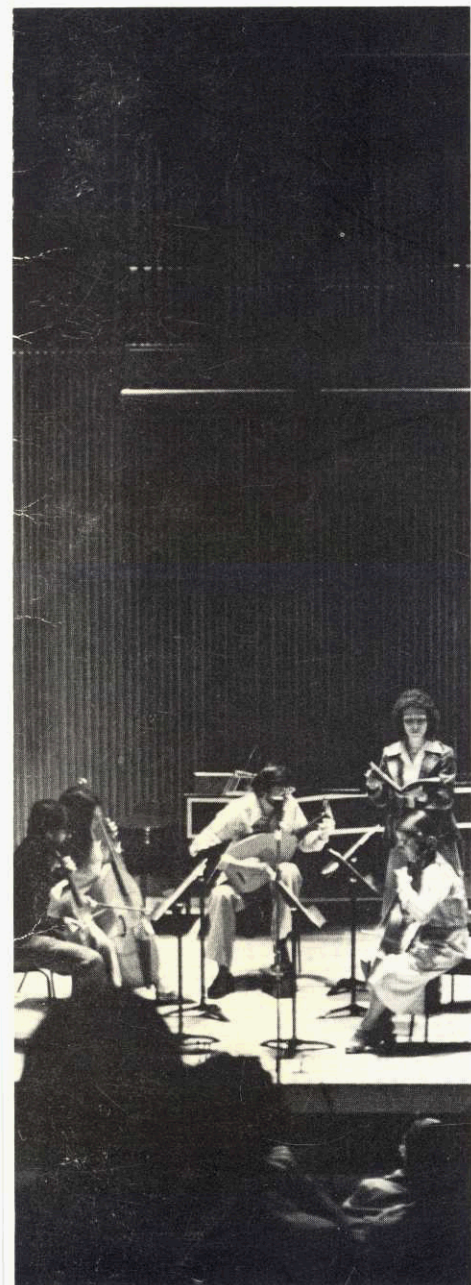
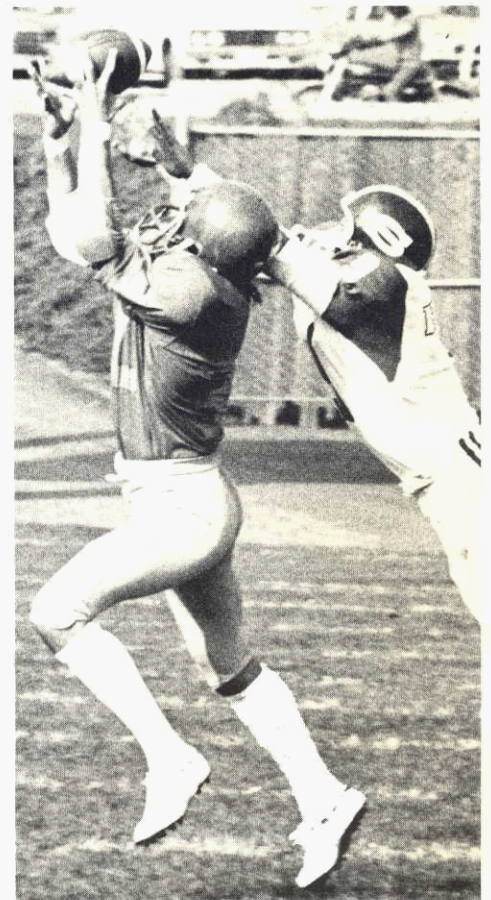
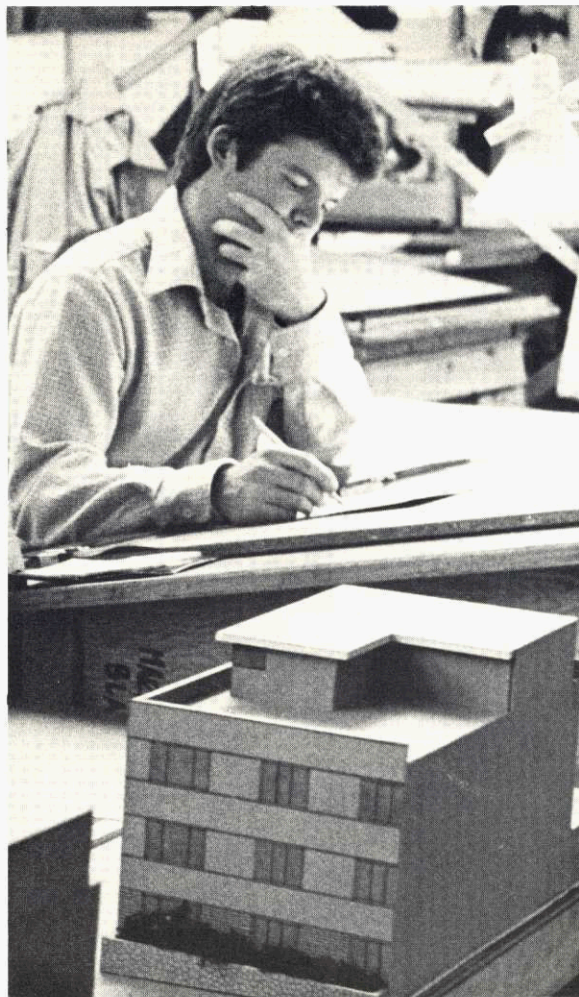
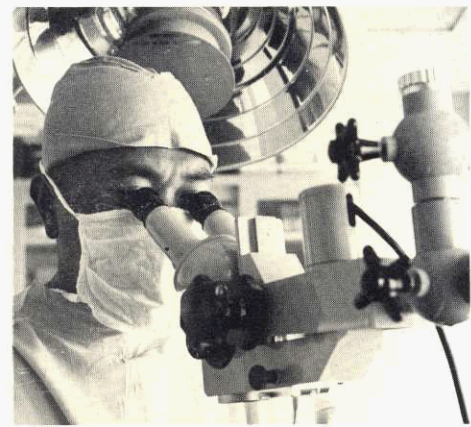
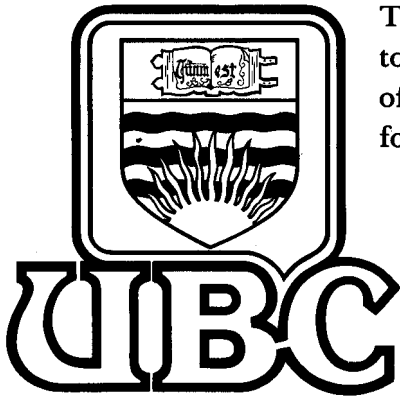


The President's Report 1978-79



The University of British Columbia

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The report of President Douglas T. Kenny
to the Senate and Board of Governors
of the University of British Columbia
for the 1978-79 academic year.

The University of British Columbia

Foreword

To the Board of Governors and Senate,

The University of British Columbia.

Ladies and Gentlemen:

My report on the 1978-79 academic year records the on-going efforts of the University of British Columbia to achieve the objective of becoming one of the outstanding institutions of higher learning in Canada.

In order to reach this goal of intellectual excellence and to meet the challenges of the 21st century that is rapidly approaching, UBC will need additional resources to add new faculty members to maintain existing academic strength and bolster deficient areas, to replace and add new equipment needed for teaching and research, and to construct new buildings in which the academic enterprise can flourish.

One of our basic tasks in the immediate future is to convince the people of British Columbia that the University is making efficient use of public funds in carrying out its central mission, the education of young men and women who will be able to contribute to all aspects of life in our increasingly complex and technological world. I believe that the public will be sympathetic to our needs if we demonstrate that we are doing everything within our power to maintain academic standards and provide service to the community at large.

In this mission, each member of the University community has a role to play in strengthening and preserving the values on which UBC was founded: the spirit of free enquiry and discovery, the concern for basic human values, and improvement of the quality of life for all our citizens.

In this context I express my gratitude to the individuals and groups responsible for ensuring that UBC is one of the leading universities in Canada: the Board of Governors and Senate; the deans, department heads and members of the teaching and research establishment; the administrative and employed staff; and our students.

Many of the individuals who make up these groups study and work in overcrowded, sub-standard conditions which we are striving to upgrade. That the academic life of the University remains basically sound is no small tribute to their dedication and perseverance.

Cordially yours,

A handwritten signature in dark ink, reading "Douglas T. Kenny". The signature is fluid and cursive, with the first name "Douglas" and last name "Kenny" clearly legible.

Douglas T. Kenny,
President.

HIGHLIGHTS

from the report of President Douglas Kenny to the Senate and Board of Governors of the University of British Columbia for the 1978-79 academic year.

- UBC enrolled a record 32,625 students during the year for credit programs offered at three separate academic sessions. Every unit at UBC offering continuing education programs experienced enrolment increases, bringing the University's total enrolment to almost 100,000 persons.
- UBC received nearly \$26 million for research during the academic year, an increase of 23 per cent over the previous year. A number of faculty received national and international awards for their research efforts.
- The University's 12 faculties continued their efforts to improve the curriculum by revising existing courses and by introducing new programs. Several faculties and departments are committed to full reviews of their offerings.
- The University Library added the 2,000,000th volume to its collection in 1978-79. The major problem facing the library system is to provide adequate space for 3,000,000 volumes within a decade. A president's committee is studying the problem.
- The University opened two new buildings during the academic year and continued planning for several new structures. However, many UBC faculties and departments continue to experience over-crowding and sub-standard teaching, research and working conditions because of a backlog of unmet building needs.
- The University awarded its 100,000th degree during 1979 Congregation ceremonies.



The President's Report 1978-79

The University of British Columbia's journey on the road to maturity began a mere 63 years ago when it opened its doors to 379 students who were taught by 34 faculty members on an operating budget of \$175,000. When the 1978-79 academic year commenced, it had developed into a highly regarded university with an operating budget of \$180 million, more than 3,000 full- and part-time teachers and researchers, and a student body of nearly 100,000 enrolled for a vast array of credit and non-credit courses.

In just under two-thirds of a century, UBC has come to be widely respected for the quality of its students, its graduates and its faculty. A few departments have attained positions of international leadership and many are of significant importance nationally. Only two other

Canadian universities — Toronto and McGill — receive more money for research from federal agencies. Our Computing Centre is one of the best on the continent and our Library, which added its two millionth volume in the 1978-79 academic year, is a national resource second in Canada only to that of the University of Toronto.

I am pleased to report that in 1978-79, UBC continued to strengthen the quality of its academic program through the on-going process of curriculum revision and the addition of new programs, increased by 23 per cent the amount of money invested in research, and continued to foster involvement in a multitude of public-service functions by making its facilities and the expertise of its teachers and students available to enhance virtually every aspect of life — public, athletic, cultural and intellectual — in the province and the nation.

However, the rapid growth of the University during its relatively short history has resulted in some glaring deficiencies. UBC stands out in Canada as an example of the difficulty of developing a well-rounded adult from a skinny adolescent on a very lean diet. The time has come to build on the past in order to prepare for the next century.

In the 1980s the University will need addi-

In the 1978-79 academic year, UBC enrolled almost 100,000 students for credit and non-credit programs, increased spending on research by 23 per cent and expanded its library holdings to more than two million volumes.

tional financial resources to add the faculty that will make us a university of world stature, to replace obsolete equipment vital to teaching and research, and to construct the buildings that will enable us to upgrade the environment for learning on the campus and expand our services to the community. There is a pressing need to improve the quantity and quality of higher education so that all our citizens, young and old, will have the opportunity to reach their highest potential.

Critics of higher education claim that Canadian universities are over-educating our young people. The truth is that we are seriously under-educating them. In this country only 4.7 per cent of the population has a baccalaureate or higher degree. The comparable figure in the United States is 10.5 per cent.

British Columbia's participation rate for university education, i.e., the percentage of students in the 18-24 age group who enrol at universities, is sixth amongst the provinces. In particular, B.C. is below the national participation rate in such professional fields as architecture, commerce, dentistry, engineering, law, medicine, nursing, physical education, rehabilitation medicine and social work.

By almost any standard one can mention in terms of higher education, Canada seriously lags behind our neighbors to the south, which leads to the harsh conclusion that the educational attainment of Canadians requires upgrading.

It's also claimed from time to time that our students are unable to find employment after graduation. Figures compiled by Statistics Canada fail to bear this out. The national unemployment rate for university graduates was 3.3 per cent in September of 1979. The rate for high school graduates in the same month was 7.3 per cent, for those with some post-secondary training the rate was 6.6 per cent, and even those who were awarded certificates after post-secondary training were experiencing an unemployment rate of 5.2 per cent. Our own surveys show that our graduates, by and large, have little trouble finding employment after graduation.

No other human institution is charged with the grave responsibility that devolves upon the University — to educate young men and women in order that the province and the nation can compete successfully in an increasingly complex world.

Our goal must be to create a distinguished centre of learning which ranks among the very finest in Canada and the western world. There is no doubt in my mind that the resources exist to enable this University to attain this objective by expanding and maintaining excellence in research and graduate education, by continued development of professional education, by ongoing evaluation and review of existing programs and by responsiveness to provincial and national priorities.

The ways in which the University is presently striving to reach this objective is reflected in the various sections of my report which follow.

Teaching and the curriculum

Last year, in my report on the 1977-78 academic year, I began this section by drawing attention to the impressive efforts that are continually being made throughout the University to review and revise our curriculum to make it responsive to the accumulation of new knowledge through research, the perceived needs of the economy and industry and the interests and needs of students. The reports of the deans of UBC's 12 faculties for the 1978-79 academic year have reinforced the confidence I feel that this process is continuing in order to ensure that we offer quality programs to our students.

The process by which the UBC curriculum changes is lengthy and time-consuming. Changes initiated at the departmental level must first be approved at faculty meetings before being forwarded to Senate. Those proposals with financial implications are considered by the Board of Governors before being submitted for approval to the Universities Council of B.C., which may decide that it cannot approve a specific program for financial reasons. The often lengthy delay between a proposal for a new program and its implementation was discussed at the Senate meeting in January, 1979, traditionally the month in which most proposals for curriculum changes and new programs reach UBC's academic parliament. If proposals for new programs do not reach Senate in January, it was pointed out, a year or more can elapse before the program can be offered. Dean of Arts Robert Will told the Senate that in some instances he had been waiting four years to hear from the Universities Council on a proposed program.

I also reported last year on some of the specific steps the University had taken to improve educational quality at UBC. One of these was the establishment of committees to carry out full-scale reviews of the Faculties of Science and Education. The purpose of these reviews is not inquisitorial; it is to identify needed improvements in the curriculum, in the preparation of faculty members, and in the resources and equipment they require to perform their functions as teachers and researchers.

The report of a six-member committee established to review the Faculty of Education was completed and submitted to me in February, 1979. The committee was chaired by Prof. Paul Gilmore, head of the Department of Computer Science at UBC, and included three experts from outside the University. The 20 recommendations made by the committee will affect almost every aspect of the education faculty's academic and administrative operations.

Among other things, the committee has recommended:

- A review of the total course offerings and programs in Education by a new dean who will

succeed Dr. John Andrews, who announced his intention last year to step down as head of the faculty on June 30, 1979;

- The implementation of steps to ensure closer contact between the Faculty of Education and other discipline areas at UBC;

- Exploration of restructuring the faculty and a reduction in the number of internal faculty committees;

- Re-examination, clarification and strengthening of personnel procedures, including procedures for retention and advancement of faculty members;

- Review of selection procedures in recruiting students and a tightening of English-proficiency requirements; and

- A thorough examination of teaching and marking standards within the faculty.

The committee found much in the faculty to praise, including departments "characterized by a number of quality faculty, strong graduate programs and research," alternative programs ("one of the faculty's most important innovations in the training of teachers"), and the Native Indian Teacher Education Program. Also singled out for praise were the diploma programs in special education for the deaf and the education faculty's "sensitivity to the demands placed on it by the field," i.e., its continuing education activities. "Field development," the report comments, "for the Faculty of Education is like the shine on Willy Loman's shoes in *Death of a Salesman*: It goes with the territory."

At the same time, the report continues, the committee also found "important instances of commission and omission which detract from the faculty's effectiveness and efficiency in meeting its primary responsibilities." The committee deals with the faculty's shortcomings under the headings of administration and governance; standards, curriculum and programs; and allocation of resources, and comments that it found among faculty members in Education "a general willingness to re-examine its programs, procedures and curriculum, and a receptiveness to constructive change."

The recommendations in the report will call for careful consideration and widespread study because of the way in which the Faculty of Education intersects with other University faculties. I feel the committee has done a thorough job and that the report will be of great help in selecting a successor for Dean Andrews, and to the new dean when he is appointed.

The material which follows has been selected from the reports of the deans of the faculties to illustrate the continuing restructuring of the University curriculum and new programs approved in the 1978-79 academic year.

AGRICULTURAL SCIENCES. This faculty has received Senate and Board approval for a number of significant curriculum changes, which are being implemented.

A new 68-unit curriculum has been approved to replace the former 62-unit program required for the bachelor's degree. It was felt that the 62-unit curriculum imposed severe constraints in providing students with general and specialized knowledge. A new professional program leading to the degree of Bachelor of Landscape Architecture will be offered in the 1979-80



academic year in the Department of Plant Science, and the faculty's existing Rangeland Resources Program, formerly available only in Plant Science, has been extended into three other departments in the faculty.

During the academic year, the Universities Council provided funding for an Interior program to meet educational needs in renewable resource management in various parts of the province. The program is the result of a study of the educational needs and desires of Interior groups and emphasizes a collaborative approach with credit and non-credit courses developed and presented in co-operation with resource agency and community college personnel. The new program was launched at Cariboo College in Kamloops in late August when a 1½-unit credit course in range sciences was offered over a two-week period for those with appropriate academic background. Other courses in Kamloops and in Prince George and Kelowna are being organized.

APPLIED SCIENCE. The Department of Mechanical Engineering committed itself to a wide-ranging and fundamental review of its curriculum with a view to improving course offerings to second-year students, providing a more intensive study of machine tool technology and the introduction and modification of courses in several areas.

New material on coal mining and preparation has been introduced into the curriculum of the Department of Mineral Engineering in keeping with the need to expand studies in this area of great significance to the province. The department's offerings will be further enhanced with the construction of a new coal research

UBC's 12 faculties continued to improve the curriculum through revision of existing courses and the introduction of new programs. These changes and additions reflect the accumulation of new knowledge through research, the perceived needs of society and industry and the interests and needs of students.



UBC's music department completed a total revision of the undergraduate curriculum in musical composition and reorganized courses in music theory. The department presented 27 faculty recitals and 85 student performances during the year as part of an active program of public service.

laboratory adjacent to the Frank A. Forward Building for metallurgy.

The School of Nursing will eliminate its two-year diploma program leading to early licensure and concentrate on development of a four-year baccalaureate program. The new program, which will be implemented over the next four years, will be designed to improve the training of students for nursing practice in the 1980s and provide a stronger basis for graduate work.

Senate also approved a proposal from Applied Science to introduce a new four-year program leading to the bachelor's degree in engineering. Presently, the engineering program is five years in length and requires a preliminary year in the Faculty of Science. The new program is designed for exceptional, highly motivated and well qualified students who have outstanding secondary school records. The faculty will report back to Senate in two years on student progress in the program.

ARTS. The faculty is currently seeking approval by the Universities Council for the following new degree programs approved by Senate: extension of the Ph.D. program in Asian Studies to include south Asian studies; a master's program in family studies in the School of Home Economics; a new Master of Archival Studies program in the School of Librarianship; and a new master's program in film and television studies in the Department of Theatre. The Council has approved the following programs for introduction in the coming academic year: a new Master of Fine Arts program in the fine arts department; and a new Ph.D. program in the Department of Theatre. The Department of

Creative Writing is still awaiting approval by the Council of funds for a sequence of undergraduate and graduate courses on the writing of children's literature, approved by Senate some years ago.

New curriculum developments in Arts include the following: introduction of a concentration in writing for students in Creative Writing and the secondary school teaching program in the Faculty of Education to enable students to teach writing in the schools; an extensive review of first- and second-year courses and of senior program requirements in the Department of French; revision of the majors and honors program in Hispanic studies into two streams to provide separate specialties in language and literature; revision of the majors and honors program in Italian to provide a more cohesive curriculum; a total revision of the undergraduate curriculum in musical composition and reorganization of courses in music theory in the music department; and a complete review of the graduate program in the Department of Slavonic Studies.

A major innovation for the School of Social Work in the 1978-79 academic year was the launching of a two-year program of part-time study in the Interior centre of Prince George for individuals who have a bachelor's degree and for a second group who have two years of undergraduate education in arts acceptable to UBC. The first group — those with a B.A. degree — will qualify for the Bachelor of Social Work degree after two years of study. The latter group will, after two years of study, have completed the required social work courses toward the B.S.W. degree but will lack required social science courses. It is anticipated that this group will qualify by taking the required courses by correspondence or by enrolling for one or more of UBC's regular academic sessions.

The courses are staffed by one faculty member who lives in Prince George and by UBC-based teachers who travel to Prince George to lecture. Originally, it was planned to offer the same program in the Fort St. John-Dawson Creek area as well, but this proved not to be feasible. The school is exploring the feasibility of beginning the program in this area in May, 1980.

The Prince George program, which began with an initial enrolment of 13 students, is offered with the collaboration of New Caledonia College, which is providing classroom space and library facilities.

Dean Robert Will, the head of the arts faculty, draws special attention to the needs of the Department of Fine Arts, which now has space in six different buildings on the campus. One of these locations, the Fine Arts Gallery, is located in very poor accommodation in the basement of the Main Library, but still manages to stage some lively and interesting exhibits during the year. A closely related problem concerns the University's own collection of art, now valued at almost \$1.5 million, which is not housed in a facility where there is adequate temperature and humidity control as well as security. A facility is required not only to overcome these problems but also to provide a measure of accessibility which would realize the collection's

potential as a teaching resource and for public viewing.

COMMERCE AND BUSINESS ADMINISTRATION. Senate approved a revised undergraduate program which amended the core requirements for each year of the degree program, by changing the unit structure of some courses and by revising certain other courses. The new program will apply to students enrolling for the 1979-80 winter session.

Worth noting here was the initiative taken during the academic year by Commerce dean Peter Lusztig leading to the formation of a Dean's Advisory Council made up of 38 senior business, labor and government leaders from B.C. and other parts of Canada. The purpose of the council, which held its first meeting at UBC on Nov. 7, 1978, is to brief the commerce faculty on how better to serve the changing needs of organizations and management by advising and criticising programs and courses offered in the faculty.

DENTISTRY. A new graduate program in periodontics was approved by Senate, a feasibility study is under way on the introduction of a course in hospital dentistry, and all faculty course objective statements are being reviewed to be followed by a review of the allocation of a weighting to each course.

EDUCATION. The faculty offered two courses on and off the campus on the teaching of French to meet the growing demand for teachers of this language in elementary schools. The faculty now offers a concentration in Italian and plans are being formulated to offer concentrations in Chinese and Japanese.

