UBC Reports

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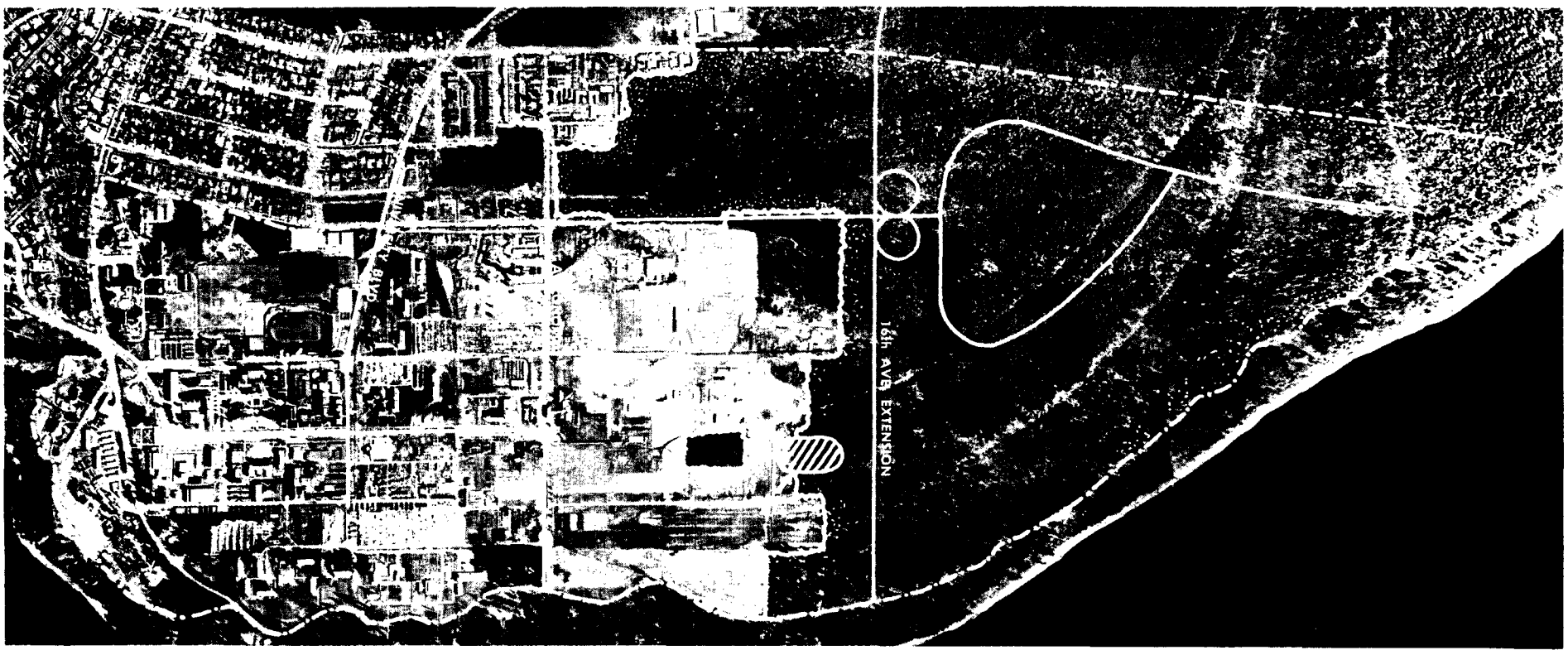
CAMPUS GROWS TO FULL SIZE



NEGOTIATIONS UNDERWAY

Advance Bank Rental Will Finance New Admin. Bldg.

A unique 35-year financing agreement is under negotiation with the Bank of Montreal to provide UBC with a $1.8 million administration building without involving public funds, or the 3-Universities Capital Fund Campaign, President John B. Macdonald has announced.

In all, the bank would provide $2 million to UBC. The university in turn would provide $202,000 towards a $3.9 million Student Union Building being planned by the Alma Mater Society. The arrangement has been authorized by provincial order-in-council as required under Sections 35 (2) and 44 (1) of the Universities Act.

ADVANCE RENTAL

In essence, the Bank would advance to UBC $1,130,000 as prepaid rental for 35 years of two campus branches, one in each new building.

The Bank would also lend $870,000 to UBC, repayable over 35 years at a prime rate of interest for university borrowings.

The loan repayments would come out of rentals for a branch of the University Bookstore in the new administration building, and from private gifts to the university from time to time which are earmarked for administration costs.

