UNIVERSITY NEWS

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—from Page 1, University News, September 30, 1976

MARINE TRANSPORT CENTRE FOR DAL

By ROSELLE GREEN

A Canadian Marine Transportation Centre has been established at Dalhousie.

The initial funding will be provided by the federal Transport Development Agency, Canadian National Railways, the Province of Nova Scotia and Dalhousie.

In addition the centre will have the opportunity to compete with other institutions for a portion of federal government funds to support transportation research projects with a particular interest to Transport Canada. The centre will also be able to undertake relevant contract work from private concerns.

The centre will work closely with the transportation industry, government and users of marine-related transportation services in an effort to provide an interdisciplinary approach to the marine transportation problems that face Canada.

The director is J. Graham Day, well known in the field of marine transportation through his association with Canadian Pacific

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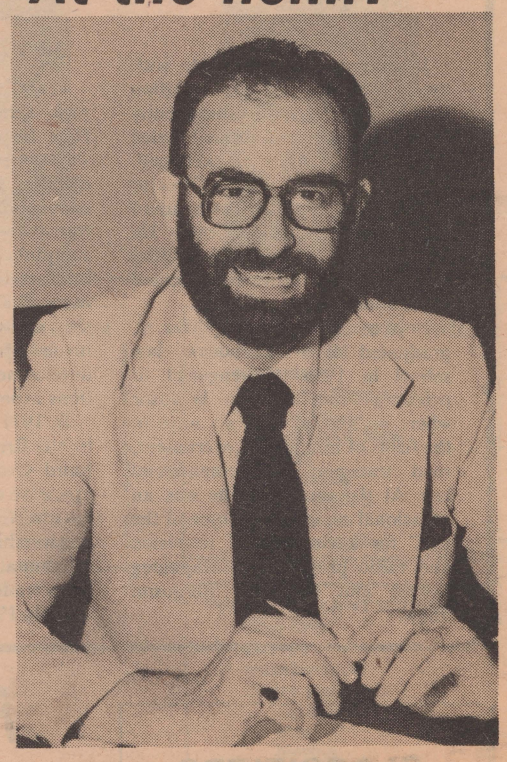
At the helm:



J. GRAHAM DAY:
Ex-Dal, ex-CP, he put U.K. shipbuilding back on the ways.

Russian success

12 Moscow-bound

"[illegible] on a firm footing, and will be an ongoing, expanding venture."

That's the word on the Dalhousie Russian Studies Program from its initiator, Professor Norman Pereira.

The program, inaugurated during the 1976-77 academic year, has two components: a Sept.-Dec. course of study at a Canadian university followed by a four-month intensive language study session at the Pushkin Institute in Moscow.

The most striking feature of last year's program was not its problems but the success it was for a first attempt. The students' assessment of the year was both positive and constructive. One person in the group submitted his evaluation in Russian—a remarkable achievement, says Pereira.

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$3.3 million DALPLEX campaign

Dalhousie last night launched a major capital fund program, **DALPLEX**, for the new Physical Education, Recreation and Athletic Centre now under construction.

Target is $3,375,000.

The centre, going up on the former practice field site south of South Street across from Studley Field, is expected to be completed in about 18 months.

Full details -- Special edition of University News, out today.

Gallery begins art treasure hunt

MAYBE 300 WORKS ON CAMPUS

The Dalhousie Art Gallery is looking for a number of lost and hidden treasures.

The treasures are works of art given to or otherwise acquired by branches of the university over the years — many before the Art Gallery ever existed as such. Mostly pictures, many of the works were hung in offices or public places and later moved to other less accessible places or storage.

Over the last year, a sub-committee of the Art Gallery Committee has drafted policies and procedures for undertaking a university-wide inventory and maintenance of a catalogue of the "external" collection. The policy and procedures have been approved by the president, Dr. Henry D. Hicks, and the initial inventory, beginning this month, will be carried out by Assistant Curator Mary McLachlan.

Gallery Director Bruce Ferguson describes the project as one whose necessity has long been recognized but only now ready to be worked upon.

"We don't know how many works there are out there," said Mr. Ferguson, "but we wouldn't be surprised to find three hundred or more."

Many of the works to be inventoried — such as the portraits in the Board Room and lobby of the law school — are familiar to the university community, but it is the others less often seen — such as those in individual offices — which are most sought.

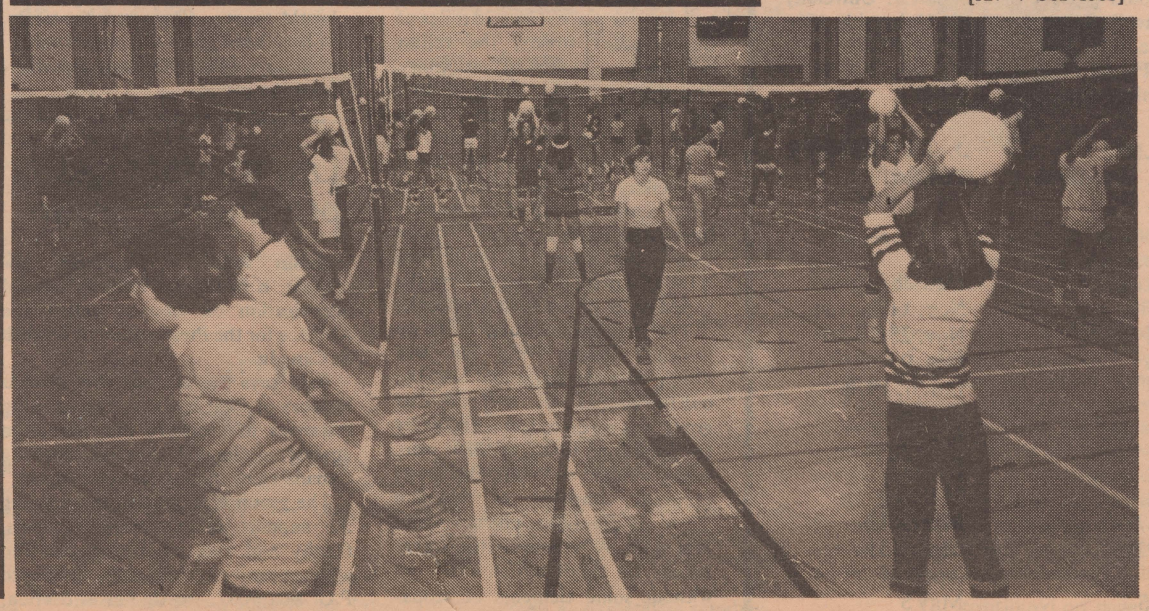
Anyone knowing the whereabouts of a work of art thought to belong to the university, and whose location is relatively unknown, is asked to call the gallery (424-2403) in order that the work may be photographed and properly recorded.

Meanwhile, Mrs. McLachlan will be calling on individual occupants of university rooms and offices to identify lost works.

SUPER SKILLS

Business was booming at the university's volleyball "Super Skills" clinic last month, as is evidenced by the numbers taking part in the gym [below].

[A/V Services]



Back at Dalhousie — after Singalong, CP, U.K. private and nationalized shipbuilders

J. Graham Day, formerly with the law department of Canadian Pacific Limited and subsequently chief executive of Cammell Laird Shipbuilders Limited, Birkenhead, England, has been named Director of the newly established Canadian Marine Transportation Centre. He has also been appointed a visiting professor in the university's School of Business Administration.

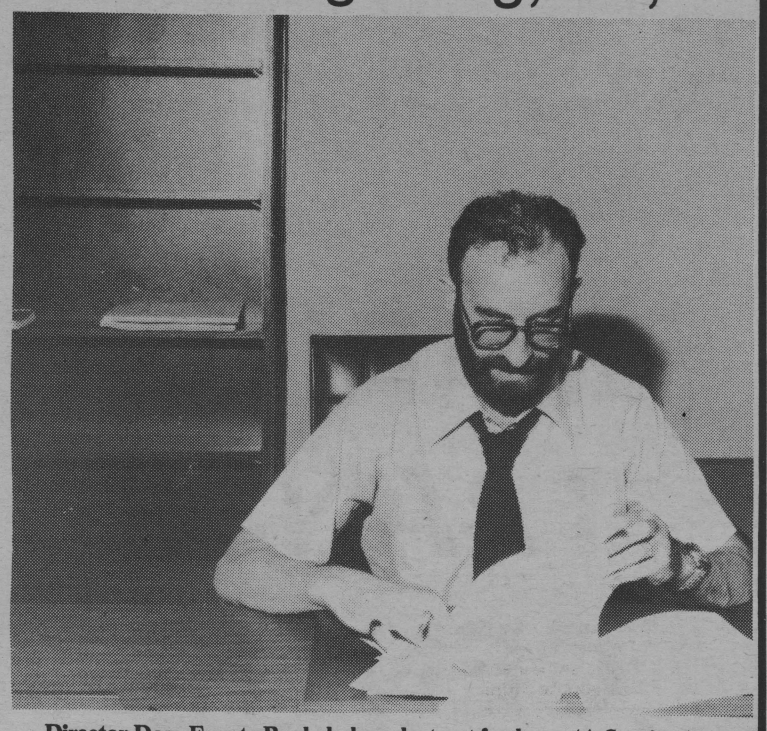
Born and educated in Halifax, he graduated from Dalhousie law school in 1956. He engaged in private practice of law in Windsor where his special interests were in the fields of municipal government, road transport and commercial law. At the same time he was an occasional contract employee of the CBC for such national television and radio programs as Singalong Jubilee and the Max Ferguson Show.

From 1964-71 he was associated with Canadian Pacific Limited. Here he was not only concerned with system administrative responsibilities but with the legal and commercial aspects of all modes of transport—railways, trucking and shipping, with special attention to international matters particularly in the U.K., Europe and Japan. On the non-transport side he was involved in the hotel, real property development and telecommunications aspects of the company.

In 1971 Mr. Day was appointed by the British government and the Laird Group Limited to be chief executive of Cammell Laird. Under his direction the company, then in receivership, underwent complete rehabilitation and for the next four years traded profitably.

From 1975 until his appointment at Dalhousie he was on special assignment to the British government's Secretary of State for Industry—initially as deputy chairman and chief executive of the organizing committee for British Shipbuilders (the new state-owned national shipbuilding corporation) and latterly as a policy adviser.

Mr. Day is married to the former Leda Ann Creighton of Dartmouth; they have three children.



Director Day: Empty Bookshelves, but not for long. (A Services)

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Marine transport centre for Dal

Limited, Cammell Laird Shipbuilders, England, and the Secretary of State for Industry in Britain.

The centre will act as an inter-institutional mechanism whereby Dalhousie faculty and those at other universities can participate in project research and design. At the same time it will serve not only as a forum for faculty, students and users in the public and private sectors who wish to meet to discuss transportation questions but allow for an exchange of personnel among the constituents concerned.

Dalhousie is ideally suited as the base for the centre. There are more than 200 researchers engaged in marine studies in areas that touch on law, business, chemistry, physics, fisheries, the environment, political science, psychology and sociology. Such studies could be reinforced by the work carried out in the centre.

Director Day says that the projects are unlimited. Some of the areas that could be examined include Canadian shipbuilding matters, fishery-related questions, possible collaboration with companies interested in Arctic shipping, port development, the impact of legal and safety regulations on Canadian vessel construction and operation, factors touching upon the establishing of a deep sea Canadian merchant marine, physical facilities and vessel requirements for economic zone management.

In the beginning, the centre staff will consist of the director and support personnel with research associates and research assistants being invited to locate in the university community at the level of marine transportation expertise and projects progress.

CLASSIFIEDS

UNIVERSITY NEWS CLASSIFIED is a new section of the newspaper for small advertisements from bona fide members of the Dalhousie University community (faculty, staff, students) and those institutions with which the university is affiliated.

The section will contain only two headings: **Wanted,** and **Not Wanted.**

It is intended for those who have items for sale, or who want to buy items, and will not affect the normal publicity given to events and activities on campus.

For further information, telephone or write The Information Office, Old Law Building.

Russia: Still a world apart

By Tina Usmiani

This past school year, 10 university students from across Canada were selected to take part in the first Dalhousie-organized Russian Studies Program. I was one of the 10.

The program, conceived and organized from beginning to end by Professor Norman Pereira of the Dalhousie History Department, consisted of a half-year of study at the student's home university, with the second half-year at the Pushkin Institute in Moscow.

Funding was provided in part by the federal government, the home universities, with the individual students making up the difference. Dalhousie master's student Rory McGreal and I also received support through the efforts of the Russian department's fund-raising activities.

Four participants from other universities chose to take their first semester at Dalhousie. As it worked out this proved to be an asset. By the time *we arrived in Moscow* we were not only good friends, but had received the same basic preparation for the trip. 'Basic preparation' meant classes in Russian grammar, history and literature, as well as a course in current affairs which covered the chief aspects of the modern-day Russian political and economic system, religion, the press, the dissent movement, and most important for us—the ins and outs of daily living. We were, for example, told not to take books by authors whose works were not permitted in the U.S.S.R. The customs official, however, did allow one student to keep a Bible.

We travelled with Aeroflot, via Paris. In Moscow we were met by the head of the Pushkin Institute and an official from the Canadian Embassy, who saw us through the rigors of document-checking and issuing of Russian money. We then traveled by bus to the University Hotel, our home for the next four months.

Early on New Year's Day we sallied forth to become acquainted with the Russian capital. Moscow is an immense place—26 x 28 miles of the broadest streets, the tallest buildings. . .a city of museums, monuments, parks, theatres and old churches. Red Square, in the heart of the city, was unforgettable.

Like everything else in Moscow it is oversized but impressive. The metro system is one of the world's finest, and apart from Red Square on a Sunday afternoon, the subway is the best place to go to observe the varied faces of the Russian people.

The Pushkin Institute, where we attended classes every day, was disappointingly small and shabby; but the courses were well-run. Our group was made to feel welcome by the professors (most of them were young women) and staff. Our study program consisted of morning classes in grammar, phonetics and oral skills. Afternoon lectures were formal, at times tedious and not without some elements of propaganda.

The institute organized excursions for us in the Soviet capital, in Leningrad, the ancient towns of Vladimir and Suzdal, the fantastic monastery of Zagorsk, as well as an exciting trip to Tolstoy's country estate.

Our stay in Moscow was filled with a variety of cultural events—plays, ballet, opera, movies, the incredible puppet theatre, the circus, hockey games; tickets were cheap but hard to get.

One impression that has remained with me is the Russian's love of books. Books are cheap; one can see people reading everywhere. The classics, however, are hard to come by.

It is difficult for me to give a general, cut-and-dried opinion of the Russian people, because they are complex and even paradoxical. They represent an impressive set of lofty ideals and theories, yet inwardly the country is riddled with a thousand inefficiencies. The people often appear cold and abrupt, but at the same time can be warm-hearted almost to the point of excess. Those whom I got to know better were friendly, hospitable, curious about us and our life in Canada.

Russia truly is even today a 'world apart'. . .I am very grateful to have been given the opportunity to observe this fascinating country from the inside.

UNIVERSITY NEWS

UNIVERSITY NEWS is published by Dalhousie University every two weeks between September and May.

Inquiries and contributions should be sent to The Editor, University News, Information Office, Old Law Building, Dalhousie University, 1236 Henry Street, Halifax, Nova Scotia, B3H 3J5. Tel: 902-424-2517.

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Following is the paper's publishing schedule for 1977-78:

Volume 8 1977-78	DEADLINE (5 p.m., Tuesdays)	DATE OF ISSUE (Fridays)
4.	Oct. 18	Oct. 28
5.	Nov. 1	Nov. 11
6.	Nov. 15	Nov. 25
7.	Nov. 29	Dec. 9
8.	Dec. 27	Jan. 6, 1978
9.	Jan. 10	Jan. 20
10.	Jan. 24	Feb. 3
11.	Feb. 7	Feb. 17
12.	Feb. 21	March 3
13.	March 7	March 17
14.	March 21	March 31
15.	April 4	April 14
16.	April 25	May 5

Law student heads pro-English group

Robin Reid, a Dalhousie law student, is heading a recently formed organization on campus called the Alliance for the Preservation of English in Canada.

Reid says the alliance was formed because of what he calls "the growing instances of arbitrary discrimination against unilingual English-speaking Canadians by the federal government."

The group is interested in receiving the support of interested students, faculty and staff at Dalhousie. The alliance can be contacted by writing to P.O. Box 7067, North Postal Station, Halifax, B3K 5J4.

Reminders

Reminders to students and faculty:

The no smoking rule still obtains for all classrooms.

Drinking is permitted, providing no unnecessary clean-up problems are caused.

If classrooms are locked, phone Security—6400.

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Russian success

Twenty-one qualified applicants were reviewed for this year's program. Twelve (of whom three are francophone) have been admitted, compared to the ten who made it last year. The quality of the candidates is better and history professor Pereira is looking to a class of 15 next year.

Dalhousie has awarded a $500 scholarship to Brenda Mizerit, a local student. In addition, Atlantic Canada Council on Russia grants have gone to Heather Smith of Halifax and Lucie Dorval of Montreal. Six of the candidates have opted to take their first semester at Dalhousie.

The candidates and their home universities are:

Brenda Mizerit, Dalhousie; Lucie Dorval, Dalhousie; Heather Smith, Dalhousie; Catherine Koutchougoura, McGill; David Shey, University of Calgary; John McKenna, McGill; Darcy Gillies, University of Alberta; Eugene Pjawk, University of Manitoba; Patrick O'Leary, Carleton; Ivy Lenardon, University of Alberta; Paul Konyk, Queen's; and Irene Szkudlarek, Queen's.

What the V-Ps do

The duties of the four vice-presidents at Dalhousie have been re-assigned.

Dr. Henry D. Hicks, the president, has announced changes in the Office of the President as a result of the retirement of Dr. C.B. Stewart as Vice-President (Health Sciences).

The **Vice-President, Dr. W. Andrew MacKay,** assumes responsibility for all the external relations of the university, for planning and forecasting, and for the week-to-week supervision and co-ordination of the health-related faculties.

Dr. Guy R. MacLean, Vice-President [Academic and Research] continues with his responsibilities for the supervision and co-ordination of the remaining faculties (Administrative Studies, Arts and Science, Graduate Studies and Law). In addition he has responsibility for research in the university generally, for the several special institutes and for publications. He will also be responsible for Student Services, the Registry and Cultural Activities.

Donald H. McNeill, Vice-President (Finance) is responsible for the financial management of the university, including the important and difficult budgeting processes, to which all vice-presidents and deans contribute. The main co-ordination responsibility rests with Vice-President McNeill and Vice-President MacKay.

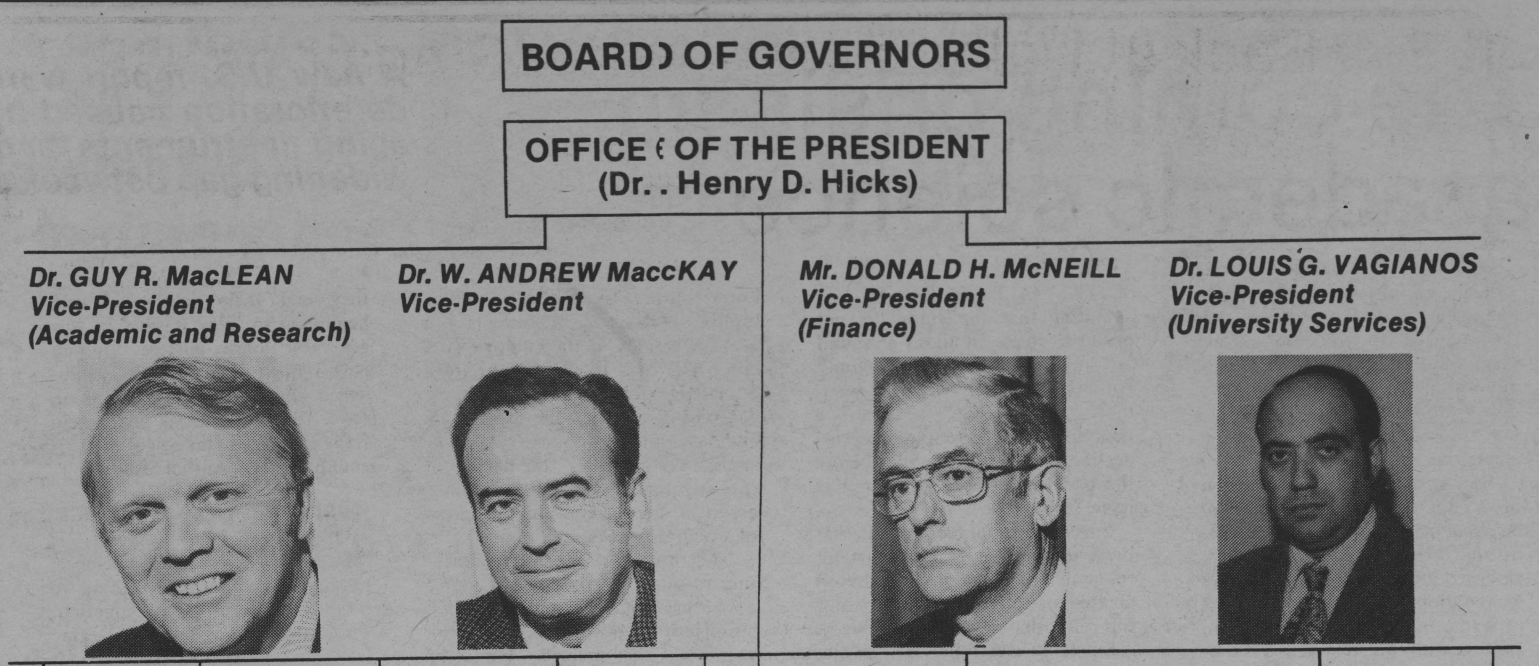
Dr. Louis G. Vagianos, Vice-President [University Services], now assumes responsibility for nearly all aspects of university services under the general headings of Communications, Physical Plant, Administrative Services, and now including Personnel and Purchasing. In addition, he also assumes responsibility for Administrative Systems Design and Development, and areas in which the co-operation of the other vice-presidents, deans and other officers of the university is essential.

Dr. Hicks emphasized that the Office of the President was a single, integrated unit, and one that was indivisible, with the responsibilities being shared by the four vice-presidents.

"The new administrative structure chart will, however, indicate to members of the university how the essential responsibilities in the office will be normally divided among the president and the vice-presidents.

"Notwithstanding the apportionment of the duties, the deans, department chairmen and other members of the university will continue to have access to the president, and I expect deans to keep me directly informed when policy changes are being considered."

The changes are effective immediately.



Guyana PM to be honored

A Prime Minister and two university presidents will be awarded honorary degrees at Dalhousie's fall convocation on Oct. 24.

The recipients are:

Hon. **LINDEN FORBES SAMPSON BURNHAM**, Prime Minister of Guyana;

Dr. **MOSES OSBORNE MORGAN**, president of Memorial University; and

Dr. **ROBERT W. BEGG**, president of the University of Saskatchewan.

Mr. Burnham was born in 1923 in Kitty, a rural district in what is now part of greater Georgetown. He received his early education in British Guiana (Guyana), studied law in London, and was called to the Bar in 1948.

On his return to Guyana he helped found the People's Progressive Party, acting as the party's first chairman. Following a split in the party, he founded and became leader of the People's National Congress in 1957, serving as a member of the Legislative Council (now known as the National Assembly) and Leader of the Opposition until 1964, when his party came to power.

During the 1960s he participated in four London constitutional conferences.

Mr. Burnham was responsible for steering his country to independence from Britain in 1966, ending over 200 years of colonial rule. In 1970 Guyana was declared a co-operative republic.

Prime Minister Burnham

Re-elected prime minister in 1968 and 1973, he has worked consistently for Caribbean integration, especially through economic links with Carifta and Caricom — a group of English-speaking Caribbean countries which created both the Caribbean Community and the Caribbean Common Market. His government has shown support for Third World solidarity but has pursued a policy of non-alignment.

Mr. Burnham was named a Queen's Counsel in 1960 (now redesignated as Senior Counsel). He is a former president of the Bar Association in his

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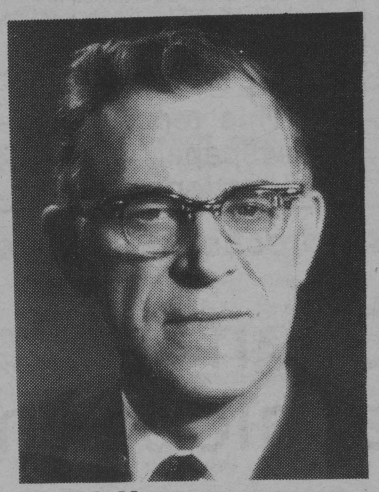


Dr. M.O. Morgan

Dr. R.W. Begg

World Council of Churches head to speak at Dal

Dr. Philip A. Potter, General Secretary of the World Council of Churches, will give a talk entitled "Wealth in the West and Poverty in the Rest: a Church Perspective", on Sunday, Oct. 16 at 3:30 in Shirreff Hall.

Dr. Potter, a native Dominican, holds the top working job in the World Council of Churches. His background is with the Methodist ministry but as a world churchman, Dr. Potter comes in contact frequently with other world church people, including the leaders of the Anglican, Orthodox, Catholic, and Protestant churches. He does, however, still spend much of his time working with the young—students, the poor, and minority groups. The public is welcome to attend this "Encounter with Philip Potter."

Fund-raising coffee party and sale on tomorrow

The annual fund-raising coffee party and sale organized by the women's division of Dalhousie Alumni Association will be held at Shirreff Hall tomorrow (Saturday) morning from 10:30 until noon.

Proceeds from the event are used for prizes and scholarships, and to assist the funding of other projects, such as redecorating the reception room in Shirreff Hall.

Beginning this fall, two $750 entrance scholarships will be awarded from the division's scholarship fund.

The coming crisis in academic science

A new U.S. report warns of a spreading deterioration caused by declining funds, aging instruments and facilities, and a widening gap between departments

By Daniel S. Greenberg
Washington

Academe's top science departments have successfully weathered the financial difficulties of recent years, but the continuing high quality of their work masks a deterioration that is rapidly spreading through the entire scientific enterprise.

That is the principal conclusion of a new study, *The State of Academic Science: The Universities in the Nation's Research Effort,* financed by the National Science Foundation.

Written by Bruce L.R. Smith, professor of government at Columbia University, and Joseph J. Karlesky, assistant professor of government at Franklin and Marshall College, the report is based on an 18-month survey that included visits to 36 universities and consultations with over 750 administrators, researchers, and graduate students.

'TREMENDOUS INERTIA'

Also drawing upon a variety of previous studies of the nation's research activities, *The State of Academic Science* represents the most extensive recent examination of university-based research programs, including finances, manpower, productivity, and future prospects.

Charles V. Kidd, executive secretary of the Association of American Universities, which helped initiate the study, says in a foreword:

"The conclusion to be drawn from the continuing flow of first-rate scientific discoveries is not that the outlook is good, but that our vast and powerful system for academic science has tremendous inertia and that there is a big lag—often several years—between the initiation of experiments and disclosure of findings.

"The recent decay of the system will not be clearly manifest for several years. By that time, unless corrective action is taken, the motion of the system will be as strong downward as it was upward in the 1960's. If this is permitted to happen, we will have to restore the health of the enterprise and the nation will be weaker for its lack of foresight."

'POTENTIALLY SERIOUS'

Stating that the study "is not meant to strike an alarm or sound an unjustified note of gloom," authors Smith and Karlesky warn that "we do see, however, a possibility of a potentially serious decline in research capability before the problem emerges as a public issue."

Specifically, they point out that the erosion of federal support for research and training has already created a stratified system in which top-rated departments continue to compete successfully for government research funds while lower-ranked departments have been forced to curtail their research programs.

They point out, however, that even the most successful departments are now encountering difficulties, mainly as a result of inflation, a shortage of funds to replace aging instruments, and massive increases in government red tape—although the effects of these problems are obscured by their continuing scientific productivity.

Even if public policy should move toward heavy support for a few elite departments, they continue, the erosion of the nationwide base for research will still have a deleterious effect on the overall quality of science.

"The weakening of other parts of the research network might gradually ripple through the entire system," Mr. Smith and Mr. Karlesky say. "There could be fewer opportunities for the most creative scientists to synthesize in their own theories the empirical work of others, less scientific activity at the periphery that feeds the mainstream of a discipline's development, and potentially fewer well-trained and highly motivated students attracted to the main centers of scientific activity."

'DECLINE OF SUPPORT RESOURCES'

"Besides serving its unique role as an incubator for the next generation of scientists," the report continues, "the university is also engaged in the transmission of knowledge to the public. It could be highly undesirable if students in a certain region of the country were cut off from exposure to the most creative thinking available."

Cited as perhaps the single greatest difficulty facing the research enterprise is "the decline of the supporting resources that are essential for the continual progress of university research."

"As investigators spend increasing amounts of time maintaining and repairing aging equipment, or simply doing without new instrumentation they believe essential to new lines of inquiry, a subtle process of erosion begins to affect the research environment," the report says.

Noting that government support for research and development plant and equipment dropped from $126-million in 1965 to $29-million in 1974 (it rose to $$44.8-million in 1975), the report says, "Our site visits confirmed the general picture of gradual deterioration in the instrumentation base. A number of universities have postponed the replacement of equipment and deferred maintenance during the period of budgetary stringency."

The authors also say that "nearly all chairmen interviewed in our site visits reported a marked increase in time spent seeking grants," adding that "the grant acquisition process, in brief, has not merely become more competitive—an unavoidable consequence of a larger number of scientists seeking limited funds—it has also become more elaborate, time consuming, and bureaucratized.

"One social science research center," they continued, "has a rule of thumb: Seven proposals must be submitted in order to win one grant or contract. A 1:7 success ratio in the preparation of extensively documented proposals gives some indication of the professional time spent to secure funds."

A tendency to avoid risk and opt for "safe proposals" is cited as one of the effects of the shortage of research funds. "Senior investigators in all science fields voiced concern during our site visits that they and their colleagues were beginning to 'play it safe' in this generally more austere funding environment, sticking to established lines of inquiry and taking fewer chances on novel and potentially high-payoff investigations that could fail," the authors say.

'LESS SPECULATIVE SCIENCE'

The effect, they suggest, is "toward a less speculative science, taking fewer chances, sticking to established lines of investigation. The situation now seems the same for the established investigator, for the agency program official, and for the graduate student. 'Playing it safe' becomes the path of least resistance.

"By no means have these attitudes become the norm among university scientists or program officials. But the trends appear to point in those directions; unless they are checked, the consequences for American science could be serious."

The report emphasizes that the continuing excellence of the top layer of American academic science contributes to a complacency that could have disastrous consequences.

"The evidence of deterioration in the underlying infrastructure for science is now extensive," the authors warn. "Facilities are becoming outdated; there are difficulties providing adequate maintenance for facilities; and less discretionary money is available for departments to 'fill in the gaps' and tide investigators over periods of uncertain support for their work."

Another effect of these difficulties, they add, is a loosening of the traditional links between research and education, as specialized institutes are established in response to the mission-oriented objectives of government agencies. Researchers, hard pressed for funds, find such institutes convenient for the continuation of their work. The trend, however, has developed without serious consideration of the effects that it produces on the educational process, the authors observe.

'SLIMMED DOWN' SYSTEM

Acknowledging that Ph.D. programs may have overexpanded during the 1960's and that "some of the research undertaken a decade ago was of less than first-rank quality," the report says that "the most appropriate alternative is a somewhat slimmed down but still broadly based and competitive system, with vigorous ongoing scientific activity in numerous universities across the country."

Stressing the importance of competition in scientific activities, it states that "the competitive pressures in the system can. . .operate quite effectively with, say, 50 strong departments competing for research funds in a certain field in contrast to twice that number. But could such competitive pressures work equally well if there were only 15 serious producers of quality research in a given scientific field?

"Is it enough," the authors ask, "for the nation to have a relatively small number of clearly elite centers of scientific excellence?"

There has been no serious public debate of these issues, they observe. But among the few recommendations they offer is one for a "somewhat slimmed" system in which strongly competing science departments would benefit from a government support system that would supplant research funds with formula grants to support the infrastructure for research. "Although this support formula would not persuade a university with little or no research capacity to compete for projected funds," they state, "it would provide those already committed to research a small amount of funds for equipment needs, start-up grants for young faculty, research assistants, or other special research purposes."

The State of American Science was published by Change Magazine Press. The publication was assisted by a grant from the Alfred P. Sloan Foundation. A companion volume of supporting material will be published in November.

This report first appeared in the U.S. newspaper, The Chronicle of Higher Education.

Members of the Dalhousie research community comment on the report on Page 7.

Rapprochements: Ideas that might bring us together

OPINION

Changes in Quebec Language Charter favour anglophones, but they've been overlooked

By David Braybrooke
Professor of Philosophy and Politics

Writing in **The Globe and Mail** almost two months after the Parti-Québécois withdrew Bill 1 and brought in Bill 101 to replace it, the newspaper's Ontario-Legislative correspondent was referring to "the current assertion of the Parti Québécois that French has always been the language of the people of Quebec." In fact, the PQ ceased making this assertion when it dropped Bill 1, though hardly anybody in English-speaking Canada seems to have noticed.

Bill 1 did say in its preamble, "The French language is and always has been the language of the Quebec people." But what Bill 101—now the law as the Quebec Language "Charter"—says is that French is "the distinctive language of a people that is in the majority Fre. h-speaking." That phrasing recognizes as part of the Quebec people a minority who are not French-speaking.

The change in the conception of the Quebec people is not the only important point on which Bill 101—the new law—has not received much credit for being different from Bill 1. The vexed question of who shall be able to send their children to anglophone schools in Quebec has preoccupied the media and the public of English-speaking Canada. So there has not been time or attention to notice that the Charter as passed does not override the human rights legislation of Quebec, as Bill 1 proposed to do.

LESAGE QUESTION

Bill 1, in fact, had a clause that deliberately set aside for purposes of the language legislation the human rights act which Quebec, matching the other provinces with such acts, passed only fairly recently. Bill 101, and the law as passed, has dropped this clause. Was this not worth noticing, too?

Worth noticing, furthermore, is the fact that on both points, the leadership of the Parti Québécois had not had to face protests just from anglophones—from the English-speaking minority inside Quebec, or from people in the surrounding provinces. They had been showered with vigorous and widespread criticism from within the francophone sector of the Quebec public.

Ex-Premier Jean Lesage, inactive in recent Quebec politics, came forward to question the implication that anglophones, for example, did not belong to the Quebec people. "Who is a Quebecker?" he asked, and indicated that a narrow answer would not do.

The implication was also attacked vigorously by **Le Devoir**, the elite Montreal newspaper, as well as elsewhere in the francophone press. (**Le Devoir** has long been the chief medium of expression for the francophone intelligentsia. It has taken a line quite independent from the PQ's.)

The editor of **Le Devoir**, Claude Ryan, wrote that a distinction on linguistic grounds as to who properly belonged to the Quebec people had no place in legislation. "In a democratic state, the first point assumed is the equality of all citizens before the law. Whatever their social condition, the extent of their education, the color of their skin, their religion, their race, their material possessions, all citizens are considered equal in the eyes of the legislator."

