5	369	56.0
Cannabis	S/Shore	110	24.8	77	15.5
	Central	164	27.1	139	21.1

## BOOKS



McLaren

(Mary Primrose photo)



Fentress



Gupta

### The adaptable Ipswich Sparrow

#### IPSWICH SPARROW

By Ian McLaren and W.T. Storo  
(N.S. Institute of Science, 1975; 105 pp; \$5)

Recent review articles of Ian McLaren's short work on the **Ipswich Sparrow** — all of them highly favorable, seem to be indicative of the acclaim it has received by ornithologists everywhere. The book's co-author is W.T. Storo.

One reviewer writing in **IBIS**, the Journal of the British Ornithologists' Union, suggests that the "brief summary cannot do justice to the deep knowledge of the bird and its island displayed by the authors; they 'view it with affection' and hope readers will, too."

The research report describes Sable Island as the nursery for the entire population of these few thousand sparrows, who leave the island in winter for seaside areas along the Atlantic coastline. A reviewer in **Sea Frontiers** congratulates McLaren and Storo for having incorporated a wealth of information — on the sparrows' habits, how they adapt to their unique environment, factors important not only in the regulation of their numbers but for their long-term survival.

A detailed overview of the monograph also appears in a 1976 issue of the **Canadian Field Naturalist** in which the authors are commended for their quantitative approach in describing the main features of the bird.

### Studying behavior by simpler neural networks

#### SIMPLER NETWORKS & BEHAVIOR

Edited by John Fentress

(Sinauer Associates Inc., 1976; 384 pp; \$17.50)

John C. Fentress, professor and chairman of the Department of Psychology, has edited a comprehensive work entitled **Simpler Networks and Behavior** in which 25 eminent neurobiologists and behavioural scientists address common problems of structure and function in the control of behaviour. Editor Fentress, in addition to contributing two chapters to the publication, has provided a connecting statement for each of the six parts that make up the text.

In his preface, Dr. Fentress outlines what the work attempts to do. It is to apply a fundamental strategy, namely the use of simpler neural networks (rather than complex systems which until recently were used for investigative purposes) as an analytical tool to understand the mechanisms of behavior.

The publication, he suggests, represents a two-way exchange between neurobiologists and behavioral scientists — the result is a synthesis of the research, methods and findings which have contributed to understanding the link between neurobiology and behavior of both invertebrate and vertebrate species.

The work is well illustrated, contains over 900 references and is fully indexed to aid the student and professional alike.

### Applied statistics given the emphasis

#### MULTIVARIATE STATISTICAL INFERENCE; APPLIED STATISTICS

Edited by R.P. Gupta

Two statistical conferences held at Dalhousie form the basis for separate works put together and edited by mathematics professor R.P. Gupta. Both are published by North-Holland Publishing Company and the most recent book is on view in the display cases of the Macdonald Science Library which is at present featuring a number of books by Dalhousie scientists.

The first book, **Multivariate Statistical Inference**, is comprised of some of the contributing papers given at Dalhousie by prominent theoretical and applied statisticians. The major emphasis is on applicable methodology rather than on theoretical developments. Co-editor is D.G. Kabe.

The second work, entitled **Applied Statistics**, is a report of conference proceedings (addresses, papers and panel discussions) which editor Gupta regards as valuable not only because of the content but because the meeting served as a forum for dissemination of the results of statistical research. The editor hopes that the publication will stimulate discussion between statisticians and researchers in mathematics, the physical and social sciences.

Dr. Gupta, who has published more than 30 papers in addition to serving as editor for these two publications, has been appointed associate editor and a member of the international editorial board of the **Journal of Statistical Planning and Inference**. A new scientific journal; its first issue will appear in March.

### Doctors, nurses and clergy in workshop on cancer patients

The nursing profession and the clergy will join a medical resource team to present a workshop on the Family Doctor and the Cancer Patient, March 3-4.

The two-day course is arranged by Dalhousie University's Division of Continuing Medical Education and supported in part by the Nova Scotia division of the Canadian Cancer Society.

It will provide a forum whereby family physicians can identify common problems encountered by their patients with cancer. One of the sessions will be related to the dying patient's needs and rights. Two others will deal with the actual diagnosis and discussing the diagnosis with the patient.

Much of the workshop schedule will be in the form of small group discussions and cross group sharing. The invited speaker is Dr. B.M. Mount, director of the palliative care unit at the Royal Victoria Hospital in Montreal.

## Creating Canadian children's literature

Dalhousie's School of Library Service will sponsor a workshop, "Creating a Canadian Children's Literature", on the weekend of March 18-19 with the Writers' Federation of Nova Scotia co-sponsoring the event.

Ms. Irma McDonough, editor of **In Review** and a worldwide authority on children's literature and Canadian literature in particular, will deliver the Friday morning lecture and serve as resource person for the workshop. Friday evening's session will be a presentation by a representative of Canadian publishing.

On Saturday, participants will hear Dalhousie history Professor David Sutherland identify major events in Canadian history that would lend themselves to exciting books for children.