Courses offered by the counselling psychology department have been revised to give added emphasis to career planning and counselling of minority groups, among other things, and the department also expanded its part-time program so that courses are available on and off the campus in the evenings and in summer session.

A special program initiated by the provincial Ministry of Education was available in the summer of 1979 to train academic teachers in the field of industrial education.

The music education department has extended and revised its course content to include instructional techniques related to string and wind instruments and to such areas as stage band instruction.

The changes outlined above in industrial and music education, says the report of the Faculty of Education, are illustrative of recognition that the teachers of the 1980s must be capable of offering general education, some specialist education, as well as education for the intelligent and enjoyable use of increased leisure time.

The School of Physical Education and Recreation is undertaking a thorough review of its academic program with a view to providing alternative options to the traditional pattern of preparing physical education teachers. Plans are under way to develop new course options in sport studies, exercise science and instructional strategy and design. A new curriculum proposal is also forthcoming in the undergraduate degree program in recreation, which will include an increase in the commitment to the study of leisure and the phenomenon of recreation in society.

FORESTRY. The curriculum committee of the faculty is conducting a major review of the faculty's programs with a view to recommending revisions and improvements. A reorganized and strengthened program in the area of wood science and industry will begin in September, 1979. Recommendations which led to the changes were made by a special committee that included industrial representatives.

GRADUATE STUDIES. Most developments in the graduate studies area are reported under the headings of the various faculties. One noteworthy addition to Graduate Studies was the clinical engineering program leading to the Master of Engineering degree, which was approved by the Universities Council in 1979 and which will be offered in the 1980-81 academic year. This program reflects the increasing dependence of medicine and other disciplines on sophisticated equipment for diagnostic and research purposes, which requires engineers with advanced training and expertise.

LAW. A comprehensive review of the law curriculum is under way and quite apart from the development of existing programs, the faculty is considering the introduction of courses in the areas of health law and Japanese law.

The proposed health law program would further teaching and research related to the quality and delivery of health care in B.C. and was the result of discussions between the law faculty, the B.C. Health Association, the Faculty of Medicine and the Health Sciences Coordinating Committee. The feasibility of a program in Japanese law is being examined in the light of the growing economic relationships between Canada and Japan. UBC is a logical location for such a program and its introduction would offer opportunities for interchange and collaboration with a similar program at the University of Washington, which sponsors the most ambitious Asian law program in the United States.

The faculty continues to explore the use of audio-visual techniques in legal education. The B.C. Supreme Court has approved in principle the establishment of a closed circuit television link between the new Law Courts in downtown Vancouver and the law school on campus. If funding can be provided, UBC will be the first law school in Canada to have this aid to instruction in advocacy.

SCIENCE. At its meeting in January, the Senate approved the transfer of the Institute of Oceanography from the Faculty of Graduate Studies to the Faculty of Science, where it will function as a department under its new head, Prof. Stephen Calvert, who arrived at UBC on July 1, 1979, to take up his new post. The department will not offer an undergraduate degree in oceanography but will concentrate on preparing programs for combined honors in a basic science with electives chosen from oceanography subjects. This will be a prerequisite for proceeding to graduate work, which will continue to be Oceanography's prime responsibility.

To provide a comprehensive background for the emerging field of planetary sciences, the honors Bachelor of Science program in geophysics and astronomy was revised to allow

combinations of courses from each area. The Department of Computer Science continued the curriculum reorganization program initiated three years ago, and new laboratory facilities have enabled the department to redesign the first-year program as well as some upper-year courses. A new option in computer science at the undergraduate level has been devised for students in Commerce and Business Administration.

A significant number of students have enrolled for the new B.Sc. program of combined honors in chemistry and biochemistry. The physics department has introduced changes in second-year courses so that more courses are available to non-physics students.

CO-OPERATIVE EDUCATION. This program, initiated to encourage women to enter the Faculty of Forestry and the engineering program in the Faculty of Applied Science, was expanded during the academic year to include men as the result of approval by Senate of a motion providing for the permanent establishment of the program in these two faculties. The Co-operative Education and Internship programs began in the Women Students' Office under the capable direction of Maryke Gilmore, assisted by Diane Waterman. On Sept. 1, 1979, the two programs will become administratively separate from the Women Students' Office, which can take justifiable pride in its role of fostering these developments at UBC, initially designed to develop women's career potential.

Co-operative education is basically a work-study program where students interested in forestry and engineering integrate their University studies with supervised employment with forestry and engineering firms.



Prof. Stephen Calvert took up his post during the academic year as head of the new Department of Oceanography in the Faculty of Science. The department was formerly an institute in the Faculty of Graduate Studies.

Research

There were a number of notable trends and developments during the year in research, an essential component in the intellectual life of any university.

Perhaps the most heartening development in the past fiscal year was a 23 per cent increase in the amount of money invested in research, a significant change from the lean years of the early and mid-1970s. The University received \$25,923,392 for research in the 1978-79 fiscal year, and every faculty in the University showed an increase in funds over the previous year for this primary function.

Some notable trends in funding are:

- The gradual decrease in the proportion of funds provided by the federal government, from a peak of 78 per cent in 1972-73 to 64 per cent in 1978-79;

- The dramatic increase in provincial government support from an average 2 per cent in the early 1970s to 8.5 per cent (\$2,210,775) in the last fiscal year, with much of the increase resulting from grants awarded by the B.C. Health Care Research Foundation for work in the health sciences;

- Continuation of the trend toward support of "mission-oriented" research, with research contracts making up 15 per cent of the total as compared to 10 per cent in 1972; and

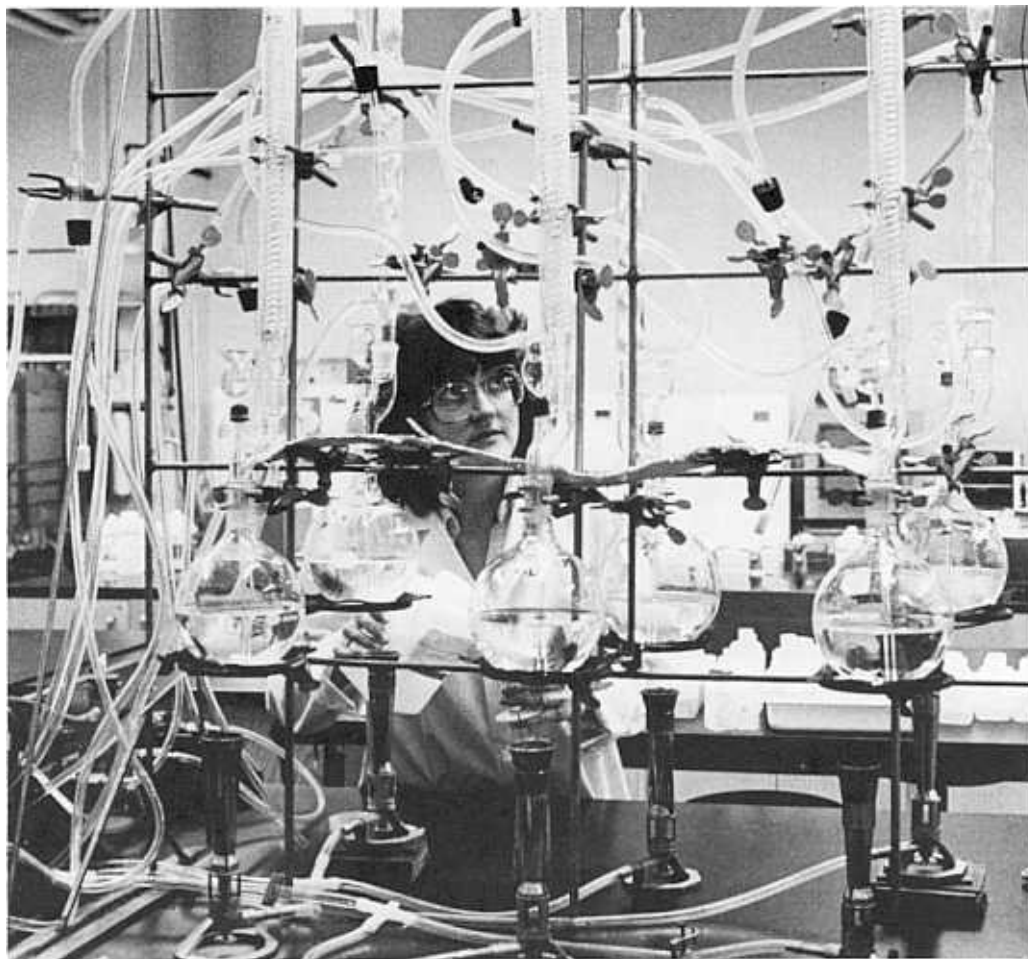
- A gradual increase in research programs carried out in collaboration with industrial companies, a trend which is likely to expand when our Discovery Park is developed.

For the second year in a row, the Faculty of Medicine led in terms of total research fund allocations, edging out the Faculty of Science, \$7,699,106 to \$7,453,173. Within the Faculty of Science, however, the Department of Chemistry remains the unit with the highest amount of research support, topping \$2 million for the first time in 1978-79.

It is heartening to note that some functions which have been funded at a low level until recently received healthy increases over the past two years, including Commerce and Business Administration, Education, Pharmaceutical Sciences and Agricultural Sciences.

One aspect of research funding remains a matter of concern. We must guard against any pressures that would tend to give mission-oriented research primacy in the allocation of grants. Mission-oriented research can only flourish when it draws on fundamental knowledge that accumulates as the result of basic research, particularly in the sciences. If University facilities are manipulated by the granting agencies so that it is only possible to obtain grants if the research is aimed at solving an immediate and specific problem, there is a strong possibility that proposed solutions will be stop-gap and incomplete because they are not founded on basic research.

A graphic example of how basic research can contribute to applied research came to light at UBC in the 1978-79 academic year. For the past 23 years, Prof. J. Gilbert Hooley of the Department of Chemistry has been investigating the chemistry of the element carbon on low-cost equipment that he devised and made with



UBC received almost \$26 million for research in the 1978-79 fiscal year, an increase of 23 per cent over the previous year. The research total was aided by substantial increases in support from the provincial government and from private sources and foundations.

his own hands. His basic research has to a significant extent been responsible for a revival of interest in carbon because of its potential usefulness to the aluminum industry, as a conductor of electricity, as a catalyst in the process of making gasoline from coal and in other industrial processes which use carbon fibres. The interest of industry in carbon results from Prof. Hooley's research on how a wide range of materials, including metals such as potassium and sodium, are absorbed into carbon. This absorption process radically changes the properties of the carbon, mechanically and in terms of its ability to conduct electricity. For his continued "pioneering contributions" to carbon research, Prof. Hooley was honored in June, 1979, at the 14th biennial Conference on Carbon held in the United States. He received the Charles E. Pettinos Award of the American Carbon Society which carries with it a cash prize of \$1,000.

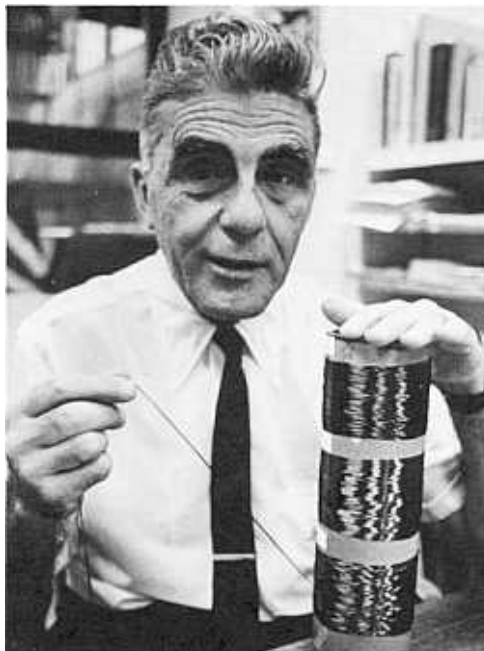
I cite Prof. Hooley's work to indicate that basic research is essential in stimulating interest in utilizing common materials to meet new needs in industry and society. If we fail to encourage and continue this endeavor, we run the risk of overlooking potential solutions to many current problems.

Interest in research and teaching about children has been stimulated during the academic year at UBC as the result of the declaration by the United Nations of 1979 as the

international Year of the Child. In the previous academic year, UBC's Senate approved the establishment of a Centre for the Study of Childhood in the Faculty of Graduate Studies. I am hopeful that we will be able to obtain the funds that will permit the centre to function as an interdisciplinary and co-ordinating facility to foster research related to children. An informal survey by a member of our Department of Paediatrics in the Faculty of Medicine, conducted during the academic year, indicates that concern about young people is not confined to such obvious areas as pediatrics and education. Teaching and research is also taking place in architecture and law.

Students from Architecture were in Greece for 100 days early in 1979 to prepare plans for inner-city playgrounds in Athens under the direction of John Gaitanakis, assistant professor in the School of Architecture; Prof. Donald MacDougall of Law has written extensively on the subject of Canada's child laws and has been closely associated with agencies that promote the well-being of children; Prof. Sheila Egoff of our School of Librarianship is regarded as one of the world's leading experts on children's literature; Prof. Stanley Blank of Education is developing new curriculum materials which will be available in B.C. schools next year for teaching gifted children; Dr. Henry Dunn of Paediatrics has just completed a 20-year study

Long-time UBC faculty member Prof. J. Gilbert Hooley was honored by the American Carbon Society in June, 1979, for his continued "pioneering contributions" to carbon research. His work illustrates how basic research contributes to the solution of current problems.



of babies of low birthweight, which is yielding some exciting results that will enable doctors to predict the physical problems which this group of children will encounter later in life.

This sampling of more than 200 projects serves to indicate how widespread and varied is the interest in research on children at UBC.

What follows are excerpts from the reports of the deans of faculties dealing with research projects of widespread public interest.

AGRICULTURAL SCIENCES. Dean Warren Kitts draws attention to the fact that more than 35 per cent of the projects under way in his faculty involve studies and field work in centres far removed from the campus and Lower Mainland. Projects range from the effects of poisonous plants on cattle in the Cariboo to the biological control of knapweed near Kamloops, from mine tailing reclamation research near Kimberley to animal studies in the Okanagan and on Vancouver Island, and from grain studies in the Peace River area to research on copper-deficient soils in the Fort Fraser area in north central B.C. He also reports that faculty members wrote six chapters in books, published 79 papers in refereed journals, prepared 83 reports, reviews, monographs, bulletins and articles, and presented 63 conference papers and abstracts.

Notable research includes: the work of Dr. Shuryo Nakai, who has developed a natural protein product that can be used to give fruit juices and soft drinks the nutritional value of milk; the work of members of the Department of Bio-Resource Engineering, who are co-operating with the B.C. government on improved ways of coping with the aquatic weed Eurasian milfoil, a serious problem in many B.C. lakes; a feasibility study of pregnancy testing in cows to reduce the calving interval and ensure the greatest efficiency in milk production; experiments in Prince George with modification of soil temperature using plastic film, work which suggests that it may be possible to achieve a

longer growing season; and the development of methods to utilize fish products in poultry feed.

APPLIED SCIENCE. This faculty is sponsoring a large number of projects that have potential for improving the quality of human life. Chemical engineers are developing a process for the manufacture of slow release fertilizer under an agreement signed with a local firm; in Electrical Engineering research is actively being carried out in the areas of biomedical engineering, communications and signal processing, computer applications and power systems engineering; in Mechanical Engineering research projects are going forward on such topics as wood waste combustion, explosion risks in coal mines, solar energy systems, and development of an artificial kidney machine; in Metallurgy research on copper has led to promising developments in the production of that metal which could be of value to B.C. industry and research is being undertaken on the behavior of metal implants with members of the Faculty of Medicine; in Mineral Engineering several projects aimed at improving the recovery of B.C. coal are under way as is research on mine ventilation, safe mine-waste disposal and rock mechanics for mine design. Two members of the School of Architecture are involved with research that could have important bearing on energy conservation, and assistant professor Dino Rapanos is carrying out work leading to the preparation of design guidelines for residential development in flood-prone areas.

FACULTY OF ARTS. Research in this faculty is characterized by diversity. In Economics the main thrusts of research are in such areas as welfare economics, production relationships, inflation, studies of energy policy and demands and natural resources economics. Several members of the department, with the support of the Economic Council of Canada, have undertaken a study of the economics of fishery regulations.

In Geography, Drs. John Hay and Tim Oke are the prime movers of an extensive climatology program directly related to community concerns for the development of alternative energy strategies. Prof. J. Ross Mackay of the same department continues his pioneering work in the Canadian Arctic which has made him an international authority on permafrost, Dr. Michael Bovis initiated a three-year project on landslides in southern B.C., a group in the department is concerned with the stresses which are so much a part of the urban environment, while other groups are active in transportation studies and economic development in Third World countries.

Some idea of the breadth of research in the history department is indicated by the subject matter of books published by faculty members: Dr. George Egerton is the author of *Great Britain and the Creation of the League of Nations*; Prof. Robert Kubicek wrote *Economic Imperialism in Theory and Practice: The Case of South African Gold Mining Finance, 1886-1914*; Dr. Peter Moog completed *Vancouver Defended: A History of the Men and Guns of the Lower Mainland Defences, 1859-1949*; and Dr. P.W. Ward is the author of *White Canada Forever: Popular Attitudes,*



Prof. Stanley Blank, left, of UBC's Faculty of Education confers with graduate students Michael Izen and Suzanne Kenney on the preparation of curriculum materials for gifted children for use in B.C. schools in September, 1979.

Public Policy and Orientals in British Columbia.

Prof. Dale Kinkade of the Department of Linguistics is widely known for his studies of the languages of North American Indians and Dr. David Ingram of the same department is internationally known for his research on child language acquisition.

The first large-scale political survey of B.C. is under way in the political science department under the direction of Dr. David Elkins, Dr. Donald Blake and Dr. R.G.C. Johnston, who are studying the May 10, 1979, provincial election and May 22, 1979, federal election in a project entitled "Structure of Opportunity, Political Culture, and Electoral Choice."

The Department of Psychology continues to be extremely productive in terms of research. Projects include the prediction, prevention and treatment of alcoholism; the way in which people experience and describe emotions and feelings; brain involvement in violent and non-violent psychopaths; and the facilities available in nursing homes and other long-term care institutions for the aged.

The language and literature departments of the arts faculty annually produce a wide range of literary and other types of studies. Examples are the development by Dr. Kenneth Bryant of Asian Studies of a unique method of printing the scripts of North India languages by computer; continuing work of importance on the origins of Chinese script by Prof. E.G. Pulleyblank; and on-going work in the Department of English on early English drama by Prof. R.W. Ingram, on Dante Gabriel Rossetti by Prof. W.E. Fredeman, on W.B. Yeats by Dr. Andrew Parkin, and the completion of a hand-

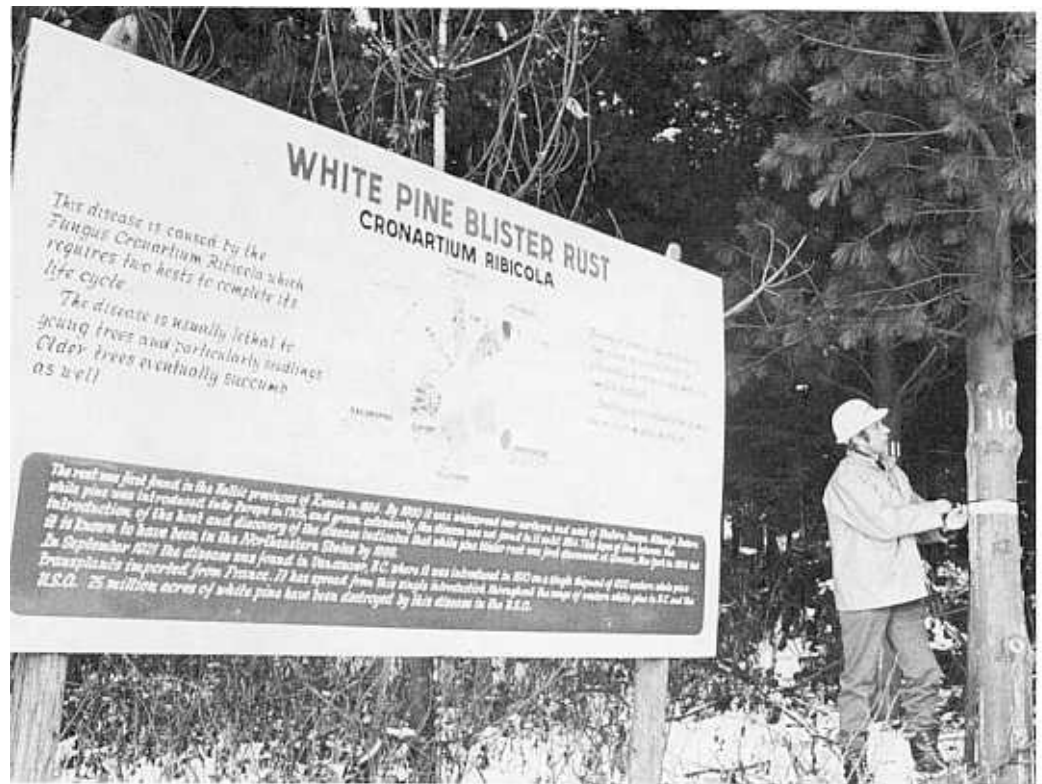
book of Canadian writers by Prof. Jan de Bruyn and Dr. W.E. Messenger. In the Department of Hispanic and Italian Studies Prof. D. Aguzzi-Barbagli is a member of the editorial team for the massive *Collected Works of Erasmus* being published by the University of Toronto Press; Prof. Harold Livermore has had published in English and Portuguese a biographical study of William Carr Beresford; and Dr. Stefania Ciccone has seen the first fruits of six years of research on the language of the Milanese press in the first half of the 18th century published in the form of two volumes of *Concordances* and one of *Journalistic Texts*, totalling some 3,000 pages.

COMMERCE AND BUSINESS ADMINISTRATION.

The research interests and activities of the teaching staff of the Faculty of Commerce and Business Administration are reflected in the more than 125 books, articles, chapters, etc., written and accepted for publication during the 1978-79 academic year.

The following titles (authors in brackets) indicate the wide range of academic work in which this faculty is involved: "Canada Savings Bonds: Valuation and Redemption" (Michael Brennan and E.S. Schwartz); "Social Security Wealth and Private Savings in Canada" (Philem Boyle and J.D. Murray); "Sectional Energy Demand in Canadian Manufacturing Industries" (T.A. Cameron and S.L. Schwartz); "Union Decertification: An Exploratory Analysis" (I. Chafetz and C. Fraser); "Real Estate Law in British Columbia" (I. Davis and F. Taylor); "The Housing Question" (M.A. Goldberg); "Post-war Japan and Informational Transfer of Technology" (J.T. Goode); "Soviet Account-

UBC's research forest near Haney in the Fraser Valley is the site of research on white pine blister rust, which has destroyed a substantial portion of this valuable species on Vancouver Island and in the Kootenay district of the province.



ting, Planning and Control" (G. Gorelik); "Condominiums: A Decade of Experience in B.C." (S.W. Hamilton); "The Role of Railway Regulation in National Policy in Canada" (T.D. Heaver and J.C. Nelson); "Money and Corporate Earnings" (M. Levi); "Need Satisfaction of Paid and Volunteer Workers in Health Service Occupations" (L.F. Moore and J.C. Anderson); "Energy Policy—The Global Challenge" (Peter Nemetz); "Information Sources for Advertising Policy" (R.W. Pollay); "Dealing with Unemployment — What are the Alternatives?" (B. Schwab); "Canadian Joint Ventures in Brazil" (J.W.C. Tomlinson and E.S. Schwartz); "The Need for a Public Defender in Ontario" (A.R. Vining); "Energy Policy Modelling: United States and Canadian Experiences" (2 vols.) (W.T. Ziemba and S.L. Schwartz).