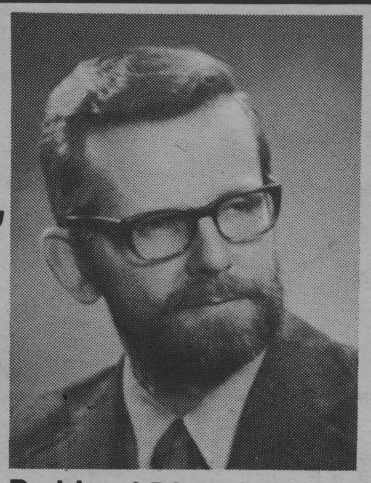
SELF-EVIDENT

Contrary to the preamble of Bill 1, Ryan held that one should say simply, "All the citizens who reside in Quebec and pay taxes there are Quebeckers fully, without question." He went on, "It would in fact have been better had there been no need to say it, since one ought to have been able to take such a self-evident truth for granted."

In his editorial, Ryan was able to cite approvingly the objections pressed against Bill 1 by the Quebec Human Rights Commission, a body itself largely francophone in make-up, with a francophone chairman and francophone vice-chairman. The commission, too, had denounced the preamble for according minority groups at best only a marginal part in Quebec culture, which was going to be "francophone by

continued on page 11

"Bogged down in a morass of red tape. . . by a bureaucracy interested chiefly in self-maintenance"



By Lloyd Dickie

In a number of respects the situation in Canada is worse than it is in the United States, although some of the recent causes of difficulty are similar. Canadian research in general, but in science in particular, grew more slowly and later than in the United States. Furthermore, in Canada, partly because of high foreign ownership of industry, a high proportion of it has been concentrated in government or has been directly dependent on support from existing government departmental programs. This has created our own particular difficulties.

The situation in which we find ourselves seems to stem from the typical Canadian penchant for feckless self-examination, exemplified by the Science Secretariat (later Science Council) and Senate Committee on Science Policy. The declared purpose of increasing the efficiency of use of science by society quickly became ensnared in the problems of "information" and the semantics of arguments over national goals. The reasonable attitude of "holding back" until we "find out where we are going" is the flimsiest and simplest justification for cutting budgets. And so the cutback in rate of funding to the MRC, NRC and Canada Council began long before we had the additional excuse of economic downturn.

This extra constraint on Canadian research spending has meant that we are seeing the fruits in exaggerated form. In the sciences the problem of renewal and maintenance of equipment has become acute. The federal grants which purchased equipment for universities were never overly generous in relation to federally operated research institutions. Provincial revenues have never been adequate to maintain equipment, let alone replace or up-date that which found its way into teaching programs. At the university both research and teaching have suffered for equipment alone.

More serious for the university component has been the growth of the complexity of administration of the funding system. The laudable goals of the policy of "Make or Buy?" for federal government research are increasingly bogged down in a morass of red-tape administered by a bureaucracy interested chiefly in self-maintenance. The inevitable result is an unwieldy system of application reviews, referees, departmental sponsorships and advisory committees which ensures that only the smallest, least important, and conventional of the outside research bids are successful. As government programs are cut back, the outside contract becomes an impossible luxury if not a competitive threat. This is topped off with a new federal policy for science under MOSST which has all the earmarks of creating a civil servant czar of university grants in Canada. The increasing stress on university support from provincial sources leads them to the formation of their own "protective" organizations such as the MPHEC, which, under the superficially supportable aims of increased efficiency, are always merely regulatory valves which constrict the possible rate of change by stealing some of the autonomy of the system units. The prospects for deterioration of creative activity in such systems is ominous indeed as

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Timid, cautious

LET US SHOUT

By Chris Pielow

The State of Academic Science can hardly do other than "strike an alarm" notwithstanding its authors' disclaimer. And so it should. For the scientists of the western world not to be alarmed, and not to take whatever remedial action is possible, would be irresponsible. It appears that the U.S. government, like ours, is starving research.

It is hard not to be cynically amused that the U.S. government should follow the path picked out for itself by the Canadian government, the timid, cautious path into a maze of unambitious, risk-free "projects"; or were we not the leaders even along **that** shameful path?

If the U.S. abandons its enviable scientific status (and that is what the report predicts), Canada has a choice. We can sink with them. Or we can, so far as our means allow, take a few chances and go out of our way to support the unorthodox and original: endeavours that offer spectacular pay-offs (perhaps) rather than those that guarantee peanuts.

It isn't hard to guess which of these alternatives the government will choose spontaneously unless we, as scientists, make ourselves heard. Let us shout.

"Complex . . . a matter of entire political climate"

By Robert Rosen

I think that the material presented in the article is correct as far as it goes. But it is only a part of a larger picture, which needs to be considered if the phenomena the author discusses are to be properly understood.

The "golden age" of science support in the Sixties in the U.S. was precipitated by the Russian launching of Sputnik and the international context of the Cold War. Up until then, the prevailing official view was that the Russians could only steal science and technology from the West; Sputnik destroyed this view because we as yet had no such capability.

The questions then were: who was to blame, and what should we do about it? The scientists could not be faulted; they claimed lack of adequate support. Thus, the pressure fell on the sources of support; i.e. on the Congress. Since the Congress did not want to be held at fault, it responded in the only way possible; it made available an enormous amount of money. As a result, American science spurted ahead, overtaking and passing the Russians in the visible areas.

The initial pressure is now off. Many factors, including inflation, the social upheavals of the late sixties, and suspicion of science have not only sharply curtailed the level of research support, but have made Congress very critical in overseeing the way in which research money is spent. The burden has thus shifted to the administrators of funding programs, to justify what is spent (instead of on Congress to justify not spending).

To prove themselves, the funding agencies have indeed settled into "safe" programs. A "safe" program is one which imitates what has succeeded in the past (at least in the eyes of the Congress) and is hence unassailable. In practice, such "safe" programs amount to the exploitation of particular familiar scientific technologies. Much of what passes for fundamental scientific research is in fact (as it has always been) virtuosity in the manipulation of these technologies.

At the same time, in the Sixties, the government sought directly to strengthen the universities, which were looked upon as the main source of scientific productivity. Large umbrella grants were then available from several sources; these tended to be subject-oriented rather than mission-oriented. As a result, new nuclei of research developed, often of an innovative and interdisciplinary character. The traditional departmental structure, which had been the basis of education in the university, was thereby weakened. The departments viewed this as an erosion,

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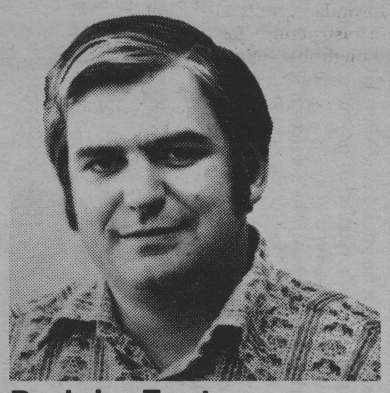
"Playing it safe" can be a dangerous game



By John Fentress

The first and obvious point is that Greenbergs' article refers to the U.S. situation and not the Canadian situation. In my view Canadian research funding, at least from the National Research Council, operates with less red tape than its American counterpart. Further, there is not the "rags to riches to rags" syndrome here that one finds in American science where an investigator may have a colossal grant one year and no funds the next. Funding is at a somewhat lower dollar level per investigator in Canada but a greater proportion of applications are funded. Certainly the 1-7 success ratio mentioned in this article does not relate to my experience in Canada.

Members of our department (admittedly a strong one) succeed in obtaining research funds in well over 50% of their submitted applications. I could go so far as to say that very few really solid applications in Psychology go unfunded; less-than-solid applications should not be funded.

The problems concerning deteriorating facilities and the like cannot be attributed solely to outside research funds obtained by individuals. A related issue is the appropriate distribution of funds already available within the university.

For example, although the Life Sciences Centre is relatively new, signs of wear and tear can be seen. While these will not produce a crisis situation in the next few years they may well do so within the next decade unless Dalhousie obtains and applies sufficient funds to keep the physical plant in good shape.

Many in science believe that we have entered a "Dark Age" in which true and free exploration of nature's secrets has been, or may soon be, replaced by narrowly defined "practical" goals. When this happens technology replaces science.

I agree that there is a danger that conservatism (i.e., "playing it safe") may preclude exploration of some of nature's most illuminating secrets. One question, of course, is what we want science to do for us. If science is simply to cure cancer and make money that is one thing, but if science is to broaden our philosophical awareness and appreciation of the world in which we participate, that is something quite

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"Satisfies bureaucratic, political goals"

By Peter Ruderman

To me, the main difference between the U.S. and Canada is that the general level of support for scientific research in the U.S. is higher on the average but subject to more short-range fluctuations. Sometimes they have more money than they have decent investigators and spend it on pretty crappy projects, while in other years things get tight. Things usually seem worse to American investigators because many of them have to hustle their own salaries from grant sources while in most granting agencies in Canada it is infra dig to pay the principal investigator.

Canadian research policy is more consistent, but it is consistently worse. In the field with which I am best acquainted (national health grants) the emphasis on mission-oriented research reflects a deliberate choice by the federal government to use university research capability for the solution of problems that have short-run impact, particularly on health care costs, rather than anything else. There is a bit of an old-boy network too, and the best people and projects are not necessarily the best-supported. The relatively rapid turnover of the directors of the health projects branch in the Department of National Health and Welfare in recent years mirrors the frustration of the better class of Civil servant.

So far as I am concerned, science policy in Canada in general satisfies political and bureaucratic goals rather than social or intellectual ones, but I suspect we are not alone in that. Some countries don't have any goals in this area at all!

Equipment hard hit

The situation in the Maritime provinces and Canada is similar to Greenberg's summary. Equipment obtained about 10 years ago has deteriorated and badly needs replacing. In the medical field some of this equipment is required for regular diagnostic or treatment use. Many of our advanced capabilities for diagnosis and treatment are initiated by research projects.

Local research in the medical field ensures that some physicians and scientists are abreast of most recent developments in their fields; this results in rapid application of new techniques in health care for the Maritimes.

Recent changes in cost-sharing with the federal government have placed dollars previously earmarked for support of health care into general provincial funds.

The province has shown very little interest in supporting research; in fact, within the health care area it has been definitely antagonistic. With the federal government becoming less interested and the provincial government at best disinterested, we will see an accelerated deterioration in medical research and associated health care.

Department of Physical Plant services

ACCOUNTING AND BUDGETING

Manager: Mrs. Janet Lutz 7034/2470

This group maintains the records necessary to keep track of costs of Physical Plant operations. Part of this record-keeping includes the processing of work order requisition forms. These forms, introduced in July, 1976, constitute an integral part of a cost monitoring and budget control system.

With the exception of genuine emergencies, these forms are required for requesting work to be performed by Physical Plant personnel or for obtaining cost estimates for a particular job.

Charges for building maintenance problems are incurred within Physical Plant budgets, which have been approved on a planned maintenance basis. Work which does not fall within this category which is requested by departments must be paid through departmental accounts. Such costs involve both labour and materials.

Accordingly, work order requisitions, complete with authorized account number and signature, must be forwarded, care of Accounting Services, before any work is initiated. Supplies of the forms are available on request.

During normal working hours:
Inquiries re- work orders -
Mrs. Joyce Brown 2470
General inquiries -
Mrs. Janet Lutz 2470 / 7034.


LUTZ

GENERAL MAINTENANCE

Director: Charles Roberts 2470

This unit is responsible for general maintenance activities relating to university buildings, houses and grounds, including carpentry, painting and electrical work. Problems relating to garbage and snow removal, fence replacement, pest control, drain cleaning etc. should be directed to the grounds maintenance crew. General Maintenance Services also undertakes renovations and alterations to existing facilities.

As is the case with other units, departments must submit work requests on work order requisition forms to the Accounting Services unit for work to be performed by Physical Plant personnel.

Emergencies, situations requiring immediate attention should be reported to one of the shops listed below.

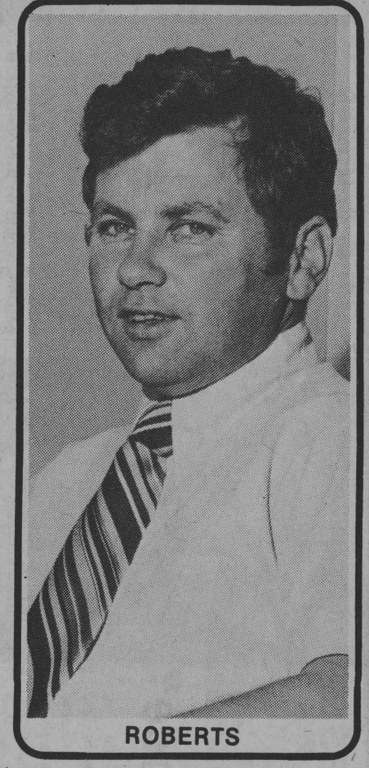
During normal working hours:

Carpentry - H. MacDonald		2285
Electrical - B. MacDonald	3403 /	3545
Elevators - W. Faulkner		2470
Lamping - W. Collins	3403 /	3545
Grounds - D. Dowling		3302

Inquiries re:

Renovations	- C. Roberts 2470
General maintenance	- W. Faulkner 2470

Outside normal working hours:
Emergency maintenance calls - 3403


ROBERTS

OFFICE SUPPORT

Director: Mrs. Bernice Macdonald 2246

The following services are provided by this unit:

1. **Deliveries**
2. **Mail**
3. **Service contracts**
4. **Telephones**
5. **Word processing**

1. Delivery services: The university has a small station wagon available at no charge to departments for pick-up and deliveries in the Halifax-Dartmouth area, and for taking items not acceptable to the university mail system, around campus. For large, bulky and / or heavy items that have to be moved from one building to another, or for the transportation of quantities of tables and chairs, a half-ton truck is available.

Requests for deliveries or pick-ups by the station wagon on a random basis should be made by calling 2470. If regular pick-up / delivery service is needed, contact Mrs. Macdonald at 2246.

For trucking service, a work order requisition form must be submitted to Accounting Services. Special projects requiring an extended use of the service should be

2. Mail service: A detailed description of the university mail service can be found in the 'User's Manual for the University Mail System,' copies of which are available on request from Mrs. Macdonald, 2246.

For problems and general inquiries: Mr. Slaunwhite, 3720.

3. Service contracts: This unit maintains detailed records on all items of office equipment in the university, including those covered by service contract. Service contract invoices are also forwarded to the appropriate department for authorization of payment.

Inquiries - Bob Stewart 2246

4. Telephone services: The services offered by this unit include:

a. arranging all installations, disconnections and changes of telephones with Maritime Tel & Tel;
b. processing bills for telephone equipment rentals and long distance calls;
c. publishing and updating the Dalhousie Telephone Directory;
d. compiling the listing for Dalhousie University in the Halifax / Dartmouth telephone directory.

Installations, Disconnections and Telephone Changes

Requests for installation, relocation or removal of lines and instruments must be submitted in writing to Telephone Services by

Processing bills for equipment rental and long distance calls

Each month the telephone section receives all long distance bills charged to university telephone locals. These bills are forwarded to the head of each department for authorization for payment. When each bill is returned, complete with account number and authorizing signature, the telephone section arranges for the transfer of funds with the Business Office. Reminders for the return of overdue bills are routinely sent to departments after 14 days.

Where a telephone bill usually requires a distribution of charges to a number of accounts, a toll charge voucher is used to itemize the breakdown. This form is sent out to the department along with the telephone bill. Additional forms are available by calling 2246.

Payment for personal telephone calls by cash or cheque is acceptable. All cash payments must be forwarded through the messenger service or paid in person. **No cash payments may be made using the mail service.**

Tracing of calls: A department may request that the telephone company check a particular telephone call. The following information can be obtained: the name and address associated with the telephone number specified on the bill. These queries must be co-ordinated through Office Support Services.

session in September. As the need arises, updates to the directory are printed and distributed.

A reminder is circulated to all departments prior to annual publication. This states the deadline date for submission of changes to the directory and the quantity of directories which will be shipped to departments (based on the order from the previous year unless other instructions are noted). Notices are also placed in **University News** advising departments of the deadline dates for updates to the directory.

Change forms are provided at the back of the directory for reporting errors, omissions or changes. It is helpful if changes are brought to the attention of the Telephone Section as quickly as possible since they are noted by the operator providing directory assistance at the main switchboard.

Inquiries - Mrs. Ann Beazley 2246

The Halifax / Dartmouth Telephone Directory: Subject to the approval of the university administration, this unit compiles the listing for Dalhousie University in the Halifax / Dartmouth telephone directory.

Word Processing

The word processing centre, established in April, 1977, provides a specialized form of typing support to university departments. The centre handles two types of applications: the typing of form letters and repetitive material, and the typing of material which will undergo a series of revisions.

Further information pertaining to centre

booked at least one week in advance.

All emergency requirements during the working day should be directed to Mrs. Janet Lutz at 2470.

There is no messenger or trucking service after 4 p.m.

the administrative unit of a department so that arrangements can be made with the telephone company to complete the work requested.

Inquiries - Steven Sloan 2246

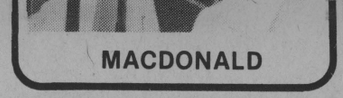
Inquiries - Mrs. Sally Cresine 2246

The Dalhousie Telephone Directory: A new edition of the Dalhousie Telephone Directory is published and distributed to all departments once a year. This normally coincides with the beginning of the regular academic

policy, procedures and charges can be found in the "Word Processing Procedures Manual," copies of which are available on request from Mrs. Mona Darnbrough (2470).

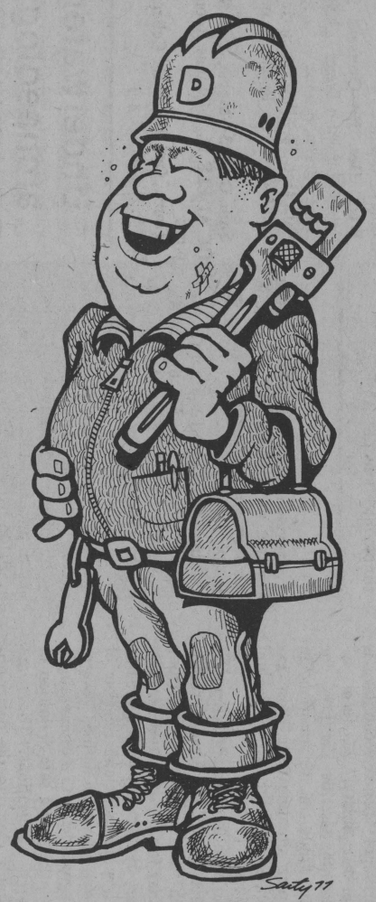
During normal working hours:

Inquiries - Mrs. Darnbrough 2470



MACDONALD

MECHANICAL MAINTENANCE



Director: Roger Jollimore 2470

The principal responsibility of Mechanical Services is the operation and maintenance of the heating, plumbing, refrigeration and ventilating systems of all university buildings. This unit also performs special mechanical jobs on request (e.g. the installation of a new sink or plumbing facilities). As in the case of Cleaning and General Maintenance services, such requests must be submitted to Accounting Services on a work order requisition, complete with authorized account number and signature.

All heating and ventilation problems should be reported directly to the Mechanical Maintenance workshop as indicated below. This includes problems being experienced in those buildings which are being regulated by the computerized energy control system.

During normal working hours

Mechanical Maintenance Mr. A. Neilsen 3403/3345
(Plumbing, heating, refrigeration and ventilation)
Dalhousie Ice Rink Mr. Harold Hayes 2470
General inquiries Mr. Roger Jollimore 2470

Outside normal working hours:

Emergency maintenance calls 3403

Normal shop hours in the Department of Physical Plant are 8 am to 4:30 pm.
Normal administrative hours are 8:30 am to 5 pm.

JOLLIMORE

Cartoons by Derek Sarty.

Photos by A/V Services.

CLEANING

Director: Gordon Leece 2470

The cleaning of university buildings (including houses occupied by departments), special cleaning jobs such as carpet steam cleaning, and the setting up of furniture is the responsibility of the Cleaning Services unit. With the exception of genuine emergencies, all requests for special cleaning and set ups must be submitted on a work order requisition form and forwarded, care of Accounting Services, at least 7 working days in advance of the desired completion date.

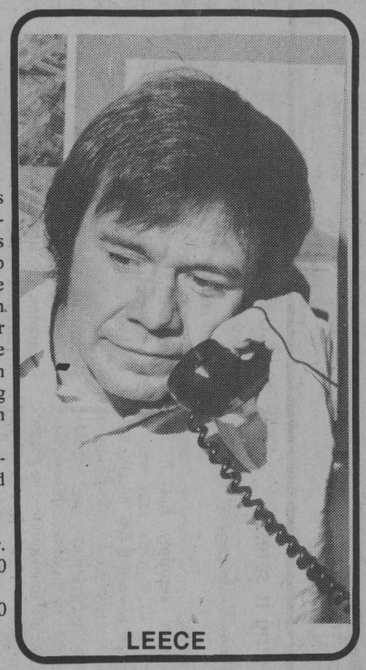
Emergency requests, problems, complaints and suggestions should be directed as follows:

During normal working hours:

Mr. Gordon Leece or in his absence, Mr. Del Lienaux 2470

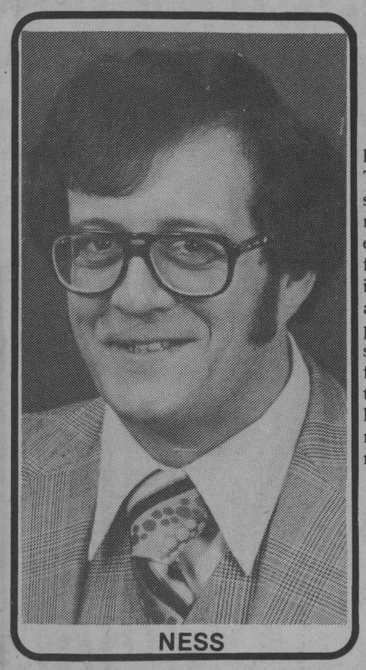
Outside normal working hours:

Emergency calls Security Services 6400



LEECE

SECURITY



NESS

Director: David Ness 6400

Security Services is a 24-hour operation handling a variety of responsibilities. These range from providing locksmithing services and access to buildings outside normal working hours, to handling emergency calls, operating a lost and found service, performing back-up answering on the main switchboard, and accepting special delivery items after 5 p.m. All requests for keys must be submitted on work order requisition forms. However, on an emergency basis, the Security Office may be called for locksmithing services, but work completed must be followed up with a work order requisition.

During working hours

Inquiries re locksmithing Mr. Bob Cleveland 6400
Inquiries re security Mr. David Ness 6400

Outside working hours

All calls including emergencies 6400

IPA won't perish for lack of publishing

By Olga Neal

McGraw-Hill, Prentice Hall, Macmillan, Irwin; yes, and Penguin. Ask anyone what these names mean to them and assuredly 99 per cent of the people on campus will answer "books" or "publishers."

But what percentage of Dalhousie faculty, staff, students and graduates are aware of the publishing house in the heart of the campus that now has over 100 titles in its catalogue and adds to this list at the rate of at least one every two or three months?

I'm talking about the Institute of Public Affairs and its Publications Unit — a threesome of Editor Margaret Dingley, Publications Clerk Deborah Bulmer, and general factotum Sadhana Malik. The trio is involved in every phase of the publications process from its spartan rooms on the second floor of 1329 LeMarchant Street.

They begin with the first — and usually handwritten — draft, although sometimes even before that they are handed tapes of conferences for transcription. Marg Dingley edits these rough transcriptions. Then the chairmen of conferences whose papers and proceedings are being published, or the authors of the various books, research reports, discussion papers and working papers, or the several co-authors, as in the case of the present item on the press — **A Guide to Local Government in Nova Scotia** — have next go at the work — changing, adding, subtracting, footnoting, etc.

Sadhana (who, meanwhile, is answering the 50 plus Institute phones), and Debbie begin the task of typing the material on a computer terminal, checking the scanner for errors as they go along.

While they work, Editor Dingley is either at Dal Graphics working out cover designs and layouts with the artists there, or at the Printing Centre booking ahead for the reprint of a sell-out, or on the phone to the bookbinders in Liverpool, or sitting with an author and patiently explaining why thus and so should or should not be. They listen, too! And thank her in their "acknowledgements" in most cases . . .

Printouts from the computer pile up on the editor's desk and she and Debbie tackle them in due course, blue-pencilling meticulously and sometimes mercilessly, because most people cannot write.

Back to the terminal for the magic process of corrections. Did you know that, if you misspell "accomodation" throughout the run, the missing "m" will be picked up by the programmed machine and will correct each and every "accommodation" that appears in the script?

So, here we are at last with a perfectly correct computer-typed copy of the manuscript, its tape able to be stored neatly away for posterity — and for future changes. Supposing, for instance, new legislation changes the facts in **A Guide to Local Government in Nova Scotia**, the typesetters take over, printing the material with justified margins and all the sizes and type faces that the editor has designated. Graphics lays out the pages.

IPA's editorial team and some of their products: Sadhama Malik, Margaret Dingley, Deborah Bulmer. (A/V Services)

Then to the Printing Centre to be run off in as many copies as Mrs. Dingley and the author and the grant for the project and the Institute Director, Kell Antoft, decide upon.

Covers come glistening from Graphics. Everything gets another thorough going over by Dingley and company, and then everything is packed off to the binders.

Fait accompli? By no means. Here's a new publication to be touted in a brochure and added to the catalogue, mailed to the "standing order" people, publicized and distributed to reviewers. Orders come in. Books are packaged and invoices processed. And the largest single publishing unit on the Dalhousie University campus has already started to work on its next production.

Did we mention that Sadhana and Debbie maintain a mailing list of about 2800 for the catalogue and brochures, indexed according to Labour, Management, Social and Economic Policy, Regional and Urban Development, Municipal Government and Community Planning, Health, Nova Scotian Black, and Education?

Did we mention also that they have found it necessary to set up a "snoop system" since they receive daily inquiries for publications — Dalhousie publications — that are **not** IPA's but which, somehow, have made their way to them for processing?

They usually manage to track these down but think that the various small publishing houses on campus will set up a system of information exchange. Thus, when the cry is heard — "Hasn't somebody done something on the Halifax waterfront development? — "What do you have on women in the labour force in Nova Scotia?" — "What's with the spruce budworm these days?" — they can all guide the misguided or ignorant to the proper source.

'Playing it safe...'

continued from page 5

different.

Rumor certainly has it that funding in Canada may well be targeted toward a few outstanding departments and sub-programs within departments in the near future. In terms of research per se it is difficult to evaluate the consequences of this. In terms of education, however, the result will be that students in many institutions will not have available to them the possibility of interacting with people who are academically alive. Again, it is a question in part of what we want our scientists to do for us. Do we want them to turn out bigger and better plastic toys, or to enhance and share knowledge along a broader front?

In the behavioural sciences one could argue that there is already too much emphasis upon technical mechanics and too little emphasis upon the broader foundations of our inquiry. Often good experiments can be done quite inexpensively if one has thought out the problem well in advance. In the past machines were so easy to purchase and run, and they generated so many nice numbers, that very little thought accompanied many of the experiments conducted and indeed published. Perhaps if one wishes to be an optimist one could suppose that an appropriate adjustment to reduction in funds may lead to deeper thinking and less technological wastage. But who knows?'

'Complex...'

continued from page 5

and resisted it. When the basis of support for these interdisciplinary units disappeared, and when universities in the late Sixties became more concerned with "classroom contact" with students (necessarily through the departmental structure) as an index of their performance, the universities themselves retreated (albeit for independent reasons) to the kind of "safe" programs that are being encouraged by the granting agencies.

I feel that this feature of university life is dominated by departmental structures at a time when those structures are becoming increasingly more of a danger to the quality of scientific education than the level of research support.

At the time when the above-mentioned umbrella programs were available, there was widespread fear that such large-scale government support would open the possibility for government control of education. There was also fear that research support would relegate those faculty members who could not obtain grants to the status of second-class citizens. A re-institution of the umbrella programs, as suggested in the article, would improve the level of scientific education and its connection with research, but at the cost of regenerating these internal political problems within the university.

The present situation is thus a complex one. It is not just a matter of the kind of work which the granting agencies will support, nor the availability of research funds. It is rather a matter of the entire political climate in the country at large, and the manner in which this climate is reflected in the Congress and in the universities. Indeed, this is the way it has always been.

'Bogged down...'

continued from page 5

individual scientists and educators become more and more ensnared in the time-consuming bids for piecemeal support.

The situation would appear less bleak if in all this there was any indication that bureaucracy has learned how to harness the creative powers of research activity. Unfortunately the signs point the other way. The new catch-word in the government science vocabulary is "inter-disciplinary," a term intended to describe the need for many kinds of information in complex situations like those exemplified by the environmental sciences.

But even in those environmental science areas like oceanography, which are currently in strong popular favour, and are interdisciplinary by their very nature, the hue and cry for efficient relation of research activity to defined government goals, leads to the increasingly conventional and safe definition of research applications. These are inevitably closer to the better-understood parent disciplines. And so the regulatory system continues to defeat its stated objectives, by its failure to understand the nature of the system it is trying to regulate.

The cost of the abstract bureaucratic search for economic efficiency appears enormous when viewed from ground level. The distraction of the time of individuals from professional pursuits to digging for dollars is bad enough. The cost in terms of lost motivation from repeated delays and incomprehensible failure is harder to measure but increasingly evident. Unfortunately we don't yet understand how long it takes for this situation to become evident to the customers of science.

The sensitivity of our system being what it is, there is little doubt of the insight of Dr. F.R. Hayes in his book, "The Chaining of Prometheus," that the situation will have to get worse before we can hope it will get better.

The question being asked is whether the accumulated effects of the present situation in Canada are easily reversed and overcome by simple injections of cash.

A revised telephone system for the Division of Athletic and Recreation Services went into effect earlier this month.

Athletic Office and equipment room numbers are 3372, 3373 and 3374.

After 5 pm, 3372 will be used to record messages for the division.

The number 2043 will be used for court and facility scheduling and for Dial-A-Rec; courts may be reserved by telephone only between 12 noon and 1 pm. In addition, 2043 will be available between 12 noon and 4 pm for facility information and reservation.

Dial-A-Rec messages may be received by dialing 2043 between 9 am and 12 noon and between 5 pm and 9 am.

The new number for the Rink is 2259.

In all cases, those calling from outside the university should use the number prefix 424-.

SUB events, Oct. 15-27

Student Union Building activities, Oct. 15-27:

Sat., Oct. 15—Dance with **CHALICE**, McInnes Room, 9 p.m. - 1 a.m.;

Sun., Oct. 16—Movie - **THE BLACK BIRD** (George Segal), McInnes Room, 7:30 p.m.;

Mon., Oct. 17—Speaker Series - Hal Prince (Broadway Producer), McInnes Room, 8:30 p.m.;

Wed., Oct. 19—Overseas Student Co-ordinator Film Series - **ANGOLA**, McInnes Room, 8 p.m.;

Sat., Oct. 22—Pub - Entertainment **OAKLEY**, Green Room, 9 p.m. - 1 a.m.;

Sun., Oct. 23—Movie, **THE STORY OF ADELE H.**, McInnes Room, 7:30 p.m.;

Thurs., Oct. 27—Wine Cellar, Green Room, 9 p.m. - 1 a.m.

Underwater archaeology

The Classical Association of Canada and Dalhousie's Department of Classics will present an illustrated public lecture by **Dr. Frank J. Frost** of the University of California at Santa Barbara, on Underwater archaeology: Classical archaeology and the underwater historian.

The lecture will begin at 8 p.m. on Tuesday, Oct. 25, in the Haliburton Room at the University of King's College.

Contemporary Trade Union Issues

A public lecture by **Professor Greg Kealey**, at 7:30 p.m. on Oct. 25 in Room 406 of Dalhousie Arts Centre.

This is one in a series of talks sponsored by the Dalhousie Student Union's Community Affairs secretariat and the Dalhousie Speakers Bureau.

Why 200 miles? That's where the fish are, because that's where the food chains are

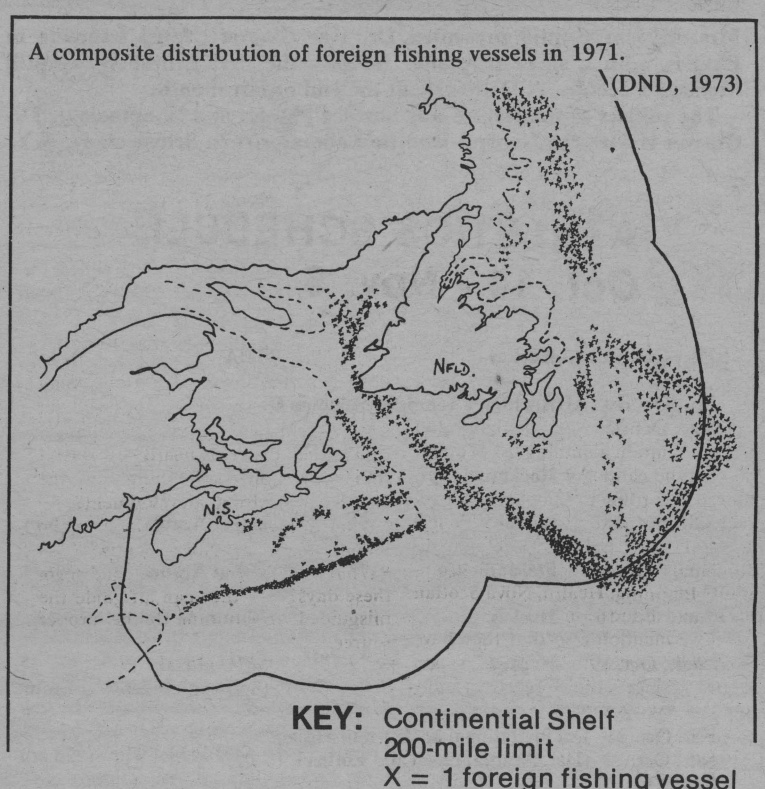
The Dutch jurist Hugo Grotius wrote in 1906 that the ocean "is common to all, because it is so limitless that it cannot become the possession of anyone." The seas, he concluded, "can be neither seized nor enclosed."

The Law of the Sea conference has laid Grotius to rest without ceremony. Everyone trampled over everyone else to stake a claim on the oceans. On Jan. 1, 1977 Canada declared a 200-mile limit off its coast, within which it had jurisdiction over all fishing activities.

Why was it 200 miles and not 150 or 300 miles? Why was there such a clamour for protective custody over those miles?

Because the resources of the ocean are not equally distributed, says Dr. R.O. Fournier, a professor of oceanography. Although 200 miles represents less than 10 per cent of the total width of the North Atlantic Ocean, a superabundance of wealth exists out of all proportion to the small area involved. Two hundred miles has traditionally been thought of as the limits of the continental shelves, and it is there within the limit that the interactions of marine food chains are most active.

Off the coast of Nova Scotia, however, the continental shelf (which we call the Scotian Shelf) ends at approximately 150 miles and beyond that point the ocean floor drops off to immense depths.



A composite distribution of foreign fishing vessels in 1971. (DND, 1973)

KEY: Continential Shelf
200-mile limit
X = 1 foreign fishing vessel

Abundant

Phytoplankton, marine floating vegetation at the beginning of the food chain, can multiply here at great speed with the result that the copepods, the next step in the food chain, and eventually fish of all types including those of commercial use, become very abundant in this area as well.

Scientists are not sure why plankton grow in such abundance over the continental shelf but Dr. Fournier suggests that the nutrients on which they depend for their growth are being supplied more rapidly to the plankton in this region than elsewhere.