There will be a panel of authors (published and unpublished) discussing the problem as they encounter it; Marilyn Smith of Pair of Trindles bookstore will talk about the problems of booksellers, and a panel of librarians will examine the situation from the librarian's view. Participants are asked to read J.P. Wilkinson's **Canadian Juvenile Fiction and the Library Market (CLA, 1976)** in preparation for the weekend.

Those with an interest in Creating a Canadian Children's Literature are invited to contact the School of Library Service, 424-3656; the registration fee is \$20, which includes lunch on Saturday.

### Flexible working hours? Ask Killam Information

Some CB radio buffs might call it a convoy truckin' into town. Surrealists might see a rainbow stretching over the harbor. A metal snake making its regular weekday journey to work?

If you're one of those who drive into Halifax to work, during peak traffic hours, and then return with the rush hour traffic, you probably have a few choice words of your own for the line ups of which you're part. And with the Regional Development Plan projecting a population for the Metropolitan Halifax area of 435,000 by 1991 (that's double what is now), traffic jams are likely to increase.

The City's Traffic Management Board is concerned. Last year they asked the Information Services group at the Killam Library to help them. Their request was for a journal bibliography on variable working hours. Planners are researching innovative traffic management techniques and one of the means of making better use of existing traffic facilities is to have downtown businesses stagger their working hours. Other cities, like Toronto, also seeking ways of relieving traffic congestion, have urged companies to try flexible working hours.

Killam Library Information Services was able to compile a 31-team bibliography for Halifax. In addition to its information and reference function, the staff provides a number of other services: group or individual tours of the library; library orientation lectures; small group or individual library workshops; library publications (guides and floor plans of the library, **Research and Rescue**, etc.); suggestion box; and, response to queries about inter-library loans, serials and government documents.

If you need assistance in using the resources of the Killam Library, the Information Desk there will help.





Dalhousie Staff Association executive (see story) — left to right, seated: Shirley Mushumanski, Jane Mersereau, and Dianne Zwicker; standing, Ben Fullerton (left) and John Pallas. (A/V Services)

## DSA elects 1977 officers

Jane Mersereau, of the W.K. Kellogg Health Sciences Library (2469), has been elected president of the Dalhousie Staff Association for 1977. She succeeds Ben Fullerton, of Physics.

Other officers elected at the February general meeting of the association were:

Vice-presidents: Medicine, Dianne Zwicker, Oral Biology (3767); Libraries, John Pallas, Printing Centre (6427); Arts and Science, Shirley Mushumanski, Institute of Public Affairs (2526).

Executive secretary: Susan MacDonald, Kellogg Library (2479).

Affairs (2526).

Ex-officio member of the executive: Mr. Fullerton (immediate past-president, 3596).

### CLINICAL DAY

The Division of Continuing Medical Education offered a clinical day in cardiology at Miramichi Hospital, in Newcastle, N.B. Guest speakers were Dr. W.D. MacAulay of Fredericton, and Dr. R.D. Gregor, assistant professor of medicine at Dalhousie. The program was supported by the New Brunswick Heart Foundation.

### SUMMER SESSIONS

The Danish Institute for Information about Denmark and Cultural Co-operation offers a series of Scandinavian Summer Seminars for students. Seminars cover such topics as architecture, industrial design, education and human relations. Write to the Institute at 2, Kultoret, DK-1175, Copenhagen K.



## 80 at kinetics symposium

The Atlantic Regional Symposium on Kinetics for Students held at Dalhousie earlier this month attracted about 80 people with an interest in understanding kinetics, the branch of chemistry which deals with the rates of chemical processes.

Keynote speaker was Professor K.J. Laidler of the University of Ottawa, who has written several widely-used textbooks on chemical kinetics. Other speakers are pictured here, with the exception of Dalhousie professor, Dr. K.E. Hayes.

A dinner and a meeting of representatives of student

chapters of the Chemical Institute of Canada were held in conjunction with the symposium.

Organizers of the symposium included student Patti Allen, Fred Northrup, president of CIC student chapter, and Dr. Amares Chattopadhyay, faculty advisor of CIC student chapter.

Left to right: Dr. K.J. Laidler (University of Ottawa), Dr. K.T. Leffek (Dalhousie), Dr. J. Scott (Memorial), Dr. J. Roscoe (Acadia), Dr. L. Loucks (UPEI), Dr. T.B. McMahon (UNB), Dr. Secco (St. F.X.) and Dr. V.C. Reinsborough (Mt. Allison). (Audio-Visual Services)

## Chemistry seminar speakers

Speakers in the Department of Chemistry's regular seminar series between now and April are as follows:

FRIDAY, Feb. 18, 1:30 p.m.

"Some aspects of organosilicon chemistry"

DR. M.J. NEWLANDS, Department of Chemistry, Memorial University of Newfoundland (APICS tour speaker).

WEDNESDAY, March 9, 8 p.m.