DENTISTRY. Of major importance to the faculty has been the award of a Medical Research Council grant to Dr. Donald Brunette for research in cell biology related to the periodontium — the collective name for the tissues which surround the teeth. The grant will enable the expansion of basic and applied research on diseases of these tissues, a major cause of tooth loss throughout the world. It is expected that an expansion of basic research in this area will lead to the development of techniques for the re-implantation of teeth and the study of biomaterials suitable for such procedures. Dr. Timothy Gould will be closely associated with Dr. Brunette in this work. Other noteworthy research in the faculty includes: internationally recognized studies in muscle physiology and occlusion by Dr. A.G. Hannam and his co-workers, Dr. William Wood and Dr. R.M. Shah; examination of the effects of oral

bacteria on heart disease and in particular, bacterial endocarditis, with grants from the B.C. Heart Foundation; and the health hazard of mercury pollution in the dental office, being investigated by Dr. Richard Roydhouse.

The faculty is also introducing improved service research for B.C. dentists, both in oral mucosa clinics and in oral biopsy services, designed to enhance clinical investigative research.

EDUCATION. Research in this faculty continued to be in the areas of teaching and learning, with particular attention to curriculum development and assessment; adaptation of material and instructional techniques for the handicapped, the gifted, minority groups, immigrants and adults; and selection procedures and screening implements that will aid in correlating student characteristics with later teaching success.

In the field of curriculum development the most notable grant went to Dr. Doreen Binnington, who is using funds totalling \$590,000 for a curriculum development research project which will eventually result in a new approach to the teaching of social studies in Canadian schools. The support comes from the Canadian Mining and Metallurgy Association, B.C. school districts and the University. Two members of the faculty — Drs. James Sherrill and David Robitaille — are using a grant of more than \$118,000 from the B.C. Ministry of Education for the development of a Mathematics Achievement Test Project. In September, 1979, class sets of tests prepared under this project will be available to every school in the province. The federal government provided \$100,000 to establish a French Resource Centre, which provides an important collection of programs, pro-

fessional books and instructional aids for teachers of French in schools. This grant was supplemented by an additional \$37,000 to facilitate offering off-campus courses in the teaching of French.

The opening of the Buchanan Research and Fitness Assessment Centre has enabled the School of Physical Education to begin a program of research on human physical activity and physiological stress response to exercise as well as being able to offer to the public and the University community a sophisticated physical fitness assessment service. Elsewhere in the school, a team of sport and physical activity specialists are co-operating to carry out a province-wide survey and assessment of secondary physical education programs for the provincial government.

FORESTRY. A wide range of projects is being conducted in this faculty in the areas of wildlife, fisheries, range and watershed management through timber management and wood utilization research. The varied external sources of funds include federal and provincial agencies, several forest industries, the Workers' Compensation Board, the Greater Vancouver Water Board, the U.S. Department of Agriculture and the World Wildlife Fund.

Examples of important forest research projects are: co-operation between a forest-harvesting group and a faculty member from Electrical Engineering on the design and testing of an electronic "data logger" for studying the human factors in logging operations in order to contribute to the design of more appropriate cost-effective, man-machine systems for logging; a new wood pulping and hydrolysis process that has attracted international attention during the year; an extension of fire research with the co-operation of the B.C. Forest Service; studies of the dwarf mistletoe, a parasite that attacks many commercially important B.C. tree species; initiation of research on white pine blister rust, which has destroyed a substantial portion of this valuable species on Vancouver Island and in the Kootenays; continuing research on nutrient cycling and the long-term consequences of various harvesting and management options for soil fertility and future productivity; and examination of the potential of tree breeding for producing more energy from wood.

GRADUATE STUDIES. The institutes, schools and centres associated with the graduate studies faculty collectively received more than \$2 million in funding in 1978-79. Some notable projects funded during the year were: a new project on environmental protection regulation to be undertaken by the Westwater Research Centre with funding from the Economic Council of Canada; completion by the Institute of International Relations of the project entitled "Canada and the International Management of the Oceans"; a major series of seminars and workshops sponsored by the Centre for Human Settlements with the support of the Ministry of State for Urban Affairs; and a series of workshops on simulation techniques by the Institute of Animal Resource Ecology under a U.S. government contract.

Faculty members and students in the School of Community and Regional Planning are mak-

ing a major contribution to the understanding of integrated resource management in the Yukon. Among the studies completed or in advanced stage under the direction of Dr. William Rees and Prof. Irving Fox are: those focussing on the unique porcupine caribou herd; alternative uses of the Yukon River, which included a site examination by canoe in the summer of 1979; decision-making with regard to previous hydro-electric projects; and a study of the federal government environmental assessment review process covering both B.C. and the Yukon.

The following studies are under way in our Centre for Transportation Studies: ocean pollution caused by tanker operations; bottlenecks at Vancouver International Airport; earthquake hazards in transportation; and considerations which the federal government should take into account in the establishment of new policies dealing with scheduled and charter airlines.

The soil dynamics group within the graduate studies faculty sponsors research in three major areas: earthquake engineering, including the seismic response of nuclear power plants; ocean engineering, including work on the design and performance of off-shore platforms and pipelines; and environmental fluid mechanics, including the development of techniques for the analysis of the dispersal of pollutants in oceans, lakes, rivers and air, and prediction of the effects of waste-heat discharges from power plants.

LAW. Like Commerce, much of the research work of faculty members is reflected in the titles of papers, books and articles published in the past year. This included material on the Canadian approach to anti-discrimination legislation and possible alternatives by W.W. Black, compensation for criminal injuries by P.T. Burns, commentary on the new provincial Family Relations Act by K.B. Farquhar, the reshaping of Canadian federalism and northern land claims by Kenneth Lysyk, Canada and the law of the sea by Donald M. McRae, and condominium law in B.C. by Dennis Pavlich.

MEDICINE. Funds available for research in the various departments of the medical faculty totalled nearly \$8 million, an increase of more than \$1.5 million over the previous year. The Medical Research Council of Canada continues to be the major contributor (more than \$3.5 million), with 60 per cent of the increase accounted for by new funds from the B.C. Health Care Research Foundation. Other major contributors were the National Cancer Institute (\$513,844), the Heart Foundation (\$488,608), and the federal Department of National Health and Welfare (\$410,051). Other foundations and societies provided a high percentage of funds (\$1,161,457).

While the faculty has made impressive advances in research during the past year as the result of funding increases and continuing work on the provision of new research space in the basic sciences and for the clinical departments, there remain severe space problems for clinical research at off-campus hospitals, a factor which militates against attracting and retaining high-calibre medical scientists.

Notable grants in the 1978-79 academic year included the following: a \$192,000 equipment



Two new undergraduate terminal laboratories came into operation in UBC's Computing Centre during the academic year. More than 700 first-year Computer Science students will enjoy a revised curriculum using the new facilities.

grant to Dr. P. R. Cullis for purchase of a special type of spectrometer for analysis of the reactions of drugs and hormones with cell membrane components; a \$93,616 grant to Dr. Michael Smith for nucleic acid studies; grants of \$149,114 to Dr. Stefan Grzybowski for a study of health hazards in the pulp and paper industry and \$130,000 for the purchase of a mobile lung function van; a \$50,895 grant to Dr. N.H. Lee for research on possible effects of therapeutic abortions on subsequent pregnancy outcome; a grant of \$100,000 to Dr. John C. Hogg from the Canadian Tobacco Manufacturers Council for a study of the effect of tobacco smoke on the lung; a grant of \$52,500 to Dr. Thomas L. Perry for research on the biochemical basis of mental dysfunction; a \$108,148 grant to Dr. Harold Copp for hormone studies; and \$66,560 to Dr. Juhn Wada for continuing work on epilepsy.

PHARMACEUTICAL SCIENCES. Despite its relatively small size, members of the Faculty of Pharmaceutical Sciences were the authors of 115 scientific publications in the 1978-79 academic year. Graduate student enrolment stood at an all-time high of 28.

The division of pharmaceutical chemistry in the faculty is continuing its program of preparing radio-nuclides, which are used in diagnosing certain diseases. The radioiodine, I-123, is being used at Vancouver General Hospital as a diagnostic imaging agent and is being flown to Toronto, Winnipeg and Edmonton for use in hospitals in those cities.

The division of clinical pharmacy continued to develop research in the area of drug utilization, with the support of the provincial ministries of Human Resources and Health. This research can be expected to have an impact on the prescribing and dispensing patterns in the fields of both medicine and pharmacy.

SCIENCE. The strength of UBC's scientific establishment is reflected in the level of funding for research. Grants to the Faculty of Science in

1978-79 were at an all-time high of \$7,453,173, an increase of more than 24 per cent over the previous year.

Eighteen of our leading scientists received \$526,800 from the new Natural Sciences and Engineering Research Council, which has taken over the research-granting function formerly held by the National Research Council, for the support of projects in "national problem areas."

These so-called Strategic Area Grants are for research in the fields of energy, environmental toxicology and oceanography. The largest single grant of \$70,000 was made to Dr. Neil Towers of the Department of Botany, who will study toxic substances found in certain common garden plants. The research is an outgrowth of a discovery made in Dr. Towers's laboratory that certain naturally occurring compounds found in plants are lethal in the presence of sunlight to some types of bacteria, fungi and insects. It's believed these compounds, called polyacetylenes, are potentially useful in medicine for treating certain skin diseases and in agriculture for control of insect larvae.

Other strategic area grants were awarded to: Dr. Robert Parsons of Physics, who will use a \$41,700 allocation for work that has potential application in the field of solar energy; Dr. Raymond Andersen of Chemistry and Oceanography, who will use a \$63,000 grant to study marine microorganisms that produce substances (metabolites) used for the explanation of chemical structure and for ecological evaluation; Dr. Jochen Meyer and Prof. A.J. Barnard, both of the physics department, who have received a total of \$52,000 for research in the area of laser fusion; and Prof. Hans Stich of Zoology, whose \$50,000 grant will be used for experiments on the use of human blood cells as a test for agents that cause malformations and cancer in humans.

The 1978-79 academic year marked the conclusion of the Controlled Ecosystems Pollution Project (CEPEX), an international pollution study that involved scientists from UBC's Institute of Oceanography as well as groups from oceanographic institutions in the United States and Scotland. The experiment, which began in 1973 and cost about \$10 million, has provided much information about low concentrations of pollutants affecting marine food chains. The site of the experiment was Saanich Inlet on Vancouver Island.

What follows are brief reports on two other University units which make significant contributions to the research capability of the University.

THE COMPUTING CENTRE. UBC has the most extensive computing facility in western Canada, which serves researchers, provides services to departments and faculties as part of the undergraduate teaching program and serves the needs of the administration for information. In 1978-79, computer use expanded by 25 per cent over the previous year.

One of the centre's goals is to provide growth at constant cost through the exploitation of new technology. More of the capacity of the new Amdahl central processor was put to use through the addition of new equipment and specialized devices. In July and August of 1979, two new undergraduate terminal laboratories

were installed with a total of 60 display-screen terminals. More than 700 first-year Computer Science students will enjoy a revised curriculum using the new facilities.

Computing Centre director Prof. James Kennedy reports that the centre has difficulty in supplying a full range of services to students and faculty because of the shortage of staff positions. The amount of work done by the computer doubles every three years or so, largely through diversification into wider fields of scholarship and through development of new computer languages and methods of analysis. This growth creates a demand for more expert consulting by specialists but, paradoxically, the maintenance of a larger range of resources diminishes the staff time available to provide personal service.

THE UNIVERSITY PRESS. The press aids in the dissemination of the knowledge that results from the research activities of faculty members at UBC and elsewhere. A brief listing of some of the titles published in the last academic year will indicate the scope of the UBC publishing program.

Dr. Dorothy Blakey Smith, a former member of UBC's English department, edited *The Reminiscences of Dr. John Sebastian Helmecken*, the first speaker of the B.C. legislature; *Ocean of Destiny*, by well known historian and UBC graduate J. Arthur Lower, provides a concise history of the North Pacific Ocean from 1500 to 1978; Robin Fisher, a UBC graduate who now teaches at Simon Fraser University, was the author of *Contact and Conflict: Indian-European Relations in B.C., 1774-1890*; a selection of the Reader's Club of Canada was a book by poet and critic Tom Marshall entitled *Harsh and Lovely Land: The Major Canadian Poets and the Making of a Canadian Tradition*; Dr. John Howes of the UBC Asian studies department was the co-editor of *Pacifism in Japan: The Christian and Socialist Tradition*; and Dr. Robert North of Geography was the author of *Transport in Western Siberia: Tsarist and Soviet Development*.

In a later section of this report on the University Library, I have noted that the 2,000,000th volume added to the UBC library collection was the *Atlas of British Columbia: People, Environment and Resource Use*, written by Dr. A.L. Farley of Geography and published by the UBC Press. The formal presentation of the book to the library was made at a reception at the Centennial Museum. At the same event the first copy of the atlas to come off the press was auctioned off for \$615, the money being donated to the Crane Library for the blind for use in producing copies of the atlas which can be used by the blind and visually impaired.



Public service

The division of my annual report into sections that deal with teaching, research, public service, etc., is a rather artificial one which is done for the sake of convenience in describing University activities in the course of an academic year. The division can be misleading in the sense that it tends to place in separate compartments activities which are really inter-related.

The concerts staged by our music department, for instance, are more than entertainment; they are designed to give our students experience as performers. When our student architects go abroad to aid the city of Athens in Greece in the creation of inner-city playgrounds, they are performing more than a public service; they are gaining knowledge about another society and culture that will add another dimension to their careers as architects. The faculty member who is on leave to carry out a study for some level of government is doing more than bringing expertise to bear on a social problem; he or she is gathering useful knowledge and experience that is brought back to the classroom and conveyed to students.

In short, these members of the University community are involved in *learning*, which is the prime function of the University.

Babette Gourlay and Peggy Sloan, members of the Friends of the UBC Botanical Garden, admire volume of watercolors that was part of an exhibition of 200 years of botanical art in UBC's Museum of Anthropology in the spring and summer of 1979.

Our Botanical Garden serves as a prime example of how these functions are interrelated. It would be equally appropriate for me to deal with its 1978-79 activities under the headings of teaching and research, rather than public service, for it is deeply involved in all three activities.

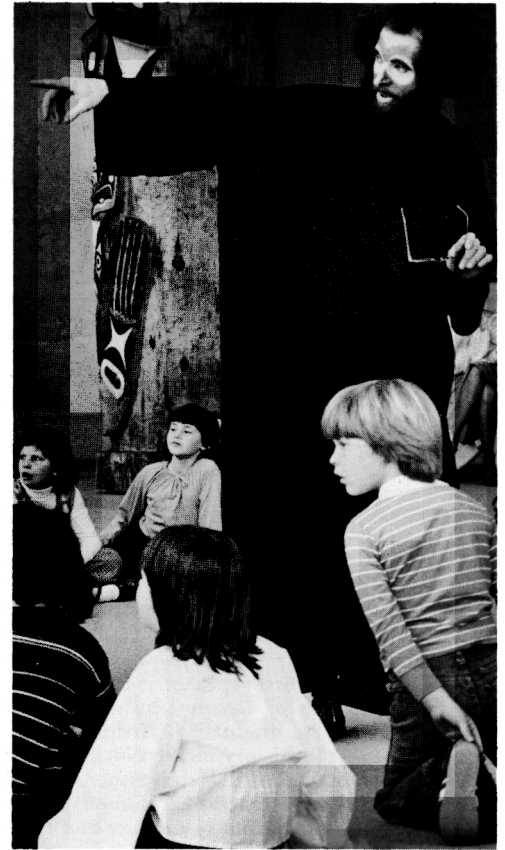
In terms of public service, the director and staff of the Botanical Garden are responsible for the maintenance and development of 110 acres of campus land which are open on a year-round basis for the pleasure and education of the public. Included in the areas that come under the garden's jurisdiction are the Rose Garden at the north end of the Main Mall, the Nitobe Memorial Garden, and the B.C. Native Garden and E.H. Lohbrunner Alpine Garden adjacent to Thunderbird Stadium. Because there are no admission charges for access to most of these developments, it is not possible to give precise figures for the number of people who visit each garden area, but certainly many thousands of people visit us annually just to see the garden development.

On another level, the staff of the garden answer by telephone and letter enquiries from the public about the care and maintenance of indoor and outdoor plants. Information was provided in response to nearly 4,000 enquiries in 1978-79. Garden staff members also gave 40 public lectures, provided more than 20 special instruction programs, utilized newspapers, radio and television, published a quarterly journal and continued the horticulture-as-therapy program both on and off the campus during the 1978-79 academic year. One of the garden's major efforts this year in the area of public education was the art exhibition in the Museum of Anthropology entitled "Plantae Occidentalis: 200 Years of Botanical Art in British Columbia," which was the culmination of three years of research and development.

The garden has continued to strengthen its links with the B.C. nursery industry and with professional groups by staging field days and by providing advice on the introduction of new plant material to the commercial nursery trade. The garden also has close ties with various academic units of the University such as the Department of Botany and the Faculty of Forestry and continues to supply requested plant material to botanical gardens and research stations in Canada, the U.S., Japan and Europe.

In terms of research, the garden continued its program of testing plant materials that show promise in checking erosion on the exposed cliff faces at Point Grey immediately below the campus and sponsored a wide range of academic studies on common and rare plants and insecticides. In many areas of its operations the garden is assisted by the voluntary organization known as the Friends of the Garden, who now number 32, and who organize garden tours, assist in the seed exchange program, and organize an annual plant sale for students, which resulted in the sale of 5,600 items over a three-day period in September, 1978.

I could continue in this vein almost indefinitely, citing other academic units of the University such as the anthropology museum, the University Research Forest at Haney in the



Anthropologist and maskmaker Paul Gibbons, whose profession is clowning, performed regularly in the campus anthropology museum as part of a program to interest young people in native Indian culture and also assisted a member of the faculty in a course on the anthropology of art.

Fraser Valley and Centre for Continuing Education as organizations that combine teaching, research and public service.

The University continued to make a substantial contribution to the cultural life of the Lower Mainland and the province in the 1978-79 academic year. The Department of Music presented 27 faculty recitals and 85 student performances during the year; the University Singers gave six concerts on Vancouver Island in January, 1979, and the University Chamber Singers performed 11 times in the Okanagan and Kootenay centres in April and early May. There were a total of nine plays performed during the academic year in the Frederic Wood Theatre and the Dorothy Somerset Studio. The Department of Fine Arts sponsored a number of public lectures, continued to play an active role in the University's annual Medieval Workshop and staged eight exhibitions in the Fine Arts Gallery, including a retrospective exhibition of the works of B.C. painter Sophie Pemberton, an exhibition of hats and headgear entitled *Headspace*, and a circulating exhibition from the National Gallery of Canada on documentary photography in Canada from 1850 to 1920.

The Museum of Anthropology continues to

expand its remarkable program of special exhibits, Sunday-afternoon lecture-demonstrations and concerts, fieldwork presentations, twice-weekly film presentations, workshops for teachers and children and an outreach series that saw eight UBC faculty members, graduate students and volunteers speak at the West Vancouver Recreation Centre. Museum activities ranged from major exhibits of Japanese pre-history, classical antiquities and Northwest Coast Indian art, through Christmas choral concerts by the University Chamber Singers, to films on the art, archeology and cultural life of people on almost every continent of the world. The museum's staff are using some ingenious innovations to introduce young people to its collections and activities. Paul Gibbons, an anthropologist and maskmaker whose profession is clowning, gave twice-weekly performances during much of the 1978-79 academic year for groups of school children making field trips to the museum. The performances were designed to focus the children's interest on the museum's collection of totem poles and masks. Mr. Gibbons also assisted Dr. Marjorie Halpin, a museum curator and assistant professor of anthropology, in an academic course on the anthropology of art, which focussed on the theme of masquerade, Dr. Halpin's major area of research.

In January, 1979, 20 second- and third-year students in our School of Architecture left Vancouver for a 100-day project in the Greek city of Athens, where they prepared plans for a number of inner-city playgrounds. John Gaitanakis, an assistant professor in the UBC school, arranged the project, which was based on an earlier study which he carried out for the Greek government proposing that streets in central Athens should be closed to vehicle traffic to create play areas for children. The Greek minister of public works decided to proceed with the plan as part of its contribution to the 1979 International Year of the Child sponsored by the United Nations. The students went to Greece as part of an academic course entitled "Study of Architecture Abroad," which provides students with opportunities to undertake studies in foreign countries with unique architecture or architectural problems. Work on creating a playground and community meeting place based on the students' design began in the spring.

The restrictions of space prevent me from listing the names of all the members of the faculty who are involved in a multitude of public-service projects as members of government, professional and community bodies or who gave public lectures to service and community groups and on radio and television. Our students, too, make a contribution to this aspect of University activities through such projects as free food advice and horticulture advice, the provision of free dental care to Lower Mainland children and participation in free legal advice clinics on a year-round basis. The items which follow have been selected from lists of projects submitted by the deans of faculties.

Three members of the Department of Asian Studies — M. Soga, K. Takashima and L. Zolbrod — have been involved in a project to develop instruction in Japanese in private

Japanese schools in the Vancouver area and have also worked to promote the study of Japanese in B.C. secondary schools. As a result of their efforts, Japanese language instruction will be offered as a third-year program in a secondary school in Richmond, beginning in September, 1979.

Members of our Department of Psychology worked with the Vancouver Police Department on matters related to eye-witness testimony and with the municipality of North Vancouver on psychological and behavioral reactions to environmental noise. Other departmental members advised the U.S. Department of Justice on the establishment of a new centre for research on violence, worked with the Yukon health department on the delivery of mental health services in the Far North and with the City of Vancouver on alcohol problems.

Members of the Department of Civil Engineering are involved in research and public service projects related to water-resource and sewage-treatment problems in the Okanagan.

Twenty-six second- and third-year dental students provided services to 1,057 Lower Mainland children in the period May 1 to July 31, 1979. The estimated value of these free services was more than \$275,000.

Quite apart from its academic activities in providing 180 late-afternoon and evening courses on campus and 50 off-campus credit courses for classroom teachers, Faculty of Education teachers served on several committees established by the B.C. Ministry of Education and advised school districts on a wide variety of topics, including the early detection of learning problems, programs for children learning English as a second language and the evaluation of physical education programs. Dr. Hannah Polowy was a member of the Canadian Commission for the International Year of the Child and Prof. John Dennison was named to a federal government commission to review education and training in federal penitentiaries.