Nutrient-rich

An ardent gardener builds a compost heap to preserve and eventually recycle the mineral and nutrient riches contained in the plant material back to his garden; he piles his decaying plants on to the top of the compost pile, and the products of this decomposition gradually change into nutrient-rich soil and settle to the bottom. Nutrient-laden soil is then returned to the garden as a form of fertilizer.

In the ocean the identical principle prevails. The phytoplankton grow rapidly when close to the surface of the ocean where it is well lighted, and as long as sufficient nutrients are available. Eventually some plants settle into deeper water where they die, decay and can be thought of as a form of marine compost. Whenever, for any reason, this rich deeper water comes near the surface where light is abundant, then plant growth will proceed at a very rapid rate.

Periodically within Canada's 200-mile limit a huge volume of deep nutrient-rich water moves up on to the Scotian Shelf, where it eventually makes it to the surface and helps to fertilize the waiting marine plants. Dr. Fournier feels that this movement is brought about by the northern edge of the Gulf Stream which periodically undulates just beyond the 200 mile limit.

Boundary

The nutrient cycle is not however the only important factor. Dr. Fournier says there is an oceanographic boundary just off the edge of the Scotian Shelf where two very different types of water meet. This boundary is called a front (just as meteorologists refer to the boundary between high and low pressure areas as a front) and it occurs in a narrow band running parallel to the edge of the shelf.

During the winter and spring this narrow band, perhaps 20 miles wide, is considerably richer than even the shelf. This is because the mixing of the two types of water at the front promotes a condition which buoys the plankton up and keeps them close to the surface and the light they need for growth. On either side of the front during the same period very little biological activity is apparent.

Oceanographers working in the region of the front very often see fishing boats from several nations lined up collecting the fish which grow so well there because all the steps in the food chain below them are also prospering.

Storehouse

Man is turning to the sea with a surveyor's eye. The abundance of resources has only recently been measured. For the first time he is compelled to consider the implications of the fact that the oceans must serve as a storehouse of food, a repository for his wastes, a reserve of resources and a source of recreation.

To Grotius, it was the sea that "rather possesses the earth than by it possessed." Not any more.

By Kate Carmichael

Oceanographer Fournier

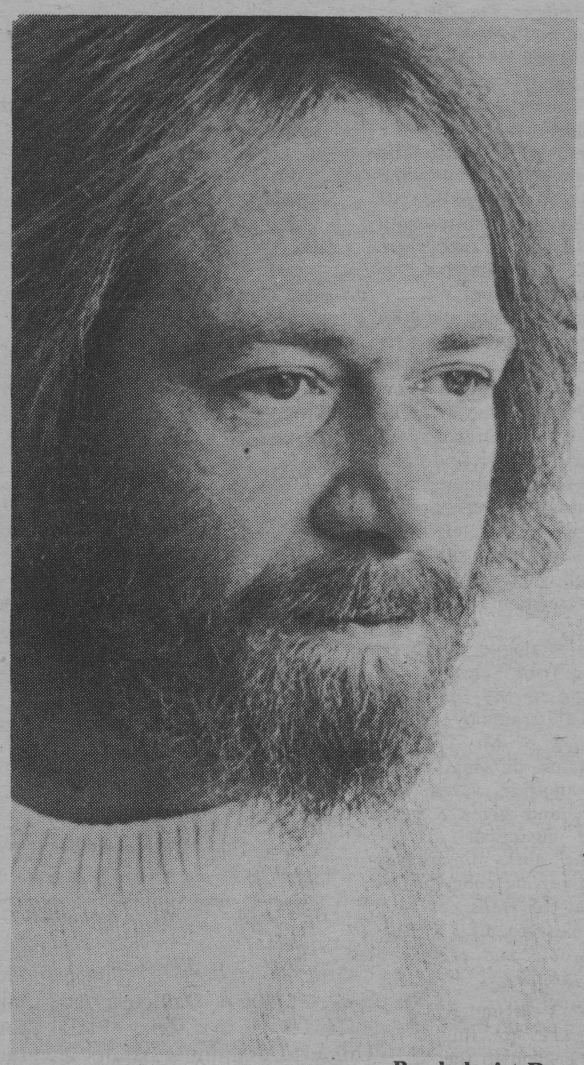
$5,000 grant for Marfels' small business study

Dr. Christian Marfels, of Economics, has been awarded a $5,000 research grant from the technological innovation studies program of the Department of Industry, Trade and Commerce to study the "Effects of industrial concentration on small business."

The research project fits into the federal government's program to enlarge the role of small business in terms of a small firm development strategy, thereby creating and maintaining an environment conducive to the mobility and profitability of small business. As a consequence, the study will focus on the structural aspects of Canadian industries with respect to concentration levels, market shares of small, medium-sized and large firms and comparative trends in the type of organization of businesses.

The analysis will be conducted on three levels with increasing amounts of detail:

(i) in inter-divisional analysis (for the 9 SIC-Divisions)
(ii) in inter-industry analysis (Manufacturing only), and
(iii) in intra-industry analysis (steel industry only), and for the decade from 1965-1974.



Psychologist Day

Right side of brain has some language skill

Until recently it was believed that the left side of the brain alone was responsible for language in normal right-handed individuals. Scientists are now finding that although the left side is dominant in the language function, the right side of the brain is also capable of displaying some language skill.

Recent experiments using epileptics whose brain hemispheres have been surgically separated in an attempt to prevent the spread of intractable epilepsy, have shown that the right side of the brain is capable of recognizing concrete object-nouns. Because of the unusual condition of the subjects used in these experiments, the relevance of the findings has been questioned.

Dr. Jim Day, a member of the Psychology Department, has found that the right hemisphere of the intact brain is, indeed, capable of performing a functional role in the processing of language in the normal individual.

Jim Day performed three separate experiments on 46 right-handed, Dalhousie undergraduate students. Exposing various concrete and abstract nouns on a screen to either the student's right or left visual field, he plotted the reaction time and the accuracy in identifying the words of each student.

"The data," he said, "show that the normal right hemisphere, like the split-brain hemisphere, does display an ability to recognize and categorize common concrete object nouns."

In addition, he found that the right hemisphere is markedly deficient in processing abstract nouns.

Would the findings be similar for left-handed individuals? Would they be a mirror image of right-handers? These are some of the questions Dr. Day hopes to answer in his continuing research.

Dr. R.A. Chez, who is this year's H.B. Atlee Lecturer at the Faculty of Medicine.

Dr. Chez, clinical director and chief of the pregnancy research branch, at the National Institute of Child Health and Human Development, Department of Health, Education and Welfare, Bethesda, Md., will speak at the Faculty of Medicine's Friday-at-Four session on Friday, Oct. 21.

His topic will be "Therapy of Premature Labour -- How and Why."

Carpet collection expressive of their peoples

By N. H. Graham

The Oriental carpets on display at the university Art Gallery have been arranged by Professor Hans-Günther Schwarz to provide an excellent mini-lesson on their construction, design and origin. Given the ancient beginning of rug-weaving, most of these carpets are relatively modern, six out of the 53 being over 100 years old and the majority of the rest having been produced within the past 50 years. They have all been carefully chosen to illustrate some aspect of technique, motifs, patterns or materials that make up the great variety of carpets from the Orient.

From the splendour of the carpets made for mosques and the palaces of the sheiks, to the sturdiness of nomadic rugs, there is a range of craft and art that is peculiarly expressive of the people as a whole. The design and structure of the rug has been determined by its function and its maker. Prayer rugs, of supreme importance to Moslems, never depict human or animal forms. The Gul, a type of tribal emblem, is a characteristic feature of Turkoman rugs and a principal guide to their origin. Court carpets will be rich in allusion to pleasure gardens or to a vision of Paradise. The word itself, paradise, comes from Old Persian and means an enclosure or park. (The O.E.D. says that it was first used in Greek by Xenophon for a Persian enclosed park or orchard or pleasure ground.)

In the palace ateliers or on court-subsidized looms the weavers were under the authority and direction of the court miniature-painters or illuminators, since the art of calligraphy was considered the supreme accomplishment and outranked that of the weaver and the architect. The weaver thus put nothing of his own into the design, although he put an enormous amount of skill into its execution. In the modern workshops of Iran weavers work under similar conditions, following the instructions of the designer.

The nomadic and tribal weavers follow their inherited patterns, giving each rug its own individuality and, through personal variations, its own particular interest. A nomadic weaver is always a woman. She starts to work at the age of seven and, following the design her mother teaches her, eventually learns to tie knots at the rate of nearly one a second. In addition to a loom she uses three simple tools: a small sickle-shaped knife, a pair of shears, and a heavy comb-like instrument for tamping the line after each row of knots. As part of her dowry a young girl might be given, or herself weave, a rug known as a Kis, either of the Kilim or Ghiordes type. All rugs are treated with great respect, whether they serve to cover a simple cart or the floor of a palace. They are used as tent-flaps, portieres to mark off sections of a Harem, as canopies, tomb covers, tribute money, gifts from one state to another and as a durable form of wealth. Cleopatra used one too.

The classification of these rugs and carpets calls for extensive knowledge and experience. Professor Schwarz has provided a well-ordered introduction to its complexities. There is an excellent map showing the major centres of rug-production and the locations of the dominant tribes. This map is important, for many types of rugs derive their names from the tribe or place of origin. Starting with rugs from the Caucasus, there are those from mountain tribes (Kazak) and tribes from the plains, such as Shirvan and Kuba. Rugs can also be classified according to their weave; so in this group there is also a flat weave "Kilim" and a more elaborate flat weave Soumak. There is an Armenian Shirvan (#5) which even to the uninitiated displays its modern qualities and is an instructive contrast to the older Shirvans (#3 and #4). The Chichi (#6) and Kazak (#2) stand out, but all the older rugs in this group are distinctive. The Persian tribal rugs include a velvet-like Belouchi (#12) made partly with camel hair, and a very fine Bachtiari (#11). The Persian village rugs demonstrate a breaking away from the strict village traditions, culminating in the Sarouks which have qualities of both the village and town rugs. The town rugs may be worked in wool or silk, or both, and show a finer texture, detail and colour than the other rugs, and are more regular in their designs. The silk rugs most readily show the effect of fabric and weave on the colour impression.

The timeless quality of the rugs comes not only from the century-old designs, but also from the sense of the time that goes into making a rug. The Western mind, used to assembly-line statistics, such as 50 automobiles per hour, can't quite come to terms with the notion that it should take more than three years to produce a few square metres of carpeting.

The great demand during the 19th century for Oriental carpets led to a deterioration which was stemmed by official action. In Iran there are now strict standards set by the state. The results can be seen in three superb modern Kirmans (#34, #35 and #36). Combining a traditional Shah Abbas and medallion design with contemporary workmanship is a blue Nain (#30), which also features silk inlay which is cut slightly higher than the wool pile to produce an embossed effect.

The excellent catalogue has been the work of Professor Schwarz and Mary MacLachlan of the Dalhousie Art Gallery. It is illustrated by the fine photographic work of Mr. Thomas Lackey. It contains information on patterns, dyes, knotting, yarns, and cultural history, and gives a good survey of the historical art of rug-weaving. The works themselves have come from private collectors in the Halifax area, the House of Iran Limited, Montreal, Adourian's Rug Galleries in Toronto and the Petit Musée Ltée, Montreal. President Hicks, on opening night, was not exaggerating when he said that this is a unique show, rare, in Canada, for its variety and quality.

Mrs. Miriam Guptill presented Dr. Ivar Giaever, Nobel Laureate in Physics, with a silver tray after he gave the first Ernest W. Guptill Memorial Lecture at Dalhousie at the end of last month.

The subject of the lecture was Surface Physics and Immunology. Dr. Giaever is with the General Electric Laboratories in Schenectady, N.Y.

Svoboda exhibition donated to Dal

An exhibition of works by scenographer Josef Svoboda has been officially presented by the Czechoslovakian Theatre Institute to the Theatre Department.

Dalhousie brought the exhibition to North America in 1974 and arranged its cross-country tour, and will receive the enlarged pictorial works and scale models of some of Svoboda's most famous designs from 1947 to 1974 that make up the exhibition. It will become part of the permanent collection in the Theatre Archives of the university. Part of the collection will be available as a touring exhibition.

In the past two years, it has already visited Playhouse Centre, Vancouver; Denison University, Ohio; Harbourfront Theatre, Theatre Ontario, Toronto; Fine Arts Centre, Banff; National Arts Centre, Ottawa; Laval University, Quebec City; Radio Canada, Montreal; Confederation Centre, Charlottetown; Stratford Theatre Festival, Stratford; and, Dalhousie's Arts Centre.

Professor Lionel Lawrence, chairman of the theatre department, said the wide exposure of Svoboda's work had helped to develop better training for scenographers in Canada and "will ultimately improve our vision of what the theatre can aspire to be."

Panels and enlargements in the exhibition include: Shakespeare: *King Lear,* Tyl: *Drahamira,* Manzoni: *Atomic Death, Polyekran Expo 58,* Kainer: *Aibis's Action,* Shakespeare: *A Midsummer Night's Dream,* Sophocles: *Oedipus Rex, The Owners of the Keys,* Martiniu: *Julietta,* Hrubin: *A Sunday in August,* Puccini: *Tosca,* Suchon: *Svatopluk,* Osborne: *The Entertainer,* Testi: *The Lower Depths,* Mozart: *The Magic Flute,* Testi: *The Lower Depths,* Gounod: *Faust,* Shakespeare: *MacBeth,* Gorkij: *The Last Ones,* Shakespeare: *Romeo and Juliet,* Handel: *Acts and Galathea,* Cechov: *The Sea Gull,* Svoboda: *Polyvision Expo 67, Diapolyekran Expo 67,* Shakespeare: *Hamlet,* Zimmermann: *The Soldiers,* Macourek: *The Suzanna Play,* Verdi: *Sicilian Vespers,* Rossini: *L'Italiana In Algeri,* Wagner: *Tannhauser,* Debussy: *Pelleas and Melisande,* Mozart: *Don Giovanni,* Debussy, *Pelleas and Melisande,* Wagner: *Tannhauser,* Cechov: *Ivanov,* Beckett: *Waiting for Godot,* Prokofjiev: *The Fiery Angel,* Dessau: *Lancelot,* Bera: *Wozzek,* Büchner: *Wozzek,* Sophocles: *Oedipus, Antigone,* Brecht: *Mother Courage,* Mozart: *Idomeneo,* Suchon: *Drutnava,* Bizet: *Carmen,* Brecht: *Dreigroschenoper,* Cechov: *The Sea Gull,* Janacek: *Kata Kabanova,* Sheridan: *The School of Scandal,* Wagner: *Tannhauser,* Musorgskij: *Boris Godunov,* Dvoreckij: *A Man From Elsewhere,* Cikker: *Coriolanus.*

Working models for the following make up part of the exhibition: Manzoni: *Atomic Death,* Ostrovsky: *The Tempest, The Storm,* Sophocles: *Oedipus Rex,* Wagner: *Walkure,* Svoboda: *Polyvision Expo 67, Diapolyekran Expo 67.*

New CS Bonds by payroll deduction soon

Each autumn, for more than 30 years, Canadians have been buying Canada Savings Bonds through the payroll savings plan.

For less than the price of a cup of coffee a day, an employee can buy a $100 bond over the next year.

This fall, people will be able to buy an improved Canada Savings Bond. The compound interest bond, which replaces the former coupon bond, offers the security and easy cashability of past series and, in addition, allows purchasers to earn interest on their interest at a guaranteed annual re-investment rate.

Bonds of the new series are available in denominations of $100, $300, $500, $1,000 and $5,000.

Buyers of the compound interest bonds will also have the option of exchanging them, once they are fully paid, for regular interest bonds available in denominations of $300, $500, $1,000 and $5,000. The latter offer regular annual interest which can either be paid by cheque or even better, be deposited directly into a personal bank account.

Bonds sold on the payroll savings plan last year as well as all other outstanding series of Canada Savings Bonds are not affected by these changes.

"We didn't think you needed the caffeine, so we signed you up for Canada Savings Bonds!"

ATHLETICS SCHEDULE
Oct. 14 - Nov. 5

Fri., Oct. 14	**Hockey**	TBA	
Fri., Oct. 14 Sat., Oct. 15	**AUAA Men's Tennis at Moncton U.**		
Sat., Oct. 15	**Hockey**	TBA	
Sat., Oct. 15	**Soccer**	Dal at Acadia	4 p.m.
Sat., Oct. 15	**Field Hockey**	Dal at Acadia	4 p.m.
Sun., Oct. 16	**Hockey**	Alumni at Dal	TBA
Wed., Oct. 19	**Hockey**	SMU at Dal (non-conference)	7 p.m.
Fri., Oct. 21 Sat., Oct. 22 Sun., Oct. 23	Dal invitational **hockey** tournament (Dal, Acadia, Laval and 1 other)		
Fri., Oct. 21 Sat., Oct. 22	Intermediate **field hockey** championships - Acadia		
Fri., Oct. 21 Sat., Oct. 22	AUAA **women's tennis** - UNB - Saint John.		
Sat., Oct. 22	AUAA **cross-country** championships at Dal		
Sat., Oct. 22	**Soccer**	Dal at St. FX	4 p.m.
Sat., Oct. 22	**Field Hockey**	Dal at St. FX	4 p.m.
Tues., Oct. 25	**Men's volleyball**	Alumni at Dal	7 p.m.
Tues., Oct. 25	**Field hockey**	Dal at SMU	4 p.m.
Wed., Oct. 26	**Soccer**	Dal at SMU	4 p.m.
Thurs., Oct. 27	**Women's volleyball**	Alumni at Dal	7 p.m.
Fri., Oct. 28	**Hockey**	Concordia at Dal	7 p.m.
Sat., Oct. 29	**Soccer**	Dal at Memorial	2 p.m.
Sat., Oct. 29 Sun., Oct. 30	AUAA **Field hockey** - Winner of East		
Sat., Oct. 29 Sun., Oct. 30	UPEI invitational **Hockey** tournament (Acadia, Dal, Mt. A. and UPEI)		
Sun., Oct. 30	**Soccer**	Dal at Memorial	TBA
Fri., Nov. 4 Sat., Nov. 5	AUAA **Swim relay** meet at Moncton		7:30 p.m.
Thurs., Nov. 3 Fri., Nov. 4 Sat., Nov. 5 Sun., Nov. 6	CWIAU **Field hockey** championships - McGill		
Fri., Nov. 4	**Men's basketball**	Alumni at Dal	7 p.m.
Sat., Nov. 5	**Hockey**	Dal at SMU	7 p.m.
Fri., Nov 4	**Men's volleyball**	Greenwood Open	
Sat., Nov. 5	**Women's volleyball**		

Chisholm first staff relations manager

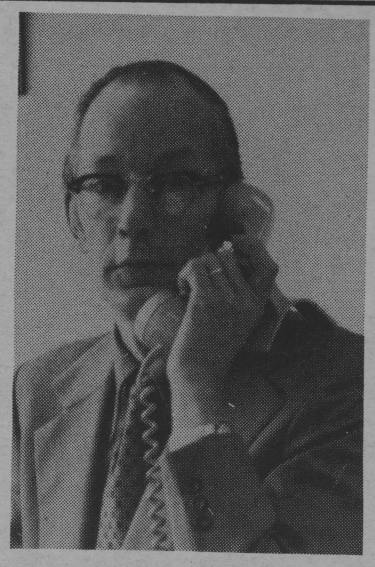
Professor A.F. (Art) Chisholm has been appointed to the newly created post of Manager of Staff Relations for Dalhousie University, the president, Dr. Henry D. Hicks, announced last week.

Director of Physical Plant since 1960, Prof. Chisholm's new appointment is effective immediately.

Dr. Hicks said that in his new post, Prof. Chisholm would be concerned with the administration of the collective agreements at the university, with employee benefit plans, indoctrination of new employees, pre-retirement counselling and training needs. In addition, he will continue to be involved with various committees—Security, Safety, Parking.

Prof. Chisholm will be based in the Personnel Department and will work closely with Personnel Services and other administrative groups.

"Professor Chisholm joined Dalhousie in 1948 and following a variety of administrative/academic assignments, became Director of Physical Plant in 1960. His wide exposure to university affairs over the years will be most useful in his new position," said Dr. Hicks.



Art Chisholm

U.S. Foreign Service, Information exams deadline Oct. 21

Written examinations will be offered on Dec. 3 to United States citizens in the Atlantic region who wish to be candidates for career appointments as foreign service officers of the Department of State or as foreign service officers of the United States Information Agency.

U.S. citizens who are students or members of faculty at Dalhousie are invited to consider the examinations which, for Atlantic Canada, will be administered only at the office of the Consulate General (Cogswell Tower, Scotia Square).

Additional information and application forms (which must be received in Berkeley, California, no later than the Consulate General's office.

"Educattion? It's a beginning of wiscdom" By Kate Carmichael

One fluorescent light hangs frorom the ceiling of pipes, but it isn't't on. Students and faculty pass outsidide the door almost in file; the door is neiear the main Psychology exit of the e Life Sciences Centre.

A piece of cardboard on the : office door announces the name oof its inhabitant, D.O. Hebb. It doesnn't tell you that he has spent most of his 73 years dedicated to the advancemaent of psychology, physiological psychhology specifically. It doesn't tell you thhat he taught at McGill University fdor 27 years, that he received honnorary degrees from 15 universities, oone of them being Dalhousie, and that he is one of the world's most prominent physiological psychologists.

He has a quick face, quick to reiact, quick to pick up non-verbal signals; sensitive. He has a passion for life and what seems to be a burning desire to share some of his knowledge — as much as you have time for.

He doesn't save his smile, but flashes it frequently. Inside there is a small boy, curious, adventuresome but relaxed.

Dr. D.O. Hebb has been appointed honorary research associate in psychology for one year. When I asked him what that meant, he answered that he wasn't sure. Perhaps to give a few guest lectures, talk to a few students who drop in; be available.

Dr. Hebb has spent most of his life in educational institutions, either attending them himself or teaching and doing research within their walls. From these years he has developed an understandingaftes the student.

The university provides first and foremost an education. A BA or a BSc is not supposed to be useful, at least not as a job training, he said. There is something else that a student gets beside what he hears in lectures and reads in textbooks, and perhaps it is here that much of the value of a university education appears.

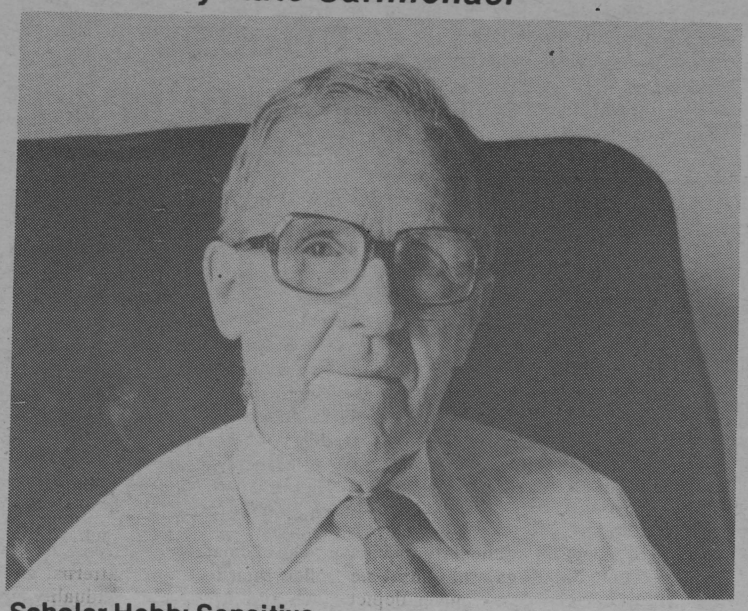
Dr. Hebb suggests that mental agility is a trait acquired at university by its graduates. The students learn how to learn; how to shape up a problem in a hurry and make a stab at the solution; how to get reports in almost on time; how to handle an intellectual discussion. No one, he added, can offer a more important preparation for the future. The mental agility, untaught but nevertheless preparation for the unknown problems of the future.

"I hope you will realize by now that by 'education' I do not mean an accumulation of facts and information, valuable as information may also be. What I mean instead is a beginning of wisdom, a glimpse of something that in moments of relaxation you may aim at getting closer to, for the rest of your life."

It is notorious that the student will soon forget most of what he has learned during his years of university. What he will not lose, Dr. Hebb hopes, is the desire to learn, an interest in the unknown, and the ability to function in the real world.

"University deals primarily with ideas, and ideas are exciting."

Dr. Hebb, has office for the time won the action end of the lollipop. He is a fine man and there is a great deal of knowledge and wisdom stored behind that smile waiting only for some to ask for it.



Scholar Hebb: Sensitive.

(A/V Services)

continued from page 4

definition." On the contrary, the commission asserted, "The Quebec people is not made up of francophone citizens alone."

elsewhere, had in fact made a number of references to the rights of minorities. In the view of the Quebec Human Rights Commission, the references nowhere amounted to adequate provisions. So the commission attacked the bill in this regard from end to end. The commission hardly needed to dwell, however, on the anomaly of finding in Bill 1 a clause explicitly setting aside the Quebec Charter of Human Rights in case of conflict. As Ryan remarked, Premier Lévesque himself had confessed to considerable embarrassment about the prospect of such conflict.

Bill 101, and the Charter as passed, meets the criticisms of other francophone leaders on both the points mentioned. The importance of the change respecting human rights is obvious: People will be able to appeal to the Human Rights Commission (which has already shown its devotion to its task) if they think their rights are being violated under the Charter. For its part, in administering the Charter, the PQ government is in effect undertaking to avoid such violations.

A MISTAKE

What is the significance of the other point, about the Quebec people's being in part francophone and in part not? One might dismiss this point as just a bit of symbolism. It is true, furthermore, that just what the PQ leaders have committed themselves to by the change remains to be seen.

Yet surely it would be a mistake to think that symbolism is not important in politics—and on this point above all others, especially for the leaders of the Parti Québécois. These leaders, who drew up Bill 1, and then Bill 101, and pushed the latter through as the Language Charter, are, if they are nothing else, the living embodiments of Quebec nationalism. They are seeking some sort of independent national status for the Quebec people as their chief aim in politics. They are also seeking to advance the interests of those—their special supporters—for whom French is the mother-tongue. The preamble to Bill 1 showed those objectives merging in a natural way: "French is and always has been the language of the Quebec people."

Now, with the change to the phrasing of Bill 101 and the Charter itself, things are dramatically different, and more complicated—perhaps more complicated than the PQ leaders have yet realized. They now say that French is "the distinctive language of a people that is in the majority French-speaking." Important as the French language is to them and their supporters, with that phrasing they have conceded that it is not the proper basis for defining the Quebec people. By implication, they have also conceded that it is not the proper basis for giving any group of citizens now living in Quebec superior rights to being there.

COMPLICATING

Are these not major concessions? Amounting to such concessions, the changed phrasing amounts also, so far as it goes, to disavowing any intention of driving the anglophones out of Quebec. Should it not be considered, indeed, a gesture of good will toward the anglophone community of Quebec —a gesture so far sadly unappreciated as such? In all these respects, however, it is no more than francophone critics like Lesage and Ryan, along with the Quebec Human Rights Commission, have been asking for.

The concessions are going to complicate the business of seeking independent nationhood tremendously. For now the prospect is that the francophone part of the Quebec people will be divided for and against seeking such independence, while the anglophone part will be steadily and irreconcilably opposed. But it is this people, so divided, that Lévesque and Laurin and the others are henceforth seeking to make independent. They might well wish for a simpler form of nationalism!

Outside Quebec, might we not wonder, with the form they have got, will not the sort of nationhood that will best suit the Quebec people as a whole be one that preserves ties much like ones they now have with the rest of Canada?

continued from page 3

country and he holds the nation's highest honour, The Order of Excellence of Guyana.

Dr. Morgan, a native of Blaketown, Trinity Bay, Nfld., is a graduate of Dalhousie. He was a 1938 Rhodes Scholar but did not go to Oxford until 1946.

During World War II, he served in the Canadian Army as a platoon commander and later as intelligence officer with the North Nova Scotia Highlanders.

In 1950, following a two-year teaching post at Dalhousie, he accepted an appointment at Memorial University. He has served at that institution since; as a teacher of political science, as Dean of Arts and Science and head of the Department of Social Studies, and as Vice-President and pro Vice-Chancellor. In 1973 he was appointed president and vice-chancellor.

Dr. Morgan has been active in affairs concerning post-secondary education. He acted as chairman of the Military Colleges Advisory Board, as a member of council of the Association of Commonwealth Universities and is currently president of the Association of Universities and Colleges of Canada.

In recognition of his contributions to higher education, honorary doctorates have been conferred on him by Mount Allison University, University of New Brunswick and the University of King's College.

Dr. Morgan has served as chairman of a number of boards of arbitration and conciliation, as an industrial inquiry commissioner, and as vice-president, Newfoundland branch of the Canadian Institute of International Affairs.

Dr. Begg became the fifth president of the University of Saskatchewan in March, 1975, having been with the university since 1957, when he became director of the Saskatchewan research unit of the National Cancer Institute, head of the Department of Cancer Research, director of the Saskatchewan Cancer and Medical Research Institute and lecturer in pathology.

He was appointed Dean of the College of Medicine in 1962 and subsequently professor of chemical pathology. In 1967, under Saskatchewan's former one university-two campus system, he was named the first principal of the Saskatoon campus. In July, of 1974, when separate universities in Saskatoon and Regina were established, he became acting president in Saskatoon.

Dr. Begg is a Fellow of the Royal College of Physicians and Surgeons of Canada and an honorary physician to the Queen. He is a member of several medical and scientific organizations and has written many papers on cancer research.

Born in Florenceville, N.B., Dr. Begg attended schools in Summerside, P.E.I. and Stellarton, and went on to King's College (BSc, 1936). He was graduated from Dalhousie with his MSC in 1938 and his MD in 1942.

He joined the RCAMC and served in Canada, the U.S., England and northwestern Europe, and after the war, attended Oxford University(PhD). He was appointed assistant professor of biochemistry at Dalhousie in 1946, and two years later became a research associate professor of biochemistry and a Fellow of the National Cancer Institute. From 1950 until his first appointment in Saskatoon he was at the University of Western Ontario as professor of medical research.

Dr. Begg has had a long career in the Canadian militia. He is also an Officer of the Order of Canada.

Film history series at Mount

An ambitious film series at Mount Saint Vincent University will be presented this year at the Art Gallery, every Wednesday lunchtime. Each film will be shown twice, at noon and at 1 p.m.

Organized by film historian Lon Dubinsky, the program starts with a five-part series on how movie-making began. These include films of the Lumiere Brothers, George Meilies and Edward S. Porter (1896 to 1905); of D.W. Griffith (producer of **Birth of a Nation**, a milestone in film history); of Rene Clair, perhaps the most productive and expressive of the French artists/filmmakers during the 1920s; of German filmmakers who produced early animated movies, and especially, Hans Richter.

Contemporary movies by Nova Scotia filmmakers will be shown. **Two Brothers and a Filmmaker** and **Maud Lewis: A World Without Shadows** are both documentaries which depict life in Yarmouth County. Recent animated films from the National Film Board, including **The Street**, are on the schedule as is film by women about women. The latter is a three-part series slated for November.

The program will continue until April.

Organizer Dubinsky teaches in the education department at Dalhousie and has lectured in film history at the Nova Scotia College of Art and Design.

The Joy of Cooking Squid

(held over because of space restrictions in this issue)

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CAPSULE: Calendar, Notices, People and Places

Mass export

Professor **Clifford Ford** of the **Music** Department will have his **Mass** performed by the Festival Singers of Canada in the Musicanada series in London and Paris in November. The work was specially commissioned in the summer of 1976.

From paper clips to a file-mate

You've just moved to a new office and may have enlarged your staff and now you need everything from paper clips to a file-mate. Where do you go for them? To a stationery store, right?

There is such a store on campus—and you don't even have to leave your desk. No, it's **not** listed in the Dal telephone directory (but it will be); the number, however, is 7086.

The "Stationery Room," as it is called, is in Room 30 of the Arts and Administration Building, across from the Payroll Office.

Evelyn Watson, the manager, and her right-hand girl, Mary Keddy, will answer any questions you may have, and with alacrity.

They process purchase requisitions once received. But they don't accept cash or credit cards. And in an emergency, they will go out of their way to help.

Spring's Awakening

The Department of **Theatre** is currently in rehearsal for its first production of the year—**Spring Awakening.** Written in 1891 by German [illegible] Wedekind, it had its first public production at [illegible] Court Theatre in 1961. The production will be directed by Lionel Lawrence, scenography by Pete Perina and costume design by Robert Doyle.

Spring's Awakening will open in the Sir James Dunn Theatre at the Arts Centre on Oct. 27 through Oct. 30 with an afternoon matinee on Sunday. Tickets will be available from the Central Box Office, Dalhousie Arts Centre. Admission is free.

Workshop for Widow(er)s

The **Maritime School of Social Work** will offer a one-day workshop, **Widow[er] to Widow[er],** on Oct. 24 at the Anglican Diocesan Centre.

Dealing with the experimental strategies for helping people to cope with a death in the family, the workshop will explore the nature of grief and the stages and reactions associated with it.

Workshop leader is **Dr. Phyllis R. Silverman**, director of research and evaluation at the Mystic Valley Mental Health Centre, Lexington, Mass., and author of several articles on widowhood and bereavement.

Registration fee is $15. For further information: Ron Smith, 424-3760.

Flats available

Corpus Christi College, Cambridge, invites applications for accommodation from visiting scholars who will be at that institution during the 1978-79 academic year.

The college has for some years implemented a program under which a visiting scholar from Canada or overseas, who may wish to spend the year at Cambridge, is welcomed to temporary guest-membership of the college. Four flats are set aside for the occupation of such visitors at a reasonable rental.

Information is available from the office of the Faculty of Graduate Studies or from the Fellowship Secretary, Corpus Christi College, Cambridge, CB2 1RH. Deadline for applications is Nov. 1.

Two French houses established

The Department of French has established two French houses on LeMarchant Street to house French majors students and students of other faculties whose native tongue is French.

The brainchild of Dr. Tom Carter, and subsequently his responsibility, the houses provide a residence for a total of 11 students, 60 per cent of whom are students of French, while the others are native French speakers.

They relieve the housing problem for some students, said Dr. Carter, but also provide an excellent opportunity for the students to increase their fluency in a second language.

In addition to being residences, the houses will also be used to host social events sponsored by the French Department and French Club activities. Dr. Carter hopes that they will increase the opportunities for faculty and students to meet informally. Previously, classrooms were used — "and we had to discontinue our cooking evenings."

The houses are the property of Dalhousie and are rented to the students under the management of the French Department.

Profits, if any, from the operation of the houses, said Dr. Carter, may be used to help send students to France for further study.

Biomathematics visitors

Dr. Stephen Grossberg, Department of Mathematics at Boston University, and Dr. Gail A. Carpenter, Department of Mathematics at Northeastern University, will be visiting the biomathematics group of the Department of Physiology and Biophysics.

Dr. Grossberg is well known for his innovative work into the neural basis of learning and behavior. Due to a close relationship between neural and genetic networks, he has been applying his precious work to problems of development and differentiation. Dr. Carpenter recently obtained analytical solutions to the famous Hodgkin-Huxley equations in their original form—a major step in the study of neural excitation mechanisms.

They will present seminars on their recent research work on Thursday, Oct. 20, 12:15-1:15 p.m., and Friday, Oct. 21, 10 to 11 a.m., in Room 3K1 of the Tupper Building. Anyone interested is invited to attend.

Dalhousie-King's Reading Club will meet on Monday, Oct. 17 at 8 p.m., at the home of Mrs. C.W. Schandl to discuss book reviews.