"II-Complexes of Nitrogen Heterocycles: the Chemistry of Some Fluxional Tricarbonyl (4-7-n-1(IH), 2-Diazepine) Iron Complexes"

DR. C.R. JABLONSKI, Department of Chemistry, Memorial University of Newfoundland (CIC tour speaker).

FRIDAY, March 11, 1:30 p.m.

Topic to be announced.

DR. P.G. FARRELL, Department of Chemistry, McGill University.

FRIDAY, March 25, 1:30 p.m.

"How to get the most out of scientific data: Some applications of non-linear regression, deviation-pattern recognition and automatic classification"

DR. LOUIS MEITES, Department of Chemistry, Clarkson College.

FRIDAY, April 1, 1:30 p.m.

"Synthetic methods based on epoxysulfones"

DR. T. DURST, Department of Chemistry, University of Ottawa.

All seminars will be held in ROOM 215 of the CHEMISTRY BUILDING.

## The offshore: assessment next week

Government policy makers, legal experts, industrialists marine specialists will meet at Dalhousie Feb. 24-26 to examine the future of the offshore.

Together they will assess the offshore legal and administrative environment now, make some predictions about its future direction and identify business opportunities and appropriate strategies.

The meeting is sponsored by the university's Centre for International Business Studies and the Faculty of Law's Public Service Committee.

Conference organizers have indicated that the following questions are most likely to be raised:

- What are the opportunities critical problems facing business and the Canadian offshore?
- What kinds of regulations are to be expected by the offshore business community, and who will enforce them?
- What are the new business strategies for Canadian fisheries in the face of new bilateral arrangements with foreign countries?
- What is the prospect for Canadian offshore expertise in other regions of the world?

Representing governments will be Premier Gerald Regan; A. Alan Beesley, assistant undersecretary of state for external affairs; Donald Crosby, Department Energy, Mines and Resources; Leonard Legault, Director General of Environment Canada.

A blue ribbon list of executives from Mobil, Canadian Petroleum Assoc., Gulf Canada, Total Eastcan Exploration and Petro Can will make known the problems facing petroleum operators. Projections for deep ocean mining will be expressed by key officials from the World Bank, International Nickel, Noranda Explorations and Rio Tinto Zinc Industries Ltd.

Dalhousie's contingent includes William Silvert, respective schools of public and business administration; law professors Clare Beckton, Douglas Johnston, Rowland Harrison and Dr. Choon-Ho Park, senior research associate at Harvard and Dalhousie law schools.

## Business School, CBC sponsor session on media accountability

Well known experts in the print and non-print media at the local and national level have been invited to take part in a Media Accountability session at Dalhousie on March 9.

The event, which is open to the public, is scheduled for 7 pm in the McInnes Room of the Student Union Building. It is sponsored jointly by the university's School of Business Administration and the CBC.

The format will consist of a series of brief statements by panel members followed by an open discussion from the floor.

Participating in the session will be Clark Davey, managing editor of The Toronto Globe and Mail; Glen Sarty, executive producer of the 5th Estate; Charles Lynch, publisher of Southam News Service; Darce Fardy, director of television, CBC Halifax; Bruce Little, media critic on CBC Information Morning and a representative from The Halifax Herald. Moderator will be Robert Murrant, an authority on the legal aspects of censorship.

## Easy access to student aid, but inequalities exist

Wide inequality of participation in post-secondary education exists in Canada despite easier access to student aid than in the past.

This is one conclusion of "Some Characteristics of Post-Secondary Students in Canada", a report released last month by the Department of the Secretary of State.

The report contains data on students' choices of programs and institutions, their incomes and expenditures, and their socio-economic background.



Reto Barrington

## He retired from world class skiing -- at 19

Reto Barrington, a 23-year-old first-year law student, made collegiate skiing history recently. He swept all three races in the Combined Alpine event at the Can-Am Intercollegiate Races, held at Huntsville, Ont. The Combined is a gruelling event, including downhill, slalom and giant slalom.

But while it was a magnificent achievement, it might have been expected that if anyone could accomplish it, Barrington could.

By Rod Shoveller

He has been skiing since he was a youngster and for five years was a member of Canada's national team, having taken part in the 1972 Winter Olympics at Sapporo. He finished fourth in the Olympics' Combined Alpine, missing third place and bronze medal by only a narrow margin.

Then, at the ripe age of 19, just before the world championships at St. Moritz, he decided to retire from world class skiing competition to devote his time to other things.

Barrington, who hails from Calgary, took an undergraduate degree in business administration at Denver University between his Olympics appearance and his entrance last fall into Dalhousie's law school.

He married his college sweetheart, a California girl, and also found time to head Alberta's ski program for a

year. He chose Dalhousie because of its solid academic reputation and as he approaches the end of his first year in law, is happy that he did, as he is enjoying his initial Maritime exposure and his extracurricular activity with the Dalhousie Alpine Ski Club.