Several UBC faculty members were involved in international projects. Zoologist Thomas Northcote was in Peru for more than two months to help develop and manage the aquatic resources of Lake Titicaca under a project sponsored by the United Nations. Prof. Norman Wilimovsky of Zoology and Dr. Charles Underleider of Education participated in the UBC-based project to develop an overall plan of development for the Indonesian island of Sulawesi.

Students from the School of Community and Regional Planning prepared a two-volume report for the municipality of Burnaby on "Planning and Noise," collaborated with the Vancouver School Board in the preparation of a report on planning for declining enrolment, assessed the current and future needs of the Marpole district of Vancouver at the request of that area's business association and citizens' planning committee and examined resource management problems in the Slokan Valley in the Kootenay area of the province.

Public service projects in the Faculty of Law include the following: the appointment of Prof. Peter Burns as evaluation director of the Burnaby Criminal Defence Project, a pilot project involving the setting up of a public defender's

office in that district; service by Dean Kenneth Lysyk as a member of the advisory committee to a provincial government cabinet committee on confederation; the appointment of Prof. D.M. McRae as advisor to the Canadian delegation to the 34th session of the United Nations's general assembly; and the appointment of associate professor James Taylor as chairman of the management committee of the Criminal Defence Office, a joint project of the federal justice department and the Legal Services Society of B.C. involving an experiment on alternative methods of delivery of legal services to the community.

In the Faculty of Medicine, members of the Department of Medical Genetics visited communities in the Thompson-Okanagan valley to demonstrate how to bring medical genetics services to outlying areas of the province. The Department of Psychiatry has evolved a joint venture to establish a psychiatric teaching unit in Prince George in collaboration with the Ministry of Health and the Prince George Regional Hospital and the department also expanded its outreach program so that it now includes Dawson Creek, the Queen Charlotte Islands and the Prince Rupert/Terrace area.

Students in the School of Rehabilitation Medicine participated in a wheelchair access program both on and off the campus. A book has been issued on their findings and has resulted in ramps being built in new buildings.

Prof. David Bates of the medical faculty is serving as chairman of a provincial Royal Commission on Uranium Mining in B.C. A second member of the commission is Prof. James Murray of the Department of Geological Sciences.

During the summer of 1979, more than 600 students were supported by provincial government grants under the Youth Employment Program that enabled them to undertake, with faculty supervision, projects with a community service component that were allied to their academic work. Many of these projects, such as the Food Information Hotline run by students in Agricultural Sciences, received widespread publicity. But equally important, if less publicized, were dozens of other projects, including the preparation of teaching and research materials for use in classrooms by students in the coming academic year. Most of these projects had the additional virtue of providing valuable experience for the students involved.

Health sciences

It seems appropriate in this report on the 1978-79 academic year to deal separately with the work of the Office of the Co-ordinator of Health Sciences in view of the expansion which is taking place in the Health Sciences Centre, including the construction of a new Acute Care Unit on campus and additional teaching and research facilities at off-campus hospitals.

The campus Health Sciences Centre is, of course, more than a facility for the Faculty of Medicine. UBC has set an example for North America in developing an integrated approach to patient care through the provision of educational opportunities for the groups that provide health care, including doctors, dentists, dental hygienists, nurses, rehabilitation specialists, pharmacists, clinical psychologists, social workers and dietitians, and by breaking down the barriers between these groups.

Dean Bernard Riedel chairs the co-ordinating committee which brings the health sciences faculties and schools together. This committee includes the deans of the Faculties of Medicine, Pharmaceutical Sciences, and Dentistry, and the directors of the Schools of Nursing, Rehabilitation Medicine, Home Economics and Social Work. The head of the division of clinical psychology in the Department of Psychology is also a member, as is the administrator of the Health Sciences Centre Hospital.

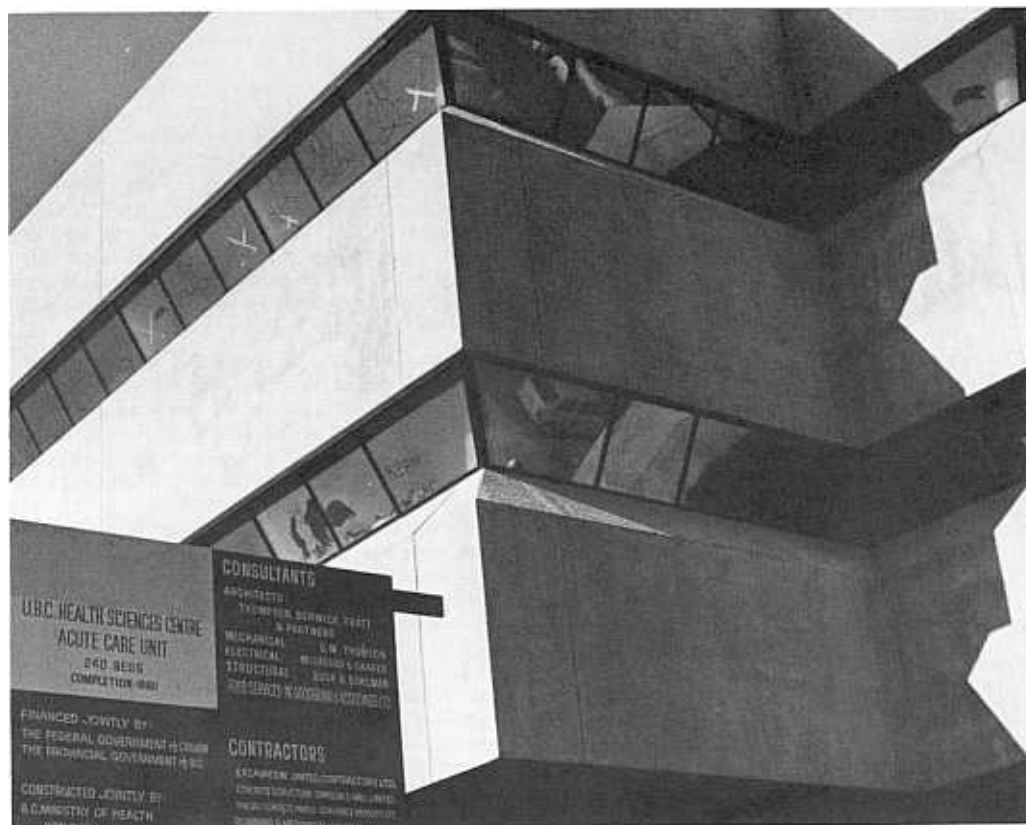
The committee co-ordinates interprofessional matters, the use of health sciences facilities such as the Woodward Instructional Resources Centre and programs such as the St. John Ambulance first aid program; it relates to the clinical teaching needs of the health sciences and the affiliated teaching hospitals; and provides a bridge that links the interests of the academic and health care units on campus.

The co-ordinator has wide-ranging responsibilities, serving as a representative of the various health science academic units as they relate to health care facilities and agencies both on campus and in the community. He also relates to the provincial ministries of Health and Education on matters of common interest to the health science schools.

In order to plan, provide and co-ordinate common services for the health schools, the Office of the Co-ordinator is made up of six separate divisions.

1. The Division of Business Administration serves the Faculty of Medicine extensively by handling funding arrangements with the provincial Medical Services Commission and affiliated teaching hospitals and also handles funding arrangements for community health centres. The division is thus directly involved with the physicians and surgeons of the community who are part of the medical faculty and also works closely with the administrative staffs of affiliated teaching hospitals. Assistance is also given to all health science deans and directors as requested.

2. The Division of Continuing Education in the Health Sciences is internationally recognized



Construction continued during the 1978-79 academic year on the new Acute Care Unit of the campus Health Sciences Centre, where groups that provide health services are trained in the integrated approach to patient care.

for the excellence of its overall program and its approach to continuing education. Details on the division's 1978-79 program are included in this report in the section on Continuing Education.

3. The Division of Educational Support and Development provides educational consultation and service to the health sciences faculties and schools in the planning, development and implementation of curricula, and evaluation and research procedures as they apply to students, curricula and teaching in the health sciences. In 1978-79 the division provided educational support to the Faculty of Medicine's curriculum committee and five of its sub-committees, including one on teaching evaluation, assisted the curriculum committees of three departments, continued to evaluate the resources necessary for expansion of the medical class and residency program, and assisted other health sciences schools and faculties in teaching and course evaluations.

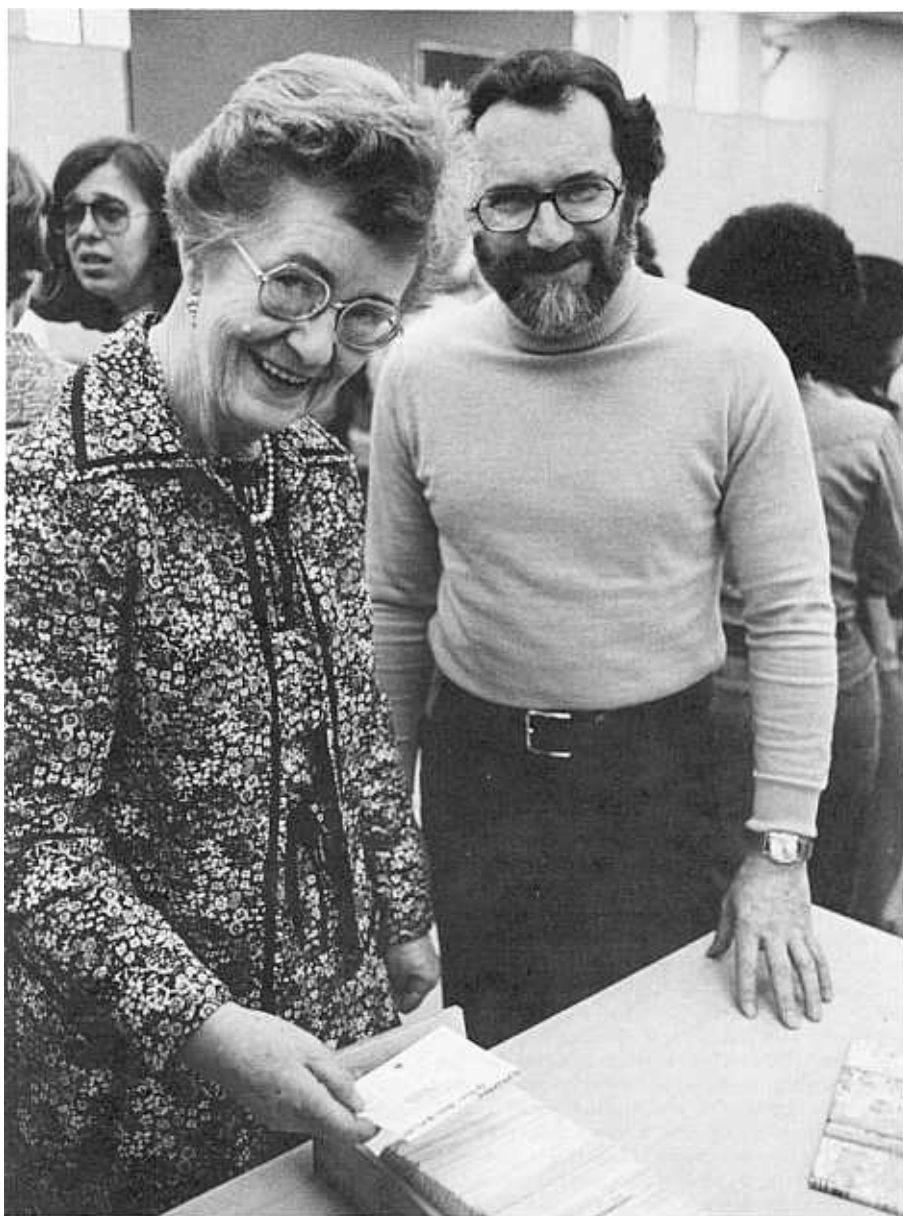
4. The Division of Health Services Research and Development is charged with stimulating scientific enquiry into health issues in population groups, ways in which health services can best be organized and delivered and ways in which institutions should respond. The division includes the Health Manpower Research Unit of the provincial health ministry and is the focus of federal, provincial and interprovincial health manpower planning activities.

The division is co-operating with a number of University departments and is carrying out research studies of hospital bed utilization and the effect of B.C. seat belt legislation in hospitalized injuries. Other division projects in-

clude: a study of the extent of involvement of public health nurses in school health services; a monitoring study of the long-term care program in selected health units; health manpower studies on medical laboratory technologists, psychiatric nursing, dental auxiliaries, dietitians, physiotherapists and occupational therapists, and biomedical engineers.

5. The Division of Health Systems is concerned with analysis of the health care system, and particularly with the optimal involvement of technology. The best known aspect of the division's activities is the Health Hazard Appraisal service, which processed some 6,500 questionnaires during the year submitted by physicians, community health nurses and other health practitioners. On the basis of a computer analysis of a questionnaire completed by a patient the appraisal system provides information about such things as life expectancy based on the patient's current life style. He or she can then be counselled on how changes in life style can add to life expectancy and the improvement of the individual's health. The constantly accumulating data base resulting from the appraisal system permits a number of research studies to go forward.

The division also has a research contract with the Department of National Defence to develop a Nutrition Appraisal and Recommendation System for use as a component in the Life Quality Improvement program being introduced by the Canadian Armed Forces. A number of other projects related to the application of computers to the health-care system are also under way within the division.



Landmark event in the UBC library during the academic year was a decision to close the system's union card catalogue. Honor of putting the last card in the system went to Eleanor Mercer, who retired this year after 41 years of service in the library, while UBC Librarian Basil Stuart-Stubbs looks on. All new books are now catalogued on microfiche and eventually the library's entire collection will be converted to machine-readable form under a program supported by the provincial government.

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The University Library

The problems confronting the University library system were brought into sharper focus during the academic year. It is now evident that the single most important problem facing the system in the immediate future is the provision of additional space to house its burgeoning collection of books and other publications and materials.

It was only 10 years ago that the library collection reached the 1,000,000 mark. In the 1978-79 academic year, the 2,000,000th volume was added to the book collection. In other

words, the library added as many volumes in the past 10 years to its collection as were gathered in the first 52 years of its existence. During this decade UBC spent almost \$18 million to acquire publications and other materials; some 15 per cent of that total, nearly \$2.8 million, was spent in the 1978-79 academic year alone.

If the present rate of acquisitions continues, within eight years all existing shelf space in campus libraries, all closed storage (where 140,000 volumes are currently stored), and all space currently under construction will be filled. Before another decade passes we must have space sufficient to house 3,000,000 volumes.

A simplistic and unacceptable solution to this dilemma would be to reduce seriously or stop the purchase of material for the library system. Such a course of action would fly in the face of the principles that have guided the growth of the UBC library system since UBC opened its doors to students in 1915.

Perhaps the best explanation of why we must find more space instead of reducing acquisitions was stated by UBC's Librarian, Basil Stuart-Stubbs, in his 1978-79 report to Senate. He said: "The University deals in knowledge: its purpose is the creation, preservation and dissemination of knowledge. These processes are continuous, interrelated and endless, and they impose specific requirements on the University's library, which must acquire, store and provide access to the published results of intellectual activity."

During the academic year, a number of key library divisions moved to new quarters in the Library Processing Centre adjacent to the Woodward Library. The move meant that one entire stack level as well as a former reading room in the Main Library's south wing were vacated. The move, however, does not mean that this space will be made available for book stacks. The areas vacated fall far short of National Building Code standards and any renovations to these areas would mean that the entire Main Library would have to be upgraded. The same applies to the space now occupied by the Asian studies division, which will move to the new Asian Centre when work on that structure is completed.

The seriousness of this situation has led me to strike a large and broadly representative University committee on library space, which is charged with determining the needs of the library, considering how they may be met and making recommendations on priorities for construction.

Inflation and the decline in the value of the Canadian dollar are other factors which have strained the University's ability to meet the pace of collection development. Although the collections budget has doubled since 1970, the number of acquisitions has diminished by about a third. The recommendations of the Senate and the generosity of the Board in providing increases in the library's budget in recent years have staved off the kind of drastic reductions which have been commonplace elsewhere in North America.

One other matter connected with acquisitions deserves mention here: the 2,000,000th volume added to the library's collection was by Prof. Albert L. Farley of the Department of

Geography and published by our own University Press. Prof. Farley's *Atlas of British Columbia*, in preparation for four years, includes 115 full-color maps and covers an immense range of information from the distribution of native peoples in the province to the location and capacity of sawmills. The atlas was not just an appropriate volume as the 2,000,000th acquisition for the library; it also fitted in with one of the primary aims of the University Press, which is to provide books about B.C. for British Columbians.

The provision of new space for library collections has not been confined to UBC's Point Grey campus. Currently under construction are new facilities to meet the needs of our expanding program of medical education. The Biomedical Branch Library will soon move into expanded quarters at the Vancouver General Hospital and a new branch library is under construction in the joint facility on Oak Street that will serve the new Children's Hospital and Grace Hospital as well as the existing Shaughnessy Hospital.

The number of hours the library system was open in 1978-79 increased, primarily to meet the needs of spring session students, many of whom are employed full-time and who need additional hours in the evenings and on weekends in order to complete assignments.

Another major decision made by the library in the academic year was to close its card catalogue. As collections expand, so do card catalogues, which provide information and access to the material stored in the library. In order to reduce costs and maintenance time, the library has begun to catalogue its collection on microfiche with the aid of the computer. Microfiche readers are now located throughout the system to take advantage of the computer's ability to duplicate and disseminate catalogue information. The fiche catalogue will begin to grow retrospectively as the library progresses with the conversion of old catalogue information to machine-readable form under a program supported by the provincial Ministry of Education. These developments are linked to the creation by the ministry of the B.C. Union catalogue, a tool which will enable students and teachers everywhere to exploit the total resources of postsecondary libraries in the province.

Continuing education

One of the most impressive developments that has taken place at UBC in the post-World War II period has been the growth of continuing education programs sponsored by the University in all parts of the province. Our Centre for Continuing Education has a proud history extending back into the 1930s of providing outreach programs that extended to the very boundaries of the province. With the growth of professional schools and the increased demand for general and specialist education, the University has done everything it could to respond to the needs of professional organizations and the expressed needs of the public at large. I think it is safe to say that there is scarcely a single faculty, school or department in the University that is not somehow involved in general and specialist continuing education for our citizens.

The breadth and depth of our continuing education programs reflects the rapidly changing world in which we live. The revolution in communications, the growth of the women's movement, the incredible increase in the rate at which new knowledge accumulates, the desire of our citizens to improve themselves intellectually and economically, the increased amount of leisure time that is available to people — all these factors have contributed to the expansion of continuing education programs offered by the University.

I am pleased to report that registrations for continuing education programs offered by the University increased in the 1978-79 academic year and that some academic units made commitments to increase significantly their continuing education responsibilities in the future. What follows are excerpts from the reports of deans and directors of the various units that provide outreach programs in the community.

CENTRE FOR CONTINUING EDUCATION. The centre is undoubtedly the most visible of all the units providing community education and offers one of the most varied and extensive programs in all of North America.

Overall enrolment in courses and services provided by the centre increased more than 15 per cent in 1978-79 to 40,844 persons, compared to 35,436 the previous year. Professional continuing education programs experienced a 20-per-cent enrolment increase, a 30-per-cent increase in the use of the downtown Women's Resources Centre was recorded, and in the program area of Adult Education Training, enrolment grew from 617 to 1,070 persons, an increase of 73 per cent.

The Women's Resources Centre of the CCE in downtown Vancouver not only averages 725 contacts per month but is also serving as a model for Women's Access Centres being established and funded by B.C. community colleges under an initiative taken by the provincial Ministry of Education, Science and Technology. The conceptual framework for these provincial centres was prepared for the ministry by Anne Ironside, director of the UBC Women's Resources Centre. Ms. Ironside's work

Summary of Revenue and Expenditure

(Excluding Capital Additions to Endowment, Student Loan and Capital Development Funds
April 1, 1978 to March 31, 1979)

	<u>GENERAL FUNDS</u>		<u>TRUST FUNDS</u>		<u>TOTAL</u>		<u>1977-78</u>	
		Per Cent	For Specific Purposes	Per Cent		Per Cent		Per Cent
REVENUE								
Province of British Columbia								
Operating Grant	\$122,286,000	83.2	\$ 873,395	2.2	\$123,159,395	65.7	\$111,652,324	66.4
Canada — Museum of Anthropology Grant	290,000	0.2	—	—	290,000	0.1	270,000	0.2
Student Fees	16,095,327	10.9	—	—	16,095,327	8.6	15,483,440	9.2
Services	6,216,807	4.3	7,393,220	18.2	13,610,027	7.3	12,472,606	7.4
Investment Income	2,055,484	1.4	2,792,443	6.9	4,847,927	2.6	3,916,688	2.3
Sponsored or Assisted Research	—	—	25,332,832	62.5	25,332,832	13.5	20,868,630	12.4
Gifts, Grants and Bequests	—	—	4,146,872	10.2	4,146,872	2.2	3,482,433	2.1
Miscellaneous	78,287	—	—	—	78,287	—	70,290	—
	<u>\$147,021,905</u>	<u>100.0</u>	<u>\$40,538,762</u>	<u>100.0</u>	<u>\$187,560,667</u>	<u>100.0</u>	<u>\$168,216,411</u>	<u>100.0</u>
EXPENDITURE								
Academic	\$106,160,627	72.2	\$ 7,797,693	19.2	\$113,958,320	60.8	\$104,466,062	62.1
Libraries	11,099,556	7.6	356,225	0.9	11,455,781	6.1	10,367,533	6.2
Sponsored or Assisted Research	(488,831)	(0.3)	22,476,727	55.5	21,987,896	11.7	19,709,368	11.7
Student Services	2,580,017	1.7	529,986	1.3	3,110,003	1.7	2,883,671	1.7
Scholarships & Bursaries	1,618,263	1.1	2,750,567	6.8	4,368,830	2.3	3,874,259	2.3
Administration	6,966,253	4.7	222,222	0.5	7,188,475	3.8	6,100,889	3.6
Plant Maintenance	16,038,609	10.9	—	—	16,038,609	8.6	14,686,190	8.7
Renovations & Alterations	1,575,971	1.1	—	—	1,575,971	0.8	1,334,313	0.8
Ancillary Enterprises	58,764	—	—	—	58,764	—	308,568	0.2
	<u>\$145,609,229</u>	<u>99.0</u>	<u>\$34,133,420</u>	<u>84.2</u>	<u>\$179,742,649</u>	<u>95.8</u>	<u>\$163,730,853</u>	<u>97.3</u>
EXCESS OF REVENUE OVER EXPENDITURE								
— General Purposes	1,412,676	1.0	—	—	1,412,676	0.8	1,506,905	0.9
— Specific Purposes	—	—	6,405,342	15.8	6,405,342	3.4	2,978,653	1.8
	<u>\$147,021,905</u>	<u>100.0</u>	<u>\$40,538,762</u>	<u>100.0</u>	<u>\$187,560,667</u>	<u>100.0</u>	<u>\$168,216,411</u>	<u>100.0</u>

Anne Ironside, director of the UBC Women's Resources Centre in downtown Vancouver, was the author of a study which has served as a model for Women's Access Centres being established and funded by B.C. community colleges under an initiative taken by the provincial government.



in this area reflects one of the major responsibilities of the Centre for Continuing Education, that of providing models for services that can be implemented throughout the province through government or citizen initiatives. The centre is attempting to raise funds for an extension of the resources centre for women by opening a Life Planning Centre to serve men and women of all ages.