Free French

Free conversation sessions will be held by the French Department to help those learning French to practice their new language, and those who have a mastery of the language to keep it up.

Led by Michel Arsenau, a French language monitor supplied by the Secretary of State's Office, the group will meet on Tuesdays and Fridays from 12:30-1:30 p.m. in the French Department. The sessions are open to anyone who is interested.

Andrews at theatre congress

Professor Alan Andrews of the Department of **Theatre** recently attended the 8th Congress of the International Federation for Theatre Research in Munich. The congress, which was devoted to the examination of theatre space, was attended by architects, sociologists, psychologists, theatre directors and designers, administrators and civil servants as well as theatre scholars, Prof. Andrews was co-chairman of one of the sessions of the congress with Professor Rolf Rohmer of the German Democratic Republic, at which reform of the theatre was discussed.

In addition to participating in the congress, Prof. Andrews attended meetings of the executive committee of the federation, on which he is serving a four-year term, and led the Canadian delegation to the general assembly.

Graduate award

Margaret Fay of Sackville, N.B., is this year's recipient of the H.W. Wilson Foundation of New York Award for graduate study at the Dalhousie University School of Library Service.

A graduate in history from Mount Allison University, Mrs. Fay expects to receive her Master's of Library Service degree in May, 1978. Prior to entering the School of Library Service, Mrs. Fay had worked at the East Sussex Music Library in England and the Education Resource Centre of the University of New Brunswick, Fred[illegible].

Nobel lecturer

The first **Ernest W. Guptill** Memorial Lecture was given by **Dr. Ivar Giaever,** 1973 Nobel Laureate in Physics, last month. The lecture was on **'Surface Physics and Immunology'.**

Dr. Giaever, a physicist with the General Electric Research Labs in Schenectady, N.Y., won the Nobel prize for his discovery of electron tunnelling and his work with superconductors. He shared the prize with two other physicists. Dr. Giaever has now turned his interests and energies to biophysics.

The Ernest W. Guptill Memorial Lecture is to be held annually in memory of Dr. Guptill, a member of the Physics Department for 30 years who died in a boating accident in March 1976.

Ms. Brown

Rosemary Brown guest of Social Work School

Rosemary Brown, a social worker, feminist and NDP member in the British Columbia legislature, is a visiting lecturer at the School of Social Work this month.

Ms. Brown is giving a social work practice course on the subject of Women and Power, conducting a workshop for social work practitioners and leading a colloquium for university faculty and students, and is also working with the women's faculty staff group in the school.

Her work experience includes posts with the Vancouver Children's Aid Society, the Vancouver Neurological Society, the counselling service at Simon Fraser University, and ombudswoman for the Status of Women Council of British Columbia. She is the MLA for Vancouver-Burrard in the B.C. Legislature.

She has taken an active role in community affairs, supporting the feminist movement, working with the rehabilitation of young adults with psychiatric problems. She has been associated in an advisory capacity with the continuing education and social work programs at UBC and with the centre for non-English speaking immigrants and citizens.

Ms. Brown is a frequent guest speaker at conferences in Canada and abroad. Among her most recent papers are **Dual Exploitation [Canada Welfare], The Case for a Women's Ministry [Priorities],** and **Perspectives on Canada and Social Change [Queen's Quarterly].**

She ran for the leadership of the NDP at its last national nominating convention.

The Visitor, Chancellor, Governors, Faculty and Students of the University of King's College, Halifax, Nova Scotia request the honour of your presence for the Admission of Scholars the Induction of Associate Fellows and the Installation as President and Vice-Chancellor of John Ferguson Godfrey, B.A., B.Phil., D.Phil.

Saturday, 15 October, 1977, at 2 o'clock
in the Cathedral Church of All Saints
1330 Tower Road
Halifax, Nova Scotia

Reception following:
Prince Memorial Hall, King's College

Institute of Science 77 - 78 program

A highly informative, educational and cultural program is in store for members of the Nova Scotian Institute of Science this coming season.

Subjects have been tailored to meet the interests of members, who are drawn from a variety of scientific institutions in the province.

The institute, regarded as one of the oldest learned societies in Canada, was founded in 1862 as a result of experiences with the Halifax Mechanics Institute and the Halifax Literary and Scientific Society.

Its goal has always been to bring science closer to the general public . . . . to help people understand the relevance of science in their lives.

Membership is open to anyone with a professional or amateur interest in science, research or teaching. For further information call the president, Dr. F.J. Simpson, National Research Council, Atlantic Regional Laboratory, 429-6450.

HALIFAX

Date:	November 7, 1977 8 pm
Place:	Nova Scotia Technical College, Auditorium H19
Subject:	Bill C-26 and Federal Support of Research
Speaker:	B.A. Gingras, National Research Council
Date:	December 5, 1977 8 pm
Place:	Nova Scotia Museum of Science
Subject:	Nitrogen Fixation, Implications for the Food Supply
Speaker:	D. Patriquin, Dalhousie University
Date:	January 9, 1978 8 pm
Place:	TBA
Subject:	The Arctic Environment and Exploitation of Resources
Speaker:	J. Allen and S. Conover, McLaren Atlantic Ltd.
Date:	February 7, 1978 8 pm
Place:	Nova Scotia Museum of Science
Subject:	Factors Affecting Infectivity of Viruses
Speaker:	K.R. Rozee, Dalhousie
Date:	March 6, 1978 8 pm
Place:	Nova Scotia Museum of Science
Subject:	Energy, Research on Fusion as a Source of
Speaker:	M.P. Bachinsky, M.P.B. Technology Inc.

VALLEY CHAPTER

Date:	November 14, 1977 8 pm
Place:	Biology Building, Acadia
Subject:	Castle Frederick Observatory - First in Western Hemisphere
Speaker:	Roy Bishop
Date:	December 12, 1977 8 pm
Place:	Naugler's newly built solar heated home, Port Williams, N.S.
Subject:	Here's Solar Heating
Speaker:	W. Naugler
Date:	January 9, 1978 8 pm
Place:	Kentville Experimental Station, Kentville
Subject:	Raising Rhododendrons and Azaleas
Speaker:	Don Craig, Agriculture Canada
Date:	February 13, 1978 8 pm
Place:	Biology Building, Acadia
Subject:	Ecological Study of the Minas Basin
Speaker:	Biology Staff, Acadia
Date:	March 13, 1978 8 pm
Place:	Miller Hospital, Kentville
Subject:	The Miller Hospital

Program Speaker: TBA

JOINT MEETING - Halifax/Valley Chapter

Date:	April 10, 1978
Place:	Acadia University
Subject:	TBA Speaker: TBA

UNIVERSITY NEWS

DALHOUSIE UNIVERSITY OCT. 14, 1977.

Special

DALPLEX

Edition

SPORT FOR ALL

"A new facility, which will provide Dalhousie with 20 different activity areas, combined with a new program of 'Sport For All', promises an exciting future for the Division of Athletic and Recreation Services, the School of Physical Education, and the University."

--from the 1976-77 annual report of the School of Physical Education.

With a student population of almost 9,000, Dalhousie University has long suffered a woeful lack of physical education, recreation and athletic facilities.

Most of the existing facilities -- the gymnasium, the football field -- were designed for a student enrolment of only 700. That was in 1932. It was not until 1951 that the Memorial Rink was added, and it was not until the mid-60s that a proper track was laid around Studley Field.

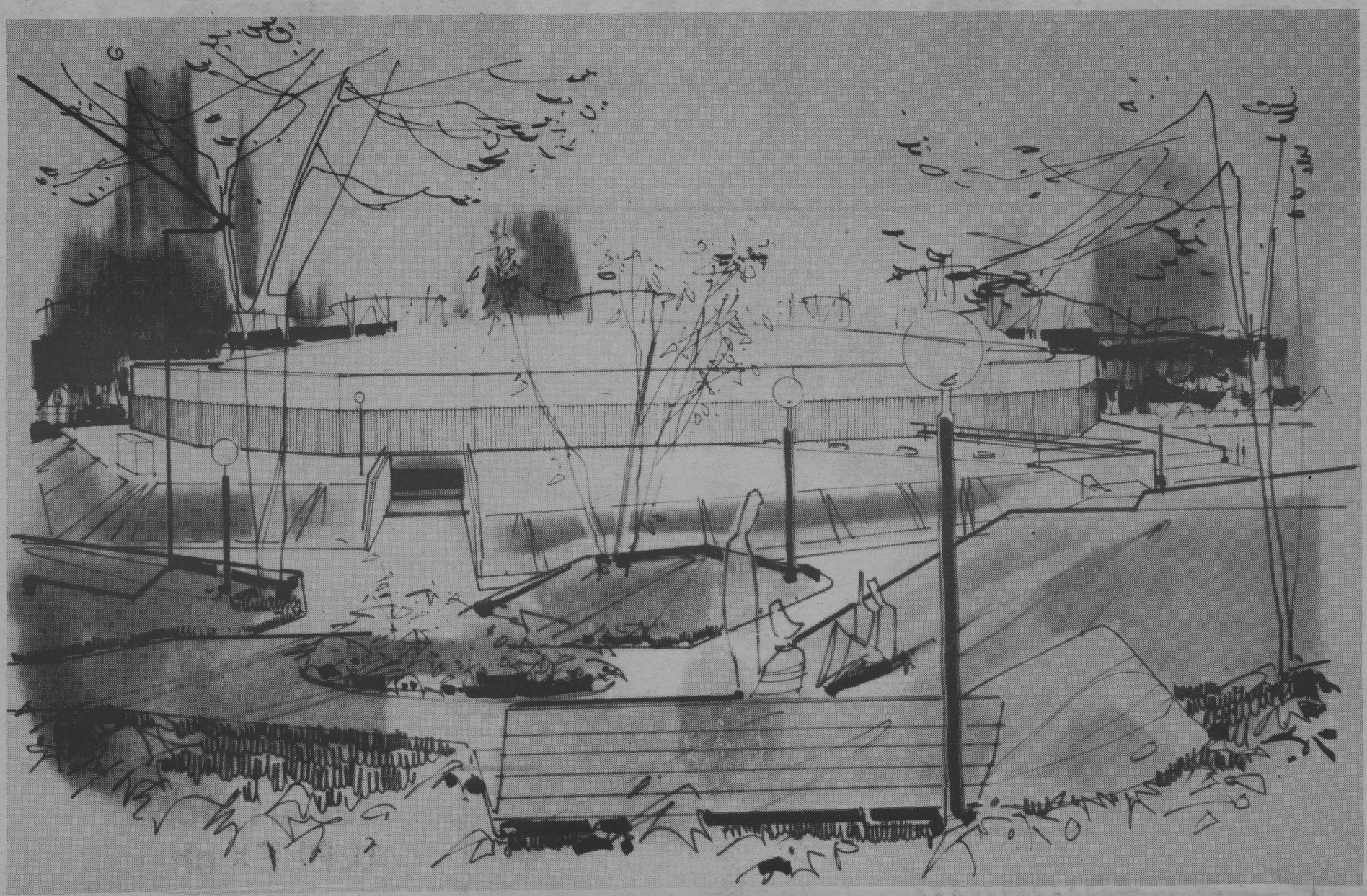
The School of Physical Education, under whose wing all athletic, recreation and leisure time activities fall, was established in 1966. In the past 11 years, enrolment in the physical education academic programs has increased. And as the population of the student body generally has swelled, so has the wear and tear on the oversubscribed facilities increased.

Now the new Physical Education, Recreation and Athletic Centre is less than two years from completion. But delays in the construction have boosted the cost from what would have been about $5,500,000 in 1973 to $10,500,000 today.

As a result, the university has decided to embark on a major fund campaign.

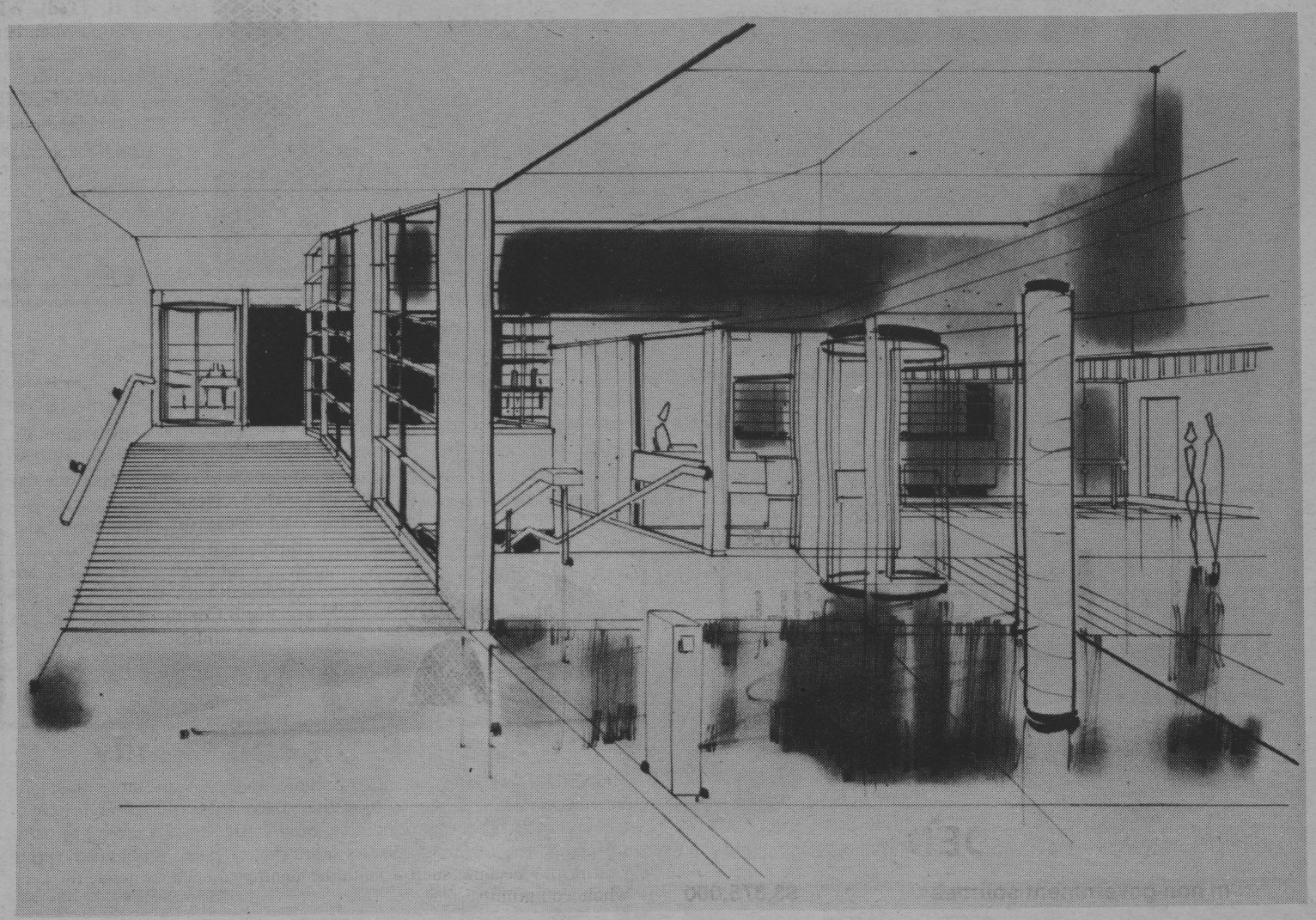
The details: Page 3

Artist's Impressions of the centre



How the centre will look from South Street

At right, the entrance foyer



Artist's impressions of the centre by OJARS BISKAPS, who is professor of architecture at Nova Scotia Technical College and a consultant to the architects of the building.

DALPLEX

$3.3 million campaign launched

Dalhousie University last night launched a major fund-raising campaign — target: $3,375,000 — for its new Physical Education, Recreation and Athletic Centre.

The centre is now under construction and is expected to be completed by late next year or early 1979.

The launching took place at a Shirreff Hall reception and was attended by members of the university's Board of Governors, the Fund Council, officers of the university, and representatives of the School of Physical Education, community organizations, a large number of volunteer workers and news media representatives.

Dr. Henry D. Hicks, the president of Dalhousie, Stewart McInnes, general chairman of the DALPLEX Committee, and Dr. M.J. Ellis, director of the School of Physical Education, outlined the urgent need for the new facilities.

No, it doesn't look like this yet. This is an architect's impression of the centre as it will appear from the air when it is completed.

Why a campaign

DALPLEX is the name of the capital fund-raising program launched for Dalhousie's long-awaited Physical Education, Recreation and Athletic Centre.

In 1932, when the present gymnasium was opened, there were only 700 students. By 1951, when the rink was added, the student population had grown to 1,500.

In the last 26 years, enrolment has swelled to almost 9,000. There are 1,300 full- and part-time teachers, plus support staff. New courses in physical and health education have been added. The number of sports and recreational activities has increased. But the athletic facilities have remained the same. That is why Dalhousie needs the Physical Education, Athletic and Recreation Centre.

Even in the climate of today's shrinking dollar, the centre is costing a lot of money — $10,500,000 for a facility that only four years ago would have cost about $5,500,000.

Much of the total cost is already assured: $6,750,000 from the Province of Nova Scotia under the Universities Capital Assistance Act; and $200,000 from the federal Department of Health and Welfare, toward an Olympic-standard swimming pool.

But $3,375,000 is still required, and must be raised from private sources. Hence the DALPLEX campaign.

WHAT DALPLEX WILL COST

	$	
Land	600,000	
Building	9,400,000	
Furniture, equipment	500,000	
		10,500,000

WHERE THE MONEY WILL COME FROM

Province of Nova Scotia	6,925,000	
Federal Government	200,000	
		7,125,000

AMOUNT NEEDED

From non-government sources	$3,375,000

Stewart McInnes DALPLEX chairman

A native of Halifax, Mr. McInnes is a graduate of Dalhousie (Bachelor of Arts, 1958, and Bachelor of Laws, 1961).

A member of the Halifax law firm of McInnes, Cooper and Robertson, Mr. McInnes was active in athletics at Dalhousie.

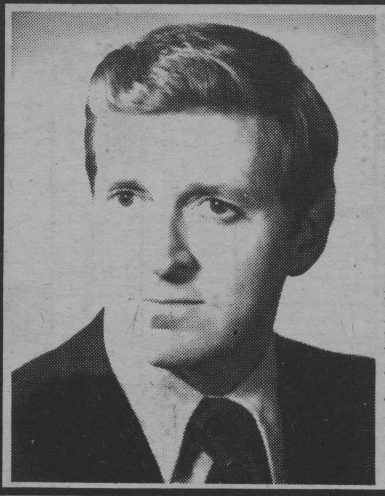
Among key members of the **DALPLEX** campaign committee are:

F.B. (Ted) WICKWIRE (B.Comm. 1959, LLB, 1962), a member of the Halifax law firm of MacInnes, Wilson and Hallett. He is chairman of the Major Gifts Division; and

G.E.C. (Ted) BROWN (Dip. Eng, 1962 and BSc, 1963, Dalhousie; B.Arch., 1967, Nova Scotia Technical College), a member of the Halifax architects, Webber, Harrington and Weld Ltd. He is chairman of the Special Names Division.

Both Mr. Wickwire and Mr. Brown were also active in Dalhousie sports.

Mr. McInnes



STRUAN ROBERTSON is chairman of the Dalhousie Fund Council, the body that supervises all fund-raising activity for the university.

President of Maritime Telegraph and Telephone Co. Ltd., Mr. Robertson graduated from Dalhousie with his LLB in 1953 and his B.Comm. in 1956. He was active in athletics at Dalhousie.

INFORMATION

Want to know more about **DALPLEX?**

For questions relating to fund-raising, committee, and alumni:

BRUCE IRWIN, Director, Alumni Affairs and Fund; executive secretary, Dalhousie Fund Council—424-2071.

For general information:

DEREK MANN, Director, Information and Public Relations; Editor, University News—424-2517.

An asset to the community

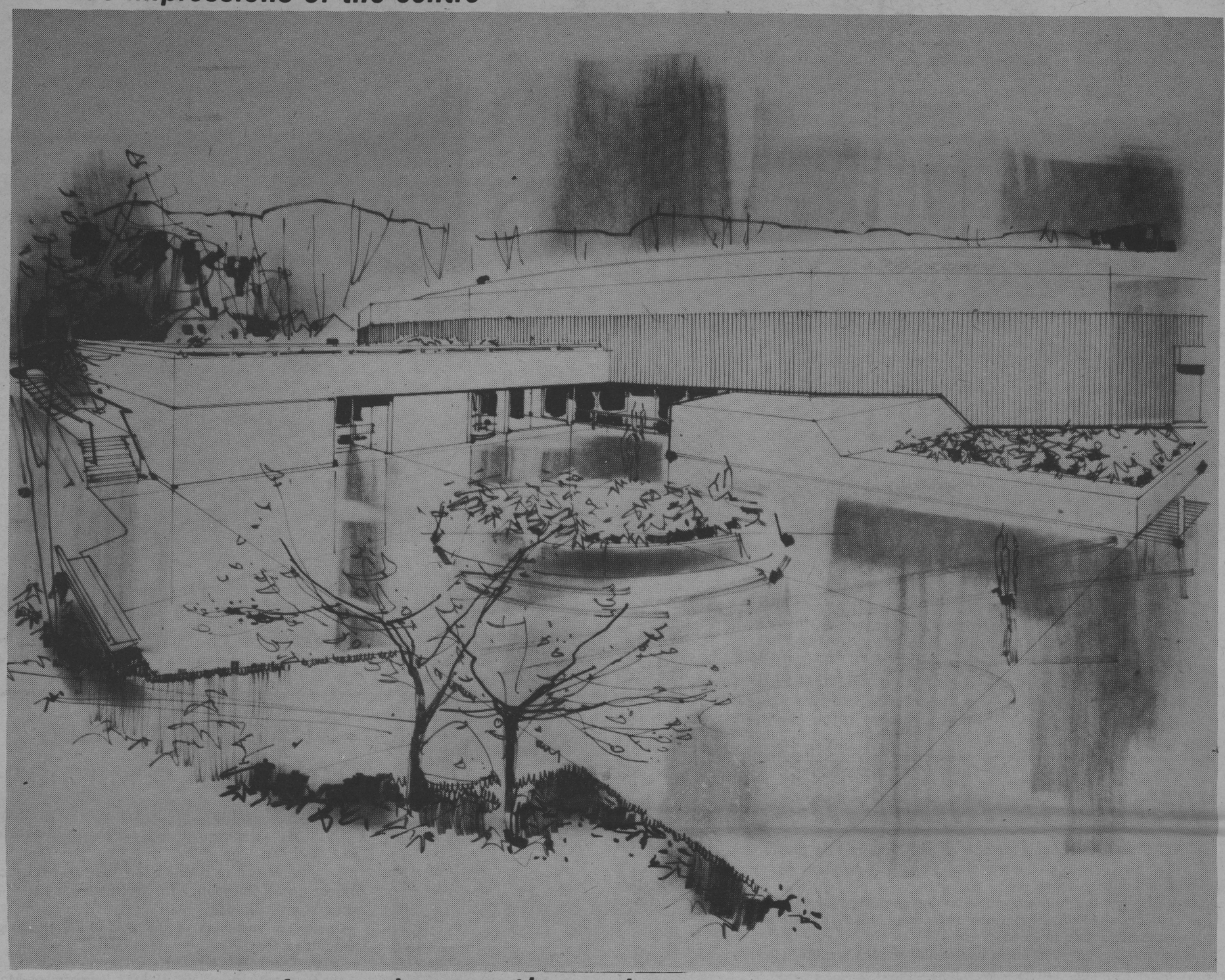
DALPLEX is more than an athletic facility. It is more than a recreation centre. And it is more than a teaching and research unit.

It is all of these things combined, and it will provide a service to the university and the public in the same way that the Dalhousie Arts Centre has become such a valuable facility, indeed an asset, to the whole community.

The architects

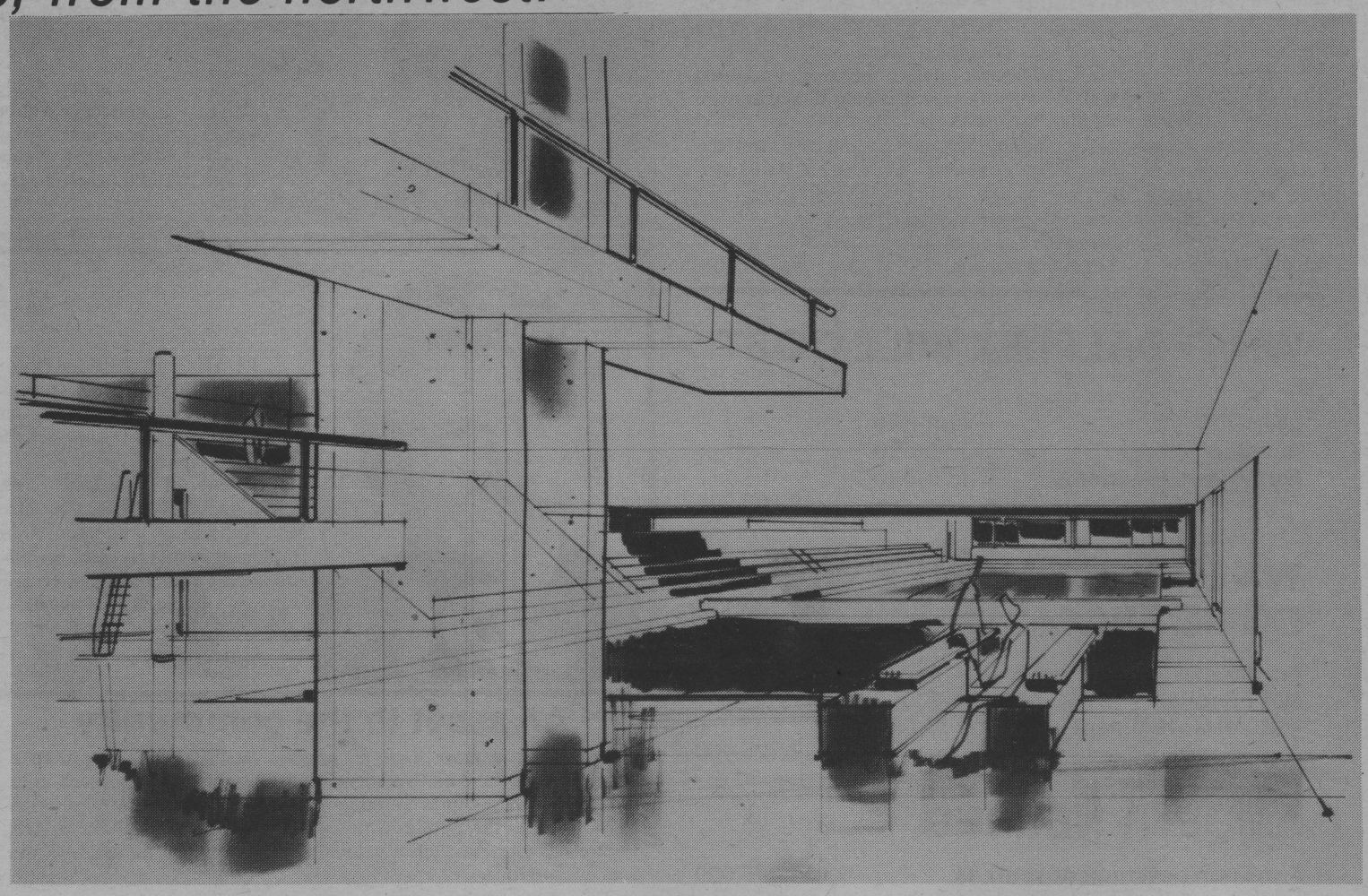
Architects for the Physical Education, Recreation and Athletic Centre are Leslie R. Fairn and Associates Ltd., of Halifax.

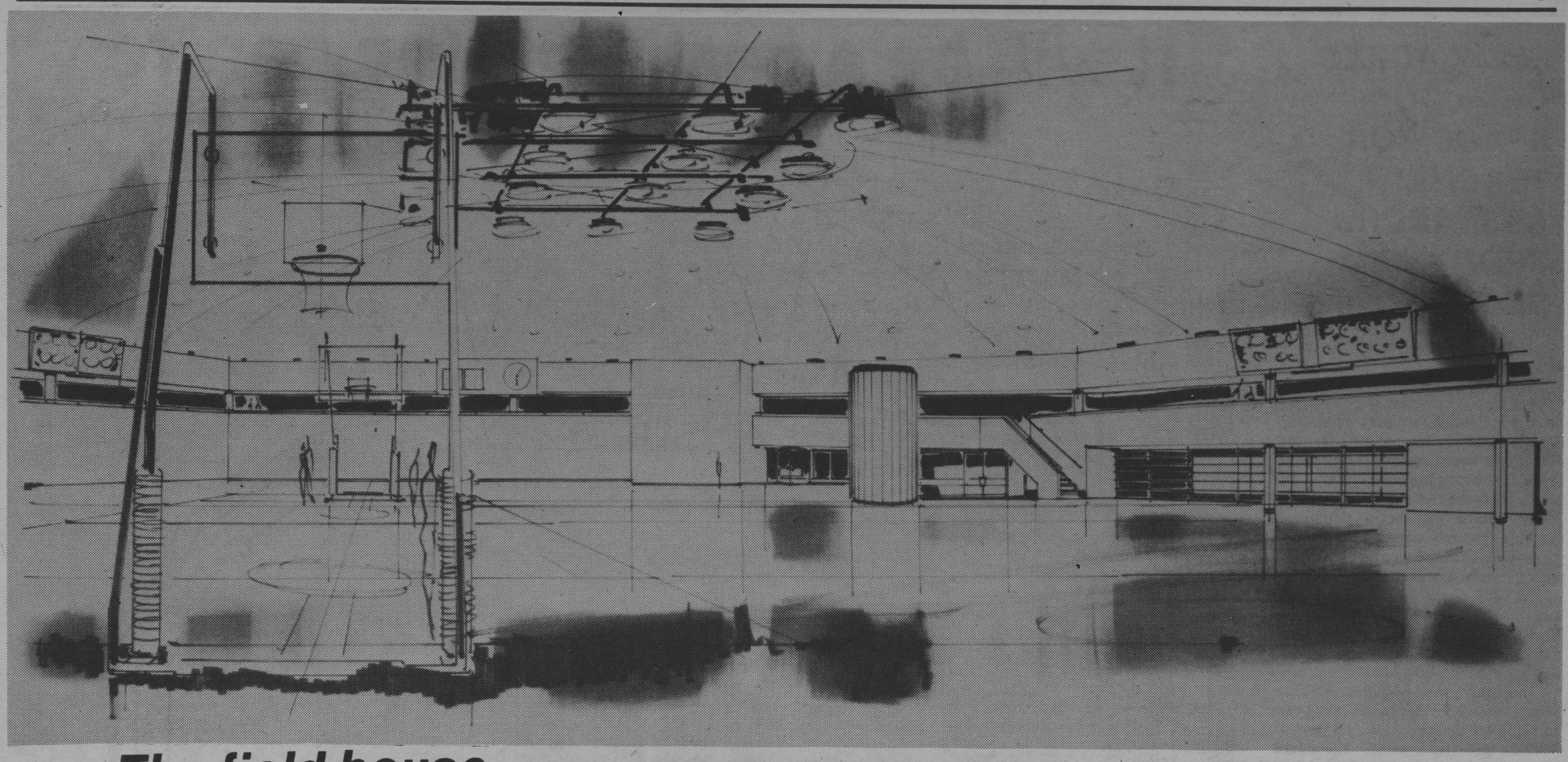
Artist's impressions of the centre



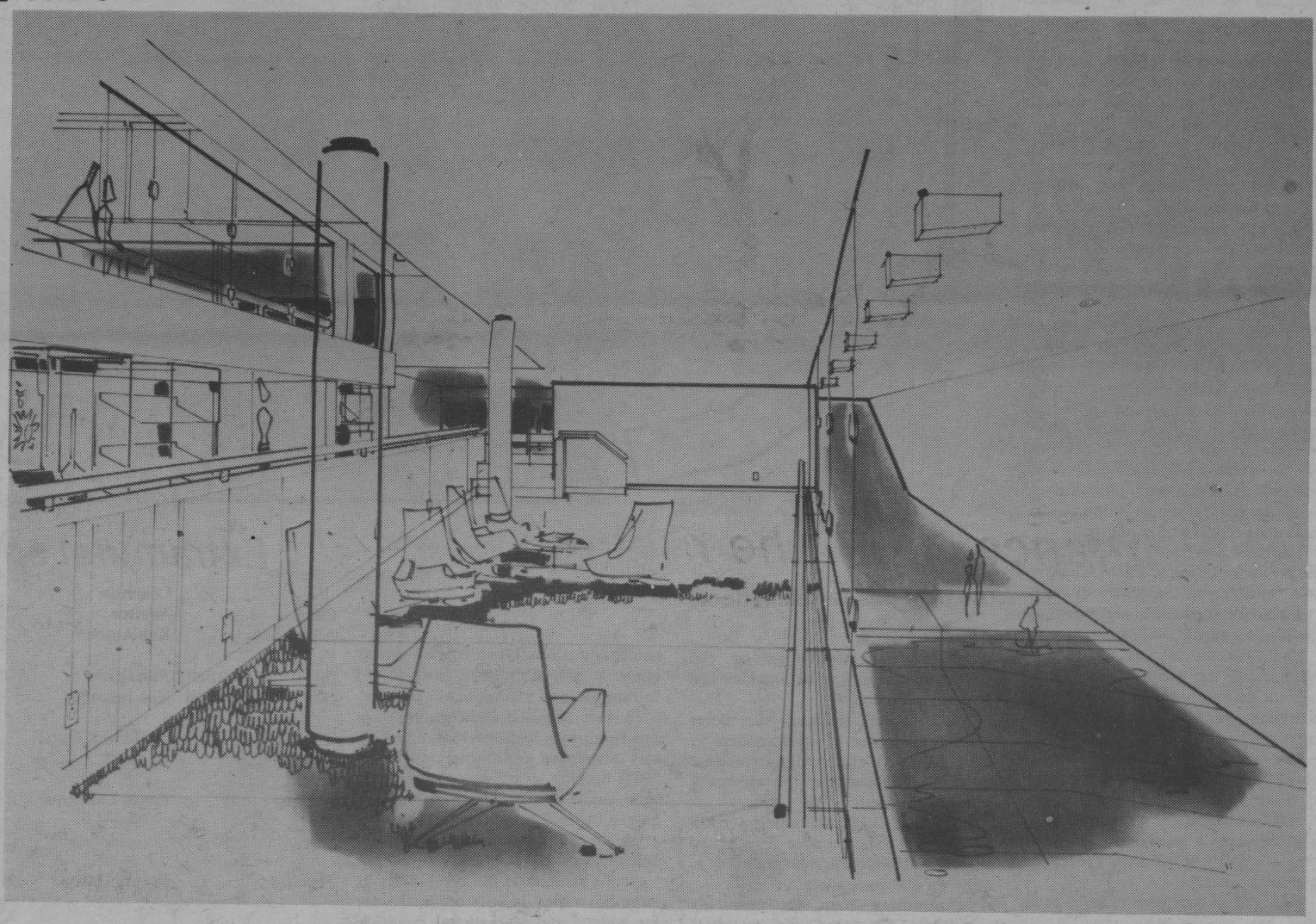
The entrance, from the northwest.