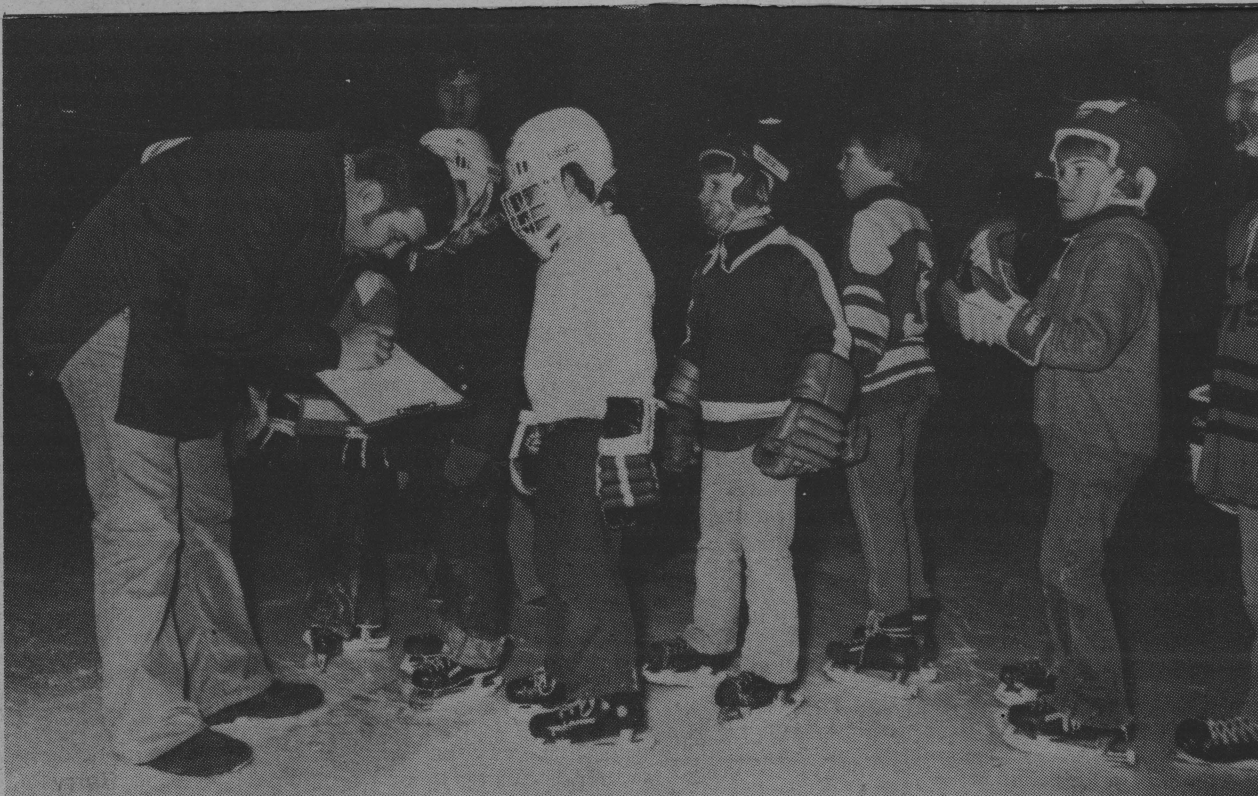
The club is an extramural sports club which has about 40 active members; faculty adviser is Kell Antoft, director of the Institute of Public Affairs. Even though it is subsidized moderately by the Athletics Division's extramural budget, the club -- like all the other clubs on campus -- does not have enough money to fully support its program. Equipment and transportation costs are high, and most of the money goes in those areas.

And since skiing is not always possible in the Maritime climate, there is no AIAA competition and Dal skiers must seek competition in Quebec, Ontario and the eastern states; in many cases, good competitive skiers are simply unable to enter races because of the lack of funds.

Barrington is interested in the promotion of skiing as a recreational activity and, with other members of the club, provides encouragement and instruction to many novices.

Barrington will take part in the next set of Can-Am races, to be held in Waterville Valley in New Hampshire next month. He and the rest of the Dal team will have a week of training during the university's March break at Amqui in the Gaspé; for the most part they are financing the trip themselves.

## Skate first, stick later



Peter Udle checks off the youngsters' names before going into acceleration tests; electronic timing specialist Alan Alexander waits in the background.

### Science and practice stressed by Super Skills Schools

Teach your child to skate properly, then let him have a hockey stick. That's the approach of Pierre Page and members of Dalhousie's varsity hockey team who recently conducted two successful super skills camps.

Featuring a scientific, as well as practical approach to the intricate skills required to skate and play hockey, the Super Skills Schools put the children on ice for 12 one-hour sessions. Videotaping and classroom lecture sessions, electronic timing of speed and acceleration, plus an individual progress chart on each student backed up the blade instruction.