Other highlights of the centre's 1978-79 program included:

- Continued expansion of the Interior Program of services and lectures in the Okanagan-Thompson region;
- Consolidation of recently established programs in gerontology, pre-retirement planning, women in management and career development;
- New initiatives within the centre's Language Institute that have led to introduction of a French-language program for adults, instructor training for teaching English and French, workshops for teachers on French instruction (offered on the Lower Mainland and in the Interior), and demonstrations at community colleges, school districts and conferences of materials for teaching English as a second language; and
- Provision of a free telephone link which enabled students taking correspondence courses under the centre's Guided Independent Study program to confer with their tutors.

Space limitations prevent me from listing the

many dozens of other programs, conferences, lectures and publications that were sponsored or organized by the centre in the academic year.

CCE director Jindra Kulich, while acknowledging that much of the centre's activity in the Interior of the province is made possible by grants from the Universities Council of B.C., points out that much of this funding is approved only on a year-to-year basis, which prevents orderly and efficient planning and development, especially in the non-credit program area.

CONTINUING EDUCATION IN THE HEALTH SCIENCES. This division, which is part of the Office of the Co-ordinator of Health Sciences, provides almost as many courses off the campus as it does on. Of the total of 214 programs put on by the division in 1978-79, no fewer than 102 of them were offered in off-campus centres and were attended by 3,153 professionals. The 112 on-campus courses staged by the division drew 6,110 registrations.

It is worth noting here that the proceedings of many of the professional courses given by this division are recorded on videotape for distribution throughout the province to those unable to attend. Instruction manuals, audio tapes and slides are also distributed by some of the divisions.

The program in continuing dental education was singled out for special mention in October, 1978, by a survey team of the Canadian Dental Association, which was on campus to examine

the Faculty of Dentistry. The survey team said it found continuing education to be one of the highlights of the faculty's operations.

A notable development in Continuing Education in the Health Sciences in recent years has been the appointment of regional co-ordinators who assess the needs of health professionals in their area and plan courses to meet those needs. The co-ordinators perform a valuable service in situations where health professionals are not numerous, e.g., in the area of rehabilitation medicine, by planning programs on a regional basis in order to attract a group of reasonable size.

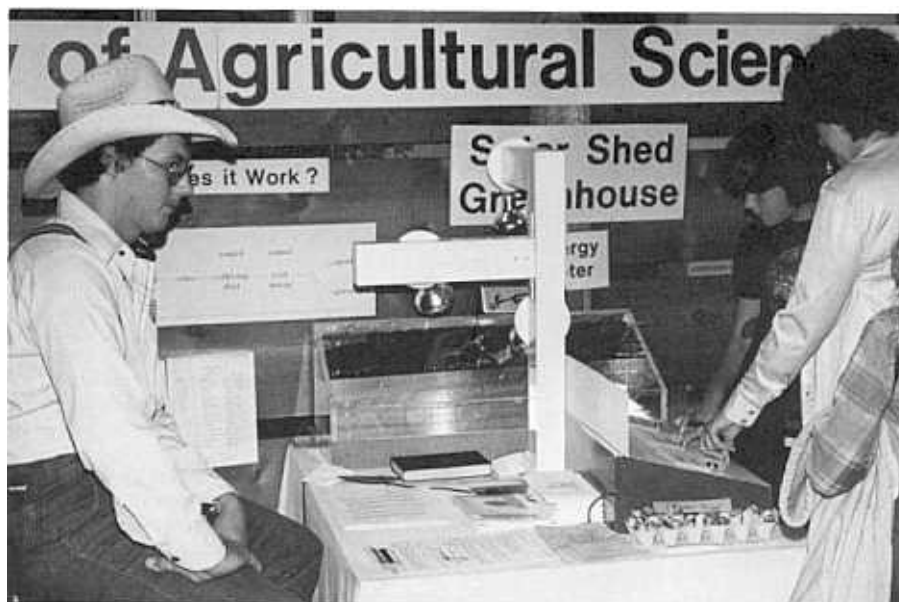
COMMERCE AND BUSINESS ADMINISTRATION. The continuing education activities of this faculty operate under three divisions: executive programs, which stages short-term management seminars; the diploma division, which offers long-term professional career training; and the real estate division, which is responsible for licensing and continuing education for the real estate industry.

Executive programs offered 95 seminars and attracted 2,390 participants for sessions under the headings of urban land economics, organizational behavior and management, the appraisal and development of managers, finance, marketing, communications, accounting and management information systems and labor relations. The seminars were held in widely scattered centres in Canada, including Victoria, Kelowna, Prince Rupert, Edmonton, Calgary and Toronto. Many of the seminars were held in the E.D. MacPhee Executive Conference Centre in the Henry Angus Building, which has proved to be a superior facility for continuing business education. The executive programs division continued to develop relations with B.C. industry and implemented a number of new course offerings throughout the province during the academic year.

The diploma division offers five professional development courses in association with various professional associations which attracted 4,300 students in 1978-79. The largest of these, the Certified General Accountants' course, takes five years to complete and enrolls about 2,300 students, who can also take it by correspondence. The balance of the registrants were enrolled in the five-year Society of Management Accountants' Course (633 students), the three-year Junior Chamber of Commerce Business Administration program (173 students), the three-year Marketing and Sales Management Diploma (139 students), and the fellowship program of the Institute of Canadian Bankers (959 students).

A total of 3,369 persons enrolled for programs offered in the real estate division, including more than 2,000 for the real estate salesman's pre-licensing course, 663 in the diploma program in urban land economics, and 192 in the licensing course for mortgage brokers.

AGRICULTURAL SCIENCES. In an earlier section of this report on Teaching and the Curriculum, I have drawn attention to this faculty's intensified commitment to continuing education throughout the province. However, some other on- and off-campus activities of the



faculty deserve attention. In 1978-79 these included:

- A three-day workshop in Kamloops on the teaching of agriculture for high school teachers, instructed by seven UBC faculty members;
- A B.C. animal agriculture research seminar at Agassiz, where three faculty members from Animal and Poultry Science updated technical personnel and producers on recent research being conducted at UBC, the research station and in the veterinary services branch of the B.C. Ministry of Agriculture;
- A landscape design short course coordinated by Dr. John Neill and sponsored by the plant science department; and
- A short course in remote sensing techniques, taught by Dr. Peter Murtha at the College of New Caledonia in Prince George.

In addition, faculty members gave more than 70 talks and lectures to community groups, high school students, professional groups and producer associations throughout Canada. The faculty also mounted displays at a mini-open house in Kelowna sponsored by the UBC Alumni Association and displayed various aspects of faculty activities at the Pacific National Exhibition.

SOCIAL WORK. The School of Social Work offered 42 continuing education programs in 1978-79, which attracted a total enrolment of 688 professionals. Prof. Ben Chud, who now administers the continuing education program in the school, has begun to plan actively for the annual Conference on Family Practice to be held in June, 1980, which will involve the five schools of social work in Western Canada.

FORESTRY. This faculty took steps to intensify its commitment to continuing education by appointing Dr. Donald Munro, a member of the faculty, as director, off-campus and continuing education, effective Aug. 1, 1979. He will work in conjunction with the Centre for Continuing Education, regional colleges and industrial and government foresters to develop and strengthen the professional education program in forestry.

Various aspects of teaching and research in the Faculty of Agricultural Sciences were on display at the Pacific National Exhibition in Vancouver in late summer. This faculty intensified its commitment to continuing education during the academic year.

The decision to expand the program is the result of a study by a Prince George firm of forestry consultants which identified and confirmed the continuing education needs of professional foresters and employers. The consultants found that the two-year forestry technology programs under way since 1966 have produced a demand for upgrading to the professional level of some 300-500 graduate technologists. Since some companies have expressed the hope that their experienced, qualified technologists can earn professional qualifications without leaving their place of employment for long periods, there is a significant demand for a distance-education program in forestry at the university level. The study proposes a forestry program for the Interior, to be phased in over the next five years at a cost of \$1,744,000.

EDUCATION. In the section of this report on Teaching and the Curriculum I have already outlined the very significant contribution made by the education faculty in the field of continuing education and the praise it has received for that endeavor from the committee I established to review the faculty's operations.

In 1978-79, the faculty devoted nearly 12,000 hours to providing continuing education credit courses, seminars, workshops, scientific exhibitions and demonstrations, performances of various kinds, art exhibits and participation in conferences and congresses. These were offered by faculty members from 25 divisions in the faculty, many of whom travelled to the far corners of the province to keep commitments. There is no lack of dedication in this faculty to the principle that they have a responsibility to upgrade the quality of teaching in B.C. schools.



Students taking correspondence courses through UBC's Centre for Continuing Education can make use of a toll-free telephone line that links them to their UBC tutors or Audrey Campbell, who administers the Guided Independent Study program.

The student body

In recent years, usually in late summer, we are told by Canadian newspapers that student enrolment at universities and colleges is declining. What the writers of these misleading articles usually mean is that enrolment in eastern Canadian institutions is declining. If they had taken the trouble to investigate, they would have found that the reverse is true in the far west. University and college enrolments in western Canada continue to increase and in the 1978-79 academic year UBC's was at an all-time high.

In the period from Sept. 1, 1978, to Aug. 31, 1979, we enrolled 32,625 students, made up of 22,676 daytime students, 1,221 evening session students, 1,458 correspondence students, 2,757 spring session students, and 4,135 summer session students. Each of these figures represents an increase over the previous academic year.

If UBC enrolment is looked at on a fiscal year basis — April 1, 1978, to March 31, 1979 — which is the official reporting-time period for the Universities Council of B.C., we also reached a new record, topping the previous fiscal year by one per cent. The total enrolment was 31,895 students — 2,565 in spring session, 3,975 in summer session, 22,676 in daytime winter session, 1,221 in winter evening courses, and 1,458 taking correspondence courses.

Once again, the percentage of female students continued to climb in the total first-year class of 3,271 who enrolled for the daytime winter session. Women outnumbered men 54.3 to 45.7 per cent. In the overall daytime winter enrolment women made up 45.2 per cent of the student population; 46.6 per cent of undergraduate students were women and 36.3 per cent of graduate students were women. All these percentages are increases over the same figures for the previous year.

In my last report I summarized the recommendations made by an eight-member President's Advisory Committee to Review Student Services, which was charged with devising more effective ways of delivering existing services and suggesting new services that might be provided to students. The task of implementing the report's recommendations, which called for a radical reorganizing of services, was begun in the 1978-79 academic year by Prof. Erich Vogt, vice-president for faculty and student affairs. Soon after receipt of the report, the Board approved a change of name for the Office of the Dean of Women, which is now called the Women Students' Office and which is now headed by a director. Dr. Lorette Woolsey, who had served as acting director of the office in the 1977-78 academic year, was confirmed as director of the new office in the 1978-79 year.

When students returned to the campus in September, 1979, Prof. Vogt set in motion machinery which led later in the academic year to the formation of a standing advisory committee on student services, which was one of the 15 recommendations made. The first task of the committee was to draw up a job description

for the position of assistant to the vice-president for faculty and student affairs, who will, when appointed, chair the advisory committee. The new committee will also be charged with making recommendations to the administration on matters dealt with in the report from the presidential advisory committee. The new standing committee on student services includes four student members.

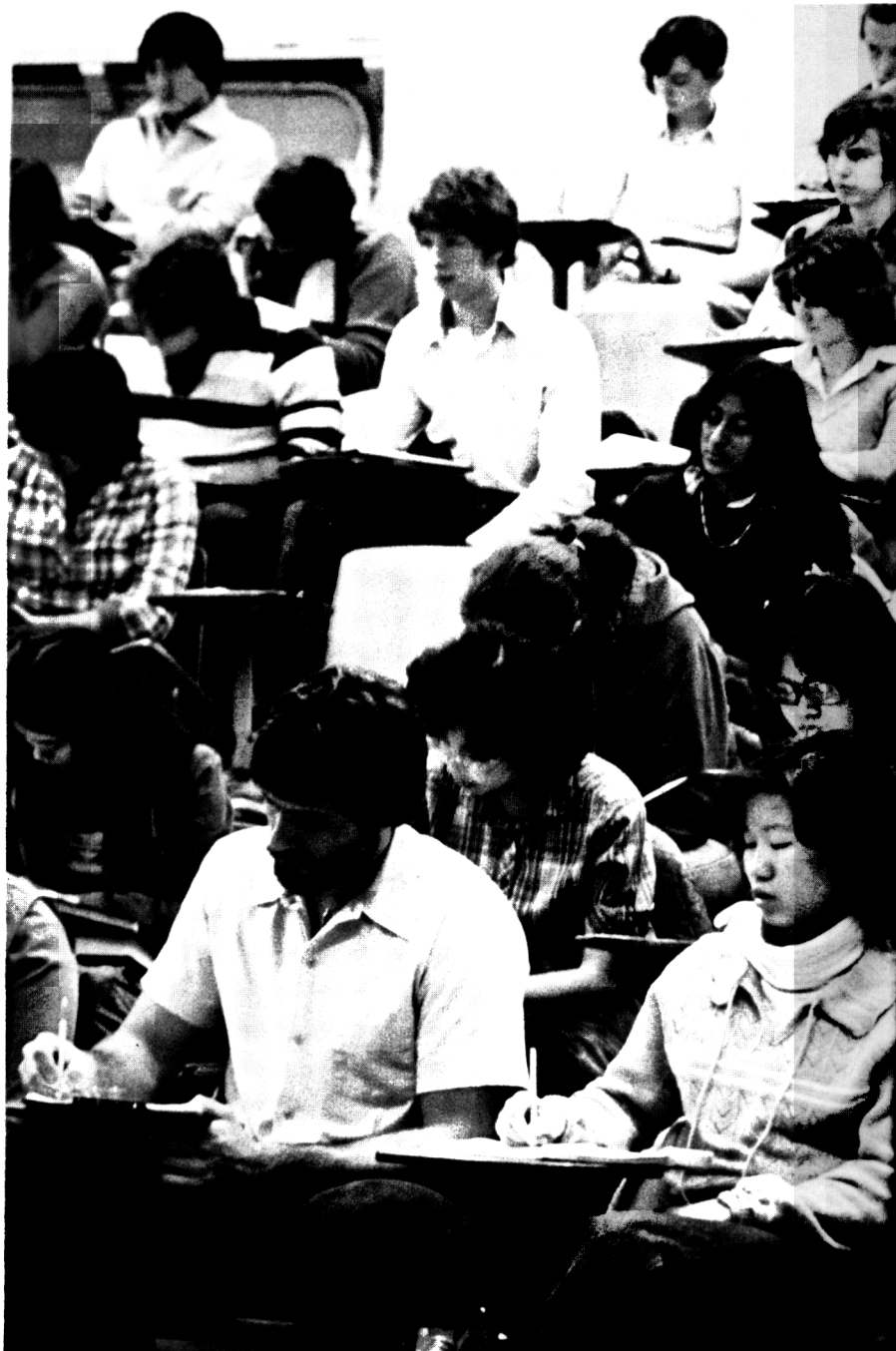
Dr. Lorette Woolsey, the director of the Women Students' Office, is assisted by an active and lively group of women who have a mandate to work in a constructive way to make UBC a better place for women and men. In addition to workshops and group counselling, her office initiated and expanded two career-oriented programs — internship and co-operative education. The internship program offers students the opportunity to work off-campus on a part-time basis during the winter session in a field related to their academic interest; and the co-op program integrates formal academic study during the winter with summer work in business, government or industry, particularly in the fields of forestry and engineering. As I mentioned earlier, both the co-op and internship programs will operate separately from the Women Students' Office as of Sept. 1, 1979.

Later in the year, the University took a number of steps to improve accessibility to post-secondary education for students from all sectors of the community. I met, early in December, 1978, with the presidents of the University of Victoria and Simon Fraser University and with student leaders from all three institutions to discuss the need to improve the B.C. student-aid program and accessibility to higher education. At the conclusion of the meeting, the three presidents issued a statement in which we drew attention to the need to improve rapidly the program of student grants and loans and we called on the provincial government to consider implementation of the recommendations made in an earlier report by the Universities Council of B.C. The three presidents also decided to seek an early meeting with Ministry of Education officials to discuss the problem.

Later in the academic year the University took some steps of its own designed to improve accessibility to secondary education. The Board approved a proposal to add \$250,000 over the next five years to UBC bursary funds to aid low-income students, bringing to \$450,000 the amount the University makes available annually from its own funds and those contributed by donors to assist students or to supplement financial awards made by the B.C. Student Assistance Program.

The University also made plans to launch a pilot project in the summer of 1979 with five secondary schools chosen as representative of schools in the province. Representatives of the five schools came to the campus to confer with appropriate officials. One of the major aims of this workshop was to determine why some students come on from secondary school to the University while others do not.

Another aspect of this program, which will cost a total of \$159,000, is the provision of \$750 bursaries for two students from each of the five



schools chosen for the accessibility project. The awards have been made on the basis of the recommendation of schools involved.

The University also plans to expand its distribution of printed and audio-visual material to schools throughout the province and to bring to the campus selected grade 8 and 9 students, since studies have shown that it is at this point in their school careers that students generally make decisions about postsecondary education. We will also arrange for students at the University to visit their former high schools to provide information to prospective freshmen.

In my last report I described to you the steps which had to be taken in the 1977-78 academic

Enrolment at the University reached an all-time high during the 1978-79 academic year. More than 32,600 students enrolled for day and nighttime credit programs at three separate sessions and for correspondence programs offered through the Centre for Continuing Education.



These young visitors to UBC's triennial Open House on March 2 and 3, 1979, were fascinated by models constructed by students in the School of Architecture.

year to solve a number of serious administrative problems at International House. I am pleased to be able to report that Vice-President Erich Vogt, after consultation with appropriate University and community groups, has been successful in resolving most of the difficulties. In December, 1978, the Board approved a new constitution for the House, drafted by a committee of students and community and faculty members of the organization. Thus, the University was able to lift the suspension of the constitution of International House, which was imposed in May, 1978.

Another of the University's triennial open houses was held on March 2 and 3, 1979. An estimated 50,000 people visited the campus on these two days to see displays and exhibits, talks and demonstrations put on by the more than

125 faculties, departments, schools and centres that make UBC such a fascinating institution. Open House began as a student-initiated event and by and large it continues to function smoothly and draw most of its manpower from the student body. Certainly, the event would not be a success were it not for the initiative and imagination of the student body. To all those who contributed to the 1979 event I extend my thanks and congratulations for ensuring that our visitors are informed about the contributions that UBC is making to the cultural and industrial life of this province.

UBC's facilities are, of course, open to the public on a year-round basis and we do everything we can to ensure that the public is aware of the opportunities available to them to participate in the athletic, cultural and intellectual life of the University. A fuller description of the many activities available to the public is included in this report in the sections on Continuing Education and Public Service.

UBC athletic teams continued to win more than their share of honors during the 1979-80 academic year. The Thunderbird football team won the western Canadian university football championship for the second time in three years and won the semi-final Western Bowl by defeating Wilfrid Laurier University 25-16. They narrowly lost the national final to Queen's University in a game played in Toronto. The Thunderbirds were picked as the Team of the Year and quarterback Dan Smith was a finalist in the University Athlete of the Year competition. Football coach Frank Smith was selected by his peers as College Coach of the Year and two members of the team, fullback John McKay and linebacker Kevin Konar, were picked for the All-Canadian team.

UBC and Simon Fraser University agreed to revive competition in football and other sports during the 1978-79 academic year. The Thunderbird football team ended their season with a 22-14 win over the SFU Clansmen in a game played before more than 12,000 in Empire Stadium on behalf of the United Way appeal. Later in the year, the Thunderbird soccer team defeated the SFU side 1-0.

The Thunderbird rugby club compiled an amazing record in local, collegiate and international play. They won the McKechnie Cup and the World Cup and in a 32-team tournament in California won all their games before being defeated 4-0 in the final by Loughborough College of Great Britain, unquestionably England's finest university rugby team. Scrum half Preston Wiley was chosen the tournament's most valuable player. Six UBC team members were chosen for Canada's national team which is coached by UBC's Donn Spence.

UBC also continues to provide the bulk of the players for Canada's national field hockey team, led by Alan Hobkirk, a player of outstanding ability who was the 1979 winner of the Bobby Gaul Trophy, which recognizes UBC's outstanding athlete of the year.

A UBC-Vancouver Rowing Club crew won international honors at the Nile Rowing Festival in Egypt over the Christmas period by winning the overall scoring title, and UBC's own international regatta at Burnaby Lake in March, 1979, saw our team win the team points total and vic-

tories in the junior varsity lightweight and varsity eights as well as the lightweight four with cox.

Individual men who were honored for their outstanding performances were swimmer Don Liebermann, gymnast Ed (Buddy) Osborne, judo experts Victor Yoshida and Hiroshi Nishi, squash player Richard Fleming, volleyball player Mark Thierrien, fencer Graham Smith and wrestlers Peter Farkas, Lee Blanchard and Martin Gleave.

Our women athletes performed equally well. The Thunderette field hockey team won the Canada West and national collegiate championships for the first time and made a clean sweep of the Vancouver league. Field hockey was named Team of the Year at the annual UBC women's sports banquet and the team's captain, Nancy Moore, was the recipient of the Sparling Trophy as the outstanding woman athlete of 1979.

UBC was the host of the Canadian Inter-University Gymnastics Championships on Open House weekend and several of our men and women gymnasts placed high in the competitions. The advent of our new Aquatic Centre has meant a revival of interest in competitive swimming at UBC; the 15-member women's team this year captured the Canada West crown and placed fifth in the national university meet in Montreal.

Individual women who distinguished themselves included gymnasts Leslie Fortune, Laurel McKay and Ann Brunner, swimmers Wendy Hogg and Janice Blocka, and fencers Beryl Allen, Sue Kainer, Janice Wentworth and Kathy Thompson.

Many UBC students also distinguished themselves academically and received recognition in the form of awards and scholarships. Congratulations are due to the students listed below whose honors were announced publicly or reported to me by the deans of the faculties.

Catherine Milsum was the 1979 winner of the Rhodes Scholarship for B.C., the first woman to win the award in this province. The winners of UBC's three leading awards for a combination of academic achievements and service were: Anne A. Gardner, a third-year Science student, who won the \$2,500 Sherwood Lett Memorial Scholarship; Gary Walters, also a third-year Science student and the recipient of the \$1,500 Amy Sauder Scholarship; and Dierdre Dawson, a graduating student in Rehabilitation Medicine, who received the \$1,000 Harry Logan Memorial Scholarship.