Dr. Macdonald said: "I want to emphasize that, though the relationship between the university and the Bank of Montreal is as old as the university, negotiations on this plan were undertaken only after the five major chartered Canadian banks were asked to submit financing proposals. Only two of the banks made proposals."

The Bank of Montreal opened its branch on the campus in 1949.

50 YEARS ASSOCIATION

The university opened its account with the Bank of Montreal in 1915, the year the university started operating. The Alma Mater Society opened its account with this same bank early in 1940.

Dr. Macdonald said, "This plan offers the only likely prospect of obtaining a new administration building for years to come. All capital funds which the university has in sight for the next five years have been earmarked for specified academic buildings.

"Our administration offices have become both congested and scattered due to the rapid growth of the university. Some offices are in the oldest buildings on the campus and others are in huts or temporary buildings.

"The Board of Governors has authorized the architects, Thompson, Berwick and Pratt, to commence preliminary drawings for the new administration building as soon as the agreement is final in the hope that the building can be completed within two years."

BUILDING SITE

The new building would be the first to greet visitors arriving on the campus via University Boulevard. It is sited on the north west corner of University Boulevard and Wesbrook Crescent, which is the eastern boundary of the campus.

The present administration building, one of the stucco-and-frame buildings erected in 1925 as "semi-permanent" is expected to become UBC's computing and tabulating centre, and provide accommodation for the Student Services Office.

The largest campus expansion program in UBC's history is underway amid the snarl of chain saws, the crack of stump blasting and the growl of big clearing and log-yarding cats.

As a major part of a $2 million campus extension and improvement program (included in this year's $7 million capital works program), a series of areas totalling 125 acres, separated by 100 to 200 foot bands of trees, will be carved out of 500 acres of second growth timber at the south end of the campus by next spring. The project will put into use over the next several years the entire 988.74-acre campus.

RESEARCH AREAS

All agriculture field facilities will move southward to the cleared areas, which will provide field and research areas for forestry and the biological sciences.

The active campus, screened by trees, will then stretch southward to the Simon Fraser Memorial on Marine Drive.

UBC campus expansion coincides with provincial highways department plans to extend Sixteenth Avenue, this summer, west from Blanca Street across the endowment lands and the campus to meet Marine Drive on the west side of Point Grey, providing a new traffic artery.

SPORTS STADIUM

UBC clearing includes a site for a replacement sports stadium, expected to be ready in the fall of 1966. (See picture page four.)

The present stadium, built through student money-raising in the 1930's, has been designated as the site for a $3.9 million Student Union Building, to be financed over the next 15 years by the student body through the UBC Alma Mater Society.

The replacement stadium, like the old stadium, will seat 3,000 and include a track.

This year's budget includes $457,600 to clear the site, prepare the field and complete rough concrete work for the stands, dressing rooms and other facilities.

The UBC Board of Governors has approved a design and authorized working drawings to be prepared with Vladimir Plavsic, a graduate of UBC's School of Architecture, as executive architect.

Other athletic facilities included in this year's $2 million campus improvement program are a practice track, a field house for dressing rooms, and completion of four athletic fields.

Clearing also includes a right of way to carry Wesbrook Crescent south to the Sixteenth Avenue extension.

The improvement program brings into focus the final form mapped out by planners for the UBC campus.

OTHER DEVELOPMENT

Large academic buildings will continue to rise in the developed half a square mile at the north end of the campus, stretching from Marine to Agronomy Road. This is designed to keep all academic buildings within walking distance of one another, and of such facilities as the new Student Union Building.

As agriculture facilities move out of the area stretching south from Agronomy to Sixteenth, it will be developed for athletics, student residences and major parking.

The third area south of Sixteenth will remain a generously-wooded series of clearings for research and field work, and will also contain the university's work yards and burning area.

UBC Academics Elected to Top Posts in Royal Society

Several UBC scholars were honored by the Royal Society of Canada at the annual meeting held at the university.

The society, Canada's most prestigious academic society, was one of 35 academic groups that took part in the three-week conference of the Learned Societies of Canada.

DR. F. H. SOWARD, dean emeritus and secretary to the UBC board of governors, was elected president of the society's English language, humanities and social sciences section.

DR. C. E. DOLMAN, professor of bacteriology and immunology, was elected president of the science section.

Dr. W. S. HOAR, head of the department of zoology, was presented with the society's Flavelle medal, for original research of special merit in the biological sciences.