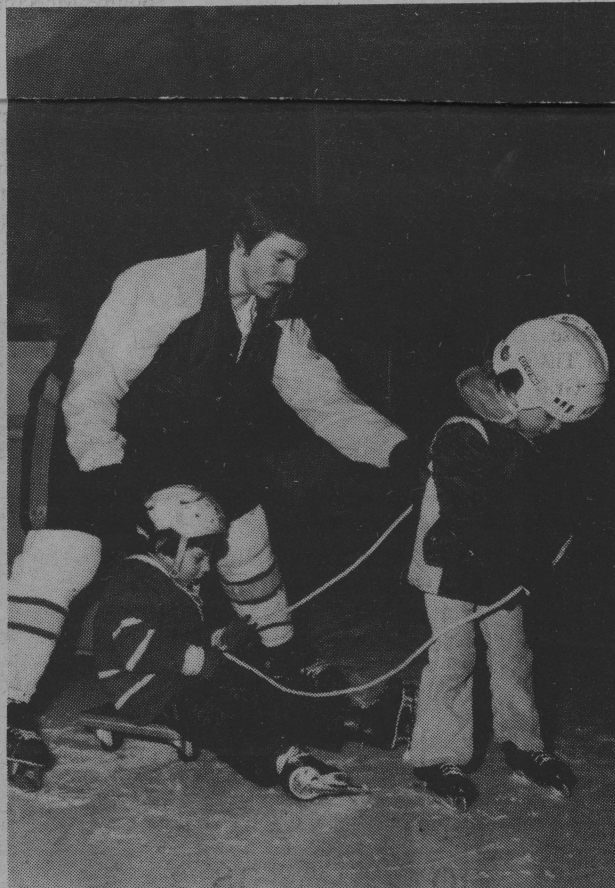
Coach Page keeps the teacher-student ratio to 1-8, feeling that children respond favorably to individual-

ized instructions.

Says veteran Tiger defenceman Rick Roemer: "The average rate of improvement—particularly in the non-skater group — is amazing. The kids work and progress at their own speeds and are really pleased with themselves as they progress from one phase of skating to a more difficult one."

Camp co-ordinator Rod Shoveller says the idea behind the camps is to build up a clientele of steady, satisfied customers whose children keep coming back, progressing at their own speed.

"So far, the response has been beyond our expectations. Results have been excellent."



Defenceman Jack Gray with young hopefuls.

The largest demand has been in the 5 to 9-year-olds group; consequently Super Skills personnel are thinking seriously of changing the beginning age to three and certainly to four, because of the large numbers of children who want to learn how to skate.

Not only have the children been responding in droves to the camps, but apparently many adults and university students want to learn how to skate properly, too. "This presents another type of challenge," says Shoveller. "We hope to make an announcement on adult learn-to-skate classes soon."

Meanwhile, Page and his Tigers may not be winning all their varsity matches, but are quickly building a reputation as premiere teachers of power skating and progression hockey in the Maritimes.

By Allison Berry

## SPORTS ROUND-UP



Bonny McNamara

## VOLLEYBALL

## Final stretch for Tigerette co-captains

Co-captains Bonny McNamara and Carolyn Cox of the Women's Volleyball Tigerettes made their last home appearance for Dalhousie last weekend, and this weekend go into the AUSA championships at Acadia.

And their coach, Lois MacGregor, has a wish for them: "I hope they end their college careers as Intercollegiate Champions."

Says MacGregor: "They've worked hard in practices and have competed well under great pressure...and they've been a tremendous help to me in my first two years coaching at Dal."

Before last Saturday's home game against the UNB Red Bloomers (who headed the league with nine wins and no losses), the Tigerettes were in second place (7 - 2). In tournament play, however, the Tigerettes clobbered the Bloomers three times during the season, and have not lost in league play since Christmas.

Carolyn Cox hails from Charlottetown and graduates in Administrative Studies this spring. It's her third year with the Tigerettes, with whom she gives ample service as a power hitter, a blocker and in serving.

Bonny McNamara is a native of Saint John, N.B., and will be graduated in Physical Education. This is her fourth year with the team in front row and her strong points are her consistent serving, defensive play and — for the opposition — unpredictable hitting.

The AUSA championships are on tomorrow and Saturday.



Carolyn Cox

## HOCKEY

## Page tributes for 4 Tigers

Like Volleyball's Lois MacGregor, hockey coach Pierre Page has also taken the opportunity of paying tribute to three stalwarts of the Tigers who graduate this year: Rick Roemer, John Mullooney and Jack Gray and to Jack Gray their last home games on the weekend.

Says Page of the retiring quartet:

**Mullooney**, the captain: He's ending his third year with the team and gets his Bachelor of Commerce in the spring; an 'A' student each year — an outstanding example of how athletic and academic pursuits can mix; possessor of one of the hardest shots in Tiger history.

**Gray** ("The Fox"): Our miniature player; two years with Tigers; Bachelor of Commerce; a scrambler "a la Tarkenton"; playing with Cole Harbour Colts.

**Roemer**: A veteran of four seasons; Bachelor of Arts; a bomber in defence and shooting; able teacher in the Super Skills program.

**Zed** (Mr. Everything): Former manager of the Tigers; fund-raising organizer; co-ordinator of the first women's invitational hockey tournament; sports co-ordinator for the Dal Gazette; voice reporter for CHNS and a promoter.

## Clinic put off

The wrestling clinic for amateurs, to have been held last weekend, had to be postponed until the middle of next month because Ole Sorensen, technical director of the Canadian Amateur Wrestling Association was unable to attend.