In Agricultural Sciences Jennifer Renshaw won the award for the best undergraduate paper given annually by the western chapter of the Institute of Food Technology, and thesis awards from the Canadian Agricultural Economics Society went to R. McNeill and D. Quan.

Over the past three years, more than 100 students in the engineering program in the Faculty of Applied Science have been involved in the construction of an automobile which runs on electrical power rather than the conventional internal combustion engine. In the summer of 1979 the students took the car to Detroit, where they won two awards in a competition sponsored by Student Competitions on Relevant Engineering. They came away with first prize in the stu-



Dan Smith, quarterback for the UBC Thunderbird football team, holds aloft the Shrum Bowl trophy, won by UBC for the first time in a victory over Simon Fraser University at Empire Stadium before 12,000 on behalf of the United Way appeal.

dent innovation section of the competition and also won the cost-to-consumer category, which means that if the UBC entry were mass-produced its unit cost would have been the lowest of all the entries. There is general consensus that the UBC entry would have placed higher in other categories had it not been for the fact that the team was late in arriving in Detroit — the truck transporting the UBC vehicle broke down twice en route to the east — and another mishap prevented the car from going through all the tests in the competition, which was won by an entry from the University of Manitoba. All those who had a hand in preparing the car for the competition deserve congratulations for developing a vehicle that included some innovative and original features.

Four of the more than 100 UBC engineering students who constructed an electric car that won two first prizes at an international contest in Detroit in the summer of 1979 pose with the vehicle after its return to the UBC campus. Left to right are: Jaime Chiang, Alex Ratajac, Frank Peabody and Bobby Ratayats. Peabody, who was project co-ordinator, holds plaque denoting first prize for innovation in the contest.



Three students in the Faculty of Arts, Barbara Thornbury, Louise May and Geraldine Pelletier, were awarded Canada-China Cultural Exchange Scholarships; Jane Boothroyd of Fine Arts was the winner of a Tina and Morris Wagner Foundation fellowship and Stainfield Wong of the same department was awarded the Frances Reif Scholarship in Asian art; music student Ben Heppner was the winner of the voice section and co-winner of the first prize overall in the 20th talent competition of the Canadian Broadcasting Corporation, while in the same competition David Swan was the winner of the piano section.

In the Faculty of Education, Dr. V. Storey was given the award for the outstanding doctoral dissertation for 1979-80 by the Canadian Association for the Study of Higher Education.

The American Planning Association Award for 1979 went to Major W. Low, on leave of absence from the Armed Forces as a student in Community and Regional Planning in the Faculty of Graduate Studies. He is now head of facility planning for the armed forces' air command. In the same school Robert Hobson was the recipient of the Planning Institute of B.C.'s award for his thesis on the management of estuarine resources in the Fraser River and is now employed by the newly established federal-provincial agency that is managing the estuary of that river.

Also in Graduate Studies, more than one third of the students in the Institute of Animal Resource Ecology received competitive scholarships, including eight graduate fellowships, a Commonwealth scholarship and four foreign government awards. Six of the 17 master's fellowships awarded in Canada in 1978-79 went

to students enrolled for advanced work in UBC's Centre for Transportation Studies.

Students in the Faculty of Medicine who were honored in the academic year included: Dr. Simon Baker of Anaesthesiology, winner of a prize awarded annually to residents by the Canadian Anaesthetists Society; Dr. Brian Smith, one of five Canadian students who were winners of Robert Wood Johnson Awards in health-care administration; and Dr. Brian Day of Surgery, recipient of the 1979 Eduoard Samson Research Award.

Faculty of Science students who received awards were: E. Downey, recipient of the best essay prize of the Canadian Institute of Mining and Metallurgy; W.K. Milson of Zoology, who won an award from the Canadian Society of Zoology for the best Ph.D. thesis in Canada; G.L. Jung of Chemistry, winner of the American Chemical Society's analytical chemistry award; and C.P.J. Bennington, also of Chemistry, winner of the Lefevre Gold Medal and the Society of Chemical Industry Scholarship.

I also take this opportunity to congratulate the hundreds of graduate and undergraduate students who have won awards offered by national organizations and by UBC. Their scholarship and hard work has contributed to the reputation that this University enjoys in international academic circles.

The heads of the 1979 graduating classes are listed in a later section of this report on our annual Congregation for the awarding of academic and honorary degrees.

Capital financing and new buildings

I would like to be able to report to you that we made a significant breakthrough in 1978-79 in our efforts to improve the physical environment on the campus by being given the green light to proceed with the planning of a number of new buildings, which would relieve overcrowding and provide improved teaching and research space.

Construction and planning continued on a number of projects which have been outlined to you in previous President's Reports, but the fate of most of our requests made to the Universities Council more than three years ago remains unknown.

I can only reiterate here what I have emphasized to the Council and to the Board and Senate in the past — first-class academic and research programs cannot flourish and reach their potential in outdated and sub-standard quarters, which include some 100 weather-beaten army huts which have been fixtures on the campus since 1946.

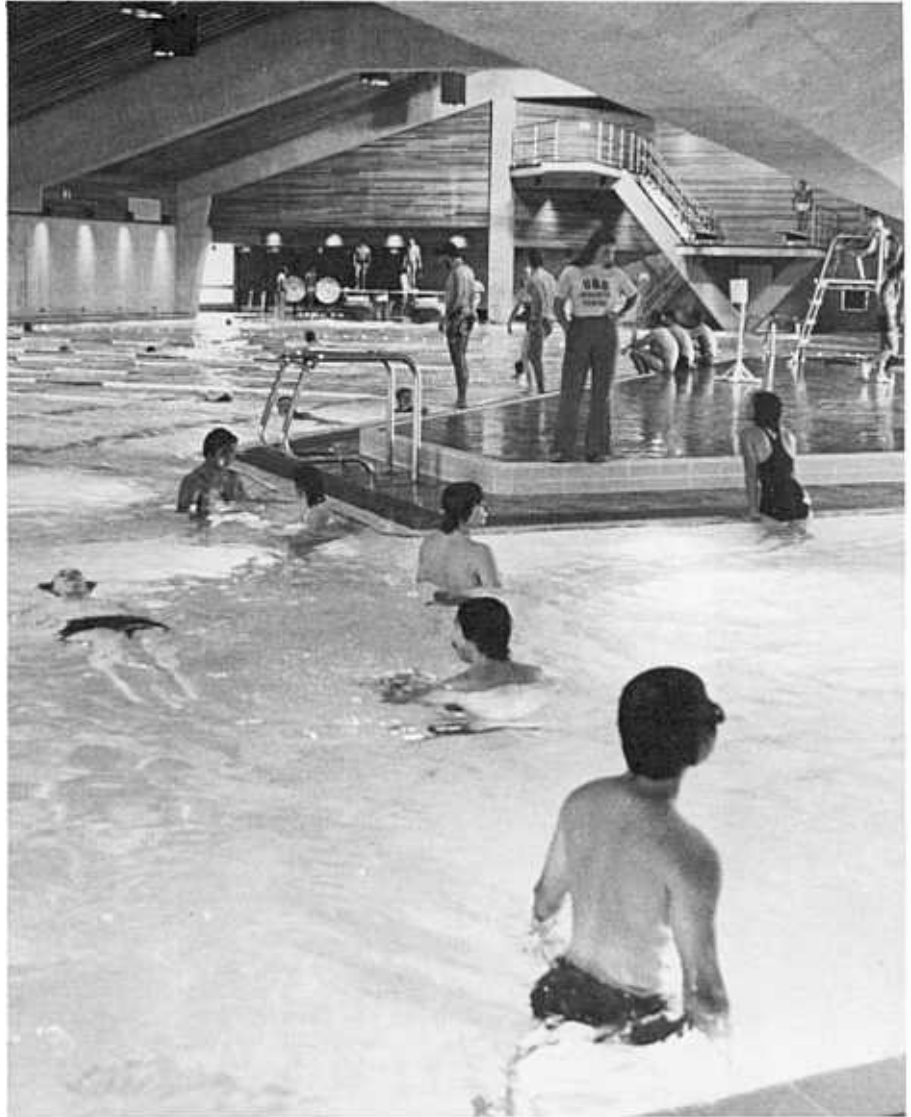
Once again, I can only add that we are doing everything possible to convince the Council of the need for capital funds to improve the quality of education at UBC.

UBC's new Aquatic Centre, built with funds contributed by UBC students, faculty and staff, the Board of Governors, the federal and provincial governments and the community at large was officially opened on Sept. 27, 1978.

Hon. Simma Holt, then a member of the House of Commons in Ottawa, and Hon. Sam Bawlf, then provincial minister of recreation and conservation unveiled a plaque dedicating the centre. Ms. Holt substituted for Hon. Iona Campagnola, then federal minister of state for fitness and amateur sport, who had to cancel her plans to attend the ceremony at the last minute. A second plaque was unveiled during the opening ceremony to mark the opening of the John M. Buchanan Fitness and Testing Centre, housed in the same building as the pool, which provides research facilities for fitness testing and human physical activity.

The centre is, of course, a significant addition to campus recreational and competitive sports facilities. But it will also be a major centre for teaching and research by a number of UBC faculties, schools and departments. It provides a year-round, all-weather teaching facility for the School of Physical Education and Recreation and can be used by the School of Rehabilitation Medicine for physiotherapy and work with the handicapped, and by the Faculty of Science for teaching scuba diving techniques to future oceanographers and marine biologists. The varied configuration of the pool will permit several groups to make use of it at the same time.

The centre offered a full program of activities from the moment it opened its doors in May, 1978, including swimming lessons for all ages from beginners to advanced levels, keep-fit ses-



sions for women, sessions for the handicapped and elderly, synchronized swimming and diving lessons, and Royal Lifesaving Society lessons. In the spring of 1979, the first provincial aquatics workshop attracted more than 450 aquatics supervisory and teaching personnel to a 10-day workshop on all aspects of water instruction from lifesaving to kayaking. Twenty provincial organizations participated in the workshop and the majority of the participants were taking certification courses to prepare for summer jobs.

The new centre is managed by a committee of six, reflecting the varied interests of the users. The Alma Mater Society and the University each appoint three members to the management committee, with one person from each group representing the community. This reflects the University's concern that the off-campus community should have a share in the use and operation of the centre.

The new Library Processing Centre was completed and occupied during the 1978-79 academic year. The new building houses the serials, acquisitions and catalogue divisions of

Varied configuration of UBC's new indoor swimming pool provides shallow area for swimming lessons, foreground, marked lanes for recreational and competitive swimming, upper left, and deep water for diving at far end.



During the academic year UBC was authorized by the provincial government to borrow \$3,591,952 to complete its Asian Centre, which will provide space for the University's Asian studies library and the Department of Asian Studies and the Institute for Asian Research.

the library, as well as the catalogue preparation division, each of which was formerly housed in sub-standard quarters in the Main Library. The library's systems division also moved from the Sedgewick Library to the new facility. When other floors of this new building immediately west of the Woodward Library are complete, several other service divisions of the University will move in. The problem of providing additional space for UBC's growing book collection are dealt with under another section of this report on the University Library.

During the academic year the University was authorized to borrow \$3,591,952 to complete the Asian Centre adjacent to the Nitobe Memorial Garden. The first phase of the project, which cost \$1.6 million, enabled the University to erect the steel framework of the building, donated by the Sanyo Corporation following Expo '70 in Osaka, Japan, and to complete the centre's exterior. Further work had to be halted in August, 1975, when available funds ran out. The completed centre will house UBC's Asian studies library of more than 200,000 volumes, and provide offices for the Department of Asian Studies and the Institute for Asian Research. It will also contain a small auditorium for the performance of Asian music, theatre and dance and an exhibition area. The centre will be a significant bridge between the cultures of Canada and the Orient and Southeast Asia.

Planning continued during the academic year on new buildings to house the School of Home Economics and the Department of Psychology. The functional program for the latter facility was approved by the Board at its November meeting. Plans are also being prepared for construction of a new Coal Research Building and for completion of space in the Frank A. Forward Building for metallurgy to house the Department of Mineral Engineering.

A new swine research unit was completed in April, 1979, replacing a building destroyed by fire in September, 1977.

Construction continued during the academic year on the new Acute Care Unit of the Health Sciences Centre Hospital as well as additions to nearby Basic Medical Sciences Buildings. These

projects are related to the expansion of our medical school, which involves expenditures of more than \$50 million to expand campus facilities and construct new buildings and research and teaching space at hospitals in the Vancouver area where our senior medical students undergo clinical training. The University has also undertaken to double the size of its entering medical class from 80 to 160 students. The first-year class was increased in size from 80 to 88 in the 1978-79 academic year and will grow to 100 in the 1979-80 academic year. Extensive road work began in the summer of 1979 designed to improve access to the Health Sciences Centre from the 16th Avenue entrance to the campus. To accommodate the hundreds of professional people and visitors who will have to have access to the new hospital when it is complete in the spring of 1980, plans are under way to construct a new 1,000-car parking structure to the west of the hospital complex.

During the academic year, the University began formal discussions with the B.C. Development Corporation leading to establishment of a high-level research park on a tract of land south of 16th Avenue in the area set aside many years ago by the University for research purposes. It is expected that UBC's Discovery Park will be one of several such developments which the provincial government is interested in developing in order to attract sophisticated, high-level technology industry to this province. There seems little doubt, based on experience with such developments elsewhere, that the result would be a diversification of B.C.'s economy, which is now heavily based on the extraction of natural resources. It should also provide opportunities for employment of our graduates and research opportunities for faculty members and students.

We are not carrying out these negotiations without having solicited opinions from the University community. In June, 1977, I asked each of UBC's 12 faculties for comments and views on this proposal. The replies were uniformly positive. The executive committee on research and the advisory board on grants, contracts and research policy also responded enthusiastically to the Discovery Park concept, particularly in relation to the opportunities it would provide to increase interaction between researchers at UBC and those from industry and government. The committee of deans made several recommendations that were carried into the negotiations and the report of a 1978 ad hoc committee on UBC's Discovery Park summarized the hopes and concerns of the University community and formed a set of guidelines which are the basis of negotiations with the provincial government.

Governing bodies

I would like to record my deep appreciation for the advice and support which I have received from various members of the Board of Governors and Senate during the 1978-79 academic year. No one individual can possibly cope with the multitude of decisions that must be made in any one year for an institution as large and complex as the University of B.C. Much of the annual decision-making stems from the arduous and time-consuming work of committees which make recommendations to the Board and Senate. To the members and those who chair the standing and ad hoc committees of both the main governing bodies of the University I extend my gratitude for their past and continuing efforts.

The Board of Governors, at its first meeting of the academic year on Oct. 3, 1978, learned with regret of the resignation of Hon. Thomas Dohm, Q.C., an appointee of the Lieutenant-Governor in Council. Mr. Dohm was first appointed to the Board in 1972 and served as its chairman from 1975 to 1977.

His successor on the Board is Alan Eyre, a graduate of UBC appointed by the provincial government for a three-year term of office. He is no stranger to the UBC campus. After graduation in Civil Engineering in 1945, Mr. Eyre lectured in the Faculty of Applied Science for two years. He is a former vice-president of the UBC Alumni Association and was actively involved in the 3 Universities Capital Fund which raised money for the construction of new buildings at UBC, Simon Fraser University and the University of Victoria in 1964 and 1965.

Late in March of 1979, the provincial government announced the appointment of another graduate, Stanley Weston, to the Board of Governors. He received his degree in agriculture from UBC in 1939 and is known as an authority on land reclamation and erosion control. He was also associated as a student with one of UBC's success stories. He worked on the test plots initiated by a group of UBC agriculture professors which led to the development of a variety of alfalfa rhizoma, which is now the premier animal forage crop in North America and the largest acreage crop in B.C.

Mr. Weston succeeded Sadie Boyles, professor emerita of Education at UBC and a Board member since 1975.

At its final meeting on July 3, 1979, the Board elected Dr. Leslie R. Peterson, appointed to the Board in January, 1978, as its new chairman for the period Sept. 1, 1979, to Aug. 31, 1980. He succeeds Ian Greenwood, chairman for the 1978-79 academic year, who will continue to serve on the Board as an appointee of the provincial government.

A highlight of the Board's year was a meeting held in the Okanagan city of Kelowna at the invitation of Board chairman Ian Greenwood. The meeting, the first ever held by the Board off the UBC campus, was the regular gathering for the month of May, but was advanced one

day to April 30 to simplify travel arrangements. Following the meeting, Board members were guests at a reception and dinner sponsored by the Alumni Association. I had the privilege of addressing the dinner and speaking the following day at a meeting of the Rotary Club of Kelowna.

Much of the business of both the Board and Senate falls under the heading of routine. However, some debates and decisions not mentioned in other sections of this report deserve mention here.

At its December, 1978, meeting the Board approved an increase of \$750 in the stipends paid to individuals teaching three-unit extra-session courses in the spring and summer sessions and evening courses held during the winter session. The increases became effective on April 1, 1979, and will continue for the fiscal years 1979-80 and 1980-81. The new stipends are as follows: assistant professor and below — \$2,900; associate professor and above — \$3,300.

At its meeting in March, 1979, the Board approved a revised Agreement on the Framework for Collective Bargaining between the University and the Faculty Association. The new five-year agreement replaced one in force since December, 1975, and provides, among other things, for simplification of bargaining procedures on salaries, fringe benefits and other items with economic implications, expansion of the bargaining unit to include full-time sessional lecturers for the purpose of negotiating salaries and fringe benefits, and changes in the structure and terms of reference of joint committees for bargaining on non-academic matters and for consideration of grievances by faculty members.

At its June, 1979, meeting the Board approved a recommendation postponing a tuition-fee increase for students until April 30, 1980, starting with the 1980 spring session. I decided to recommend the postponement to the Board because earlier in the year, when it appeared that a fee increase would be necessary for the 1979-80 winter session, I gave an undertaking to students that they would be informed about the tuition increase before they left the campus in April. It was not possible to do this because the provincial government called an election early in 1979 before a budget had been approved by the legislature. Consequently, the University was not informed officially of its operating grant for 1979-80 until June, two months after the completion of the final exam period.

At its final meeting in July, 1979, the Board received the master plan for control of erosion on the Point Grey cliffs adjacent to the University, prepared for UBC's Marine Foreshore Development Committee chaired by Vice-President C.J. Connaghan by Swan Wooster Engineering of Vancouver. The proposals call for extensive erosion-control measures in the area immediately below Cecil Green Park, the Museum of Anthropology and the Botanical Garden headquarters, where the threat to University property is the greatest. Other areas on the Point Grey headland would receive minimal treatment to control gully erosion caused by water seeping out of the cliff face.

Discussion of the proposals will be carried out in the 1979-80 academic year with the Vancouver Park Board, which controls the cliff and beach area below the University, with a view to taking action to counter this pressing problem.

The University Senate twice rejected proposals made by student senator Eric Warren of the Faculty of Law calling for a study of requirements for bachelor's degrees offered by the University. The question of basic requirements for bachelor's degrees has been the subject of study by a number of universities in North America in recent years. In some cases, extensive revisions to degree programs have resulted; in other cases, proposals for such studies have been rejected.

Our own Senate decided that an investigation such as that proposed by Mr. Warren would be inappropriate. His motions appeared to founder on two rocks: they were far too broad in scope and would have required a study of some 17 bachelor's degrees offered by UBC; and the motions engendered a feeling among some senators that recommendations by a Senate committee would be an erosion of the rights of the University's 12 faculties, which have the responsibility of setting degree requirements that are approved by Senate.

The so-called "literacy issue" — the inability of many students to demonstrate competence in the use of the English language — was the subject of two debates by Senate late in the academic year. The roots of the debate lay in a Senate decision of April, 1976, when it ruled that remedial workshops for students who proved to be deficient in English-language skills would end in August, 1979, and that beginning in September, 1979, admission to UBC would be limited to students demonstrating "basic competence in English composition or whose work in subjects other than English is demonstrably outstanding."

At its March, 1979, meeting, Senate rejected a proposal from its admissions committee that attempted to give form to this recommendation. The admissions committee was itself dissatisfied with the motion and described it as a "step in the right direction" while admitting that it had "failed to find a satisfactory resolution to the problem of identifying applicants relative to their capacity to demonstrate basic competence in English composition." The following month, on the recommendation of Senate's agenda committee, the matter of finding a way to assess the writing ability of students was referred back to the admissions committee together with the report of a Senate ad hoc committee on standards in English, which made three recommendations relative to this problem.

Support services

This year, I would like to report briefly on the activities of a number of units that make a significant contribution to the academic and other aspects of campus life by providing services to the University community.

OFFICE OF STUDENT SERVICES. This office is basically a counselling centre that advises students on educational, career, social and personal concerns. In 1978-79, almost 8,200 individual interviews were carried out by the counsellors with UBC students alone. In addition, counsellors visited 202 secondary schools to describe UBC academic programs for prospective students and also attended 14 conferences arranged by regional colleges to counsel students and confer with college personnel. The office also stages workshops on study habits, job search techniques and career planning, provides a special counselling service for handicapped students, stages a summer orientation program for new students, administers the Youth Employment Program of the provincial labor ministry and administers the agreements to provide services to overseas students studying in B.C. under the auspices of federal agencies. The director of the office, A.F. "Dick" Shirran, has also been involved in the operations of International House over the past year.

THE UNIVERSITY BOOKSTORE. We are actively seeking funds for construction of a new Bookstore to provide this essential support service with adequate space for the sale of textbooks and general reading for the University community and the public at large. A functional program for a new building was completed late in 1978 and it is hoped that an early decision will be made concerning a site for the development. Bookstore manager John Hedgecock reports increased support and co-operation from the faculty and says that the installation of a sophisticated computer system in 1978-79 will improve the efficient allocation of resources to meet the needs of the University community. He says the management of the Bookstore is re-evaluating its traditional approach and methodology in the light of stable University enrolments and the accompanying development of continuing and distance education.

FOOD SERVICES. This department provides day and night services to the campus population through outlets in various campus buildings and in campus residences. The food service requirements for the developing south-campus area are being studied. In the past year a number of outlets were redecorated, the Student Union Building cafeteria menu was expanded and the outlet in the Scarfe Building for education was taken over by UBC from the Canadian National Institute for the Blind. New developments for the coming year include the opening of a new coffee house in a lounge in the Gage Residence for students and other members of the University community.

SPACE AND AUDIO-VISUAL SERVICES. This is a new support department

which combines room booking and timetabling facilities with the audio-visual and photography units and the film library of the former Instructional Media Centre. New audio-visual equipment has been purchased and the 16mm film library expanded. The department will move into new space which is being completed on the third floor of the new Library Processing Centre. The department will be able to make a contribution to all areas of instruction on the campus as a result of the upgrading of its equipment and plans to provide consultation and assistance in the self-production of audio-visual programs by faculty and students.