The pool deck





The field house



Overlooking the pool

It will be a *participation* centre

FOUR ACRES OF FLOOR SPACE FOR TEACHING, RESEARCH, SPORT AND RECREATION

Over a period of years the university acquired enough property opposite Studley Field to allow the building of a centre that would cater to the needs of the 12,000-strong university family, the alumni and the community.

The centre will be a combined teaching-research unit and a facility for many kinds of sport and recreation, with the emphasis on participation.

The building will be 300 by 240 feet, and will provide 180,000 square feet of floor and swimming pool space — that's just over four acres, big enough to accommodate roughly five per cent of the university population. That means that about 600 participants can be using the centre at any one time.

There are three levels. The main floor will be an unbroken flat surface that can be divided by portable partitions. This floor will accommodate:

- Five permanent basketball courts, plus space for two more that can be added quickly by modern taping methods; or
- Five permanent volleyball courts, and space for five taped; or
- Four permanent tennis courts, and two taped; or
- Twelve permanent badminton, courts, and five taped.

The main floor may also be used for such things as golf practice and archery. In addition, running around the inside perimeter of the building, above main floor level, is a 900-foot track.

The floor below will have changing rooms, team rooms, and a central equipment distribution centre. About one-third of this floor will be occupied by the School of Physical Education, with offices, classrooms, teaching and research laboratories, trainers' and treatment rooms and a lounge.

The third and lowest level will house the 50-metre Olympic-sized swimming pool and some bleachers will be available for spectators, and handball, squash and racquetball courts.

The planners of DALPLEX have emphasized the concepts of activity and flexibility, with the accent on maximum participation and a minimum of spectators.

The centre will be fully accessible to wheelchairs and will have an elevator to move wheelchair participants between floors. Services will be linked to the university's central distribution system which will result in a saving in operating costs.

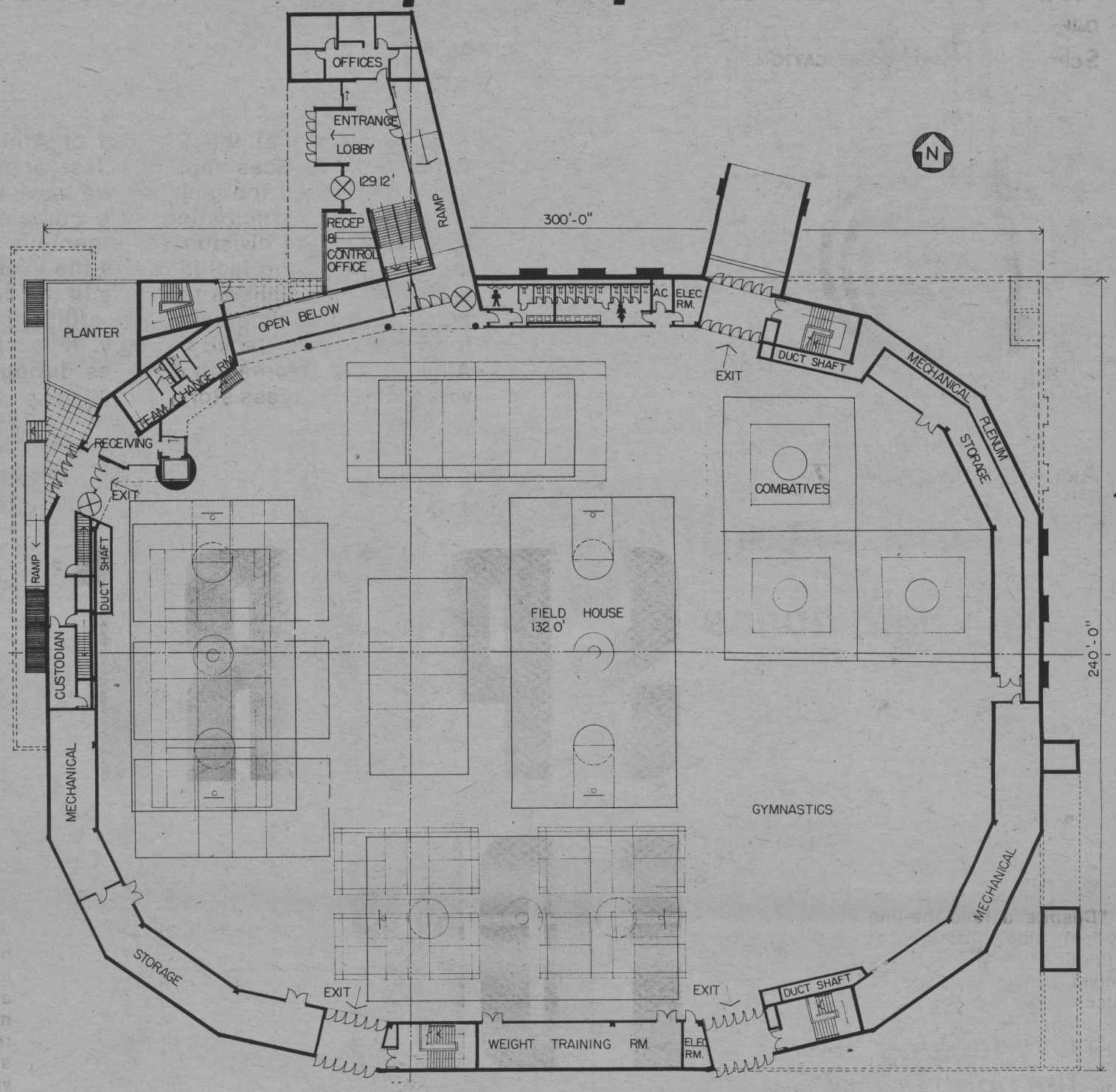
The type of roof construction being used has enabled the university to design a low-profile building, only 35 feet high, thus eliminating girder-type roof suspension. The absence of columns allows far greater versatility in the number of courts that can be in use simultaneously on the main floor.

DALPLEX will be the base for most of the programs of the School of Physical Education, and with the other facilities available at the university, will become a fully integrated complex designed to encourage participation at all levels.

It will be a facility for academic work and research and for the development of many alumni and community service activities.

DALPLEX will also provide the university with the facilities:

- To encourage the development of recreational and sporting opportunities for the whole community; and



The field house (main) floor

- To host competitions at the national and international level in 23 sports.

The overtaxed facilities have never allowed Dalhousie to accommodate its alumni in athletic and recreational endeavours in the way the university would have liked.

With DALPLEX, the university will for the first time be able to offer its alumni a comprehensive program in athletics and recreation.

In summary, then, the university recognized the need for adequate facilities to enhance the strong programs that have been developed in physical education, health education, athletics and recreation. It also acknowledged that its students had been more than patient in making do with what have long been reputed to be the worst facilities in Canada, hence the decision to proceed with the construction of DALPLEX.

While the primary purposes of a university are teaching and research, the development of healthy bodies has been an integral part of university life since the earliest time.

At Dalhousie, athletic and recreational services have been offered for many years and since the School of Physical Education was established in 1966, additional programs have been incorporated into the total picture. These include the Bachelor's degree programs in physical education and health education. In addition there has been a tremendous expansion of intramural and recreational activities.

In fact the academic program in health education and recreation, which was introduced as a 'minor' subject in 1971, became so popular that in only four years it was developed into a degree programme, along with a graduate course leading to a Master of Science degree.

At the same time the community at large has relied heavily on Dalhousie for athletic and recreational facilities. In 1976-77, for example, over 40 community organizations used the overcrowded facilities of the gymnasium, the rink and Studley Field for such varied activities as gymnastics, volleyball, basketball, badminton, wrestling, fencing, skiing practice, weightlifting, lacrosse, skating (recreational and instruction), hockey (games and clinics), track and field meets, minor football, and soccer (games and clinics).

This was in addition to the regular use of the facilities by the student body, faculty and staff, and regularly the rink and the gym were open 18-20 hours a day.

All this has been achieved under the most trying conditions, and the needs for proper facilities to match the excellent physical education and athletics programs has been universally recognized for many years.

Extramural sport clubs

Clubs	Coach or Advisor	Members	Accomplishments
Alpine Ski	Ken Antoft*	23	Reto Barrington - Can/Am Races - 4 first place finishes
(M) Int. Basketball	Nila Ipson*	15	
(W) Int. Basketball	Nila Ipson*	14	Placed 2nd in the Metro Ladies League
Badminton	David McCarroll	28	
Cross Country	Al Yarr*	12	participated in Bates Invitational
Curling	Penny LaRocque	40	Men placed in AUAA Championships Women placed in AUAA Championships
Fencing	Wayne Harbin	50	Barbara Daniels - Lieutenant Governor Challenge Cup Winner
Gymnastics	Viv Symington* Jim Hoyle*	25	
Golf	Pierre Pagé*	12	
W. Ice Hockey	Alison Quinn*	30	
Judo	--	?	
Karate	C. Adamec*	30	Bob Adamec advanced to 2nd Dan Black Belt
Nordic Ski	Dennis Kay	25	
Rugby	Jim Colwell	18	N.S. Provincial Champions
Ringette	--	0	
Rowing	Gary Garland	22	Competed in Boston Regatta
Sport Parachute	George Haughan	33	
Scuba	Charles Walls	42	
Tennis	Bruce MacArthur	22	Both men & women AUAA Champions
Table Tennis	Kamal Chopra	22	
Track & Field	Cathy Campbell*	15	
Tuna Fishing	Sandy Young*	5	
Water Polo	Evan Kipnis	22	Placed 1st in Dal Invitational Tournament
		TOTAL 500	

*Denotes Dalhousie University Faculty or Staff.

The 1976-77 annual report of the School of Physical Education

Dalhousie University
School of Physical Education

"It is clear that the Division of Athletic and Recreation Services must be fast approaching saturation, given the facilities we have available. The gains in participation have come from the hard work of the division and ingenious scheduling of our existing facilities and the exchange of access to our facilities for those in the community, thus further improving the efficiency of the total community facility supply. It is clear that Athletic and Recreation Services during 1976-77 was a major success story.

Annual Report 1976-77

SPORT FOR ALL

"Despite a hold-the-line budget, the Division of Athletic and Recreation Services met with amazing success during this year. All programs reached new heights. The women varsity athletes won one national championship (field hockey) and won the AUAA conference championships in seven out of 12 possible sports. The men's program showed six victorious conference teams out of a possible 13 and one went on to win a silver medal at the national championships (soccer). This breadth and depth of performance has resulted from Dalhousie's commitment to provide equal opportunities for the achievement of excellence in each of the 25 varsity sport programs offered by the AUAA."

"Once again, the faculty have been extremely active in making their expertise available to the wider community. The section of this report documenting the significant community service activities of the faculty, is a large one. Each of the activities identified represents a significant commitment on the part of a faculty member to permeate the walls of the university and to enrich the community at large. These activities, plus the formal commitment of our facilities, represent a massive commitment of the school to the people of Nova Scotia that goes beyond our commitment to provide academic services."

"A new facility, which will provide Dalhousie with 20 different activity areas, combined with a new program of 'Sport For All', promises an exciting future for the Division of Athletic and Recreation Services, the School of Physical Education and the university."

Dalhousie University
School of Physical Education

An extraordinarily active year

Annual Report 1976-77

In his introduction to the 1976-77 annual report, Dr. Ellis said that during the year the school operated with 29 full-time faculty, 12 administrative staff and numerous other part-time workers, ranging from visiting associate professors to managers of teams granted honoraria.

During the year 130 courses of instruction for academic credit were offered, and 40 undergraduate degrees (39 BPE's, 1 BSc. (Health Education)), and 11 MSc degrees were conferred.

The school's Division of Athletic and Recreation Services continued to deliver high quality services to the elite sports people on campus who won 11 conference championships.

Recreation Services continued to capture the attention of the student body and participation in a broad array of recreational, competitive and instructional programs set new records.

Research and scholarly production and community service continued unabated.

PEOPLE

During this year Drs. Young and Pooley were granted sabbatical leaves. Dr. Pooley ranged widely across the globe, collecting comparative data on the organization and content of physical education and recreation in different countries. He also continued his study of the processes whereby young people are socialized into the profession of physical education. Dr. Young spent his time at the University of Leuven in Belgium, experiencing an immersion French program in preparation for the study of sport history among those speaking French in Canada and Europe.

Richard Beazley, Anthony Richards, and Pat Richards were all successful in generating supportable sabbatical leave plans, and have all already left to further their higher education. Beazley will spend his year at Tennessee in the Health Education doctoral program. Tony Richards will work on a doctorate in Experiental and Outdoor Education, and Pat will pursue a Master of Fine Arts, both at the University of Colorado.

DIFFICULT

Regrettably, two who had requested sabbatical were denied the privilege, pointing up the fact that from now on the school will have more potential sabbatical leaves than it can afford and that they will be more difficult to obtain in the future.

Two new faces in our midst, Lorne Verabioff and Ruth Holcomb, both settled in fast and it is difficult now to realize they've only been here a year. Fortunately, only two full-time faculty members have seen fit to resign. Bob Thayer has chosen to join the faculty at Lakehead University, and Nancy Buzzell has decided that she needs a rest from the pressure cooker existence created by being Women's Athletic Director. Her future includes travel, coaching at the Summer Games, and further study.

We also lose Cathy Campbell, a former undergraduate student, and currently graduate student and track and field coach for men and women. Cathy, after a stay of six years in all, is now attracted to far away places with strange-sounding names. Debbie Phelan, our much respected women's basketball coach, returns to British Columbia, her home.

DISTINGUISHED

We await the arrival of two new faculty members. Dr. Chris Edginton who will join us as an associate professor in the Recreation program, and Carolyn Savoy who joins us with the rank of assistant professor, and who will be primarily responsible for coaching women's basketball and field hockey.

Several faculty members distinguished themselves and were granted promotion and/or tenure. Sandy Young was promoted to full professor, the first such appointment in the history of the school. Sandy's promotion recognized his teaching record and his contributions to a developing history of sport in the Maritimes. John Lord was recommended for promotion to associate professor. John was cited for his outstanding teaching record, the development of the Children's Developmental Clinic and his advocacy of student concerns and interests during his stay at Dalhousie. Nila Ipson was granted tenure and recommended for promotion to assistant professor, in recognition of her outstanding contribution to the development of campus-wide recreation programs.

HISTORY

The year was the first in the history of the school in which there were appointments of visiting professors. Dr. Peter Witt, of the University of Ottawa, spent one-half of his sabbatical year studying, teaching and interacting with Drs. Lord and Reynolds in the area concerned with the delivery of leisure services to those with special needs. During his stay, Peter was involved with discussions centering on the recreation curriculum and in the analysis of the impact of the Recreation Council for the Disabled in Nova Scotia on services delivered to the disabled. It was a privilege to have him interacting with our students and faculty and from all reports, it was a valuable experience for Peter also.

Further, we were fortunate in having the teaching services of Dr. Chris Stevenson of the University of New Brunswick. Chris commuted to and from the UNB campus regularly to teach one of the courses normally taught by Dr. John Pooley. In a sense, this appointment was an experiment to see whether the two universities could cooperate in using each other's faculty to enrich their graduate programmes. The class taught by Chris was small, and required the extensive assistance of our highly qualified research assistant, Susan Shaw, on the Dalhousie campus, to glue the experiences together. However, the four students who took the courses for credit found it an interesting and worthwhile experience and the experiment therefore worked.

EXCHANGES

As has become customary, the school operated several exchange programs with other institutions. Dalhousie sent two students each to Brockport in New York State, to Loughborough and to Carnegie in England. In exchange we received two students each from Carnegie and Loughborough and four students from Brockport. The fourteen students involved in this exchange program were all enthusiastic about the outcomes of their experiences. This year's exchange program further reassured us that the effort involved in exchanging students with other institutions in other countries is an extremely worthwhile enterprise and one that we will encourage further in the future.

PLANS AND PLANNING:

This year saw the final elaboration of the plans for the Physical Education, Recreation and Athletics Centre. The task of converting grand but hazy visions of a comprehensive recreational complex into specific plans for the construction industry proved far more involved and difficult than we expected. The hard work, expertise and good grace of Burtt Barteaux of Leslie R. Fairn & Associates, our project architect, and Larry Holt and Ken Bellemare, our liaison officers, carried us through.

The plans are now finalized, and most are convinced that the complex will be a masterly solution to Dalhousie's and the community's needs. However, as is the case with limited resources, some compromises have been forced upon us and those "compromised" are sorry that their small section is not just as they would like it. Still, the compromises were few, and usually amicably worked out.

INTEGRATED

Lately the planning emphasis has changed from the design of physical plant to designing programs, policies and staffing plans.

It has been decided, and approved in principle at all levels, that the organization of the programs planned for the new complex be by "vertically integrated clusters" of similar activities. This replaces the administration of the programs by aspiration level and ability, with Athletic Directors for elite sport and an Intramural Recreation Director for all other aspects of the program.

In the future it was decided to link all programs serving a closely related family or cluster of activities together, by assigning their co-ordinating, planning, coaching and instructional activities in the hands of one person. The plan is to have nine such activity supervisors reporting to one Athletic and Recreation Program Director. The director and supervisors will thus comprise the program management team.

This reorganization of our program will be undertaken gradually under the guidance of Nila Ipson. It will capture more faculty into the organization of programs at every level, and allow participants easy transitions from one level of activity to another.

22 NEW JOBS

Other staffing plans specify about 19 new administrative staff and three academic positions, and the coming year will see the negotiations for these positions, and the hoped-for welding of all the administrative appointees into one team, functionally independent of Physical Plant services.

The first retreat at Tatamagouche was so successful that it was repeated in May, 1977. The format and challenges to the School's "Committee of the Whole" were different. This year two major tasks were undertaken in addition to recreation and socializing.

The first involved new initiatives for the BPE program. A sub-committee of the Physical Education and Recreation Executive Committee presented a proposal to slim down the requirements for a BPE (from 149 hours), to arrange the curriculum to require enrolment in Arts and Science during the freshman year, and to reorganize the activity teaching program to integrate it with campus-wide offerings that will be possible when the new building is operating. The response was cautiously favorable and negotiations with Arts and Science can begin.

SUPPORTIVE

The other major issue concerned the wisdom of proceeding to propose the establishment of PhD. programs within the school. In general the debate centred on the benefits of carrying our programs to the highest level of development and the positive and negative effects such a program would have on the other programs within the school.

In general, the faculty were supportive of the notion of, at least, continuing to investigate the feasibility and desirability of PhD. programs. A committee of the Graduate Faculty was charged with continuing its work towards the development of a PhD proposal in Physical Education, and contemplating such a program in Health Education.

Consistent with the plans identified in the MPHEC submission prepared by the Deans and Directors of the schools and faculties of Physical Education and related disciplines in the Maritimes, the school successfully proposed that a Bachelor of Recreation be awarded to those students completing the recreation track in the spring of 1978.

This proposal was approved at every level and at the time of writing was still before the Maritime Provinces Higher Education Commission.

However, before this proposal was submitted to MPHEC for its consideration, there were signs of strain among the signatories of the original submission that was accepted in principle on every campus and by MPHEC.

Two university representatives argued via a conference telephone call that this proposal was duplicative. Thus, the first formal action moved to the MPHEC under the aegis of the agreement mutually negotiated by the interested universities, produced dissent.

The future for this negotiated agreement does not, therefore, seem very bright, since more important decisions for the long-range health of the schools of Physical Education in the Maritimes are just before us.

NEW NAME?

One of the objectives of the school set out for this year was to have a different name approved in the Senate. The dissatisfaction with the current name stems from the fact that it does not represent the legitimate interests of those interested in recreation and health education.

The Senate seemed strangely reluctant to approve a change in name at this time and a motion before Senate Council to change the name was wisely withdrawn.

It has been decided to leave the name as it is for the time being until the differentiation of the undergraduate programs into health education, physical education and recreation is complete.

PROGRAM NOTES

The Health Education Division, operating its Bachelor of Science (Health Education) program with the blessings of MPHEC for the first year, established history. At the spring convocation Barbara Graves was awarded the first Bachelor of Science (Health Education) degree in Canada, a signal event that caps the efforts of the Health Education Division to bring to Canada a four-year honours degree program in health education.

Despite a hold-the-line budget, the Division of Athletic and Recreation Services met with amazing success during this year. All programs reached new heights. The women varsity athletes won one national championship (field hockey) and won the AUAA conference championships in seven out of twelve possible sports. The men's program showed six victorious conference teams out of a possible thirteen and one went on to win a silver medal at the national championship (soccer). This breadth and depth of performance has resulted from Dalhousie's commitment to provide equal opportunities for the achievement of excellence in each of the twenty-five varsity sport programs offered by the AUAA.

CORRUPT

On the dark side, the desire of our sister institutions in the conference to excel in a few high visibility sports has resulted in increasingly corrupt practices within the league.

The pressure to produce national championship contenders has resulted in a massive intensification of efforts to recruit high quality men and women athletes from within and without the region.

Since Dalhousie has no mechanisms available to influence the choices of young student athletes beyond the quality of the academic and coaching programs offered them, some teams are finding it difficult to stay competitive.

One casualty of this process was the football program which has been dropped until it is possible for Dalhousie to play football competitively.

A much brighter note for the future has been the burgeoning development of the extramural sport program. This program served twenty-one clubs whose active enrolment exceed 500 people, and which supported activities from alpine skiing, sport parachuting, to water polo. These clubs have been strongly supported by the Division of Athletic and Recreation Services and seek to develop their sport or activity on campus and to generate competitive and recreational opportunities in their sport beyond the horizons of a now intervarsity league. It would seem that the trend towards the development of strong extramural sport clubs in all sports will continue.

PARTICIPATION

Another major success story has involved the further development of the intramural recreation program. The massive increase in participation and the number of individuals reached by the intramural program posted last year were continued again this year.

Thirty-four activities and programs were offered and they captured the attendance of 700 more people than they did last year (1976-77 total of participants - 3,947) and produced 3,600 more participations than last year (1976-77 total participations - 14,611). This year the intramural recreation program also extended its offering of instructional classes in leisure time activities and in this second year of operation filled its classes and served 350 students.

In addition to all this, the division found resources to organize fifteen "Super Skills" sports development camps for young people from the community. This program was larger than last year and served 375 young athletes.

It is clear that the Division of Athletic and Recreation Services must be fast approaching saturation, given the facilities we have available. The gains in participation have come from the hard work of the division and ingenious scheduling of our existing facilities and the exchange of access to our facilities for those in the community, thus further improving the efficiency of the total community facility supply. It is clear that Athletic and Recreation Services during 1976-77 was a major success story.

BENEFICIAL

The graduate program and its associated research activities also expanded during this year. The number of new full-time graduate students increased and those associated with the graduate program as non-degree students, qualifying students, or thesis only students, also increased. Thus the pressure on the faculty to supervise and coordinate the energies of students conducting research increased dramatically.

This had as a beneficial side effect a massive infusion of energy into the research programs and the specific projects are identified in the body of the report.

With the exception of highly successful grant-generating activities of Dr. Bill Shannon, who attracted significant support for his activities from outside the school, only one major project was funded by the federal government. This project, a comprehensive study of synchronized swimming to be undertaken by two of the three constituent laboratories of the graduate program, is the one exception to problems facing

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THE STAFF OF THE SCHOOL

ACADEMIC

Professors:

MacDonald, R.M., BSA (McGill). MB, ChB. (Edinburgh), FRCP (C), former Dean of the Faculty of Health Professions.

Ellis, M.J. DLC (Loughborough College), MS, PhD (Illinois), Director of the School.

Young, A.J., BS (West Chester State College), MA, PhD (Maryland).

Associate Professors:

Belzer, Jr., E.G., BS (West Chester State College), MA (Maryland), PhD (Illinois).

Bonen, A., BA (Western Ontario), MS, PhD (Illinois), Supervisor of Human Performance Laboratory.

Holt, L.E., BS, MS (Springfield College), PhD (Southern Illinois), Supervisor of Biomechanics Laboratory.

Pooley, J.C., Teach. Cert. (Bede College, England), Dip. PE (Carnegie School of Physical Education), MS, PhD (Wisconsin).

Assistant Professors:

Beazley, R.P., BA, BEd (Acadia), BPE (McMaster), MPE (Dalhousie), Head of the Health Education Division.

Kemp, N.H. Dip PE (Loughborough College), BS, MS (Oregon).

Lord, J.C., BEd (McGill), MS, DPE (Springfield College), Supervisor, Children's Developmental Clinic.

McCabe, J.F., BS (New Brunswick), MS, EdD (Tennessee), Head of the Graduate Studies and Research Division.

Maloney, T.L., BPE, BEd (Alberta), MA (Western Ontario), PhD (Alberta), Supervisor, Internship Programs, Head of the Undergraduate Physical Education and Recreation Division.

Moxley, S.E., BA, MA (Western Ontario), MA (Michigan), PhD (Michigan), Supervisor, Motor Skills Research Laboratory.

Prsala, J., MPE, PhD (Charles University, Czechoslovakia).

Reynolds, R.P., BS (Cortland), MS, PhD (Illinois).

Richards, A., Dip. PE (Carnegie School of Physical Education), Teach. Cert. (Trent Park College), Supervisor, Activity Program.

Shannon, W.J., BA (Bemidji State), MA, EdD (Northern Colorado).

Verabioff, L.J., BA, BPHE (Queen's), MS (Michigan), PhD (Ohio State), Supervisor of Interneship Programs.

Yarr, A.D., BPE, MPE (British Columbia).

Lecturers

Belcastro, A.N., BA, BPE (McMaster), MSc (Dalhousie).

Bellemare, H.K., BEd (PE) (McGill), Head of the Athletic and Recreation Services Division.

Buzzell, N., BPE (New Brunswick), MSc (Dalhousie), Women's Athletic Director.

Dr. Michael J. Ellis
Director of the School

Holcomb, R., BSc, MSc (Illinois).

Hood, C.C., Dip PE (Borough Road Training College), BA (Winnipeg), MSc (Loughborough), Supervisor, Recreation Education.

Hoyle, R.J., BA, MA (Cambridge), MSc (Dalhousie).

Ipson, N.M., BA, MS (Brigham Young University), Supervisor, Intramural and Extramural Recreation Programs.

MacGregor, L., BPE (Dalhousie), MS (Illinois).

Page, P.G., BA (Rigaud College), BSc (St. Francis Xavier), MSc (Dalhousie).

Richards, P.D., Teach. Cert. (Trent Park College), Laban Arts of Movement Centre Certificiate (England).

Thayer, R., BSc (Springfield College), MSc (Alberta).

Instructors:

Bellemare, A.D., BPE (New Brunswick).

Campbell, C.J., BPE (Dalhousie).

Conrad, P.A., BSc (St. Francis Xavier).

Shaw, S.M., Cert. of Ed. (Institute of Education, University of London), BPE (Dalhousie).

Symington, V.J., BA - BPHE(Queen's).

Special Lecturers

Adams, N.M., BA, BEd (St. Mary's), MSc (Dalhousie).

Kingston, W.B., MD (Dalhousie), Director, Dalhousie University Health Services.

Noble, H.A., BSc (Springfield College), AIE (University of London), Director of Consultant Services, Nova Scotia Department of Education.

Oehmen, H., BPE (Saint Francis Xavier), MS (Indiana).

Lambie, E., BSc - Home Economics (Acadia), PDt (St. Luke's Hospital), MPh.-Nutrition (Michigan), assistant professor, School of Nursing.

ADMINISTRATIVE

Secretaries: Berrigan, Kathleen; Daignault, Rosemary; Moses, Glady; Pelrine, Helena; Pottie, Terri, B.A. (Mount Saint Vincent); Samra, Carol; Stadey, Evelyn.

Equipment Control Centre: Book, Robert, BComm. (Dalhousie); Campbell, Rae; Cochrane, Len; Evans, Richard.

Technicians: Alexander, Alan, BPE, MSc (Dalhousie); Faulkner, Ted.

Budget Manager: Noiles, Brian.

Administrative Officer: Prosser, Diane, BA, Dip Sec Sc (Acadia).

Community use of recreation, sport facilities

In addition to the very extensive facility schedule fdor Dalhousie's regular athletic and recreation programs, we haave also served the Halifax and Dartmouth communities by providiring access to our facilities for the activities listed below. These oppportunities were provided as a community service without rentital fee, except for the ice arena where a nominal hourly fee wwas charged, and except for those groups marked with an asterisk (**).

The Gymnasium

Nova Scotia Gymnastics Association. A summer clinic for four weeks—8 hours a day. Approximately 30-40 participants. Plus consistent individual use of gymnastic facilities daily.

Halifax Tumblebug Gymnastic Club. Utilized our gym 2 to 3 times a week in conjunction with our gymnastic club. 25-30 participants.

Dalhousie Invitational High School Volleyball Tournament. Two day weekend tournament, eight teams with approximately 50-60 participants plus spectators.

Provincial High School Volleyball Championships. Two day weekend tournament, eight teams with 50-60 participants plus spectators.

Metro Midget Basketball Tournament. Three day tournament with 8 teams. Approximately 80-90 participants plus spectators.

Volleyball Nova Scotia. Several clinics and one day tournaments involving 16-18 teams and officials. Approximately 800 participants.

Dalhousie Invitational Women's Basketball Tournament. Two day weekend tournament for high school women's basketball teams. Eight teams of 12 players plus coaches, officials and spectators.

Halifax Intermediate Basketball League. Three hours one evening a week, in which they played two league games.

Metro Summer Volleyball Club. One night a week for 3 hours for a period of four months. 60-70 participants.

Provincial Volleyball Team. (Red & White Club.) Two week-end training camps to prepare for England tour.

Recreation Badminton. Two hours one day a week—open to the public.

Nova Scotia Badminton Association. Two tournaments, of one day's duration, approximately 30-40 participants each.

YMCA and YWCA. Utilize gymnastic facilities and lower gym once a week all year. (Also used our other facilities for members during renovations of building.)

Nova Scotia Amateur Wrestling. Two clinics plus the Provincial Championship over a two-day weekend. Over 150-200 participants and spectators.

Modern Gymnastic Clinic. Two days for eight hours each day—approximately 30-40 participants.

Nova Scotia Fencing Association. 3-4 clinics throughout the year of one to two days duration. Approximately 30-40 participants each. Plus a two-day fencing tournament—25-30 competitors.

Exhibition Basketball. Men's Senior teams plus practices, approximately 10-12 hours.

South End Day School. One hour per week gym time—15-20 children.

Nova Scotia Ski Team. Two hours twice a week in the weight room. 10-15 people.

* * *

The Rink

***Hadassah Bazaar.** Two days for eight hours a day. Community bazaar.

Metro Lacrosse League. Two hours a week during the summer. 50-75 participants.

University Skating Club. Two hours a week for 36 weeks. 100-150 participants.

Gentlemen's Hockey League. Two hours a week for 36 weeks. 30-40 individuals.

Halifax Board of School Commissioners. Four hours of ice time every Saturday morning. Over 200 participants.

*** Halifax City Recreation Department.** Skating class 6 hours a week for 24 weeks.

Halifax High School Hockey League. Four hours of ice time on Saturday evenings for varsity league games. 150-200 or over with participants and spectators.

Nova Scotia Figure Skating Association. Two hours a week for 36 weeks. 40-50 participants.

Pee Wee Hockey Tournament. Four days for 10 hours a day.

***Boy Scout Association.** One day for eight hours.

Cornwallis Junior High School. Two hours of ice time. Upwards of 150 skaters.

Queen Elizabeth High School. One hour of ice time per week for hockey team practice.

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Dalhousie University
School of Physical Education

ANNUAL REPORT 1976-77

Worthwhile, positive for the community

The new Physical Education, Recreation and Athletic Centre will mean a number of things for the School of Physical Education.

When he was asked about the centre a few months ago, school director Mike Ellis answered it this way:

- It means the end of long-standing frustrations for many people.
- People will be able to practise and play without a struggle for space.
- Gymnasts won't have to get up at 5 in the morning to practise.
- The basketball enthusiasts will get to bed before midnight.
- Phys Ed students will be able to learn their stuff in facilities designed to accommodate them by the hundred.

"In short, the arrival of the centre will mean something extremely worthwhile and positive to most of the Dalhousie community and to many of the citizens of the Metro area and Nova Scotia."

More than anything else, the design emphasizes the concepts of activity and flexibility. It will be a place in which people may be active, and along a broad range. It will NOT be a place for people to watch others be active.

This translates into reality the Dalhousie philosophy that the activity of everyone, from the duffers to the skillful, is important. Indeed, the building will complement the proposed downtown Metro-centre because the percentage of the space provided for spectators in the Dalhousie facility will be small.

"In any event, I fully expect the centre to be humming with a variety of activities throughout the day, and the centre will add dramatically to the "recreation supply" of the university and the city by contributing activity opportunities — something "PARTICIPACTION" has been successfully urging for Canadians for some time."

Always important to academic programs, research plays a substantial role in the new centre. For the first time the School of Physical Education will be able to consolidate its research activities in one area, which will be next to those areas where the activities under study are being practised.

Research activities at the moment are housed in temporary accommodations in three locations on campus, and it is difficult to bridge the gap between laboratory and the practical setting. So when the laboratories for teaching and research are consolidated, it will enable the spin-offs of research, the charting and guiding of the preparation of all kinds of participants, to take place much more easily and cheaply.

It is expected that, in conjunction with other units in health sciences, preventive and rehabilitative activity for those with diseases or ailments induced by our sedentary lives will become important programs.

Therefore, the proximity of the indoor jogging track, the swimming

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ATHLETIC AND RECREATION SERVICES

A year of more opportunities

Dalhousie University
School of Physical Education

ANNUAL REPORT 1976-77

Increased opportunities were provided for the Dalhousie Community through varsity sports, extramural clubs, intramurals, leisure time classes and opportunities for free play. Successful "Super Skills" camps were sponsored in soccer, track & field, volleyball, skating, gymnastics and hockey. Dalhousie activities received very favourable media coverage throughout the year. Rod Shoveller, Community Relations Officer, has worked very closely with the news media and we have established a positive relationship with them.

The Studley Field has been excavated, dynamite blasts have rattled the foundations, a gigantic hole in the "Stairs Property" awaits concrete, and the blueprints have now been frozen.

The Facilities

Studley Field was acceptable for most of the season as a result of the work performed by the university. It is ironical, however, that the field can only be used 2-1/2 months of the year due to the problem of reseeding and maintaining the field.

The loss of the lower field has added an extra strain on the main field. The field deteriorated rapidly in mid-November and the AUAA Soccer Championship had to be moved to the St. Mary's University field.

Memorial Rink has benefited from minor renovations.

Gymnasium The facility is well utilized throughout the year. During the heavy period of September to March, the gymnasium was open from 6:30 a.m. until 2 a.m. to accommodate many activities. The single squash court is continually booked. The karate club, fencing club and the wrestling team have made maximum use of the lower gymnasium. The weight training room is constantly in use by a devoted group of lifters.

Programs

The Extramural Sport Club concept under the leadership of Nila Ipson flourished. This provided an opportunity for many people to participate in our programs. Eighteen leisure time courses were offered and most were completely filled. Gladys Moses has been chiefly responsible for administering this program.

Fifteen "Super Skills" camps were organized under the direction of Rod Shoveller in soccer, volleyball, track and field, gymnastics, skating, and hockey.

Three hundred and seventy-five young athletes received expert instruction from Dalhousie coaches and varsity athletes.

Finances

The financial picture is bleak and it does not appear that things will improve in the foreseeable future. A tighter control has been maintained on all operating budgets.

The Rink revenue has more than doubled this year. This has resulted from tighter controls by the new budget manager, Brian Noiles, and the rink managers, Len Cochrane and Bob Book.