## WRESTLING

## Five firsts, but team loses

Although five members of the Dal wrestling team won first place in their respective classes — out of the 11 invitational tournament at Fredericton the weekend before last, they suffered their first team loss of the season.

Host UNB, with a 20-man team, took the tourney title, with Dalhousie in second place.

Individual results:

George Pineau, UNB (109 lb. class); Bob Bradley, Acadia (118); Charles Gagnon, Moncton (126); Bill Sanford, Dal, (134); Dave Niles, UNB (142); Phil Knox, UNB (150); Wally Kazakowski, Dal (158); Greg Wilson, Dal (168); Yves Gaudet, Moncton (177); Peter Lamothe, Dal (190); Terry Young, Dal (under 220); Rod Bell (over 220).

Seven teams were due to take part in the Dalhousie invitational tournament last weekend, with the strong University of Maine team travelling from Orono.

## Zagreb prize for Dalart's Djokic

Philippe Djokic, a member of the Department of Music and violinist in the Dalart Trio, was awarded second prize in the first "International Zagreb Violin Competition" held in Yugoslavia. Last month Violinists from all over the world competed for six grand prizes plus other awards. The nine jury members for this competition included some of the most renowned violin pedagogues in the world, including Igor Bezrodni from the Soviet Union and Henryk Szeryng, the concert violinist now living in Mexico.

All six grand prize winners represented Eastern European countries (Russia, Poland, Czechoslovakia and Yugoslavia) with the exception of Mr. Djokic, the only extrant from North America. As a result of his success, Mr. Djokic has been invited back to Europe for tours, as a recitalist, guest professor and for engagements as soloist with the Zagreb and Belgrade orchestras.

HALYCON ONE:  
All about things that could happen

"Realistic fiction is about things that **have** happened. Fantasy fiction is about things (we are fairly sure) **don't** happen. Science fiction is about things that **could** happen," explains Canada's best known science fiction freak.

Judith Merrill has been writing science fiction — SF to cult members — for 20 years. She is also an anthologist; it's said that the goal of every SF author is to have a story approved by Merrill for inclusion in one of her anthologies.

Ms. Merrill will be in Halifax March 11 - 13 for HALYCON ONE, the first SF-related convention to be held in the Maritimes. Those who never miss an episode of **Space 1999**, or the **\$6 Million Dollar Man** are invited by Dalhousie's School of Library Service to "come out of the woodwork" and meet others of the SF genre.

Science fiction has come of age. What to many a few years ago was a second-rate cultural form, is now being praised by literary critics and taught by academics. There are well over 200 universities and colleges in the United States and Canada offering courses in SF at the undergraduate and post-graduate level.

One course called Science Fiction in the Media, given through the Institute of Social Communications, Saint Paul University, and the Extension Department of the University of Ottawa, surveys the evolution of SF, looks at the science in science fiction as well as SF and futuristics, the popular culture aspects of SF, and the science fiction cinematic styles.

The fan phenomenon has sparked a new rash of SF television programs and movies, but two proven favorites **2001: A Space Odyssey** and **The Earthling Planet** will also be on display and for sale. "Trekkies", those addicted to the TV series **Star Trek**, will be favored with a special section.

For serious readers of SF who want to increase their critical skills or who hope to write SF, Judith Merrill will be giving a workshop, "Learning to Think SF", on Saturday, March 12. The dramatic increase in SF publishing, especially the introduction in 1975 by Harlequin Enterprises, Toronto of a new SF book line called Laser Books, has created new opportunities for Canadian writers.

Libraries, too, are beginning to treat science fiction seriously, recognizing that it encourages the reader's imagination. SF, called the "literature of change" by some, performs a necessary role in taking one aspect of our society and extrapolating it into the future. SF looks at where we are headed.

In at least one Canadian centre, SF freaks have had a fantasy become a reality. In 1970, Ms. Merrill donated 5,000 volumes from her personal SF collection to the Toronto Public Library, hoping that these would be installed in a library. They were, in a special library named, appropriately, the Spaced Out Library. There are now 12,000 SF volumes filling the shelves and a large number of "freaks" after the far-out fiction.

Want more information about HALYCON ONE? For details and to register, contact Dr. Dorothy Broderick of the School of Library Service (3656).

—Allison Berry

## Sir Geo. Williams seeks memorabilia

An illustrated history of Sir George Williams University will be published in May, coinciding with the 40th anniversary of Sir George Williams' first graduating class.

Anecdotes, photographs and memorabilia, paintings and drawings, recollections of the great and lesser known personalities who shaped Montreal's landmark open university will comprise the history.

Graduates of the university who have memorabilia they would like to submit for possible publication in the history, are asked to contact the Information Office, Sir George Williams Campus, Concordia University, 1455 de Maisonneuve Blvd; West, Montreal, P.Q., H3G 1M8, telephone (514) 879-8497.

The latest archival processes will be employed to ensure that all materials will remain safe and sound, and all items will be returned on request.