UBC ALUMNI ASSOCIATION. The association continued a broadly-based program that provides services to alumni branches throughout North America as well as services to the public. The association's Speakers Bureau arranged for 225 active faculty volunteers to fulfill 411 speaking engagements during the year.

In addition to its branches program, which included a tour by the University Singers to six Vancouver Island communities in January, 1979, the association sponsored a small open house in the Orchard Park Shopping Centre in Kelowna with the aid of students, faculty members and alumni and also organized a special dinner to mark the first meeting in Kelowna of UBC's Board of Governors, which was attended by more than 300 graduates and students from the Okanagan who won University awards during the academic year.

The Walter Gage Memorial Fund of the association now stands at more than \$175,000 as the result of an appeal to alumni and other friends of the University. Funds received during the year by the UBC Alumni Fund were up some 40 per cent over previous years, a result of a substantial increase in gifts from the parents of students, response to special appeals, and the number of donors giving for the first time.

DAY CARE SERVICES. Nine day care centres for the children of students and staff members are operating in the Acadia Camp area in space allocated by the University. More than 170 children ranging in age from 18 months to school age attend. The centres have been set up by the parents of the children in care and are run on a co-operative basis. The University is not directly involved in their operation, but takes an active part in ensuring that the buildings are in good order and that essential services are properly maintained. A small gymnasium was built this summer for the use of all day care centres and children living in nearby University residences. The University is currently looking at the need to provide additional day care for children of the staff who will work at the Health Sciences Centre Hospital and in other areas of the campus.

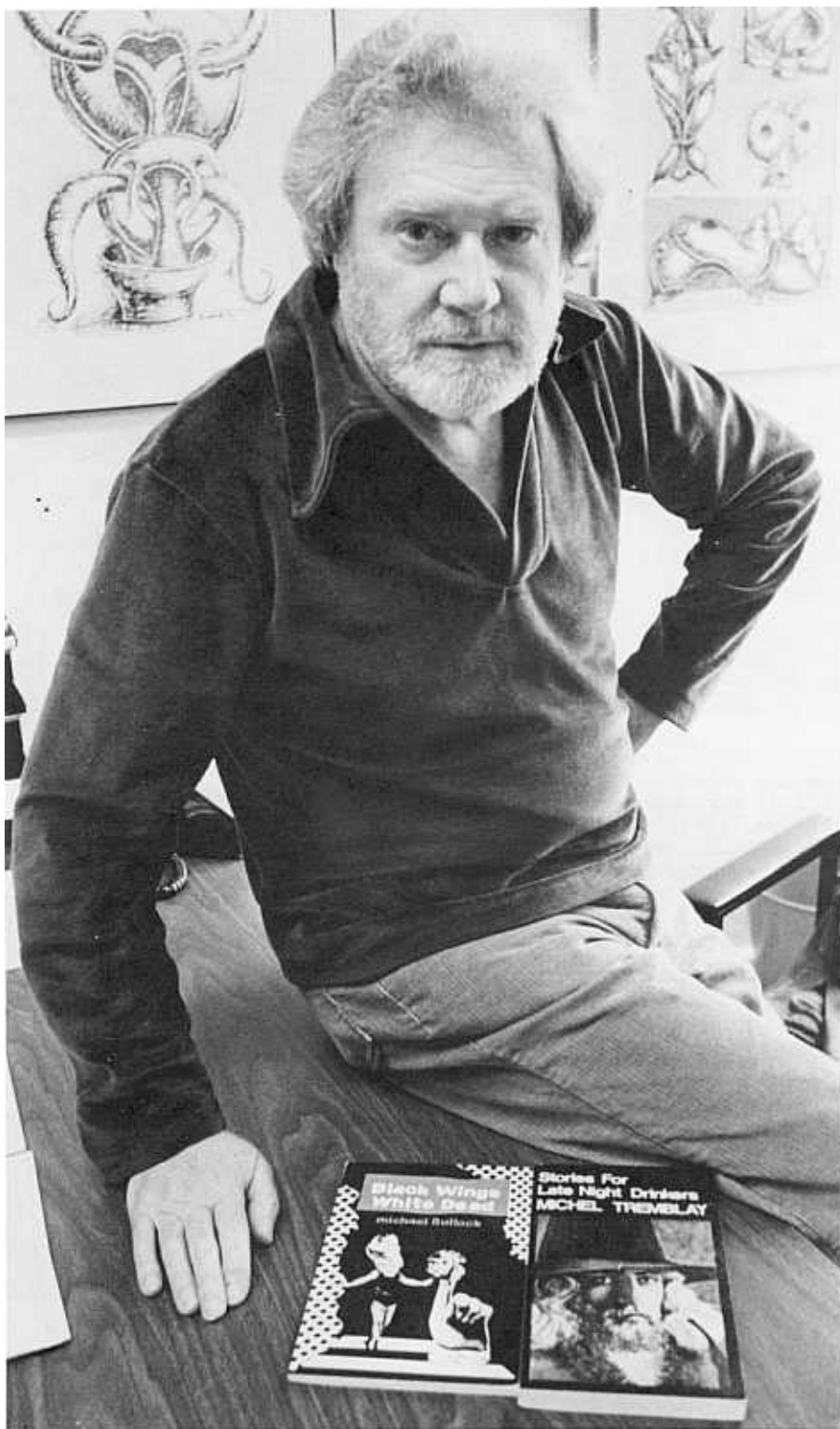
CANADA EMPLOYMENT CENTRE. The centre began operating on the UBC campus in June, 1978, to provide services to students in the areas of employment counselling, arranging for employers to visit the campus and interview students, accepting student registrations and referring them to vacancies listed, providing labor market information to students and employers and operating an employment library for the use of



students. The centre also selects and refers qualified students to fill vacancies listed with the University's employee relations department.

In the 1978-79 academic year, the centre provided 807 employment counselling interviews for students, arranged 103 visits by employers and succeeded in placing more than 3,000 students in permanent, part-time and summer employment. The centre also provided services to the Women Students' Office, aided the Co-operative Education program and contributed to the work of the President's Advisory Committee on Student Services.

More than 170 children, whose parents are members of the student body and the teaching and employed staff, are enrolled in nine campus day care centres in space allocated by the University.



Prof. Michael Bullock of the Department of Creative Writing was the recipient of the \$5,000 Canada Council prize for translation during the 1978-79 academic year.

Awards and honors

An impressive number of UBC faculty members were honored by professional and other groups in 1978-79 in recognition of their scholarship and achievements. I know the University community joins me in congratulating the winners listed below.

AGRICULTURAL SCIENCES. Prof. William G. Wellington of the plant science department received the C.W. Woodworth Award of the Pacific branch of the Entomological Society of America and the Service Award of the Entomological Society of America.

Prof. Emeritus of Poultry Science Jacob Biely was the recipient of the Nutrition Society of Canada's Earl William McHenry Award for outstanding teaching and research and the Golden Award of the Canadian Feed Industry Association "for dedicated industry leadership by significantly contributing to the advancement of poultry, livestock and food production in Canada."

Prof. William D. Powrie, head of the food science department and chairman of the Canada Committee on Food, was awarded the Canadian Institute of Food Science and Technology's William J. Eva Award for outstanding research and service.

Dr. George Eaton of Plant Science and Tina Kyte, formerly a research assistant, received the George M. Darrow Award of the American Society for Horticultural Science for excellence in viticulture and small-fruits research. The citation specifically recognized the recipients' research paper entitled "Yield Component Analysis in the Cranberry."

Dr. Peter Murtha, who holds a joint appointment in Soil Science and in the Faculty of Forestry, received a presidential citation for meritorious service from the American Society for Photogrammetry and was elected a director of that organization.

Dean Warren Kitts was named chairman of the advisory panel for strategic grants in food/agriculture by the Natural Sciences and Engineering Research Council of Canada.

A number of members of this faculty served in executive posts in professional organizations. They were: Dr. James MacMillan as president of the Canadian Agricultural Economics Society for 1979-80; Dr. James Richards as president of the Association of Faculties of Agriculture in Canada for 1978-79; Dr. L.M. Lavkulich as president-elect of the Canadian Society of Soil Science; Dr. Vernon C. "Bert" Brink as president of the Federation of B.C. Naturalists; Dr. John W. Neill as founding president of the Northwest chapter of the International Society of Arboriculture; and Prof. Michael Shaw as president-elect of the Canadian Botanical Association.

APPLIED SCIENCE. Prof. A.P. Watkinson of the chemical engineering department was named the winner of the ERCO Award for 1979 given to a resident of Canada who has made a distinguished contribution to the field of

chemical engineering while under the age of 40.

Prof. Borg Madsen of Civil Engineering received a meritorious achievement award from the B.C. Association of Professional Engineers for his research in timber engineering, while Prof. D.S. Mavinic of the same department was the recipient of the Keefer Gold Medal of the Canadian Society of Civil Engineering for the best civil engineering paper.

Prof. Herman W. Dommell of Electrical Engineering was elected a fellow of the Institute of Electrical and Electronics Engineers for contributions to the development and application of digital computer programs for the analysis of complex electrical systems network problems.

In the same department, Dr. E.V. Jull was awarded the degree of Doctor of Science in engineering by the University of London in recognition of his professional attainments.

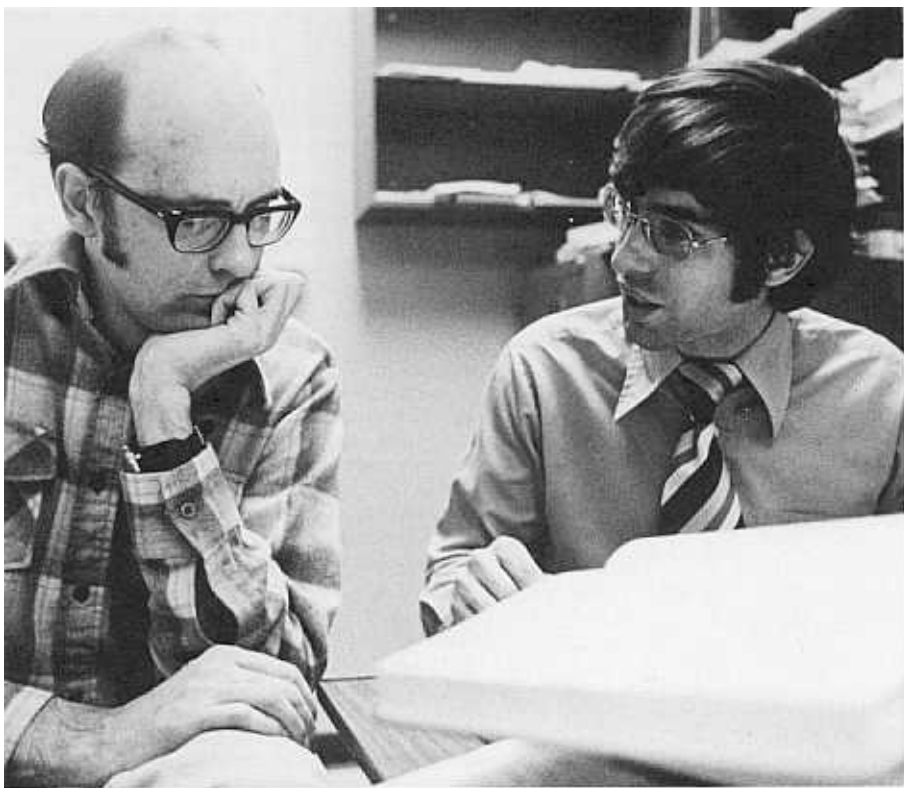
Dr. V.J. Modi of Mechanical Engineering has been asked by the United Nations to write a report on the current state of space science and technology. Prof. Geoffrey Parkinson of the same department was named the Rupert Turnbull Lecturer by the Canadian Aeronautics and Space Institute, the institute's top scientific award in aerodynamics.

Prof. J.K. Brimacombe of Metallurgy received two awards from the American Institute of Mining and Metallurgy — the Extractive Metallurgy Science Award for 1979 and the John Chipman Award. In the same department Dr. E.B. Hawbolt was the recipient of the 1979 Walter Gage Teaching Award in the applied science faculty.

Prof. C.O. Brawner of Mineral Engineering was the recipient of the B.T.A. Bell Commemorative Medallion for service to the Canadian mining industry and also received a meritorious achievement award from the Association of Professional Engineers of B.C.

ARTS. Dr. Richard Pearson of Anthropology and Sociology was awarded a prestigious fellowship by the John Simon Guggenheim Foundation; Dr. Daniel Overmyer of Asian Studies was awarded a prize by the American Council of Learned Societies for his book *Folk Buddhist Religion*; Prof. Michael Bullock of Creative Writing was the recipient of the Canada Council Prize for Translation; Prof. A.D. Scott of Economics was elected president of Academy II of the Royal Society of Canada; Dr. John Hay of Geography received a Guggenheim fellowship and in the same department Prof. J. Ross Mackay was named an outstanding fellow by the Arctic Institute of North America; in Hispanic and Italian Studies Dr. Stefania Ciccone served as president of the Canadian Society of Italian Studies and Dr. A. Pacheco-Ransanz as president of the Canadian Association of Hispanists; in Home Economics Dr. Nancy Schwartz was elected president of the B.C. Dietetic Association and Dr. T.J. Abernathy served as president of the B.C. chapter of the National Council on Family Relations; Prof. Jonathan Bennett of Philosophy was the 1979 recipient of the Prof. Jacob Biely Faculty Research Prize; and Dr. A.G. Phillips of Psychology was the recipient of one of four E.W. Steacie Memorial Fellowships awarded in Canada.

DENTISTRY. Dean George Beagrie was



UBC physicist John Berlinsky, right above, was the only Canadian university faculty member to be awarded a 1979 research fellowship by the Alfred P. Sloan Foundation of New York. He's shown conferring with fellow physicist Prof. Walter Hardy, who shared the E.W.R. Steacie award of the National Research Council with Prof. David W. Boyd, left, of the Department of Mathematics. The Steacie fellowship winners share a \$3,000 cash award.

elected a member of the Pierre Fauchard Academy and Dr. J.G. Silver was elected a fellow of the Royal College of Dentists of Canada.

EDUCATION. Prof. Gordon Smith, a noted Canadian artist who teaches in Education, was awarded a gold medal for his services to the Canadian Architects Association. Dr. John Dennison served as president of the Canadian Society for Higher Education and R.J. Leduc, chairman of the faculty's industrial education division, was elected president of the Canadian Industrial Arts Association.

FORESTRY. Dean Joseph Gardner has been named Canadian representative on the advisory committee on forestry education to the Food and Agriculture Organization of the United Nations. The committee advises on the evolution and development of FAO programs in the field of education and training in forestry. Dr. Fred Bunnell was awarded a fellowship by the Nuffield Foundation of the United Kingdom while on educational leave in Europe.

GRADUATE STUDIES. Prof. Brahm Wiesman, director of the School of Community and Regional Planning, was elected president of the Association of Urban and Regional Planning Programs at Canadian Universities. Prof. Peter Oberlander, director of the Centre for Human Settlements, was in Israel for the first six months of 1979 as the inaugural lecturer in a Canada Studies Program at the Hebrew University of Jerusalem.

MEDICINE. Dr. R.S. Molday of Biochemistry was the recipient of a National Aeronautics and Space Administration Recognition Award for the design and development of metal-containing polymeric microspheres for biomedical research. Dr. John Dirks, head of the medicine department, was named Royal College Lecturer in Medicine for 1979. Dr. M.G. McLoughlin of the Department of Surgery was the first Canadian recipient of the Joseph F. McCarthy Award of the western section of the American Urological Society. Dr. G.S. Harris of Ophthalmology became president-elect of the Canadian Ophthalmological Society and Dr. Juda Quastel of the psychiatry department was named honorary president of the International Congress of Biochemistry held in Toronto in the summer of 1979.

PHARMACEUTICAL SCIENCES. Dr. David Fielding and Dr. Gordon Page were awarded the Rufus A. Lyman Literary Award of the American Association of Colleges of Pharmacy to recognize the outstanding research paper published in the American Journal of Pharmaceutical Education. This was the first occasion on which the award has been made outside the United States. Dr. John McNeill was elected president of the Western Pharmacology Society and the faculty's Good Teacher Award was presented to Norman Zacharias.

SCIENCE. Prof. J.L. Rau of Geological Sciences was awarded a certificate of merit by the government of Thailand for his work at Chiangmai University associated with a program run by Canadian University Service Overseas. Dr. F.D. Patton of the same department won the gold medal of the Canadian Na-

tional Committee on Rock Mechanics and the Leonard Medal of the Engineering Institute of Canada for the best paper submitted for publication.

Prof. David Suzuki of Zoology was awarded honorary degrees by Acadia University and the University of Windsor and received awards from Bell Northern, Dawson College of Montreal and Conestoga College of Kitchener, Ont.

Prof. David Boyd of Mathematics shared the prestigious Steacie Prize, one of Canada's top scientific awards, with Prof. Walter Hardy of Physics. Another member of the physics department, Dr. John Berlinsky, was awarded a two-year fellowship by the Alfred P. Sloan Foundation.

Prof. C.A. McDowell, head of the Department of Chemistry, was appointed an honorary fellow of the Royal Australian Institute of Chemistry, and Dr. Edward Piers of the same department was awarded the Merck, Sharp and Dohme Lecture Award of the Chemical Institute of Canada. Prof. Gilbert Hooley, a long-time member of the chemistry department, was the 1979 recipient of the Charles E. Pettinos Award of the American Carbon Society for "continued pioneering contributions" to the long-neglected area of carbon research. Prof. Robert F. Snider was the recipient of the master teacher award from the UBC student chapter of the Chemical Institute of Canada.

Nine members of the UBC faculty were elected to the Royal Society of Canada, this country's most distinguished learned society, in 1979. Elected to Academy II — humanities and social sciences — were: Prof. Michael Ames, director of the Museum of Anthropology and a member of the anthropology and sociology department; Prof. George C. Archibald of Economics; Prof. Charles Bourne of Law; and Prof. Alan Cairns, head of the Department of Political Science.

New members of the society's Academy III (science) are: Profs. William Casselman and Rafael Van Severen Chacon, both of the mathematics department; Prof. Philip G. Hill, head of the Department of Mechanical Engineering; Prof. Charles J. Krebs of Zoology; and Prof. T.R. Parsons of Oceanography.

Among the leading awards made annually by the University are the Killam Senior Fellowships, provided from the Izaak Walton Killam Memorial Fund for Advanced Studies established through a bequest to UBC from the late Dorothy J. Killam. The awards are made to distinguished faculty members who have outstanding records of achievement and wish to devote their full time to research and study for a period of time. The 15 holders of these fellowships in 1978-79 are: Boye Ahlborn, Physics; Asok N. Aklujar, Asian Studies; W.D. Liam Finn, Civil Engineering; William E. Fredeman, English; Frederic Grover, French; David Ley, Geography; Donald Ludwig, Mathematics; James Miller, Medical Genetics; William New, English; Michael Quick, Civil Engineering; John G. Sinclair, Pharmaceutical Sciences; J. Mary Taylor, Zoology; Richard C. Tees, Psychology; Norman Wilimovsky, Animal Resource Ecology; and David L. Williams, Physics.



Appointments, resignations and retirements

During the 1978-79 academic year, the Board of Governors approved a significant number of new appointments aimed at strengthening the academic and administrative structure of the University. The most significant appointments are as follows.

ADMINISTRATION

Prof. R.H.T. Smith, the head of the Department of Geography, was appointed associate vice-president for academic development. In this capacity, he will assist Prof. Michael Shaw, vice-president for academic development. Prof. Smith, who will be on leave of absence as head of Geography in order to assume his new duties, succeeds Prof. Ronald Shearer, who has returned to full-time teaching and research duties in the Department of Economics.

Alan Hutchinson was named director of the traffic and security department, succeeding David Hannah, who retired.

Dr. Ronald Foreman will be on leave of absence from his teaching and research duties in the Department of Zoology for three years beginning July 1, 1979, to serve as director of the Bamfield Marine Station on the west coast of Vancouver Island. The station is operated by the Western Canadian Universities Marine Biological Society, formed in 1969.

At the request of the Board of Governors, I agreed to a three-year extension to my contract as president of the University. My decision to accept the extension will mean that I shall continue as president of the University until July, 1983.

Jane Stigings resigned as secretary to the president on June 30, 1979, but will continue as an employee of the University as administrative officer for the University Resources Council. I

take this opportunity to express my personal thanks to Miss Stigings for her loyalty and dedication in this demanding position.

FACULTY APPOINTMENTS

APPLIED SCIENCE. Prof. John Grace, an expert in the field of particulate technology, fluidization and spouted beds, became head of the Department of Chemical Engineering on July 1, 1979, succeeding Prof. Frank Murray, who remains a professor in the department. Dr. R.J. Kerekes joined the chemical engineering department as an honorary professor in the fall of 1978, fulfilling a recent agreement between the University and the Pulp and Paper Research Institute of Canada. The appointment strengthens research and teaching in the field of pulp and paper at UBC.

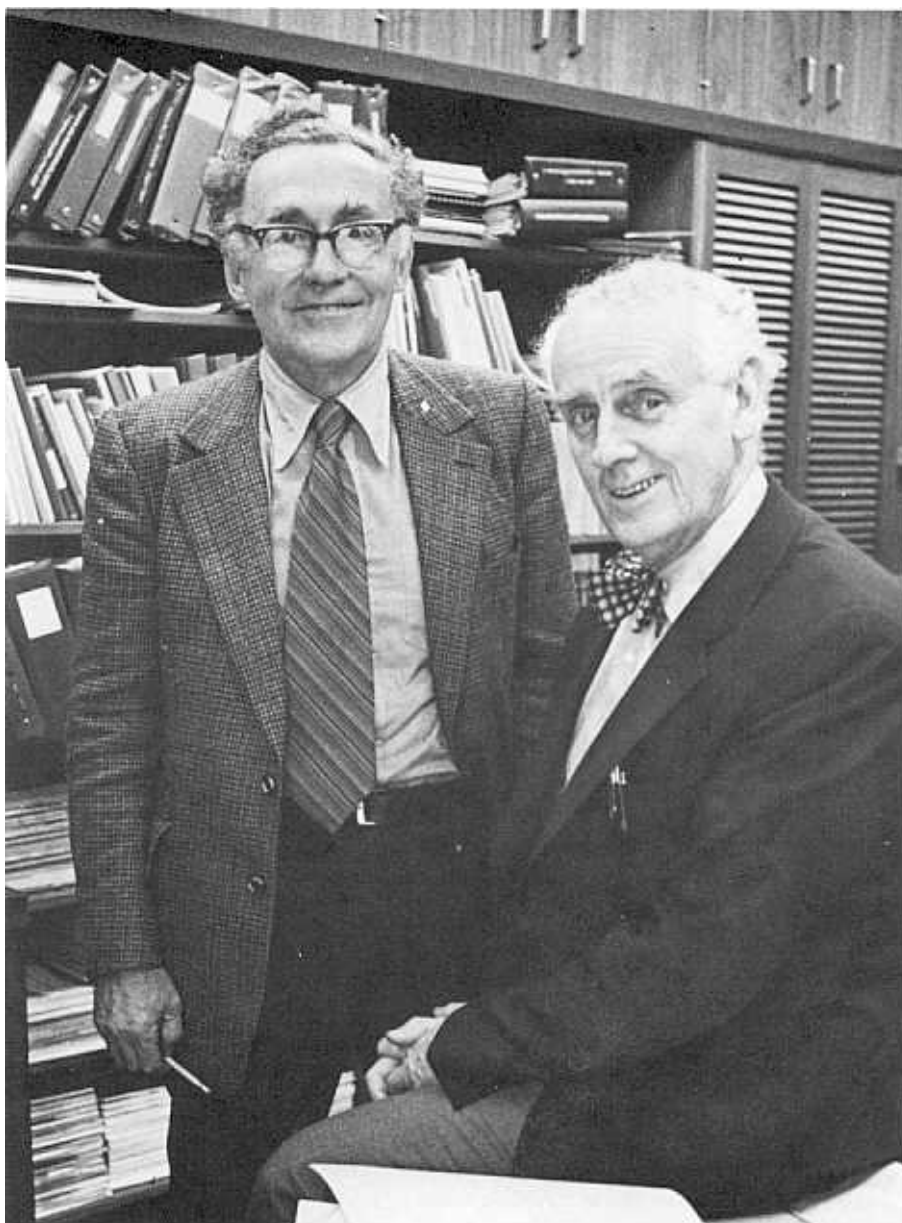
Prof. L. Martin Wedepohl joined the faculty as a member of the Department of Electrical Engineering and dean of the Faculty of Applied Science. He adds new strength to the academic work of the University in the field of power systems through his expertise in travelling waves and transients in transmission systems.