Coaches

The quality of our coaching staff is excellent. A number of coaches will be leaving our varsity programs this year: Nancy Buzzell (field hockey), Debbie Phelan (women's basketball), Bob Thayer (wrestling and football), Cathy Campbell (track and field), and Jan Prsala (men's volleyball). They have performed their duties well.

Awards

Two highly successful awards presentations were held for the varsity athletes and intramural athletes.

At the Athletic Awards banquet, Karin Maessen was named female athlete of the year and Ray Riddell was honoured with the Climo Trophy. The Dalhousie Award for Great Contribution to Nova Scotian Sport was presented to a former Dalhousie track athlete, Aileen Meagher.

Dr. William Kingston and Richard Slaunwhite, Dalhousie team doctor and athletic trainer respectively for over a decade, were honoured by the athletes, coaches, and administration for their outstanding service to the varsity and recreational programs at Dalhousie.

The Intramural Awards banquet honoured the many students who participate in the Dalhousie Intramural program. The participation figures indicate an increase over last year's program. One of the highlights was the presentation of the supremacy award to the Faculty of Medicine.

CONCLUSION

The relationships between finances, programs, facilities and human resources have improved. The year was interesting because of new personnel and it can be considered successful.

Intercollegiate athletics

MEN:

Dalhousie men competed in 13 variety sports in 1976-77.

Highlights

The soccer team ended a successful season with one defeat in league play and the AUAA championship. They advanced to the CIAU finals in Montreal and after a hard-fought match, they had to settle for the second place silver medal. Under Tony Richards' coaching, the soccer Tigers were good ambassadors for the university.

Wrestling won the AUAA championship for the second year in a row. Six first-place medals were won by Dalhousie wrestlers in the AUAA finals. Wally Kaczkowski and Greg Wilson captured silver medals at the CIAU national championships. For Bob Thayer and his team, it was a successful year.

For the ninth year in a row, Dalhousie won the Cuthbertson Trophy for AUAA men's tennis supremacy.

The track and field team coached by Cathy Campbell won 10 events in capturing the AUAA championship.

Shawn Healey, last year's Climo Trophy winner, was first all-around in the AUAA championship and a bronze medal winner in the horizontal bar at the CIAU championship.

Gareth Luke led the swimming Tigers to a third-place finish and captured two silver medals at the CIAU championship. The team also captured five first place finishes in the AUAA finals. Nigel Kemp was named as one of the coaches of the AUAA team for the nationals in Etobicoke, Ont.

Two low points occurred in this year's Men's Intercollegiate programme:

Dalhousie, the first university team to play Canadian football, dropped its program at the end of 1976-77.

Two Dalhousie soccer players, Phil Boyle and Kevin Doyle, were ruled ineligible to compete in the AUAA for playing a final summer club match on the starting day of the AUAA schedule.

The Outlook

A new facility which will provide Dalhousie with twenty different activity areas, combined with a new program of "Sport for All," promises to create an exciting future for the Division of Athletic and Recreation Services, the School of Physical Education, and the University.

Sport	Coach	Accomplishments	MVP
Badminton (Club & Varsity)	David McCarroll (Part-time)	4th AUAA	Robert Wilson
Basketball (Varsity)	Al Yarr (Faculty)	5th AUAA Bob Fagan, AUAA Scoring Champion, AUAA League All Star	Bob Fagan
Cross Country (Club & Varsity)	Al Yarr (Faculty)	2nd AUAA Robert Englehutt, 1st Place AUAA	Robert Englehutt
Curling (Club & Varsity)	Penny LaRocque (Part-time)	3rd AUAA	Terry Aho
Football (Varsity)	Bob Thayer (Faculty)	6th AUAA Mike Riley drafted No. 1 by CFL	Mike Riley Kevin Ritchie
Gymnastics (Club & Varsity)	Jim Hoyle (Faculty)	2nd AUAA Shawn Healey, 1st All Around AUAA Bronze Medal, horizontal bar at CIAU	Shawn Healey
Hockey (Varsity)	Pierre Pagé (Faculty) Bill Shannon (Faculty)	6th AUAA Winners Dalhousie Invitational Tournament	Ken Bickerton
Soccer (Varsity)	Tony Richards (Faculty)	AUAA Champions CIAU Silver Medal AUAA All Stars - Kevin Mayo, Bob Moss, David Houlston and Ray Riddell AUAA Scoring Champion, Len Vickery	Ray Riddell
Swimming & Diving (Varsity)	Nigel Kemp (Faculty)	3rd AUAA 5 Individual AUAA Titles Gareth Luke, 2 silver medals at CIAU Championship	Richard Hall-Jones
Tennis (Club & Varsity)	Bruce MacArthur (Part-time)	AUAA Champions Cuthberston Trophy	Jay Abbass
Track & Field (Club & Varsity)	Cathy Campbell (Faculty)	AUAA Champions Winners of 10 Individual Events	Robert Englehutt
Volleyball (Varsity)	Jan Prsala (Faculty)	3rd AUAA Winners Olands Open Tournament Kevin MacDonald, League All Star	Kevin MacDonald
Wrestling (Varsity)	Bob Thayer (Faculty)	AUAA Champions Winners of 6 Individual Events Wally Kaczkowski, silver medal, CIAU Greg Wilson, silver medal, CIAU	Greg Wilson

WOMEN:

Once again the women's program of nine varsity and three junior varsity sports labored under a "hold the line" budget, but obtained maximum exposure, visibility and effort for dollars spent. In addition to a record seven AUAA championships of a possible 12, Dalhousie captured its first CWIAU national championship (field hockey).

The program saw accelerated expansion into the community through the Extramural Sport Club program. As well, several universities — Western Ontario, Manitoba, and Guelph — were hosted by Dalhousie, a result of our "out of region" program which provides our varsity league sports with competition outside the Atlantic provinces, with provisions that the universities visited will reciprocate. Dalhousie hosted the CWIAU field hockey championships, which saw our Maritime hospitality extended to the Universities of Victoria, Manitoba, Toronto, and McGill.

Promotional activities maintained a level on par with the previous year despite extreme limitations of space and personnel.

On the darker side of things — recruiting is becoming an ever-increasing danger in the women's programs of the AUAA. Student athletes are being "bought off" by competing universities at a startling rate and in most instances, without regard for personal or academic considerations. Dal continues to stand against this, a member of the minority voice on this topic, and we encourage our coaches to be visible, talk to interested student athletes and promote the program. This is critical and must be maintained if not accelerated in order to destroy the myth that Dalhousie does not care!

Dalhousie's strength lies in the quality of student athletes who **choose** to be at Dalhousie and feel a personal and professional commitment to their development. Let's make sure they know what we have to offer.

INDIVIDUAL HIGHLIGHTS

Basketball: Heather Shute, Kathy Donovan, AUAA All Stars.

Field Hockey: Diane Boulanger, Wendy MacMullin, Kim Robson, AUAA All Stars.

Merle Richardson, most shut-outs; Kim Robson, AUAA high scorer.

Gymnastics: Lynn Fergusson, AUAA 1st All-Around; 1st Beam, Bars, Floor, & Vault.

Track & Field: Debbie Corrigan, high jump; Karin Maessen, 1st 100 M Hurdles, 400 M Javelin Long Jump, 4 x 400 Relay.

Volleyball: Karin Maessen, AUAA All Star.

Sport	Coach	Most Valuable Player	AUAA Position
Badminton	David McCarroll	Trudy White	4
Basketball	Debbie Phelan	Heather Shute	2
J.V. Basketball	Michel Dusserault	Jill Tasker	1
Curling	Penny LaRocque	Rachel Kassner	3
Field Hockey	Nancy Buzzell	Karen Kelly	1
J.V. Field Hockey	Helen Castonguay	Patti Buzzell	1
Gymnastics	Vivien Symington	Lynn Fergusson	1
Swimming	Nigel Kemp	Jean Mason	3
Tennis	Bruce McArthur	Helena Prsala	1
Track	Cathy Campbell	Karin Maessen	1
Volleyball	Lois MacGregor	Karin Maessen	1
J.V. Volleyball	Debbie Dunham	Trudy White	2

Intramural participation

ACTIVITY	NO. OF TEAMS OR ENTRIES	NO. OF EVENTS OR GAMES PLAYED	NO. OF PARTICIPANTS	TOTAL NO. OF PARTICIPATIONS
Men's Inter-Faculty				
Golf	54	1	54	54
Tennis (Singles)	33	31	33	64
Tennis (Doubles)	11	10	22	36
Flag Football	14	48	386	994
Soccer	17	48	317	912
Softball	10	27	261	405
Canoe Races	14	1	28	28
Cross Country	18	1	18	18
Ice Hockey	28	154	537	2362
Basketball	19	67	221	1340
Volleyball	12	20	142	240
Badminton	20	32	20	68
Bowling	11	28	168	600
Floor Hockey	12	36	170	720
Paddleball	15	25	15	50
Men's Residence				
Floor Hockey	9	19	118	565
Volleyball	8	24	86	345
Ice Hockey	9	82	189	1885
Basketball	8	35	98	455
Women's Sports				
Basketball	8	16	56	156
Volleyball	7	26	98	423
Badminton	20	26	20	52
Canoe Races	9	1	9	9
Bowling	5	16	30	120
Tennis (Singles)	10	1	10	36
Golf	2	1	2	2
Co-Ed Sports				
Basketball	12	22	192	352
Softball				
Badminton	30	30	30	106
Volleyball	21	55	309	821
Tennis	10	12	10	46
Canoe Races	8	1	8	8
Broomball	14	27	245	1147
Bowling	8	16	45	192
TOTALS	**474**	**937**	**3947**	**14611**

NOTE:
***Individual Participants** is the total number of individuals who participated in one or more IM activities, tabulated from entry forms.
****Total Participations** is the total number of times that individuals participated in all IM activities, based on tabulation of score sheets of each activity.

Intramural participation—1972-1977

Activity	1972-73 Indv.	1972-73 Tot.	1973-74 Indv.	1973-74 Tot.	1974-75 Indv.	1974-75 Tot.	1975-76 Indv.	1975-76 Tot.	1976-77 Indv.	1976-77 Tot.
Men's Inter Faculty										
Golf	21		20		38	38	57	57	54	54
Tennis (Singles)	26		43		34	86	63	86	33	64
Tennis (Doubles)			8		6	18	12	32	22	36
Flag Football	135		238		230	714	316	672	386	994
Soccer	90		122		141	519	150	416	317	912
Softball	60		41				102	360	261	405
Canoe Races					18	18	32	32	28	28
Cross Country	18		13		9	9	51	51	18	18
Cycle Races	33		25		22	22				
Ice Hockey	320		551		451	1312	571	2231	537	2362
Basketball	150		192		146	545	200	1124	221	1340
BB Free Throw	15		22		7	7				
Volleyball	55		118		95	327	118	376	142	240
Badminton	37		43		21	46	16	30	20	68
Bowling			24		18	54	54	385	168	600
Floor Hockey	60		142		120	640	132	1072	170	720
Swim Meet	32		18		16	16	25	25		
Paddleball	31		42		21	53	38	64	15	50
Men's Residence										
Floor Hockey	60		71		74	420	81	424	118	565
Volleyball			78		53	162	42	76	86	345
Ice Hockey	80		121		132	820	160	945	189	1885
Basketball	85		89		162	295	72	240	98	455
Softball							36	126		
Women's Sports										
Volleyball	45		72		50	92	93	360	98	423
Golf	2		3		2	2	2	2	2	2
Tennis	10		9		11	38	16	24	10	36
Swim Meet	5		7		15	15	2	2		
Ice Hockey	28		31		21	158	36	504		
Broomball							24	45		
Ringette							16	96		
Cross Country							4	4	4	4
Basketball	35		12		28	57	42	92	56	156
Canoe Races							12	12	9	9
Bowling									30	120
Co-Ed Sports										
Basketball									192	352
Softball	65		134		108	200	89	250		
Badminton	30		32		11	42	8	24	30	106
Volleyball	60		130		113	275	79	136	309	821
Tennis	22		20		12	39	12	32	10	46
Canoe Races					8	8	12	12	8	8
Broomball	22		42		52	216	144	644	245	1147
Bowling	30		16		12	66			45	192
Curling	27		42		32	289				
TOTALS	1689		2571		2291	7634	3204	11051	3945	14609

Exam time shutdown causes hardship

Dalhousie University
School of Physical Education

ANNUAL REPORT 1976-77

During the past year, the Intramural and Recreation Services continued to deliver recreation services to the faculty, staff and students of the university effectively.

The successful combination of program scheduling, additional facility time in our existing facilities, and the utilization of other off-campus facilities resulted in a significant increase in participation opportunities.

One major void in our services is our inability to make the facilities available for recreational purposes during examination weeks in both terms. The evident stress and pressures placed on faculty and students during this time makes it necessary to provide recreation. We receive many complaints due to the complete shutdown of our facilities during exams. Hopefully some alternate arrangements might be made in the future to schedule exams in other campus facilities. (Exams are held in the gym).

The loss of the South Street field and the additional demand on the main field diminished some offerings, i.e., men's and co-ed softball.

The departmental bookings for an hour of ice time in the rink proved to be very popular. Four hours a week were scheduled on a rotational basis allowing departments to enjoy social-recreation among the employees and students within the departments.

Approximately 15-20 hours a week are scheduled in the facilities for free-time recreation in such activities as basketball, badminton, gymnastics, shinny hockey and free skating.

Intramurals

The 1976-77 Intramural schedule included a combined total of 34 activities in the men's, women's and co-ed programs. Keen enthusiasm was displayed and intense competition manifested by those participating in the various activities.

A concentrated effort was put forth to encourage the involvement of more female participants in both the women's and co-ed programs. This met with reasonable success and plans for continual improvement and growth in female participation will be made.

Some activities such as women's ice hockey, broomball, ringette and co-ed curling were removed from the Intramural schedule and organized as a club under the Extramural program. They have been well participated in and successful.

The participation reports, which follow, indicate a continuing increase in the number of individuals participating in Intramurals and the total number of participations over all. These figures are good indicators of the services provided and the utilization of our facilities. This year's program shows an increase of 700 participants and 3,600 participations.

Extramurals

The Extramural Sport Club Association had a total of 21 registered clubs this year and two new clubs, bowling and netball, have made application to join the association.

The club concept has allowed for greater support being rendered to the organization and the development of these sports on campus. An endeavour was made to provide each club with qualified coaching and leadership, facility and equipment to function and financial support for developmental activities.

The involvement of the clubs both in campus and community tournaments and leagues has expanded the development and participation of each of the clubs. Many clubs managed several recognizable accomplishments and championships.

Reto Barrington of the Alpine Ski Club swept the men's competition at both series of the Can/Am Races. Barbara Daniels won the Nova Scotia Lieutenant Governor's Challenge Cup in fencing. The Dalhousie Tennis Club gained membership in the new Burnside Tennis Club, allowing year-round competition, and men's and women's tennis teams captured the AUAA championships.

The Dal Rugby Club won the Nova Scotia Provincial Championship and travelled to the United States to compete against Yale and Harvard. The water polo club hosted its first invitational tournament and captured the championship. The Women's Ice Hockey Club hosted its third annual tournament and placed fourth. The rowing crew also travelled to Boston to compete in a regatta. They found the competition keen but have been invited back.

All in all it was a successful and rewarding year. The participation figure for the clubs was approximately 500.

Leisure time classes

The interest and enthusiasm shown for this aspect of the progrm has been encouraging and substantiates the desire of the university community for the opportunity to develop needed skills for recreational pursuits.

Classes offered this year were: eight sections of yoga, three social dance, four classes of women's fitness and conditioning, four ballet, and two tennis classes. These classes are all very popular and we could have offered more sections if facilities had been available. Two courses were not offered because of illness of the instructors.

Approximately 350 people were served through these courses and more could have been provided for, had facilities been available. There is a big demand for more courses of instruction in sport skills. We are now offering courses during the summer when facilities are available to meet some of these requests, but we'll have to await the completion of the new Centre to expand our program offerings.

We have contracted qualified instructors for these courses and the evaluations have been good. This has accounted for much of the success of the program, along with the dedicated concern of Gladys Moses, who has handled most of the administration details.

Dalhousie University
School of Physical Education

ANNUAL REPORT 1976-77

Undergraduate studies in physical education and recreation

Teacher prep, three major tracks broadened

As the School of Physical Education (established 1966) entered its second decade, it did so as a changed and changing entity. The original concern with teacher preparation has been broadened—health education is now separate—and the Physical Education and Recreation Undergraduate Division boasts of three major curricula: Physical Education, Recreation and Human Movement Discipline. Each of these tracks has broadened significantly and to a great extent each has become more clearly defined.

Overview

Enrolment: A total of 228 full-time undergraduates began the year in the Bachelor of Physical Education program. Added to that number were 16 part-time non-degree students who were admitted for one reason or another. During the year 8 students withdrew for personal, health and academic reasons. On the basis of low GPA's at the end of the academic year 24 students were asked to withdraw from the school. Of these 12-14 would appear to have a better-than-average chance of returning after summer school work.

Graduation: A graduation list of 39 was presented for the Bachelor of Physical Education degree. Of this number 25 completed the teacher preparation focus, 12 completed the recreation focus and 2 completed the human movement discipline focus.

Admissions: Last year 74 full-time students were admitted to first year studies in the school. Because of a more clearly defined split in the teacher preparation and recreation curricula the admissions target for 1977-78 is 90 first-year students (65 teacher preparation and 25 recreation). At the time of writing of this report admissions were ahead of those of last year for the same period of time.

The admissions procedure was not changed this past year. All Nova Scotia students were interviewed by a faculty member prior to being accepted. This eliminated the possibility of early acceptance based on marks alone and to some extent this may have worked to our disadvantage, since we are not certain of the validity of selection and screening procedures. As a result, the executive committee of the Physical Education and Recreation Undergraduate Division has recommended an early admission policy to the faculty for use in future years.

Further attention has not been given to the use of fitness and motor skills tests as screening devices for applicants to the Bachelor of Physical Education degree program. Again, concern for the validity of the tests, and the administrative problems they pose, have prevented their implementation.

Base Camp: This part of the program is a half-credit activity course but is looked upon as a most useful orientation activity for our first-year students as the course is conducted prior to registration week in September. J. Hoyle and A. Richards again did superb work in its organization and conduct.

Fitness: After an expressed concern for the state of physical fitness among undergraduate students Physical Education 101 was changed to incorporate fitness tests (pre- and post-) in order to increase the students' awareness of the importance of continued effort in this area. Students were generally very diligent in their efforts to meet standards and their reactions to such pressures were positive. It would appear this aspect of the program will be continued and improved.

Activity Program

The offerings available in the activity program remained fairly constant. Beginning, intermediate and specialization courses were offered.

Following the report of the school review committee, the faculty of the school committed the school to an activity "philosophy" after a faculty retreat in the spring of 1976. This policy confirmed a four-point philosophy toward the conduct of activity courses:

1. develop fitness specific to the activity
2. develop skill
3. develop knowledge and understanding of the technical aspects of the activity
4. develop knowledge of the teaching strategies specific to the activity.

The scheduling of activity courses continues to be a problem in some areas. It appears that what is needed is a total look at all scheduling in the school to solve the problem. Of particular concern are the aquatics area (because we are compelled to use the Centennial Pool) and activity areas in which we are dependent on part-time, non-university faculty for instruction—badminton, cross-country skiing.

It would appear that the many problems associated with student uniform policies have been reduced considerably. The majority of activity classes are consistent in wearing the required uniform. The lack of total consistency in the application of this policy by some professors still creates a number of questions in the eyes and minds of students.

Finally, it should be said that all activity teachers are looking forward to the new building which now appears to be developing into a reality.

Field Experience Program

The field experience program in 1976-77 saw the beginning of a new format for practice-teaching by our fourth-year students. From Sept. 1 to Nov. 30, the students spent four mornings per week in the schools practice-teaching, and returned to the campus Friday mornings for a two hour seminar. This was a major change for our Teacher Preparation Program, but one that received positive support from the students and teachers in the schools. The longer time spent in the schools enabled the students to develop confidence and teaching skills that will be of greater benefit to them when they begin their teaching careers.

Physical Education 495, the fourth-year internship, had 25 students in 29 different schools in the Halifax-Dartmouth area. The students were supervised by 8 faculty members. Some difficulty was experienced in meeting our objective of weekly observations with student teaching. Hopefully we will be able to resolve this problem by involving more faculty in supervising our student teachers next year. By having fewer students to supervise, it will be easier to work out an observation schedule that minimizes teaching conflicts.

Physical Education 395 had 34 students who were assigned to 17 schools. This aspect of the program was successful and found to be a valuable experience from the students' point of view.

One problem which manifested itself this past year was the wide range of experiences our students receive when they are assigned to the various schools. In an attempt to standardize the practice teaching experiences our students receive, a committee of teachers from Dartmouth, Halifax and the County met to discuss this problem. The result of our discussions has been the development of a sequential set of experiences which our students will have to complete over a four year period. Before implementation, meetings will be held with the associate teachers in the schools to explain the experiences so that everyone understands what is expected.

For the first time the problem of availability of schools for field experience appointments became a concern. Particularly problematic are two areas: 1) other institutions (from beyond the metro area) involved in teacher preparation are beginning to arrange to use Metro schools' and 2) the Health Education programme within the School of Physical Education is expanding. This latter problem would not be too serious if so many associate teachers in the schools were not responsible for teaching both physical education and health education.

The school continues to offer financial honoraria to the associate teachers in the participating schools. The honorarium is one way the school can express its appreciation for the assistance and excellent cooperation received from the teachers in the schools. Mr. Jim MacIntosh, Dr. Ted Welland and Mr. Steve Cook of the Dartmouth, Halifax County and Halifax School Board are to be commended for their excellent cooperation and support of our program.

Recreation Focus

In the fall of 1975, the Recreation Focus was instituted as a separate track within the school. The decision to institute the Recreation Focus was based on the following rationale:

1. A greater number of our graduates wish to enter the community recreation field.
2. There are powerful indicators that the number of recreation jobs available will expand in the near future.
3. Our graduates who obtain recreation positions in the community need more specific training in various aspects of community recreation, if they are to be adequately equipped for those jobs.
4. Dalhousie is ideally located in a large urban area with community schools, several public and private recreation departments, hospitals, YMCA's, and a great variety of other leisure service agencies.
5. Dalhousie, because of its size and location, has the knowledge and expertise both in the School of Physical Education and in other faculties (e.g., Business Administration, Political Science, Drama, Music, Sociology and Psychology) to be able to provide our undergraduate students with an interdisciplinary academic and practical degree in recreation.

The Recreation Focus has now completed its third year, and the goals of the program have not changed significantly since the program's inception. They are as follows:

1. To meet growing interests of students in opportunities for work in recreation organizations rather than in teaching situations in the public schools, and to do so on the basis of a program with emphasis on recreational organization and administration, particularly in urban centers.
2. To provide professional education for those interested in planning and administering recreation programs, particularly in an urban environment, and in services for the handicapped, based upon
   a. understanding of the contributions of recreation to society, its influences in the past and implications for the future.
   b. understanding of the relationships between physical education, health education and recreation.
3. To offer opportunity for part-time study by those already serving in recreation organizations and associations in the metropolitan area of Halifax/Dartmouth, estimated at about 200, many of them without professional education in recreation.
4. To emphasize relationships between recreationalists and others involved in human service delivery systems.

Progress in 1976-77

In the fall of 1975, the Deans and Directors of programs in Physical Education and related disciplines in the Maritime universities submitted a report to the Maritime Provinces Higher Education Commission which not only identified the existing Recreation Focus at Dalhousie, but noted that a logical development of the focus would be the introduction of a Bachelor of Recreation for the program.

The proposal to offer a Bachelor of Recreation within the school was presented in turn to the faculty of physical education, faculty council of Health Professions, Senate Council, Senate and the Board of Governors. The proposal has been accepted by the university, subject to funding arrangements and has now been submitted to the Maritime Provinces Higher Education Commission for approval.

Continued Development

After a year of great activity 1977-78 must become one of consolidation. The coming year will be exciting with additional faculty, new courses and more students. Hopefully Senate will agree to change the name of the school to reflect totally the breadth of the school's activities and hopefully, with the approval of MPHEC, we will be able to offer the Bachelor of Recreation degree in the spring of 1978.

The advisory program

The advisory program has functioned more or less "as usual" with the same rewards and the same headaches being cured in much the same ways as in the past. There have been fewer dissatisfactions of the type which result in students requesting new advisors. There have been some useful contacts in which potential problems have been anticipated and, hence, avoided or minimized.

Certain aspects of the advisory system and its operation deserve mention.

1. **Petitions.** Several petitions for extra credit hours of study have been considered and allowed or rejected in what was considered the best interests of the student.
2. **General Advice.** Students have been assisted in making decisions affecting their courses. Frequently, students need encouragement rather than drastic program revision and for this reason, perhaps, advisors of first year students should keep a close check on their charges.
3. **Function.** There is some feeling that the advisor is, to many students, a "baby-sitter" and that students should be obliged to shoulder the responsibility for their own program. The feeling is that they generally need help in their first year, especially as they have probably been nursed through high school. After that they should be expected to accept more responsibility for their own progress.

Exchange Program

The exchange program with Brockport University continued this year, its fifth year of operation. We were pleased to accept four students from Brockport in exchange for two from Dalhousie.

Inaugural exchanges, following successful negotiations by Dr. John Pooley, were established and became a reality during the 1976-77 school year. Students Diana Havill and Moira Cooper were the first Dalhousie representatives to attend Loughborough University College of Education while Beth Hatt and Patrick Nearing were our delegates to the City of Leeds Polytechnic and Carnegie College. For the fall term we welcomed Carole Gill and Brian Shaw, from Loughborough, and Maeve O'Mahoney and Mark Bretherton from Carnegie. They all proved excellent ambassadors for their institutions and were unanimous in considering their experiences eminently worthwhile. Our students returned full of enthusiasm following the excellent opportunities they had to broaden their horizons and learning experiences. We still have problems of equalization of programs to resolve, but are most hopeful of further developing and continuing these programs.

Because of expansion in exchange programs in general, at least one British institution has postponed the program for a year until it can develop more global policies for the conduct of exchanges.

The Future

The streamlining of the Recreation Focus and its potential development into a degree program has opened the door for major curriculum changes in the teacher preparation and human movement discipline programs. The Executive Committee and the Curriculum Committee of the Physical Education and Recreation Undergraduate Division have taken the attitude that an investigation into major changes will be made, rather than spending too much energy on "patch work". As a result, the curriculum committee produced an initial document which concentrated on three things: 1) clearer options within it ; 2) a more specific and purposeful revision of the teacher preparation program; 3) complete re-thinking and revision of the activity program.

In its initial draft the curriculum committee presented some extremely innovative and imaginative changes, and it is hoped any new program will be ready for installation with the opening of the new building.

The graduate division

The Master of Science program in the school is designed to provide a non-professional graduate education in specified areas of study in health education, physical education and recreation.

It is hoped that the Master of Science program creates an environment in which both faculty and graduate students can actively participate in an interchange of information through a variety of structured and unstructured modes. In addition, it is assumed that there will be several objective results as a consequence of involvement in the program. These might include: the generation of new knowledge; the dissemination of new and previously known information by means of the acquisition of certain academic skills such as verbal presentations, term papers, published articles and a thesis, which culminates, for the student, with the Master of Science degree.

Enrolment

During the academic year 1976-77, there were 128 completed applications for the graduate program. Of this number 26 students began full-time graduate study. Also, 14 on-campus students enrolled in "thesis only" study and 10 students who were not on the Dalhousie campus enrolled as "thesis only" students. These "thesis only" students had completed the necessary course work and were completing their individual thesis projects. In addition, there were six students enrolled in a "qualifying year" program to meet the course requirements for admission to the Master of Science program. There were also nine "no degree" students who were taking graduate courses without a degree objective. Thirty-one students received graduate assistantships of varying amounts.

Graduate Faculty: Courses Taught and Interests

A. Belcastro:
-Circulatory response;
- Physiological basis of competitive sport;
- Laboratory techniques in exercise physiology.
Metabolic adaptations to acute and chronic exercise.

E. Belzer,
Human sexuality and educating about it; Seminars on health related theories.
Research in human sexuality, communication skills and anti-smoking programs.

A. Bonen,
Metabolic response;
Physiological basis of competitive sport;
Laboratory techniques in exercise physiology.
Hormonal response and lactic acid removal during and as a consequence of exercise.

M.J. Ellis,
Research methods;
Leisure and society.
Determinants of play behavior, activity and hyperactivity, play and mental and physical health.

R. Holcomb,
Status and trends in health education.
School and community health education.

L. Holt,
Advanced anatomy;
Advanced movement analysis;
Sport science seminar.
Cinema-computer analysis of sport skills. Development of strength and flexibility.

J. Lord,
Contemporary issues in leisure and disabled persons;
Perceptual motor development.
Development and assessment of perceptual-motor attributes. Disabilities and recreation involvement.

L. Maloney,
Administration of physical education.
Organizational structure, teacher job satisfaction and role conflict in teaching.

J. McCabe,
Psychology of sport;
Psychological research applied to physical activity.
Organization of motor skills in memory and information utilization during motor performance.

S. Moxley,
Motor learning and performance;
Psychological research applied to physical activity.
Biomechanical and motor learning analyses of closed motor skills.
Motor short-term memory and attention.

J. Pooley,
Professional socialization. Comparison of physical education and sport in the Soviet Union, developing countries and Western Europe.
Competition and minor players and role theory and the coach.

R. Reynolds,
Contemporary issues in leisure and disabled persons;
Leadership development in leisure and disabled persons.
Operant conditioning techniques as applied to the ill and disabled.
Prescriptive activity programming for special populations and play patterns of normal and exceptional children.

W. Shannon,
Seminars on scientific bases of health education.
Drug use among high school students in Atlantic Canada. Development of health knowledge inventories and continuing health education programmes.

C. Stevenson,
Sociology of sport.
Visiting Professor from the University of New Brunswick.

L. Verabioff,
Analysis of teaching;
Applied motor skill learning. Models of skill acquisition.

P. Witt,
Contemporary issues in leisure and disabled persons;
Visiting Professor from the University of Ottawa.

A. Young,
Research statistics and experimental design;
North American acceptance of black boxers. History of the ancient and modern Olympics.

OVERVIEW

The Graduate Division experienced a very successful year, in that there were 18 thesis proposals receiving a positive review by examining committees and eight theses which were satisfactorily defended. A total of 11 Master of Science degrees were conferred during the 1976-77 academic year.

Additional faculty support for graduate education was provided by the presence of Dr. Peter Witt and Dr. Chris Stevenson. Dr. Witt came to Dalhousie during his sabbatical year from the University of Ottawa and was directly involved with Drs. Reynolds and Lord in the leisure and disabled persons area. Dr. Stevenson commuted from the University of New Brunswick to Dalhousie to teach a graduate sport sociology course, providing an indication of the close relationship between the two institutions.

A new graduate focus in leisure and disabled persons was initiated during the year, with Dr. Lord and Dr. Reynolds assuming major responsibility for the program. Two students pursued studies in this area and expectations are to maintain the enrolment at a relatively low number. Dr. Edginton will be a new faculty member, providing additional support for graduate study in leisure and disabled persons.

The sport science focus was enriched by the addition of a new seminar course under the responsibility of Dr. Holt. The course was successful in providing a central core for graduate students studying the various aspects of sport science. Another new course was entitled "Laboratory techniques in exercise physiology" and was under the direction of Dr. Bonen and Mr. Belcastro. This course provided an important addition to the teaching and research program in exercise physiology.

An additional graduate course is being prepared for the upcoming year, to be crosslisted with the Psychology Department, which will be titled "Topics in human performance: The control of movement." Dr. McCabe and Dr. Klein of the Psychology Department will both be involved with the course.

The Graduate Division will be additionally bolstered by the return of Dr. Pooley and Dr. Young, who have been on sabbatical.

Successful Thesis Proposals

Paul Adams.
"Predictive variables, role conflict, ambiguity and job satisfaction, in situations of single and multiple leadership," (advisor-Dr. Maloney).

Michael Arthur,
"Effects of peer modeling and cognitive self guidance training on the social play of emotionally disturbed children" (advisor-Dr. Reynolds).

Anthea Bellemare,
"Correlates of physical activity in day care centres" (advisor-Dr. Ellis).

Cathy Campbell,
"Effect of power weight training on myosing ATPase" (advisor-Dr. Bonen).

Pat Conrad,
"The effect of one cycle of oral contraceptive use upon the metab olism of alcohol" (advisor-Dr. Belzer).

Chris Curran,
"The systematic control of rhythm in swimming," (advisor-Dr. Holt).

Jim Earle,
"The relative contributions of selected physical tests and measurements as predictors of performance on a rowing ergometer" (advsior-Dr. Holt).

John Fazey,
"Social facilitation: The effect of an audience on the speed and accuracy of performance in a simple motor task" (advisor-Dr. McCabe).

Brian Hawkins,
"A test of Schmidt's (1975) schema theory" (advisor-Dr. McCabe).

John McGrail,
"Lactate removal and working muscle mass" (advisor-Dr. Bonen).

Ken MacIntyre,
"Effects of carbohydrate supply on cortisol concentrations during exer cise" (advisor-Dr. Bonen).

Karen Mann,
"Effect of self home blood pressure measurement on compliance with antihypertensive medication" (advisor-Dr. Belzer).

Barbara Mullaly,
"Relationship between organizational climate and concurrence in meaning attached to selected administrative terms" (advisor-Dr. Maloney).

Bob Nell,
"The effects of recovery exercise upon intramuscular pH, glycogen and lactic acid in rat tibialis anterior muscle" (advisor-Dr. Bonen).

Jean-Guy Paré,
"Involvement in an organized interschool sports program: The case of the French Canadian secondary schools of Montreal" (advisor-Dr. Pooley).

Sue Shaw,
"The problem of leisure: A comparison of subjective and objective methods for calculating leisure time for males and females" (advisor-Dr. David Elliott, Sociology).

Lorraine Stevens.
"Comparative effectiveness of a sensory deprivation program and an hypnosis technique on reduction and abstinence of cigarette smoking" (advisor-Dr. Belzer).

Trevor Wood,
"A fluid dynamic-cinema-computer analysis of the propulsive role of the hand and forearm in swimming" (advisor-Dr. Belzer).

Successful Thesis Defences

Charles Ballem,
"Reflections on a sport dynasty, the Abegweit Athletic Association, 1887 -1937" (advisor-Dr. Young).

Jim Beatty,
"Play, schema development and motor skill acquisition" (advisor-Dr. Ellis).

Sue Flemington,
"Computer-assisted interpretation of exercise electrocardiograms in the detection of coronary artery disease" (advisor-Dr. Bonen).

Valerie Gilbey,
"Acupuncture for smoking withdrawal: An experimental study" (advisor-Dr. Belzer).

John McGrail,
"Lactate removal and working muscle mass" (advisor-Dr. Bonen).

Ken MacIntyre,
"Effects of carbohydrate supply on cortisol concentrations during exercise" (advisor-Dr. Bonen).

Steve Pound,
"Psychological inventories for competitive basketball" (advisor-Dr. Rushall).

Gary Stephens,
"A history of male basketball in Halifax, 1894-1930" (advisor-Dr. Young).

Degrees Conferred

Agboola Adebayo,
"A cinema-computer analysis of volleyball fundamentals" (advisor-Dr. Holt).