## \$20,000 grant for Environment Inst.

The Institute of Environmental Studies at Dalhousie has received \$20,000 to complete a grant totaling \$181,500 from the government of Nova Scotia.

The institute co-ordinates the work of scientists engaged in environmental research. Specially commissioned studies for both the private and public sectors are carried out through its expertise.

Among its recent projects was the completion of the production of the "Maintenance of Beaches Technical and Summary Reports". Conducted over a two year period, the comprehensive study covered all beach areas in the province.



DALHOUSIE CULTURAL ACTIVITIES PRESENTS  
*Ooooh-Whatta Way to  
Wile Away the Winter...*  
Winter/Spring 1977

## Variety the key to success

Dalhousie Cultural Activities continues to go from success to success.

And the key to that success? In a word, variety.

Says Cultural Activities Co-ordinator Erik Perth: "We are catering to a variety of tastes both in the university and in the city generally."

The crowd of advance ticket buyers who lined up for hours at the Arts Centre Box Office for the winter

season of performance bear testimony to that.

In addition to the top-line list of perennially-popular performers who bring their talents to the Cohn, jazz is popular, according to the latest ticket sales, and as the season progresses, classical music concerts are also attracting more people.

Following is the balance of the winter program at the Arts Centre:

**DIZZY AND "FATHA"**

Friday, Feb. 18, 8:30 p.m.; SOLD OUT.

**ELLY AMELING**

Saturday, Feb. 19, 8:30 p.m.; Lyric Soprano; reg: \$6.00/5.00; stu.-sr. citizens: \$5.00/4.00.

**THE WURZELS**

Monday, Feb. 21, 8:30 p.m.; Zany English Pub Trio; reg: \$5.50/4.50; stu.-sr. citizens: \$4.50/3.50.

**RAVI SHANKAR**

Thursday, March 3, 8:30 p.m.; Indian Sitarist; reg: \$6.50/5.50; stu.-sr. citizens: \$5.50/4.50.

**WOODY HERMAN**

Saturday, March 5, 8:30 p.m.; Big Band Sound; reg: \$8.00/7.00; stu.-sr. citizens: \$7.00/6.00.

**KARR AND LEWIS DUO**

Sunday, March 6, 3:00 p.m.; 'Cello and harpsichord; reg: \$1.00; stu.-sr. citizens: FREE.

**THE OMEGA GUITAR QUARTET**

Thursday, March 10, 8:30 p.m.; Four classical guitars; reg: \$5.50/4.50; stu.-sr. citizens: \$4.50/3.50.

**ANNA RUSSELL**

Friday, March 11, 8:30 p.m.; "World's Funniest Woman"; reg: \$5.50/4.50; stu.-sr. citizens: \$4.50/3.50.

**DALART TRIO**

Tuesday, March 15, 8:30 p.m.; piano, 'cello and violin trio; reg: \$3.00/2.00; stu.-sr. citizens: \$2.00/1.00.

**TORONTO DANCE THEATRE**

Friday, March 18, 8:30 p.m.; Modern dance innovators; reg: \$4.50/3.50; stu.-sr. citizens: \$3.50/2.50.

**RICERCARE**

Saturday, March 19, 8:30 p.m.; European Wind Ensemble; reg: \$4.00/3.00; stu.-sr. citizens: \$3.00/2.00.

**PRESERVATION HALL JAZZ BAND**

Wednesday, March 23, 8:30 p.m.; Thursday, March 24, 8:30 p.m.; New Orleans Jazz Band; reg: \$6.50/5.50; stu.-sr. citizens: \$5.50/4.50.

**LARRY COOMBS AND THE DALART TRIO**

Friday, March 25, 8:30 p.m.; piano/cello/violin trio featuring clarinetist; reg: \$3.50/2.50; stu.-sr. citizens: \$2.50/1.50.

**DANNY BECKERMAN**

Sunday, March 27, 3:00 p.m.; Classical guitarist; reg: \$1.00; stu.-sr. citizens: FREE.

**EUGENIA AND PINCHAS ZUKERMAN**

Thursday, March 31, 8:30 p.m.; flute and violin concert; reg: \$6.50/5.50; stu.-sr. citizens: \$5.50/4.50.

**VICTOR BORGE**

Wednesday, March 30, 8:30 p.m.; Friday, April 1, 8:30 p.m.; Saturday, April 2, 8:30 p.m.; Sunday, April 3, 8:30 p.m.; TICKETS AVAILABLE FOR MARCH 30 ONLY; reg: \$7.00/6.00; stu.-sr. citizens: \$6.00/5.00.

**OPERA AS YOU LIKE IT**

Wednesday, April 13, 8:30 p.m.; Thursday, April 14, 8:30 p.m.; Friday, April 15, 8:30 p.m.; Saturday, April 16, 8:30 p.m.; Behind the scenes with opera highlights; reg: \$6.00/5.00; stu.-sr. citizens: \$5.00/4.00.

**WORLD'S GREATEST JAZZ BAND**

Thursday, April 21, 8:30 p.m.; An all-star jazz band; reg: \$6.50/5.50; stu.-sr. citizens: \$5.50/4.50.