Prof. George Poling was appointed head of the Department of Mineral Engineering, succeeding Prof. J.B. Evans, who returned to his native Australia where he will head the mining and metallurgy department of the University of Melbourne.

Shirley Brandt joined the School of Nursing as director of continuing education. The joint appointment of Sue Rothwell as director of nursing in the Cancer Control Agency of B.C. and as assistant professor in the school represents the first appointment in a clinical agency outside the Health Sciences Centre. Ms. Rothwell will participate in the development of a teaching and research program in the cancer agency.

Douglas Shadbolt will join the applied science faculty on Sept. 1, 1979, as professor and director of the School of Architecture, succeeding Prof. Robert R. McLeod, who resigned to accept a post at the University of Bristol in England. Prof. Abraham Rogatnick became

Among the senior appointments to the faculty during the academic year were, left to right, Prof. George Poling as head of Mineral Engineering, Prof. Martin Wedepohl as dean of the Faculty of Applied Science, Prof. Tali Conine as director of the School of Rehabilitation Medicine, and Prof. Douglas Shadbolt as director of the School of Architecture.



Prof. George Volkoff, left, retired as dean of the Faculty of Science after a 45-year association with UBC as a teacher, administrator and researcher. He was succeeded by Prof. Cyril Finnegan, who served as associate dean of Science under Prof. Volkoff.

chairman of the school's graduate program for the 1979-80 academic year.

ARTS. Dr. Terence G. McGee, a specialist in Asian geography, joined the Department of Geography and became head of the Institute of Asian Research in the Faculty of Graduate Studies. Dr. Robert Kubicek, a member of the UBC faculty since 1963, succeeded Prof. Margaret Prang as head of the Department of History. Prof. Prang will continue as a faculty member.

EDUCATION. As a result of reorganization within the School of Physical Education and Recreation, the following faculty members were elected as chairmen of newly created academic units: Sport — Jack Pomfret; Recreation and Leisure Studies — Dr. J.K. Larsen; Professional Studies in Physical Education — Dr. Robert Hindmarch; and Sport Science — Dr. Robert Schutz.

FORESTRY. Dr. Donald D. Munro was appointed director of off-campus and continuing education in Forestry for a one-year term. He will co-operate with UBC's Centre for Continuing Education, the regional colleges and the Association of B.C. Professional Foresters in strengthening professional education programs in forestry throughout B.C. Dr. Jules Demaerschalk was appointed assistant to the dean of Forestry, succeeding Dr. B.J. van der Kamp, who completed a two-year term in this position.

MEDICINE. Dr. Peter R. Grantham was appointed Royal Canadian Legion Professor and head of the Department of Family Practice. Dr. A. Van Wart will serve as chairman of a similar department at St. Paul's Hospital.

Dr. A.W. Chow was appointed head of the Division of Infectious Diseases in the Department of Medicine. Dr. Keith Dawson will become head of the Department of Medicine at Shaughnessy Hospital on Sept. 1, 1979, and on the same date Dr. John Ruedy becomes head of the same department at St. Paul's Hospital.

Dr. Victor Gomel was appointed head of the Department of Obstetrics and Gynaecology in the Faculty of Medicine and Dr. T.R. Martin heads a similar department at St. Paul's Hospital. The new head of obstetrics at Grace Hospital is Dr. James King.

Dr. J.A. Pratt-Johnson is the head of the newly-created Division of Paediatric Ophthalmology in the ophthalmology department and Dr. R.H. Hill became James and Anabel McCreary Professor and head of the Department of Paediatrics on Jan. 1, 1979.

Dr. Frank Tyers was appointed head of the Division of Cardiothoracic Surgery in the surgery department of the Vancouver General Hospital.

The new director of the School of Rehabilitation Medicine in the Faculty of Medicine is Dr. Tali I. Conine and Joanne Stan became head of the Division of Occupational Therapy in the school.

SCIENCE. Prof. Cyril Finnegan, a long-time member of the Department of Zoology and associate dean of the Faculty of Science, was appointed dean of the faculty to succeed Prof. George Volkoff, who has retired.

Prof. T.K. Menon was appointed head of the Department of Geophysics and Astronomy, succeeding Prof. R.D. Russell, who will remain at UBC. Prof. S.E. Calvert is the first head of the newly-created Department of Oceanography, succeeding Prof. George Pickard, who has been head of the Institute of Oceanography in the Faculty of Graduate Studies since 1958 and who is retiring.

Two new assistant deans of Science were appointed by Dean Finnegan. They are Prof. Janet Stein of Botany and Prof. Robert Adams of Mathematics.

The following persons submitted their resignations during the academic year. All plan to remain at UBC in teaching and research capacities.

Dr. John Zahradnik, chairman of the Department of Agricultural Mechanics and Bio-Resource Engineering in the Faculty of Agricultural Sciences.

Dr. William G. Wellington, director of the

Institute of Animal Resource Ecology in the Faculty of Graduate Studies.

Dr. George Knox, head of the Department of Fine Arts in the Faculty of Arts.

Dr. James Miller, head of the Department of Medical Genetics in the Faculty of Medicine.

Dr. Trevor Harrop, head of the Department of Restorative Dentistry in the Faculty of Dentistry.

Dr. Margaret Prang, head of the Department of History in the Faculty of Arts.

Dr. R.J. Rowan, head of the Department of Philosophy in the Faculty of Arts.

Dr. Donald M. McLean, head of the Division of Medical Microbiology in the Department of Microbiology, Faculty of Science.

Dr. Peter Harnetty, head of the Department of Asian Studies in the Faculty of Arts.

A total of 18 members of the faculty reached the age of retirement in the 1978-79 academic year. One other member of the faculty, Ernest Watson of Agricultural Sciences, resigned in order to take an early retirement.

Eleanor Mercer, an assistant librarian, retired after 41 years of association with the UBC library, where she began work as an assistant circulation clerk in 1938.

Those who retired after 30 or more years of service are:

Prof. Philip Akrigg of the English department, a UBC graduate who began as a teaching assistant in 1941 and who is the author or co-author of numerous articles and books on British Columbia and 16th- and 17th-century English literature;

Marjorie V. Smith, a UBC graduate who joined the extension department (now the Centre for Continuing Education) in 1943, initially as a program supervisor in the areas of pre-school and parent education, community recreation and organization and, laterally, as the organizer of programs in gerontology.

Prof. Stuart Jamieson, a UBC graduate who joined the faculty in 1945 and is regarded as one of Canada's leading authorities on the economics of labor;

Prof. William Hoar, who also joined the faculty in 1945, served as head of Zoology from 1964 to 1971, and who has been honored for his studies in physiology and endocrinology, particularly as they pertain to fish;

Prof. James R. Adams of the zoology department, a 33-year faculty member and an expert on animal parasites;

Prof. George Volkoff, who retires as dean of Science and professor of Physics after a 45-year association with UBC as a student (1930-36), teacher and researcher (since 1940), head of the Department of Physics (1961-71), and dean (since 1972);

Prof. George Pickard, a member of the physics department since 1948, director of the Institute of Oceanography since 1958, and one of Canada's leading physical oceanographers; and

Assistant Dean of Agricultural Sciences Arthur J. Renney, a faculty member for 30 years and an expert on the biology and control of weeds who is widely known throughout the province for his extension activities.

Those who retired after 20 or more years of service are:

Graduate Ernest L. Watson of the Department of Bio-Resource Engineering, who took early retirement after a 27-year career at UBC during which he became widely known for his work in the field of food science;

Prof. Robin N. Smith of Education, who joined the faculty in 1953 and who organized a clinic to train teachers to deal with children who have learning problems;

Prof. Alex Rosenthal, a noted organic chemist who joined the faculty in 1953;

Dr. Marguerite Primeau, a 25-year member of the French department who is widely known as a writer and broadcaster;

Philip Penner, who joined UBC when the former provincial Normal School was incorporated in UBC and who is the co-author of *Learning Language*, an English textbook used throughout Canada;

Dr. Frank Newby, a 22-year member of the English department and an expert on 20th-century prose and poetry; and

UBC graduate William Seal, former chairman of the industrial education division of the Faculty of Education and a faculty member since 1957.

Others who reached retirement age in the academic year are:

Margaret Hood, a faculty member in the School of Rehabilitation Medicine for 18 years;

George H.F. Johnson, supervisor of the Language Laboratory in the Faculty of Arts since 1965;

Prof. Geoffrey Durrant, former head of the English department, author of two books on English poet William Wordsworth, and winner of a UBC Master Teacher award in 1973; and

Patricia Thom who joined the Centre for Continuing Education in 1968 as director of daytime programs.

I take this opportunity to extend to those who retired the warm thanks of the University community and generations of students for the years of dedicated service they have given to the academic life of UBC.

UBC's president, Dr. Douglas Kenny, congratulates Claire Frances Wilson, who was awarded the University's 100,000th degree during the 1979 Congregation ceremonies. Applauding are, seated right, Hon J. V. Clyne, presiding over Congregation for the first time as UBC's chancellor, and Ian Greenwood, seated left, chairman of the UBC Board of Governors during the academic year.



Congregation

The University's annual Congregation to confer academic and honorary degrees was held on May 30 and 31 and June 1 in the War Memorial Gymnasium. The Senate of the University approved the awarding of a record 4,679 academic degrees and 82 diplomas during the academic year.

The 1979 Congregation was the first presided over by Hon. J.V. Clyne, who was officially installed in office as chancellor on the final day of the 1978 degree-granting ceremony.

A highlight of the 1979 ceremony and a milestone in UBC's history was the awarding of the University's 100,000th academic degree. The honor of receiving this degree fell to a member of the graduating class in the Faculty of Medicine, Claire Frances Wilson of Kamloops, B.C., who proved to be a most appropriate recipient in view of her family's association with UBC.

Ms. Wilson's father, who is a radiologist at Royal Inland Hospital in Kamloops, was a pre-med student at UBC for three years before enrolling at McGill University to study for his medical degree; her mother graduated from

UBC in 1949 with a degree in nursing; her brother Andrew was awarded the degree of Bachelor of Arts on the first day of the 1979 Congregation; and her younger brother, Scott, will begin his fourth year as a student in the Faculty of Science in September, 1979. I think you will agree that it would be difficult to think of a happier choice of individual to receive our 100,000th degree.

Ms. Wilson, like most of our graduates, plans to return to her native province to practise medicine after interning in Halifax.

UBC awarded its first degrees in 1916, the year after the University first opened its doors, to 40 Bachelor of Arts students. It was not until 1968, 52 years later, that the University awarded its 50,000th degree. A mere 11 years later we have awarded our 100,000th degree.

Today, UBC graduates are to be found virtually everywhere. I think we can take special pride, however, in the fact that 80 per cent live and work in British Columbia.

Three of the five individuals who were awarded honorary degrees at the 1979 Congregation were graduates of UBC. Prof. Albert Bandura, a 1949 UBC graduate, was awarded the honorary degree of Doctor of Science for his notable contributions to learning and personality research in the discipline of psychology. He

now teaches at Stanford University. Donovan Miller, a 1947 commerce graduate of UBC, was awarded the honorary degree of Doctor of Laws for his contributions to the Canadian fishing industry and for his service to the University as a member of the Board of Governors and Senate and as UBC's chancellor from 1975 to 1978. The honorary degree of Doctor of Science was conferred on Dr. Cecil E. Yarwood, who graduated from UBC in 1929. His pioneering work at the University of California in the field of plant pathology and particularly plant viruses has gained him an international reputation in agricultural sciences circles.

Honorary degrees were also conferred on Dr. Louis Rasminsky and Ida Green, both of whom received the Doctor of Laws degree. The former governor of the Bank of Canada, Dr. Rasminsky is internationally known for his work with the former League of Nations, the International Monetary Fund and the International Bank for Reconstruction and Development. Mrs. Green, in partnership with her husband, Dr. Cecil Green, has provided many gifts to universities in North America — including UBC — and overseas for fellowship programs and for the construction of libraries, arts centres and science buildings. Their generous gifts to UBC have been used for the purchase and renovation of Cecil Green Park and for establishment of the Cecil H. and Ida Green Visiting Professorships.

An annual highlight of the UBC graduating ceremony is the recognition accorded to the heads of each of the graduating classes when they are presented to the chancellor for their academic degrees. Here is a list of 1979 medal and prizewinners, who are to be congratulated on their academic achievements.

The Association of Professional Engineers Proficiency Award (Head of the Graduating Class in Engineering, B.A.Sc. degree): Jeffrey F. Young.

The Helen L. Balfour Prize, \$450 (Head of the Graduating Class in Nursing, B.S.N. degree): Karen Ann Matheson.

Dr. Maxwell A. Cameron Memorial Medals and Prizes (Head of the Graduating Class in Education, Secondary Teaching Field, B.Ed. degree): Sheila Philomene Maria Tien, North Vancouver, B.C.

Dr. Maxwell A. Cameron Memorial Medals and Prizes (Head of the Graduating Class in Education, Elementary Teaching Field, B.Ed. degree): Betty Jean Leask.

The Ruth Cameron Medal for Librarianship (Head of the Graduating Class in Librarianship, M.L.S. degree): Griffith William Brian Owen.

The Canadian Institute of Forestry Medal (best overall record in Forestry in all years of course, and high quality of character, leadership, etc.): Robin John Dorey, Salmo, B.C.

The College of Dental Surgeons of British Columbia Gold Medal (Head of the Graduating Class in Dentistry, D.M.D. degree): Kenji Kenneth Shimizu, Burnaby, B.C.

The College of Dental Surgeons of British Columbia Gold Medal in Dental Hygiene (leading student in the Dental Hygiene program): Elizabeth Gail Alexander.

The Dean of Medicine's Prize (School of Rehabilitation Medicine)(Head of the Graduating Class in Rehabilitation Medicine,

B.S.R. degree): Debbie Louise Hurschman.

The Governor-General's Gold Medal (Head of the Graduating Classes in the Faculties of Arts and Science, B.A. and B.Sc. degrees): John H. Klippenstein, Burnaby, B.C.

The Hamber Prize and Medal, \$250 (Head of the Graduating Class in Medicine, M.D. degree, best cumulative record in all years of course): Neil W. Kowall.

The Horner Prize and Medal for Pharmaceutical Sciences, \$100 (Head of the Graduating Class in Pharmaceutical Sciences, B.Sc.Pharm. degree): Barry Thomas Alcorn, Kamloops, B.C.

The Kiwanis Club Medal (Head of the Graduating Class in Commerce and Business Administration, B.Com. degree): John S. Clark.

The Law Society Gold Medal and Prize (Call and Admission fee)(Head of the Graduating Class in Law, LL.B. degree): W. Stanley Martin.

H.R. MacMillan Prize in Forestry, \$300 (Head of the Graduating Class in Forestry, B.S.F. degree): Gerald H. Reichenback, Burnaby, B.C.

The Physical Education Faculty Prize (Head of the Graduating Class in Physical Education, B.P.E. degree): Timothy W. Ireland, North Vancouver, B.C.

The Recreation Society of British Columbia Prize (Head of the Graduating Class in Recreation, B.R.E. degree): Richard J. Sloan.

The Royal Architectural Institute of Canada Medal (outstanding student in Architecture, B.Arch. degree): Sidney Tse Shek Chow, Victoria, B.C.

The Wilfrid Sadler Memorial Gold Medal (Head of the Graduating Class in Agricultural Sciences, B.Sc. (Agr.) degree): James Der.

Special University Prize, \$200 (Head of the Graduating Class in Fine Arts, B.F.A. degree): Carol Ann Poser, Montreal, Quebec.

Special University Prize, \$200 (Head of the Graduating Class in Home Economics, B.H.E. degree): Harumi Nakai.

Special University Prize, \$200 (Head of the Graduating Class in Licentiate in Accounting, Lic. Acct. degree): William L. Dinicol, Kamloops, B.C.

Special University Prize, \$200 (Head of the Graduating Class in Music, B.Mus. degree): David Marcus Swan, Saskatoon, Sask.

The University Medal for Arts and Science (Proficiency in the Graduating Classes in the Faculties of Arts and Science, B.A. and B.Sc. degrees): Helen R. Del Val-Lui, Burnaby, B.C.



Recipients of honorary degrees at UBC's 1979 Congregation ceremony were, top row left to right, Louis Rasminsky, former governor of the Bank of Canada; UBC graduate Prof. Albert Bandura, noted psychologist who teaches at Stanford University; UBC graduate Prof. Cecil Yarwood, a noted plant pathologist; second row, left to right, UBC graduate Donovan Miller, who retired as UBC's chancellor in 1978; and Ida Green, a University benefactor.

Deaths

Few academic years in recent memory have brought more sadness to the University community as the result of the deaths of active and retired members of the faculty. In the deaths of individuals such as Walter Gage, Charles Borden, Roy Daniells and Ralph James, the academic community has lost some of its most beloved teachers and researchers, as well as a group of men who made very significant contributions to the growth and development of this institution.

Walter Gage died on Oct. 3, 1978, ending a 57-year association with UBC that began in 1921 when he enrolled as a freshman student at UBC, which was then housed in the so-called "Fairview Shacks" in the shadow of the Vancouver General Hospital. In the ensuing years he was the recipient of almost every honor a grateful Alma Mater could bestow on him for his unflagging energy and dedication as a teacher, administrator and president from 1969 to 1975. His legendary wit, the generosity which extended to writing personal cheques to aid worthy students and his involvement in virtually every aspect of campus activities rightly earned him the title "Mr. UBC." The memorial service which the University held for him on Oct. 10 in the War Memorial Gymnasium was attended by nearly 3,000 people. At that service, one of the five speakers was Professor Emeritus of English William Robbins, a life-long colleague, who recounted Walter Gage's powers of intellect, imagination and character. The quality of greatness in Walter Gage, he said, was that he had "so much to give and gave of himself so freely and fully. From his generosity of mind and spirit we have a vision of what our common humanity, at its best, can be. That is his legacy and memorial." Everyone who knew Walter Gage would concur with that tribute.

The death of Professor Emeritus of Archaeology Charles Borden on Christmas Day, 1978, ended the career of one of that handful of UBC teachers and researchers who made very significant contributions to the revival of interest in the culture and art of Indians of the west coast of Canada. Over a period of more than 20 years beginning in 1946, Prof. Borden and his students almost single-handedly created the discipline of western Canadian Indian archeology through the excavation of a large number of sites in the Vancouver area and in other regions of the province. He was internationally known for his work in the Fraser Canyon near the town of Yale, where he unearthed a site with a sequence of Indian occupation extending over 12,000 years, making it one of the most important archeological sites in the western hemisphere. His most lasting legacy will be the large number of students who regarded him as a beloved mentor and friend and who will ensure that his work is carried forward in the years to come.

Roy Daniells, professor emeritus of English language and literature, who died on Good Friday, April 13, 1979, was one of our most beloved and distinguished teachers and scholars and a man who will be long remembered for his memorable wit and his creative abilities as a



Walter Gage



Roy Daniells



Charles Borden



Ralph James

poet and writer. A graduate of UBC, he returned to his Alma Mater in 1946 and was appointed head of the English department in 1948, a post he held until 1965, when he was named the first University Professor of English Language and Literature in recognition of his scholarship in English literature and his activities as a poet and writer. In addition to writing two volumes of poetry, he was widely known for his studies in 17th-century English literature, particularly those dealing with the English poet John Milton. In recognition of his many qualities he was elected president of the Royal Society of Canada in 1970 and he also served as chairman of the Humanities Association of Canada. He was made a Companion of the Order of Canada in 1972 for "outstanding merit of the highest degree, especially service to Canada and humanity at large." He received the Lorne Pierce Medal in 1970 for "achievement of special significance and conspicuous merit in imaginative or critical literature."

Prof. Ralph D. James, who died on May 19, 1979, was another UBC graduate who returned to UBC in 1943 and was named head of the mathematics department in 1948, a post he held until 1973. He was largely responsible for the development of one of the finest math departments in Canada and succeeded in attracting to it some outstanding scholars and teachers. He was president of the Canadian Mathematical Congress from 1961 to 1963 and a fellow of both the Royal Society of Canada and the American Association for the Advancement of Science. To mark his retirement as head of the mathematics department, friends and colleagues established a medal in recognition of Prof. James's "meritorious and distinguished achievements" to be awarded annually to the student in the graduating class

whose record and promise in mathematics is considered to be the most outstanding.

We also mourn the passing of the following:

Lemuel Bayly of the Department of Physical Plant who died Sept. 18, 1978;

Prof. Kishan Mathur of the Department of Chemical Engineering and a pioneer in the field of fluidization and spouted beds, who died on Sept. 22, 1978;

Barbara Pearce, a member of the staff of the Sedgewick Library, who died Sept. 19, 1978;

Alfred Adams, executive secretary of the University Resources Council who was associated with fund-raising activities at UBC for 15 years, who died on Dec. 22, 1978;

Prof. Emerita Charlotte Black, who joined the UBC faculty in 1944 and served as director of the School of Home Economics from 1952 until her retirement in 1965, who died on May 11, 1979;

Dr. Cedric Hornby of the Department of Plant Science, who died on March 3, 1979;

Lothar Muenster of the Department of Chemistry, who died on July 3, 1979;

Dr. P. O'Doherty of the Department of Medicine in the Faculty of Medicine, who died on July 15, 1979; and

Dr. David G. Perry of the Department of Geological Sciences, who died on Aug. 2, 1979.