Charles Ballem,
"Reflections on a sport dynasty, the Abegweit Athletic Association, 1887 -1930" (advisor-Dr. Young).

Jim Beatty,
"Play, schema development and motor skill acquisition" (advisor-Dr. Ellis).

Janice Butcher,
"A study of the differences between high school girls who elect physical education and high school girls who do not" (advisor-Dr. Jensen).

Nancy Buzzell,
"A cinema-computer analysis of selected field hockey strokes" (advisor-Dr. Holt).

Bernard Daly,
"The context of adolescent students' attitudes towards alcohol use" (advisor-Dr. Belzer).

Sue Flemington,
"Computer-assisted interpretation of exercise electrocardiograms in the detection of coronary artery disease" (advisor-Dr. Belzer).

Valerie Gilbey,
"Acupuncture for smoking withdrawal: An experimental study" (advisor-Dr. Belzer).

John McGrail,
"Lactate removal and working muscle mass" (advisor-Dr. Bonen).

Debbie Pepler,
"Accessibility to play and motor development of pre-school children" (advisor-Dr. Ellis).

Gary Stephens,
"A history of male basketball in Halifax, 1894-1930" (advisor-Dr. Young).

Dalhousie University
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Human performance laboratory extremely productive

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During the past year the laboratory has become an extremely productive unit. This is no doubt related to the experienced assistance of the graduate students who are in their second year of graduate study and therefore quite involved with the laboratory's research activities.

The technical support provided by graduate students in their first year in the laboratory also provides further assistance for our research program.

The addition of Mr. Belcastro to the faculty has provided another complementary dimension to our research efforts. Without him it is doubtful that we would have been able to start the muscle histo-chemistry and animal studies this year. This expansion enhances the focus of our research activities, namely, the investigation of substrate mobilization and substrate metabolism during exercise.

Various projects have required the cooperation of other departments. We have established a good working relationship with Dr. W. Ling of the Endocrine Laboratory of the Department of Obstetrics and Gynecology. This has enabled us to investigate the menstrual cycle hormone alterations that can be induced by acute and chronic exercise. Several articles have been submitted from these joint ventures.

Dr. L. Kirby, Department of Medicine, has been actively involved with some of our recent studies concerning the functional adaptations of skeletal muscle induced by training. Dr. R. O'Dor of the Biology Department has provided Mr. R. Neil with laboratory facilities and equipment to complete his thesis work.

The future for the lab's research activities is exciting. In particular a systematic study of muscle fatigue in animals will be initiated. Also, research into the endocrine substrate metabolism during exercise will be continued. It is hoped to coordinate some of our efforts on muscle fatigue with those of Dr. A.P. Hollander of the Department of Physiology at the University of Amsterdam, and the work on cortisol with Dr. Brandenberger at the University of Strasbourg.

Laboratory Group: Faculty: A. Bonen, A.N. Belcastro. Graduate Students, C.J. Campbell, R. Kilgour, K. MacIntyre, S. Malcolm, J.C. McGrail, R. Neil, T. Stevens.

Laboratory Projects

Belcastro, A.N., Bonen, A., Yarkony, M. "Physiological Adaptation of Age Group Swimmers During Training, A Longitudinal Approach."

Bonen, A., Neil, R., and McGrail, J.C. "Effect of Lactic Acid on Fatigue." (continued from 1975-76).

Bonen, A., Belcastro, A.N., Simpson, A.A., and Ling, W. "Menstrual Cycle Hormone Patterns in Teenage Girls." (continued from previous year, data to serve as comparative control data for other, similar studies).

Bonen, A., MacIntyre, K., Belcastro, N.A. "Insulin and Growth Hormone Responses During Exercise with Varied Levels of Carbohydrates."

Bonen, A., Campbell, C.J., Kirby, L., and Belcastro, A.N. "Relationship Between Muscle Fiber Composition and Lactate Removal Rates."

Bonen, A., Campbell, C.J., and

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MOTOR SKILLS RESEARCH STEPPED UP

The objectives of the research program undertaken in the motor skills research laboratory are: to enlarge the basic program of research on retention of motor skills; to initiate a program of research into the phenomenon of social facilitation; to initiate a program of research into the processing of information during motor skill performance; to further promote inter-disciplinary studies with other research programs in Physical Education; and to increase undergraduate and graduate student involvement with experimental research.

First Objective: A study of the effects of a specific experimental paradigm on motor memory was completed (L. Chalip and S. Moxley - The within-subject correlation as a measure of the perceptual trace.). Research into the effects of variability of encoding of movements was begun. The research is based around a hypothesis of a recent theory that suggests that variability of practice will improve retention of motor skills. That suggestion has been supported by the following studies: Hawkins, B. A test of Schmidt's (1975) Schema Theory; Moxley, S. McCabe, J., Fazey, J. and Hawkins, B. Effect of variability of practice on learning a novel throwing task.

Second Objective; one MSc. thesis (Fazey J., Effects of audience on speed and accuracy of a motor skill) has been initiated. Also, several undergraduate projects on this topic have been completed as follows: Covey, F. Effects of the presence of others on speed and accuracy in performing a motor task; Hebb, M. Effects of an audience on performance of a complex motor task; Ng. C.L. and R. Miller. Effects of a camera, audience and no audience on performance of a motor skill; Richards, J. Effects of social facilitation in relation to speed and accuracy in a motor task.

Two of the studies on social facilitation and B. Hawkins' thesis were facilitated by the use of the PDP 11 computer in Psychology, and the assistance of Dr. Ray Klein. It is hoped that this will continue to be available to us, until ours becomes available in the new building.

Third Objective: Although this objective is of concern to all members of the lab, progress has been slow due to problems with equipment. One piece of apparatus (Ball bushing slide) was completed, but pilot testing with it showed that it had several problems. Further work was done which determined that the consistency of the apparatus was very low. The possibilities for this apparatus are being re-evaluated. Some progress was made on a second task (Variable Coincident Timing Apparatus), which will be ready for validating shortly. The task is intended to be used to study the role of feedback in learning a motor skill as learning progresses (J. McCabe).

Fourth Objective: Within the school, the lab has been involved in a number of "interdisciplinary" studies. The MSc thesis of J. Beatty combining play, development and motor learning was completed. An MSc thesis looking at the potential interactive effect of the birth control pill and alcohol metabolism on the motor skills of automobile driving has been initiated (P. Conrad). The project using kinematic analysis of learning a closed skill has been completed. The results support a recent notion that the temporal rather than spatial components of a closed skill appear to form one basis of storage in memory (S. Moxley). As well, both S. Moxley and J. McCabe were involved with A. Bonen and L. Holt in the development of a proposed research contract to study several aspects of synchronized swimming. This has been approved by the Fitness and Amateur Sport Branch.

Fifth Objective: This year we have again increased student involvement in the lab. The first-year course (Scientific Foundations) has one lab session looking at the importance of teacher feedback for learning. In addition to the projects mentioned above, the following undergraduate projects were completed successfully: Cochrane, B., Effect of distribution of practice on learning a "form" skill; Coleman, C., The effect of relative frequency of K.R. on performance and learning; Cooper, E., Effect of variability of practice on transfer to a novel task; Cooper, M., Effects of music on performance of an endurance task; Gormley, A., Internal sensory feedback and its effect on performance and learning; Lavalee, D., Distribution of practice and learning a closed skill; MacLean, G., Effects of frequency of K.R. on learning a complex motor skill.

Two of these projects were rewritten with the students for submission for publication.

To develop an individual program plan for each child in terms of his/her needs and the integration process. This may involve the following: upgrading specific play skills, counselling support to parents and children, finding community programmes of interest, etc.

While a number of children needed specific training in motor and play skills, the facilitating and coordinating role of the clinic took on increased importance. When specific support was made available, many children were able to participate in regular community activity programs. Detailed documentation of this process will be available in a recreation integration report that is in preparation.

To facilitate parent involvement, acceptance of their child and awareness of resources that are available in the community.

Due to a limited number of clinic leaders, a parents' group was not held this year. Parent involvement was accommodated on an individualized basis.

To design leadership training experiences and opportunities which allow volunteer-students and community staff to develop: (1) an awareness of normalization and integration and (2) the skills to upgrade play skills while supporting the child toward integration.

The past year has been a transition time in the life of the clinic. We have moved from demonstrating skill development and transfer to demonstrating integration with existing support services. The transition has not been easy. Much has been learned in an area that is new ground in human service. Careful assessment this summer will determine the future role of the clinic in this area. Special thanks are extended to Mike Arthur and Kathy Jackson, graduate students, for their assistance as clinic leaders during the last year.

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Scholarly writings published after peer review

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Emphasis is on applied research

In the Biomechanics — Applied Anatomy Laboratory the main emphasis of the research is applied. The lab tries to answer questions of interest to physical educators and coaches. Although attention is focused primarily on practical investigations, a number of studies may be considered on basic research.

Virtually all the studies involve the conception and production of new pieces of research equipment. This work is done by our school's technical staff, headed by Alan Alexander. His creativity and manipulative talents have clearly made the Biomechanics — Applied Anatomy lab a "going concern."

The following list includes the work of our graduate students, some of whom are in the coaching science program, while the others are strictly interested in the biomechanics of sport.

Trevor Wood — A coaching science major, involved in perhaps our most sophisticated study to date. It involves the determination of the lift/drag forces created by the hand and forearm during competitive swimming. This is a cooperative effort with N.S. Tech and Prof. Charles Miller. The wind tunnel at Nova Scotia Technical College is being used in this study.

Chris Curran — A coaching science major in the midst of a study to determine the effects of an external pacing device on the mechanics, rhythm, and performances of competitive swimmers.

Terry Young — Fred Promoli — (coaching science) have proposed to compare the effects of various weight training devices and programs of exercise on selected power and motor performance tests. The results of these will not only be of value to the profession, but will help us to decide on major equipment purchases for our new building.

Pierre Gagné — currently involved in a study comparing the shooting techniques of highly skilled and poorly skilled ice hockey players. The wrist, snap, slap and back hand shots will all be analyzed.

Gary Yates — coaching science, has proposed to do a multiple linear regression analysis on the jump shot in basketball. Variables extracted from a cinema-computer analysis will be subjected to the statistical approach mentioned above with the hope of isolating factors that account for differences in shooting ability.

Wayne Marryatt — (biomechanics) has initiated his study which focuses on the "Bump" technique in volleyball. Essentially he will be attempting to derive a regression equation to account for the variance of performance in executing the bump technique with varying speeds of the oncoming ball.

Bob Smith — (biomechanics) is involved in the study of the dynamics of the flight of a football. In this investigation our projectile machine will be used to propel the football at selected angles, velocities and spins under varying wind conditions in order to determine the flight characteristics of the North American football.

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Belzer, E.G., Jr. "Recreational Drug Use," **Health in Action**, Warren R. Johnson, ed. New York: Holt, Rinehart and Winston, pp. 343-74, 1977.

Boileau, R.A., Bonen, A., Heyward, V.H. and Massey, B.H. "Maximal Aerobic Capacity of Boys on the Treadmill and Bicycle Ergometer," **Journal of Sports Medicine and Physical Fitness** (in Press).

Bonen, A. and Belcastro, A.N. "Comparison of Self-Selected Recovery Methods on Lactic Acid Removal Rates," **Medicine and Science in Sports** 8:176-178, 1976.

Ellis, M.J. and Scholtz, G.J.L., Book-length monograph, **Activity & Play of Children**, completed after revision in 1976, taken through galley proof for 1977 publication.

Ellis, M.J. "Play: A Paradox for Teacher and Scientist," in **Learning How to Play**, D. Siedentop (Ed.), **Quest**, 26:128-39, 1976.

Mauser, H. and Reynolds, R.P. "Effects of a Developmental Physical Activity Program on Children's Self-Concept and Body Coordination," **Perceptual & Motor Development**, 1977 (in press).

McCabe, J.F. and McArdle, W.D. "Individual and Dual Sport Skills Tests and Skills Tests in Team Sports," **An Introduction to Measurement in Physical Education**, Henry J. Montoye (Ed.), Boston, Allyn and Bacon, for publication in 1977.

McCabe, J.F. Book Review of Arnheim, D.D. and Sinclair, W.A. **The Clumsy Child** (C.V. Mosby), **Leisurability**, 4:42, 1977.

Montoye, H.J., McCabe, J.F., Metzner, H.L. and Garn, S.M. "Physical Activity and Bone Density," **Human Biology**, 48:599-610, 1976.

Moxley, S.E. and Moxley, B.D. "Development of Spatial and Temporal Consistency with Extended Practice," **Psychology of Motor Behaviour and Sport**, R.W. Christina (Ed.), 1977, 1:71-77.

Pyke, F., Baker, J., Hoyle, R.J., Scrutton, E. "Metabolic & Circulatory Response to Work on a Canoe and Bicycle Ergometer," **Australian Journal Sports Medicine** (Research Editorial), 5(6): 22-31, December 1973.

Schmidt, R.A. and McCabe, J.F. "Motor Program Utilization over Extended Practice," **Journal of Human Movement Studies**, 2:239-247, 1976.

Belcastro, A.N. "Relationship Between Muscle Composition and Practical Indices of Muscle Power Testing."

Campbell, C.J., Belcastro, A.N., Kirby, L. and Bonen, A. "Effect of Anaerobic Training on Myosin ATPase."

Kirby, L., Campbell, C.J., Belcastro, A.N., and Bonen, A. "Comparison of Different Techniques for Obtaining Muscle Biopsies."

MacIntyre, K., Bonen, A., and Belcastro, A.N. "Cortisol and Substrate Metabolism during Exercise with Varied Levels of Carbohydrates."

McGrail, J.C., Bonen, A., and Belcastro, A.N. "Effect of Skeletal Muscle Mass in Lactate Removal in Man."

Neil, R., Belcastro, A.N., Bonen, A. "Recovery from Fatigue During Rest Recovery and Active Recovery Exercise in Rat Tibialis Anterior Muscle."

Meeting children's needs more directly

During the past year, the Children's Developmental Clinic has continued to demonstrate its usefulness in three general areas: as a base for students to gain valuable experience in working with children (teaching and program development); as a service to children who need support and opportunities to upgrade perceptual-motor skills; and as a center for documentation and research.

The last three years have witnessed a tremendous increase in community awareness and action in the area of activity services for children with disabilities. While school boards and recreation departments are beginning to be more responsive, demonstration projects like the clinic and continued community action are critical if the delivery of activity services to disabled children is to be significantly improved.

The challenge for the 1976-77 clinic revolved around the notion of meeting the needs of children more directly in the community.

The goal of the clinic is to demonstrate and document the process of integrating children with special needs into regular physical activity and recreation experiences.

Specific Objectives

In conjunction with the Halifax Recreation Integration Committee and the Halifax Recreation Department, to ensure that regular activity programs for children are suitable for, and open to, the inclusion of children with special needs. This objective will be met in part by: 1) direct negotiations with recreational agencies and 2) a series of leadership training sessions with volunteers and agency staff.

While some progress was made in meeting this objective, more intensive work is being completed this summer. Brenda MacLauchlan has been hired by the Halifax Recreation Integration Committee, on a grant from RCDNS. Part of Brenda's research will involve an assessment of selected recreation programs and their suitability for integration. During the past year, several leadership training sessions were held with volunteers. Recreation coordinators from the community attended one of these sessions, helping to improve the links between the clinic and community.

In order to facilitate each child's development, it was necessary to match volunteers with individual children, and have them work and play together to diminish the impact of the perceptual motor deficit, both in the clinic and in existing programs in the community. Sixteen children were matched with student volunteers. The programs varied in length from 8 weeks to 20 weeks, depending upon the needs of the child.

Scholarly presentations

Beazley, Richard. "B.Sc. (Health Education) Degree Program, Dalhousie University." **IX International Conference on Health Education,** Ottawa, Sept. 2, 1976.

Bellemare, H.K. "Community Sport — Who's Bag?" **Recreation Association of Nova Scotia Conference,** Oct. 1-2, 1976.

Belzer, E.G. Jr. "Health Education: Policies, Models and Strategies." Keynote speech presented to the **1977 Biennial Conference of the Australian Council on Health, Physical Education and Recreation,** Brisbane, Queensland, Jan. 14, 1977.

Belzer, E.G. Jr. "Concepts of Health and Their Implications for Health Education Practice." Interest session speech presented at the **1977 Biennial Conference of the Australian Council on Health, Physical Education, and Recreation.**

Bonen, A., Belcastro, A.N., Simpson, A.A., and Ling, W. "Comparison of LH and FSH Concentrations in Age-group Swimmers, Moderately Active Girls and Adult Women. **IVth International Congress on Swimming Medicine,** Stockholm, June 1977.

Bonen, A., Belcastro, A.N., MacIntyre, K. and Gardner, J. "Hormonal Responses During Rest and Exercise with Glucose." **American College of Sports Medicine Meetings,** Chicago, May 1977.

Bonen, A. and Belcastro, A.N. "Comparison of Menstrual Cycle Hormones in Swimmers and Sedentary Adults." **Guelph-Windsor Human Movement Symposium,** Oct. 22-23, 1975.

Bonen, A. and Belcastro, A.N. "Menstrual Cycle Hormone Responses to Exercise." **Seminar, York University,** Toronto, Jan. 26, 1977.

Bonen, A. and Belcastro, A.N. "Lactate Removal During Active Recovery Exercise." **Seminar, York University,** Toronto, Jan. 26, 1977.

Ellis, M.J. "Leisure Research — Review and Preview." Keynote address, **A.V. Sapora Retirement Symposium,** University of Illinois, May, 1977.

Holt, L.E. "Flexibility and Strength Training for Competitive Swimmers." **World Swim Clinic,** New Orleans, September 1976.

Holt, L.E. "Stroke Technique — Where Do We Go From Here?" **World Swim Clinic,** New Orleans, September 1976.

Lord, J.C. "The Integration Process." **Current Trends in Mental Retardation Symposium,** Toronto, Aug. 23-25, 1976.

McCabe, J.F. and Johnson, R.W. "Variability of Practice on a Ballistic Task: A Test of Schema Theory." **North American Society for the Psychology of Sport and Physical Activity,** Ithaca, New York, May 1977.

McCabe, J.F. and Moxley, S.E. "Information Processing: Some Implications for Coach and Athlete." **Canadian Association of Health, Physical Education and Recreation,** Wolfville, June 1977.

McCabe, J.F. "Motor Behavior: Implications for the Physical Education Teacher." **Atlantic Provinces Health, Physical Education and Recreation Meeting,** Saint John, 1977.

Melville, D.S. and McCabe, J.F. "Test of Motor Schema Theory: Performance of a Rapid Movement Task in the Absence of Knowledge of Results." **North American Society for the Psychology of Sport and Physical Activity,** Ithaca, New York, 1977.

Moxley, S.E. "Auxiliary Techniques in Coaching Synchronized Swimming." **National Coaches Clinic,** C.A.S.S.A. Inc., Saskatoon, 1976.

Moxley, S.E. "Motor Skills in Children: What Brings About Change?" **A.P.H.E.R.A.,** St. John's, Newfoundland, October, 1976.

Moxley, S.E. and Fazey, J.A. "The Schema — It Depends How You Look for It." **N.A.S.P.S.P.A.,** Ithaca, New York, May 1977.

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Shannon, W.J. "Behavioural Science Research in the Canadian Heart Foundation." **Canadian Heart Foundation Public Education Committee Meeting,** Vancouver, April 1977.

Shannon, W.J. "Adolescent Drug Use Trends in Nova Scotia 1969 - 1976 with Cross-Canada Comparison." **Canadian Public Health Association 68th Annual National Conference,** Vancouver, June 1977.

Scholarly and creative activity

A.N. Belcastro: Reviewed research proposals submitted under the research support program of the Fitness and Amateur Sport Branch, Health and Welfare, Canada. Completed doctoral dissertation proposal, University of Alberta. Developed and validated five new laboratory procedures.

N.L. Buzzell: Presented research findings to: Coaches clinic at Moncton, N.B.; Graduate seminar at Dalhousie; Level I coaches clinic at Halifax. Coordinated CWFHA Level I coaches clinic at Halifax.

C.C. Hood: Served as external consultant to the City of Halifax Recreation Master Plan. Document completed November 1976.

N.M. Ipson: A multi-media promotional slide presentation for the Division of Athletic and Recreation Services is in the process of completion. Presentation on "Sport Clubs" at the Intramural Workshop session Annual CAHPER conference, Wolfville, June 1977.

N.H. Kemp: Acted as resource person, CASA, Nova Scotia section planning workshop, in cooperation with the Nova Scotia Department of Recreation and Sport Nova Scotia. Greenwood, October 1976. Tutor-Coach of C. Curran, graduate student in Physical Education at Dalhousie, who received the Coaching Association of Canada and O'Keefe Sports Foundation coaching bursary, 1976 - 77.

J.C. Lord: Co-editor with R.P. Reynolds, **Journal of Leisurability.**

S.E. Moxley: Developed, with E. MacMichael, Nova Synchro II, the second level of the recreation program in synchronized swimming for Nova Scotia. Made a TV tape "Talking Synchro" with Dartmouth Cable TV, for use in promoting synchronized swimming. Filmed November 1976. Made a TV tape "The Juniors are Coming" with Halifax Cable TV, for use in publicity for the Junior National Championships. Filmed April 1977. With a grant from Recreation Canada to the CASSA Inc., one of five people who developed the new national recreation program in synchronized swimming. Responsibilities included writing two chapters of the manual, developing promotional materials, developing instructional posters and presenting the program to the provincial sections in Ottawa, March 4 - 6, 1977.

P.G. Page: Produced a skating curriculum based on the needs of elementary school children for the Municipal School Board, Halifax County.

J.M. Prsala: Prepared two short films on track and field and gymnastics as material for the PE 465 Biomechanics course.

P.D. Richards: Two television programs for the CBC Educational Television, "Drama Movement for High School Actors." Arranged five Renaissance Evenings in conjunction with Musica Antiqua Ensemble. Noon Hour Theatre - presentation of class work, April 5, 1977. Choreography for the Music Department production of "Amahl and the Night Visitors." Choreography for haute couture fashion show for the Cancer Society. Choreography for Queen Elizabeth High School production of "Irene." Choreography of a dance, "Sorcery," for presentation at the Art Gallery of Nova Scotia, April 27, 1977.

L.J. Verabioff: A pilot videotape was prepared on teaching motor skills in graduate course 580B.

The Faculty's service to the university

R.P. Beazley: Head, Health Education Division; Chairperson, "Working Conditions" session at the School of Physical Education Faculty Retreat, Tatamagouche, April 20, 1977; Member, School of Physical Education Library Committee; Member, Faculty of Health Professions Tenure Committee; Negotiated with Norman Fergusson, executive secretary of the Nova Scotia Teacher's Union, and Dr. Phillip Carter, director of teacher education for Nova Scotia to have health education sanctioned, via an Order-in-Council, as a certifiable teaching subject in Nova Scotia. Nova Scotia became the first Province in Canada to so recognize health education.

A.N. Belcastro: Member, School of Physical Education Committee to evaluate fitness levels and requirements for first year and returning Physical Education majors; The following grant was written and submitted; **Belcastro, A.N. and Bonen, A.** "Effects of Exercise on Myosin of Selected Fibers in Growing Rats." **Dalhousie Research and Development Fund** (requested $3,000; received $600).

H.K. Bellemare: Head, Athletic and Recreation Services Division; Director, men's athletics; Chairman, search committee for faculty replacements; Co-chairman, CWIAU Field Hockey Championship; Member, search committee for Director, School of Physical Education; Member, Sport and Recreation Council; Member, School of Physical Education B. Rec. proposal committee; Member, AUAA ethics committee; Member, AUAA Atlantic Bowl committee; University representative to AUAA and CIAU; Co-liaison officer, with L.E. Holt, with the architects of the new centre; Planning and implementation of "Sport for All" program; Multi-media presentation, with A. Richards, for the Athletic Awards banquet.

E.G. Belzer: Member, Faculty of Graduate Studies, Dorothy J. Killam Memorial lecture series committee; Member and lecturer, Faculty of Medicine human sexuality committee; Faculty of Health Professions representative, committee of university calendar coordinators; Member, search committee for Director, School of Physical Education.

A. Bonen: Member, School of Physical Education committee to formulate a proposal for a Ph D program; The following grant requests were written and submitted: Bonen, A. "A Field Method for Predicting Cardio-Respiratory Fitness in Children, Aged 7 - 16." (Request $23,000—not funded); Bonen, A. and Belcastro, A.N. "System for Analysis of Mammalian Skeletal Muscle Responses to Exercise and Electrical Stimulation." (National Research Council, $21,435.85—not funded); Bonen, A. and Ellis, M.J. "Proposal for Cooperation Between the Human Performance Laboratory and the Department of Recreation, Physical Fitness Program." (Submitted to Nova Scotia Department of Recreation); Bonen, A. "The Nova Scotia Fitness Information and Testing Units—The N.S. Fit-Mobile." (Submitted to Nova Scotia Department of Recreation); Bonen A. "The Nova Scotia Fitness Test for Children." (Submitted to the Nova Scotia Department of Recreation $15,000); Bonen, A. "Support of Summer Student Employment (CHASEP)." (Request submitted to National Health and Welfare—not funded).

N.L. Buzzell: AUAA swimming and diving coordinator; CWIAU field hockey coordinator; Member, AUAA Board of Governors; Board member, CWIAU, Member of the following committees: AUAA Nomination; AUAA Scheduling; AUAA Technical; CWIAU/CWFHA Liaison.

M.J. Ellis: Director, School of Physical Education; Chairman, School of Physical Education Executive committee; Member, Faculty of Health Professions Council; Member, Dalhousie Senate; Chairman, search committee for Dean of Health Professions; Chairman, University committee on audio visual services; Executive officer, Sport and Recreation Council.

R. Holcomb: Chairperson, search committee for head of the Health Education Division, School of Physical Education; Member, Dalhousie Community Relations Committee; Co-producer, with J.F. McCabe, of a publicity package for prospective School of Physical Education students; Lecturer, seven high school career nights; Conducted tours of School of Physical Education facilities for visiting students.

L.E. Holt: Co-liaison officer, with H. K. Bellemare, with the architects of the new centre.

C.C. Hood: Member, Physical Education and Recreation Division executive committee, School of Physical Education; Member, Physical Education and Recreation Division curriculum committee, School of Physical Education.

J.G. Hoyle: Coordinator of student advising; Interviewer, School of Physical Education admissions committee; Member, Physical Education and Recreation Division executive committee, School of Physical Education.

N.M. Ipson: Athletic and Recreation Services representative, University Student Services Council; Advisor, Extramural Sport Club Associatin; Advisor, Dalhousie Intramural Council; Member, Dalhousie Sport and Recreation Council; Member, search committee for new faculty, Athletic and Recreation Division, School of Physical Education.

N.H. Kemp: Chairman, Canadian University Swimming and Diving Coaches Association; Chairman, swimming technical committee, CUSDCA; Coach, AUAA swimming team, CIAU/CWIAU championships, Etobicoke Olympium, Toronto, March 4-6, 1977; Coach, Dalhousie men's and women's swimming teams; Technical representative, CIAU/CUSDCA; Coordinator, Canada—United Kingdom Physical Education student exchange program (Dalhousie—Carnegie, Loughborough, St. Luke's); Advisor, School of Physical Education undergraduate student advisement program.

J.C. Lord: Supervisor, Children's Developmental Clinic; Member, School of Physical Education ad hoc committee on technical services.

L.A. MacGregor: Member, School of Physical Education Admissions Committee; Member, School of Physical Education student advisement committee; Coaches' representative, women's atheltic council.

T.L. Maloney: Head, Physical Education and Recreation Division, School of Physical Education; Chairman, Physical Education and Recreation Division executive committee; Chairman, Physical Education and Recreation Division admissions committee; Member, Senate committee on continuing education; Member, search committee for Director, School of Physical Education; Member, search committee for replacement coaches; Member, School of Physical Education executive committee.

J.F. McCabe: Chairman, School of Physical Education library committee; Chairman, all graduate thesis proposal and defence committees; Member, search committee for Director, School of Physical Education; Member, search committee for Head, Health Education Division; Member, School of Physical Education executive committee.

S.E. Moxley: Member, Physical Education and Recreation Division executive committee; Member, Physical Education and Recreation Division admissions committee.

J. Prsala: Member, Physical Education and Recreation Division executive committee; Member, Faculty of Health Professions convocation committee.

R.P. Reynolds: Member, Senate committee on clinical psychology; Member, centre for child studies com-

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Dalhousie University
School of Physical Education

Annual Report 1976-77

Citations to Faculty

A.D. Bellemare:
Renewal of National "A" rating for field hockey officiating.

N.L. Buzzell:
CWFHA Level I coach.

Public recognition as one of the top five field hockey coaches in Nova Scotia.

Presentation made by Dalhousie and the Department of Recreation for coaching the CWIAU national champions.

C.C. Hood:
Represented Nova Scotia in cricket.

N.H. Kemp:
Assistant coach, Canadian Olympic swimming team, Games of the XXI Olympiad, Montreal, August 1976.

1976 Halifax Herald Coach of the Year award.

Honoured guest, convention of the Canadian Education Association, Halifax, September 1976.

L.A. MacGregor:
Presented with the award of recognition from the Nova Scotia Department of Recreation for coaching the Nova Scotia Whites, who were victorious in the Ounsdale International Tachikara 3 Volleyball tournament, held in England, June 1976.

Awarded the International Level I coaching certificate from the International Volleyball Federation after successfully completing a course at Nymburk, Czechoslovakia, July 1976.

A.D. Yarr:
Elected first vice-president of the National Association of Basketball Coaches of Canada, 1977-79.

AWARDS TO FACULTY

E. G. Belzer:
Queensland government, $2,028, travel grant plus room and board, to attend the 1977 biennial conference of the Australian Council of Health, Physical Education and Recreation, Brisbane, January 1977.

Dalhousie Faculty of Graduate Studies, Social Sciences and Humanities Research Fund, $52, research grant.

A. Bonen:
Nova Scotia Department of Recreation, $450 for. student salaries and laboratory overhead for participation in the employee recreation conference, Halifax.

Dalhousie Faculty of Graduate Studies, $194 travel grant to participate in the Guelph-Windsor human movement symposium.

CASA, $300 travel grant to attend Swim Canada seminar, Geneva Park.

L. E. Holt:
Swim Coaches Association, $300 travel grant to attend world swim clinic, New Orleans, September 1976.

J. F. McCabe:
Research grant of $252 with John Fazey, from the research development fund.

Faculty of Graduate Studies, $384 travel grant to attend the North American Society for the Psychology of Sport and Physical Activity meeting, Ithaca, New York, May 1977.

Fitness and Amateur Sport, $13,685 research grant, with S. Moxley and A. Bonen, for "Prediction of synchronized swimming performance".

L. A. MacGregor:
Nova Scotia Department of Recreation, $300 travel grant to attend the international coaching course, Nymburk, Czechoslovakia, July 1976.

J. C. Lord:
National Institute on Mental Retardation, Type "C" award of $610 for research and travel, Com Serv Project, Lethbridge.

Recreation Council for the Disabled in Nova Scotia, $3000 grant for research and assessment of "Volunteers and other support systems for integration," recreation integration project.

C. C. Hood:
School of Physical Education, $90 travel grant to attend CPRA seminar on recreation planning, Amherst.

S. E. Moxley:
Recreation Canada, $300 travel grant to attend program development meeting for national recreation programme, CASSA Inc., Toronto, June 1976.

Dalhousie Faculty of Graduate Studies, $300 grant to attend and chair a session at International Congress on Sport Science, Quebec, July 1976.

Sport Canada, $500 travel grant to speak at national coaches clinic, CASSA Inc., Saskatoon, September 1976

Recreation Canada, $200 travel grant to attend planning meeting, national recreation program, CASSA Inc., Toronto, November 1976.

Government of Newfoundland, $400 grant to provide training for synchronized swimming instructors in Labrador, Wabush, February 1977.

Recreation Canada, $350 travel grant to chair national recreation workshop, Ottawa, March 1977.

Dalhousie Faculty of Graduate Studies, $380 grant to attend and present paper at North American Society for Psychology of Sport and Physical Activity, Ithaca, New York, May 1977.

P. G. Page:
Canadian Amateur Hockey Association, $176 travel grant to attend international hockey symposium, in conjunction with Canada Cup Tournament, Toronto.

R. P. Reynolds:
Secretary of State, $2595 grant for summer field work students' salaries.

Recreation Canada, $180 grant to meet Board of Leisurability Publications Inc. re future plans for publication, Toronto, February 1977.

National inter-agency committee on recreation, $126 grant to speak at conference, Fredericton, June 1977.

W. J. Shannon:
School of Physical Education, $187 travel grant to attend CPHA 67th annual national conference, Moncton, June 1976.

School of Physical Education, $350 travel grant to attend IXth International Conference of Health Educators, Ottawa, August 1976.

Canadian Heart Foundation, $320 travel grant to attend meeting, Winnipeg, September 1976.

Canadian Heart Foundation, $810 grant for travel and presentation of paper, annual meeting, Edmonton, October 1976.

Canadian Heart Foundation, $360 travel grant to attend meetings, Ottawa, December 1976 and February 1977.

Canadian Heart Foundation, $750 grant for travel and presentation of paper, Vancouver, April 1977.

Non-medical use of drugs Directorate, Health and Welfare Canada, $34,932 research grant, "Adolescent drug use in the Maritime provinces".

Nova Scotia Commission on Drug Dependency, $3,500 research grant, "Adolescent drug use in Halifax-Dartmouth."

Nova Scotia Heart Foundation,$5,000 research grant, "Feasibility study to develop an elementary school health education curriculum".

Nova Scotia Heart Foundation,$44,000 research grant for "Development of a Nova Scotia elementary school health education curriculum to assist in reducing cardiovascular disease".

The campus from the air

Faculty's service to the public

Dalhousie University
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R.P. Beazley:
Chairman, provincial committee, Nova Scotia division of the Canadian Cancer Society. (completed two-year term of office).

As chairman:

Appeared on the CTV "Conversations with Leona" show to promote cancer education, Sept. 15, 1976. Evaluation of this interview by the public relations committee of the division was very positive;

Chaired the planning and conducting of a 2½-hour education session at the division's annual meeting,feb. 17, 1977;

Led the search for a chairperson of the education committee; and

Served as a member of the board of directors.

Chaired two "contributed paper sessions" at the IX International Conference on Health Education, Ottawa, Sept. 1-2, 1976.

Leader of a health education in-service evening program for City of Halifax teachers, Jan. 25, 1977.

Guest lecturer, Physical Education class, Acadia University, March 25, 1977. Led a discussion on the status and trends of health education in Nova Scotia.

Consultant to Ms. Barbara Hughes concerning the combining of a health education concept in a physical activity class for elementary children, for presentation at the 1977 CAHPER conference in Wolfville, June 1977.

Member, editorial board of the CAHPER **Journal**. Reviewed articles related to education in general, and health education in particular.

Member, Planning Committee for the **Bluenose Rendezvous** (CAHPER Conference, 1977). Responsible for arranging the health education programme for the Conference. For the first time in the history of the CAHPER Conference, there will be a full health education programme.

A.N. Belcastro:
Delegate to the American College of Sports Medicine meetings, Anaheim, Calif., May 1976.

A.D. Bellemare:
Modern gymnastics clinics for Halifax County physical education teachers, Feb. 25 and March 24, 1977.

Sixteen-hour course, "Movement for pre-schoolers," for child development students, Mount Saint Vincent University, April 4-7, 1977.