**CHET ATKINS**

Friday, April 22, 8:30 p.m.; SOLD OUT.

**JOE WILLIAMS**

Friday, April 29, 8:30 p.m.; Blues balladeer formerly with Count Basie; reg: \$7.00/6.00; stu.-sr. citizens: \$6.00/5.00.

**CANADIAN BRASS**

Saturday, April 30, 8:30 p.m.; Friday School Matinee, April 29, 1:30 p.m.; A musical brass revue; reg: \$4.50/3.50; stu.-sr. citizens: \$3.50/2.50; Matinee tickets not available to the public.

**MAYNARD FERGUSON**

Saturday, May 21, 8:30 p.m.; A brass blend of big sounds; reg: \$7.50/6.50; stu.-sr. citizens: \$6.50/5.50.

**COUNT BASIE**

Thursday, June 2, 7:00 p.m. and 9:30 p.m.; Swinging Big Band; reg: \$7.00/6.00; stu.-sr. citizens: \$6.00/5.00.

—Judy Simmonds

**Killam Memorial Lecture  
with  
DR. HENRI PEYRE  
on  
THE CRISIS OF MODERN MAN  
AS SEEN BY SOME CONTEMPORARY  
FRENCH WRITERS  
8 p.m., Mar. 3, Theatre A, Tupper  
free & open to the public**

## Calendar

### FEBRUARY 17

... Theatre Dept.; two one-act Edward Albee plays: *BOX* and *Quotations from Chairman Mao Tse-Tung*; Dunn Theatre, Arts Centre, 8:30 pm  
\*\*\*

### FEBRUARY 18

... **Biology graduate seminar**, with Ed Byard on yolk proteins, molting & egg laying: a crustacean model, 4 pm, 5th floor lounge, Biology Dept.

... **Friday-at-Four** with Dr. W.F. Doolittle, *Evolution: the prokaryotic origins of eukaryotic cells*, Theatre A, Tupper.  
... Theatre Dept.'s Albee plays (see Feb. 17).  
\*\*\*

### FEBRUARY 19

... **Chinese New Year** celebration with traditional food, costumes, music and show, McInnes Rm, call 424-3774 for information.  
... Theatre Dept.'s Albee plays (see Feb. 17).  
\*\*\*

### FEBRUARY 21

... **Microbiology seminar** with Dr. David Yung in The Hansch Approach in Drug Design With Special References to Antimicrobial Agents, 1 pm, Microbiology seminar Rm, 7th floor, Tupper.  
\*\*\*

### FEBRUARY 23

... **Advanced Management Centre** seminar on Transportation/Distribution Problems. Cont on Feb. 24.  
... **Physiology & Biophysics** seminar with Prof. M. Horacek, 4 pm, Rm 3K, 3rd floor, Tupper. Subject: TBA.  
\*\*\*

### FEBRUARY 25

... **Biology graduate seminar** with Ed Mason on Dietary Requirements of lobsters; at 4 pm, 5th floor lounge, Biology Dept.  
\*\*\*

### FEBRUARY 28

... **Microbiology seminar** with Dr. R. Rajaraman on Cell Adhesion Models and Metastases, 1 pm, seminar rm, 7th floor, Tupper.  
\*\*\*

### MARCH 2

... **Physiology & Biophysics** seminar with Prof. H. Wolf on a Technique, 4 pm, Rm 3K, 3rd floor, Tupper.  
\*\*\*

### MARCH 3

... **Killam Memorial Lecture** with Dr. Henri Peyre on *The Crisis of Modern Man as Seen by Some Contemporary French Writers*, at 8 pm, Theatre A, Tupper.  
... **Community Affairs** secretariate has arranged a public lecture to be given by Paul Lin, 7:30 pm, McInnes Rm.

... **African Studies seminar** with C. Youe and Z.A. Koneczacki on *Kenya 1923: The Threat of Settler Rebellion*, 4:30 pm, 1444 Seymour St.  
\*\*\*

### MARCH 4

... **German Department** film presentation, *Karl Ludwig Sand*, 8 pm, Killam Aud.

... **Friday-at-Four** will be a student-sponsored activity, Theatre A, Tupper.  
\*\*\*

## Tickets: Four ways to get them

If you want tickets for performances at the Arts Centre, there are four ways to get them:

1. Mail orders are handled by the Box Office all through the season. For example, a letter addressed to the Box Office containing a request for two \$4 seats for "Opera As You Like It" and a cheque for \$8 made payable to Dalhousie Cultural Activities, will be answered immediately and two tickets mailed out for the performance.
2. The Box Office is open from 10 a.m. to 6 p.m. daily except Sundays. Tickets can be purchased by cash or cheque.
3. Reservations can be made in the two weeks prior to a concert, but tickets must be paid for by 6 p.m. the day before the show.
4. Tickets not picked up from reservations will be sold from the Box Office, beginning at noon the day of the show, on a first-come, first-served basis.

—Judy Simmonds