Organized modern gymnastic tour of Nova Scotia for rhythmical gymnastics national coach, October 1976.

Umpire, Canadian Women's National Field Hockey Tournament, Toronto, October 1976.

National rater at national umpire rating session, Montreal, October 1976.

Umpire, National Intercollegiate Field Hockey Championship, Halifax, Nov. 5-7, 1976.

Official delegate, national planning seminar, Canadian Women's Field Hockey Association, Dec. 3-5, 1976.

Vice-chairperson, Nova Scotia Modern Gymnastics Association.

Member, Nova Scotia mission staff for the 1977 Canada Summer Games, St. John's, Newfoundland, August 1977.

H.K. Bellemare:
Chief instructor, Newfoundland project coach instructors school, St. John's, Nov. 18-21, 1976.

Chairperson, committee for the re-organization of the Nova Scotia Amateur Basketball Association, September 1976.

Guest speaker, St. Mary's Rural High School athletic awards banquet.

E.G. Belzer:
Commissioner, Nova Scotia Commission on Drug Dependency.

Speaker, "Theories of Health," to Registered Nurses Association of Nova Scotia workshop on fitness and lifestyle, May 1977.

Speaker, "The sexual mores of the ancient Jews," to a group of women affiliated with Halifax's two synagogues.

Leader of discussion "Sexual ethics," at an in-service training conference at the Dartmouth Adult Services Centre.

Guest health educator at Middle Musquodoboit Consolidated High School.

Participant in an in-service training program at the Victoria General Hospital, Halifax, for nurses on the cardiac unit, dealing with sexual matters and cardiac patient care.

A. Bonen:
Speaker, "Physical fitness and health," Holland College seminar, Charlottetown, Dec. 9, 1976.

Speaker to Registered Nurses Association of Nova Scotia workshop on fitness and lifestyle, May 1977.

Exercise physiologist for the CASA's Swim Canada seminar.

Member, board of governors, Nova Scotia section of CASA.

Nova Scotia representative to the long range planning committee, CASA.

Fitness consultant, employee recreation conference of the Nova Scotia Department of Recreation, Halifax, Nov. 31-Dec. 2, 1976.

Delegate to the American College of Sports Medicine meetings, Anaheim, Calif., May, 1976.

Delegate to the International Congress of Physical Activity Sciences, Quebec City.

Delegate to the Swim Canada seminar, Geneva Park.

N.L. Buzzell:
Instructor, Halifax Project Coach, February 1977.

Instructor, CWFHA master's instructors clinic, April 1977.

President, NSWFHA.

Coach of the Nova Scotia Summer Games field hockey team.

Member of the following committees: CWFHA coaching; CWFHA long-term planning; CWFHA research committee; CWFHA tie-breaking.

M.J. Ellis:
President, Recreation Council for the Disabled in Nova Scotia.

Continuing member of the Canadian Council on Children and Youth's Task Force on Children's Play, and member of working committee on play leadership.

R. Holcomb:
Chairperson, Nova Scotia Cancer Society education committee.

Member, Nova Scotia Cancer Society board of directors.

Columnist for 16 weekly newspapers in the Maritime provinces which published the column "Good Health."

L.E. Holt:
Speaker on the techniques of sports analysis to the Dartmouth Kiwanis Club, and to synchronized swimming workshops, Halifax, during the fall 1976 term.

Appeared on TV's "Sports Time Out."

C.C. Hood:
Lecturer, "The setting of objectives in the evaluation process." Nova Scotia recreation directors, municipal workshop on evaluation.

Lecturer, "Recreation master planning for municipalities in Atlantic Canada." Recreation Society of Atlantic Canada.

Proposer, "A proposal to increase the fitness level of Nova Scotians." Brief presented to the Nova Scotia Department of Recreation, October 1976.

Speaker, "Why parks?" Address to provincial seminar on regional parks planning in Metro Halifax/Dartmouth.

Nova Scotia representative on the Canadian Cricket Board.

R.J. Hoyle:
Coach/operator, Dalhousie Boys' Gym Club, which also assists in PE 462 by supplying a coaching situation.

Judge, Olympic Games, Montreal, August 1976.

Judge, Team I Canada selection, March 1977.

Judging symposium, March 1977.

Canadian international level judge, travelled with Team Canada to Rumania, April 1977.

Editor, Nova Scotia Gym Association **News Bulletin**.

N.M. Ipson:
Chairperson, women's invitational ice hockey tournament, March 1977.

Hostessing committee chairperson, CWIAU women's field hockey championships, November 1977.

Nova Scotia provincial representative, Canadian intramural committee of CAHPER.

Member, Halifax Recreation Committee, an advisory committee to the Halifax Department of Recreation. Special assignment to act as liaison to the committee for all cultural activities in the city.

Regional assistant public relations director, Church of Jesus Christ: Producer of weekly Cable TV program "Meet the Mormons"; Monthly public relations workshops.

N.H. Kemp:
Advisory staff coach, Speedo Canada Limited. Consultant on swimming equipment products.

Assistant coach, Canadian Olympic swimming team, Games of the XXI Olympiad, Montreal, 1976.

Director, Canadian Swimming Coaches Association. Completed two-year term of office August 1976.

Coach, Nova Scotia Canada Games swimming team, St. John's August 1977. Conducted monthly training camps for team members beginning November 1976.

Head coach, Trojan Aquatic Club, Halifax. Travelled with competitors to: 1976 Canadian Olympic swimming trials, Toronto, June 1976; XXI Olympic Games, Montreal, August 1976; 60th Canadian Swimming Championships, Vancouver, August 1976; Pointe Claire International Canada Cup meet, Montreal, January 1977; 1977 Canadian short course swimming championships, Montreal, March 1977; 1977 national AAU senior indoor short course swimming championships, Canton, Ohio, April 1977.

Guest speaker, Canadian Advertising and Sales Association dinner, Halifax, October 1976.

Consultant, Canadian Amateur Swimming Association advisory board, for all aspects of domestic and international program planning.

J.C. Lord:
Vice-president and director, Nova Scotia division, Canadian Association for the Mentally Retarded; director, national association until December 1976.

Chairperson, "Recreation integration—a challenge." With Margaret L. Hutchison, Canadian Parks and Recreation Association annual conference, Corner Brook, August 1976.

Speaker, "Overview of trends in mental retardation" and "The integration process." Current trends in mental retardation symposium, Toronto, August 1976.

Speaker, "Facilitating the integration process." Teachers Association for Physical Education conference, Amherst, September 1976.

Speaker, "Changing ourselves and our communities to include handicapped people." Plenary session, Manitoba Parks and Recreation Association annual conference, March 1977.

Speaker, "Developmental programming for children" and "Expanding services for all." British Columbia Parks and Recreation annual conference, Vernon, May, 1977.

Leader, "Facilitating community involvement of disabled persons—a problem-solving approach." Workshop at annual meeting and conference, Recreation Council for the Disabled in Nova Scotia, Halifax, January, 1977.

Representative, Recreation Council for the Disabled in Nova Scotia.

L.A. MacGregor:
Coach/organizer, trips to England for two Nova Scotia teams of volleyball players under age 19, to compete in the 1976 and 1977 Tachikara tournaments at Ounsdale. Four training camps were held prior to the 1977 tournament. The Nova Scotia Whites won the tournament both years, and in 1976 became the first Nova Scotia team to win an international volleyball tournament.

Organizer, Metro City Volleyball League, in conjunction with the City of Halifax Recreation Department. This recreational league was open to women during the fall and winter season.

Organizer, summer volleyball league at Dalhousie, May-August 1976.

Organizer, annual spring and fall co-ed volleyball tournaments at Dalhousie, sponsored by the Dal Tigerettes, June and September 1976.

Organizer, two major high school tournaments sponsored by the Dal Tigerettes: The metro qualifying tournament with 10 entries, October 1976, and fifth annual Dalhousie Invitational provincial high school tournament, with 10 teams participating. October 1976.

Volunteer coach, Volleyball Nova Scotia's Acadia camp for advanced high school players, August 1976.

Coach, inaugural setters camp, sponsored by Volleyball Nova Scotia, Ceilidh Volleyball Club and Dalhousie Tigerettes, June 1976.

Teacher, "Creative movement for 6-11 Year olds," Halifax Dance Co-op,classes in fall and spring terms.

Instructor, skills clinics for players at Sir John A. Macdonald and Halifax Grammar schools, September 1976.

Co-organizer, with John Cassidy, of an evening co-ed volleyball league, Halifax YMCA, January-May 1977.

Assisted with volleyball display at Simpson's Mall during Olympic week, June 1976.

T.L. Maloney:
Member, board of governors, Canadian Amateur Swimming Association, Nova Scotia section.

Member, national board of directors, Canadian Amateur Swimming Association (representing Nova Scotia).

Meet coordinator, Division II Canadian Swimming Championships, Halifax, July 1977.

Member, Nova Scotia Government Task Force, Department of Education, to revise certification requirements.

J.F. McCabe:
Chairperson, Volleyball Nova Scotia invitational tournament.

Reviewer for research support program of the Fitness and Amateur Sport Branch, Health and Welfare Canada.

S.E. Moxley:
Provincial coaches chairperson, Canadian Amateur Synchronized Swimming Association, Nova Scotia section, April 1976 to April 1977.

Instructor, four workshops in synchronized swimming for Metro area coaches and swimmers, September - December 1976.

Instructor, Level I certification courses in synchro, national coaching certification program, Halifax, December 1976; Labrador, February 1977.

Referee, provincial synchronized swimming championships.

Member, Swim Canada seminars resource team.

Presentation on synchronized swimming at opening of Centennial Pool, Truro, March 1977.

P.G. Page:
Director, Dalhousie "Super Skills" hockey schools (skating, hockey fundamentals, goaltending and hockey strategy).

Instructor, Brookfield Hockey School.

Lecturer, 8-hour Level II national coaches certification program, Spryfield, December 1976.

Lecturer, skating and shooting sessions, Nova Scotia Voyageurs minor hockey week.

Instructor, two 1-hour on-ice sessions with the Spryfield Bantam "B" hockey team.

Instructor, 90-minute on-ice session with St. Patrick's High School hockey team.

Instructor, two 1-hour on-ice sessions with Halifax Midget AAA hockey team.

Consultant instructor, Nepean and A Raiders of the Central Hockey League, Ottawa.

Chairperson, "What research tells us about hockey." 1977 annual CAHPER Convention, Wolfville, June 1977.

Member, Nova Scotia Development Council; national coaching development program; Canadian College Hockey Coaches Association; and Dartmouth Minor Hockey Development Council.

J. Prsala:
Instructor, 5-day volleyball "Super Skills" camp.

Instructor, three volleyball clinics at Queen Elizabeth High School.

R.P. Reynolds:
Project officer, Recreation Council for the Disabled in Nova Scotia.

Member, Metropolitan Mental Health Planning Board, committee on activity planning.

Chairperson, Voluntary Advocate Association action committee, Recreation Council for the Disabled in Nova Scotia.

Teacher, selected sections of adult and child care workers course, Department of Social Services, October 1976 - March 1977.

Supervisor, summer field projects for disabled persons in Halifax, Dartmouth, King's County, Sydney and Yarmouth regions.

Instructor, "Swimming for the disabled." Red Cross workshop.

Consultant, evaluation of adult residential centres activity programs for Nova Scotia Department of Social Services.

Speaker, "The concept of recreation councils." Interagency committee on recreation for the disabled workshop, Fredericton, June 1977.

Speaker, "Recreation programming for persons in institutions." Valley region, June 1977.

Speaker, "Recreation programming for severely retarded persons." Social Services Department workshop, Pictou, April 1977.

Speaker, "Recreation as it pertains to a vocational centre." Canadian Association for the Mentally Retarded workshop, August 1976.

A. Richards:
Instructor, National Coaching School (soccer), in conjunction with Olympic Games.

Chairperson, Canadian Soccer Association national coaching committee.

Treasurer, Soccer Nova Scotia, coaching division.

Canadian Soccer Association executive representative, with national soccer team on British tour.

Chief instructor, three survival clinics on behalf of the Canadian Hostelling Association.

Special lecturer, "Outdoor Activities in Nova Scotia." Nova Scotia Wildlife Association.

Speaker, several radio and TV appearances related to survival in the cold.

Member, planning committee for 1977 CAHPER conference, "Bluenose Rendezvous."

Member, board of governors, Dartmouth Academy.

Chairperson, Big Cove Camp committee, to determine the future of the camp and the role to be played by the YMCA in outdoor education in the future.

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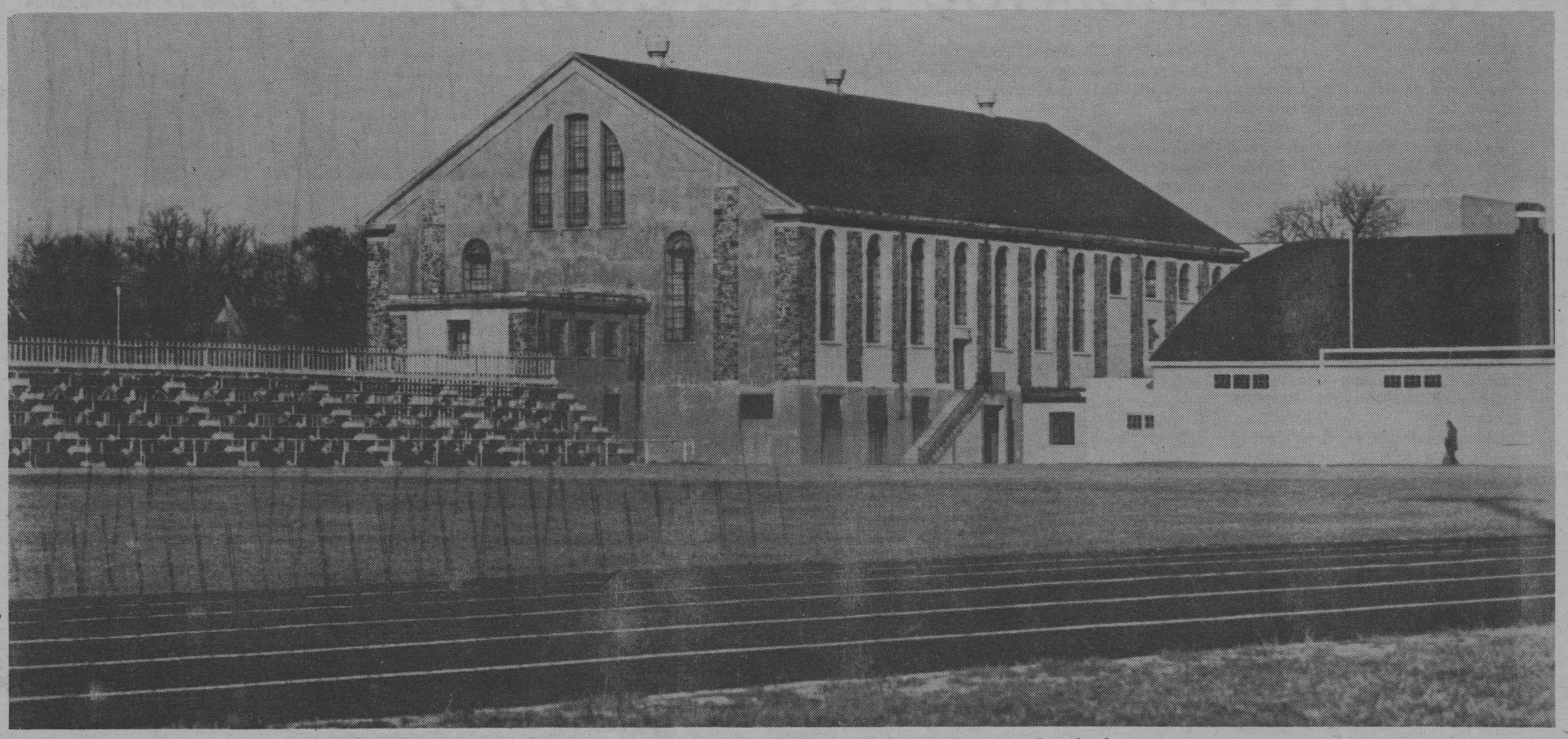

ABOVE: The sum total of the university's existing physical education and athletic facilities, except for the School's office section, in the old Arts Annex: The Gymnasium, the track, Studley Field and (part of) the Memorial Rink.

Undergraduate health education

Bachelor of Science [Health Education] degree:

In its second year, this program registered 37 full-time students, 12 of these being registered for the second year. As many students transfer from other universities or departments at Dalhousie it is not necessary for them to study for four years in the program. Because of this, the program had its first graduate at the end of its second year of operation, an historic occasion in Canada.

Health Education Minor for B.P.E. Students:

The Health Education Division continued to offer a minor area of study for physical education majors. About 50 students took advantage of this option. These students, plus the health education majors, kept many health education classes at maximum enrolments.

Field Experience:

Twenty-six students completed field experiences in Halifax and Dartmouth City schools. The head of the Health Education Division initiated a meeting between School of Physical Education personnel and public school administrators of Halifax City, Dartmouth City and Halifax County in an effort to see that our future needs are met in a manner convenient and helpful to the public schools.

Twelve students completed field experiences in community health agencies in Halifax. In this area too we seem to have made very positive strides.

Head of the Health Education Division:

A search committee was struck to seek, find, and recommend for appointment a new head. The outgoing head had held the position for five years and was granted a sabbatical leave to pursue doctoral studies. The division is on the verge of exciting and interesting changes; the new head should have an enjoyable, challenging experience.

pool, exercise and training rooms will allow service and research programs to advance side by side.

"Overall, however, we believe the centre will provide for Dalhousie, the metropolitan area and the province the same kinds of enrichment that came with the opening of the Dalhousie Arts Centre. The activity content will be different, but the opportunities to involve and serve all those in the wider community who are interested in all those things that make up health education, physical education, recreation and athletics are the same."

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Public Skating. Four hours a week. Upwards of 200 people.

***Super Skills Camps.** Hockey schools—6 hours a week for 5 weeks. 150-200 participants.

***King's College.** Six hours a week for hockey practice and league games.

Additional Ice Rentals to Community. Fifteen hours a week.

***

Track and Field

Halifax Board of School Commissioners. Annual track and field meets. Two days. 500-600 children.

Minor Soccer. Two hours on Sunday mornings. A total of approximately 60 people.

Nova Scotia Track and Field Association. 3-4 clinics throughout the year with approximately 30-40 people. 8-10 people train in our facilities on a regular basis.

Atlantic Coast Track and Field Club. Three days a week for two hours. 25-30 people. 8-10 members train year round on our facilities—weight room, track and balcony of the rink.

Super Skills Soccer Camps. Three one-week. Camps of 8 hours a day. 100-150 participants.

Halifax Minor Football Association. Three hours, one evening a week during the Fall. 50-75 participants.

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P.D. Richards:

Artistic director of the Halifax Dance Co-op until December 1976.

Modern dance teacher, Halifax Dance Co-op (1 class per week).

Publications chairperson, national dance committee of CAHPER.

W.J. Shannon:

1Xth International Conference of Health Education, Ottawa, August 1976: Dalhousie representative on Canada's organizing committee, April 1976; Dalhousie representative at the conference; CAHPER representative at the conference; Chairperson, paper presentation session; Facilitator, special interest group.

Workshop evaluator, "Using the needs approach in health education." Centre for Health Education, Philadelphia, February 1976.

Chairperson, ad hoc committee to determine the feasibility of financing behavioral science research by the Canadian Heart Foundation, Canadian Heart Foundation meeting, Winnipeg, September 1976.

Chairperson, ad hoc committee to determine a plan for implementation of a behavioural science research program, Canadian Heart Foundation meetings, Ottawa, December 1976 and January 1977.

Presenter of report, "The need for behavioural science research to reduce cardiovascular disease risk." Public education committee, Canadian Heart Foundation annual meeting, Edmonton, October 1976.

Chairperson, health education committee of CAHPER.

Chairperson, public education committee, Nova Scotia Heart Foundation.

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Member, board of directors, Nova Scotia Heart Foundation.

Delegate, Canadian Public Health Association 67th annual national conference, Moncton, June 1976.

L.J. Verabioff:

Instructor, "Fitness testing." In-service presentation to Dartmouth teachers, January 1977.

Speaker, "Methods of teaching fitness concepts." Presentation to Dartmouth teachers, November 1976.

Instructor, "Teaching fitness concepts." In-service presentation to Halifax County physical education teachers, February 1977.

Visiting lecturer, "Teaching fitness concepts." Presentation to curriculum methods course taught by Norma Adams, February 1977.

Speaker, "Physical education evaluation in the schools." King's County TAPE meeting, January 1977.

Speaker, "Teaching fitness concepts." Presentation to Halifax County elementary physical education teachers January 1977.

Consultant to Halifax Grammar School re-school physical education program.

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the school in finding an avenue into the funding mechanisms of the federal government.

The funding bodies have not recognized the activities of physical education as a central concern of their agencies. Hopefully, in the future, this will change. At the moment it is clear that physical education in general, and the school in particular, have not been able to derive a fair share of the federal research dollars available.

SIGNIFICANT

Once again, the faculty have been extremely active in making their expertise available to the wider community. The section of this report documenting the significant community service activities of the faculty is a large one.

Each of the activities identified represents a significant commitment on the part of a faculty member to permeate the walls of the university and to enrich the community at large.

These activities, plus the formal commitment of our facilities, represent a massive commitment of the school to the people of Nova Scotia that goes beyond our commitment to provide academic services.

SUMMARY

In retrospect the year has been an extraordinarily active one. The university at large has supported our aspirations, and the faculty have responded by collectively delivering excellent services in teaching, coaching, research, and community development.

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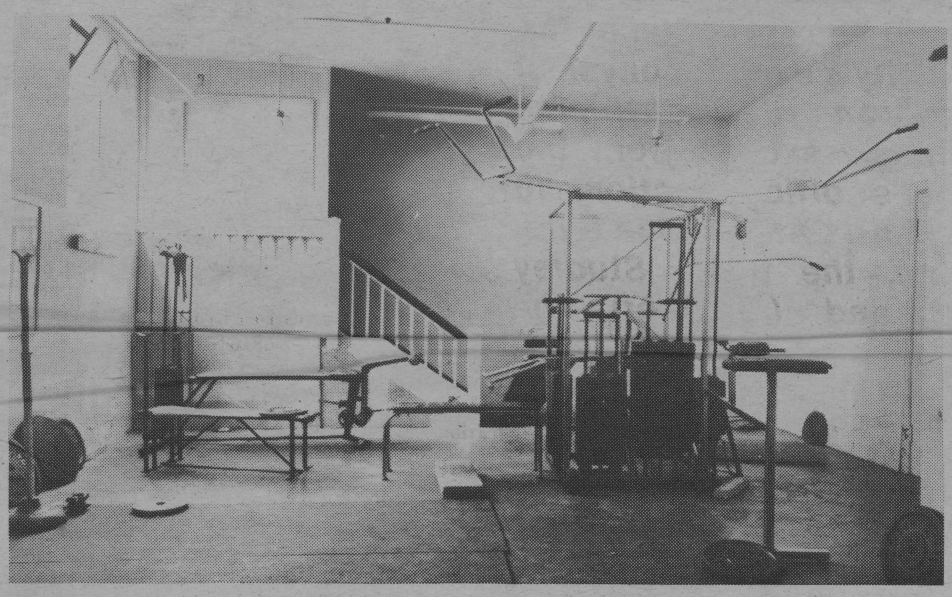
mittee, and research evaluation subcommittee; Member, ad hoc committee on thesis standards and guidelines, involving liaison with School of Nursing.

P.D. Richards: Member, artistic productions committee, Department of Theatre.

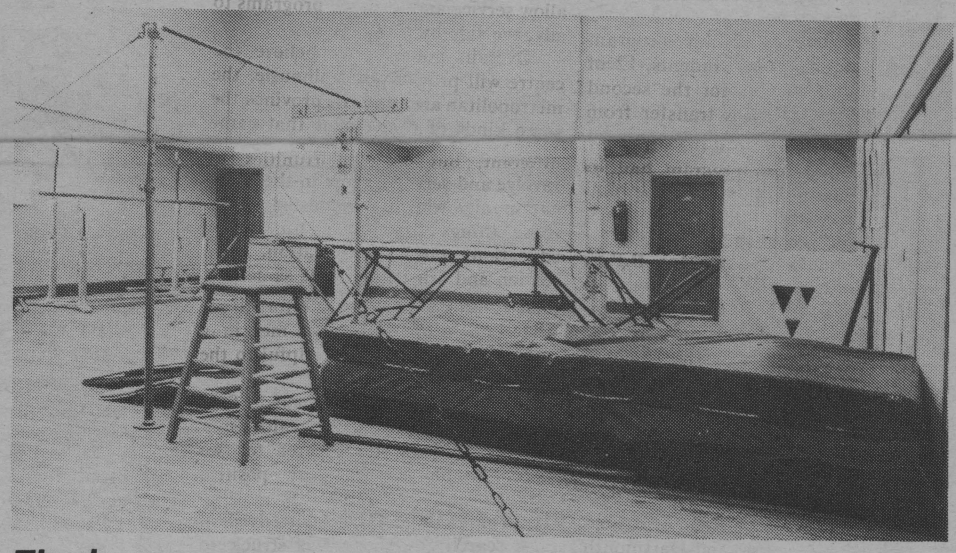
W.J. Shannon: School of Physical Education representative, Faculty of Health Professions Council; Member, School of Physical Education ad hoc committee on Technical Services; Member, Nursing Diploma program curriculum committee.

L.J. Verabioff: Member, Physical Education and Recreation Division executive committee; Member, Physical Education and Recreation Division curriculum committee; Member, School of Physical Education admissions committee.

In fair condition but in constant use, the only full-sized gym floor in the university.

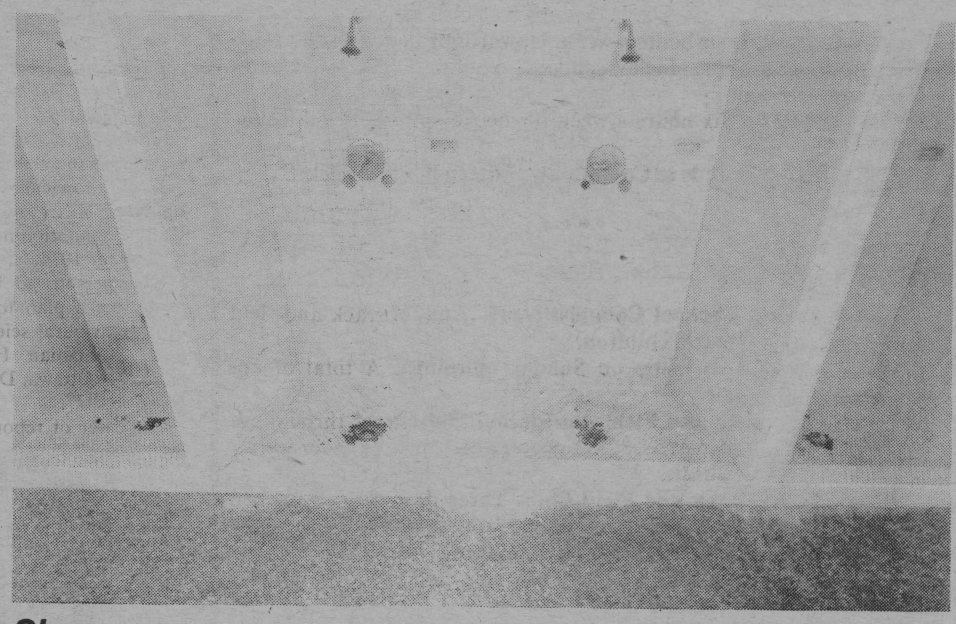


Weight room.



The lower gym.

Classroom.



Showers.

DALPLEX

How the site was chosen

In considering the selection of the site for the Physical Education, Recreation and Athletic Centre, the planners and university officers considered a number of factors.

Regarded as of prime importance were:

1. Inter-relation with existing facilities to permit their continuing effective use in the educational and recreational activities for which the School of Physical Education is responsible.
2. Ready access for students and staff, and for members of the wider community interested in opportunities for physical recreation.
3. Availablility of land to permit construction of one building large enough to meet the needs of the School's program.
4. Avoidance of disruption of regular activities of the university.
5. Maintenance of existing outdoor facilities and of the opportunity to add to them.
6. Efficient use of university property which would ensure the minimum additional land acquisition and avoid unnecessary demolition of existing housing.
7. Development of a centre suitable to the university and the neighborhood, with minimal inconvenience to neighbours.

ALTERNATIVE SITES

Three sites were given careful consideration:

1. **East of the Rink**—the area bounded by South Street on the south, University Avenue on the north, Seymour Street on the east, and the Rink on the west; also involving closure of the affection section of Le Marchant Street.

2. **Studley Field**—bounded by South Street on the south, LeMarchant Street on the east, the road past the Life Sciences Centre on on the north.

3. **The South Street site,** acquired between 1962 and 1972 on the south side of South Street, opposite Studley Field.

All these assumed the ultimate development of the south-of-South Street property for recreation space, for either indoor or outdoor activity, or for both.

Any of the three sites could have been used, had the land been available (as it was on the south-of-South Street site).

Site 1 would have included part of the area for indoor recreation space proposed in the university's 1967 master plan, but **the site was rejected because**:

1. The university did not (and still does not) own land essential for the centre and, three years ago, had no way to acquire it.
2. Delay of some years in acquiring land would have postponed the construction of new facilities as it still would today), would result in substantial additional additional costs (as it has), and would the cost of acquiring more land.
3. Housing owned by citizens as well as the university would have had to be destroyed, unnecessary and unfortunate since other sites were available.

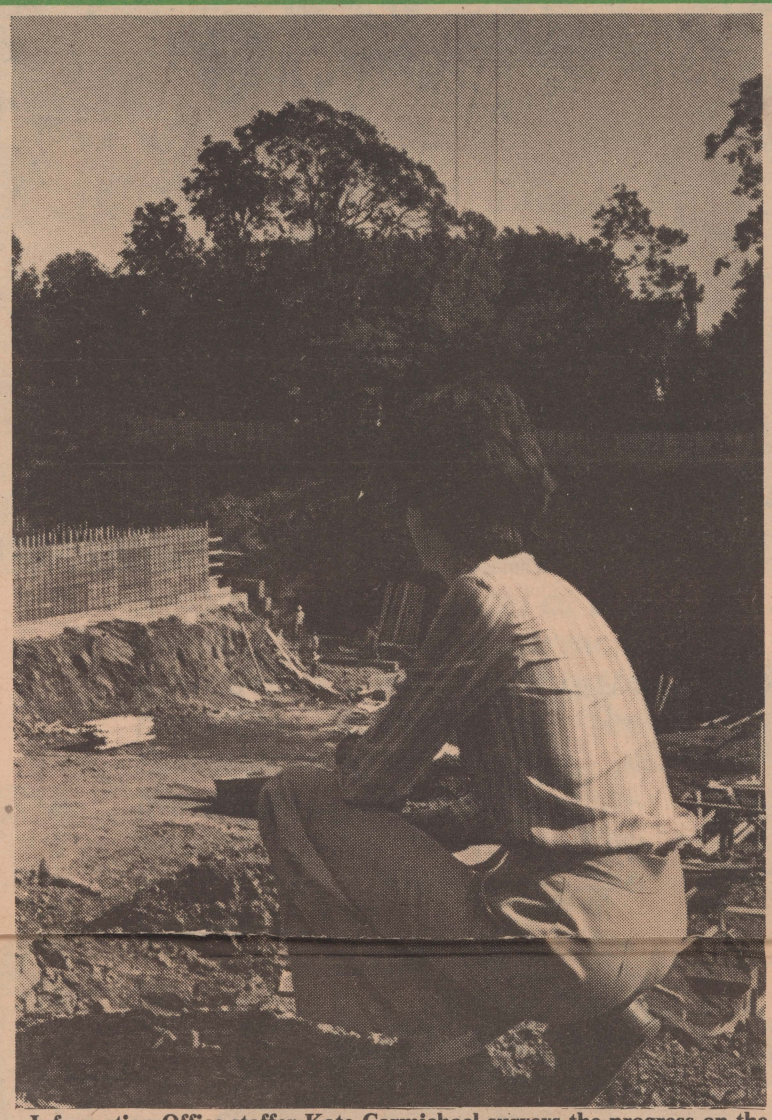
Sites 2 and 3 remained the feasible alternatives, but in the end, Site 3, south of South Street, was selected as the more appropriate, and not merely for economic reasons.

Site 2, Studley Field was rejected because:

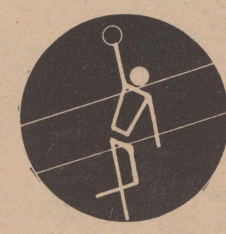
1. Costs, even in 1973-74, would have been higher.
2. The university's only full-sized field, for football, soccer, hockey, rugby, track events etc., would have been lost forever.
3. Because of the nature of the underlying ground (already on a hill, more hard rock), a building such as is envisaged now would have stuck out like a sore thumb. Its southern wall, for example, would have risen from the inside edge of the South Street sidewalk at least 40 feet vertically, perhaps higher.

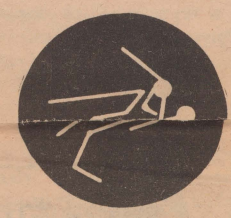
Site 3, the chosen one, permits the preservation of the existing outdoor facilities on Studley Field, scant though they may be for a university of Dalhousie's size. It avoids disruption of existing athletic, physical education and recreation programs, and it permits construction of a building with a low profile, a profile which from street level will appear even lower because of the natural depression in the ground.

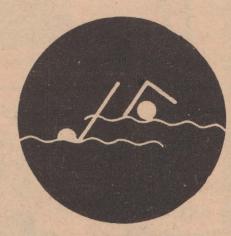
Late in 1973, area residents suggested a number of other possible sites. These were all considered by the university and the architects for the centre. Seven of 11 alternative sites suggested were required in accordance with long-range plans of the university for purposes other than sports, and other suggestions were not practical for a variety of reasons.

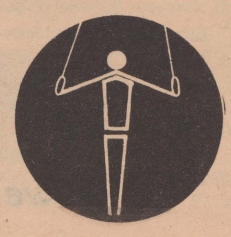


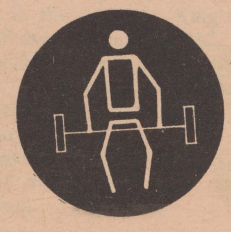
Information Office staffer Kate Carmichael surveys the progress on the Physical Education, Recreation and Athletic Centre, progress that university planner Jim Sykes says is "pulsing ahead" toward the late - 1978 completion target.

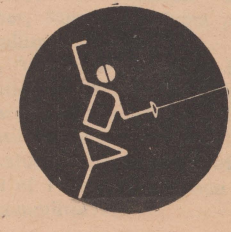












UNIVERSITY NEWS

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Following is the paper's publishing schedule for 1977-78:

Volume 8 1977-78	DEADLINE (5 p.m., Tuesdays)	DATE OF ISSUE (Fridays)
4.	Oct. 18	Oct. 28
5.	Nov. 1	Nov. 11
6.	Nov. 15	Nov. 25
7.	Nov. 29	Dec. 9
8.	Dec. 27	Jan. 6, 1978
9.	Jan. 10	Jan. 20
10.	Jan. 24	Feb. 3
11.	Feb. 7	Feb. 17
12.	Feb. 21	March 3
13.	March 7	March 17
14.	March 21	March 31
15.	April 4	April 14
16.	April 25	May 5