In presenting the medal, Dr. M. L. Barr, of the University of Western Ontario, noted that Dr. Hoar was responsible for the development of studies in animal behavior and fisheries at UBC. He said Dr. Hoar had demonstrated service to the community in his active interest in the Vancouver Public Aquarium Society.

Royal Society Elects UBC *Graduate President*

Dr. W. Kaye Lamb, who graduated from UBC in 1927 and was chief librarian from 1940 to 1948, was elected president of the Royal Society for 1965-1966, and was the winner of the Tyrell medal for outstanding contributions to the study of Canadian history.

Dr. Lamb is now the Dominion archivist and national librarian in Ottawa. Dr. R. A. MacKay of Carleton University presented the medal and told members, "Kaye Lamb has achieved a commanding position in the realm of history in the country."

EDUCATION OF SCIENTISTS:

'Quality of Teachers Is Inadequate'

(President John B. Macdonald spoke on "Problems and Prospects in Science Education" before a symposium on science education at a meeting of the Royal Society of Canada at the University on June 8, 1965. In this extract from his paper Dr. Macdonald reviewed the present state of science education, the lack of science graduates, outlined the causes of the shortage and suggested some reforms.)

How much can we say about the shortage, in terms of quantity, of scientific personnel in Canada?

We know that in 1961 approximately 11,000 persons constituted the full-time faculty of Canadian universities and colleges. The Canadian Universities Foundation has estimated the need for 1971 at 32,000. Recent experience indicates that each year about 5% of total faculty were lost by death, retirement or withdrawal from the universities. Thus, for a net gain of 21,000, Canadian universities and colleges will need to recruit about 32,000 persons in the decade between 1961 and 1971. The number of Ph.D.'s graduated yearly in all fields in the five years up to 1963 averaged only 320.

The figure for university needs take no account of government or industrial needs for scientists.

Currently American industry employs 50 percent of the country's scientists. Government employs 20 percent. Most of the remaining 30 percent are in the universities.

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Approximately 55 percent of the graduates with doctorates have accepted industrial or government appointments in recent years. It is certain that Canadian utilization of scientists by industry and government has not reached such proportions, but it may during the next few years. Lloyd Berkner, of the Graduate Research Centre of the Southwest, estimated that the U.S. needs 100 new doctorates each year per million population. If the figure has any meaning for Canada during this decade, we should be graduating 2,000 Ph.D's a year versus our current 400. Berkner estimimates that for every Ph.D. it fails to educate, the U.S. will pay a penalty of 100 unemployed.

Because the market for brains is international and because Canada's main source of competition is the U.S., it is important to realize the extent of the American shortage. Doctorates in all fields graduating in 1963 numbered 12,822. Doctorates in the sciences, including engineering, accounted for half of them. The National Science Foundation estimated a need for more than two million scientists and engineers by 1970, but anticipates that the universities will produce only 700,000. The demand has grown far faster than the labor force as a whole, which increased by only about 50% since 1930, and the demand continues to grow faster than the production.

SEVERE SHORTAGE

It is clear that the shortage is severe and will become worse.

How many scientists can we hope to produce in Canada during the next few years? The number of baccalaureates anticipated in the sciences is expected to exceed the capacities of the universities and the supply of teachers.

The limiting factor is the number of teachers. Thus we must plan to emphasize as much as possible education at the graduate level. The U.S. hopes to multiply productivity of doctorates in science (engineers, mathematicians, and physical scientists) by two and a half times between 1964 and 1978. Can we do proportionately as well or better?

We granted 3,921 graduate degrees (Masters and Ph.D.'s or equivalent) in Canada in 1963. One estimate for 1970-71 is 10,450 degrees or, approximately two and one-half times as many as at the present time. Judging by current performance, less than half of this number will be in science and engineering (the social sciences excluded).

All of these fragmentary pieces of information and extrapolations point to one fact. The shortages which are felt now in the fields of science will continue and probably will become worse in spite of our efforts to meet the demand. That, I suspect, is a condition of our modern scientific society. The demand for personnel trained in science to man our increasingly science-oriented and technology-oriented society is probably insatiable. The limiting factor determining the rate of technological change will probably be the number of skilled people available.

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Problem number two, the problem of quality. If shortages of scientific personnel are going to be universal, the race will go to those producing and holding the BEST scientists.

There is, unfortunately, some reason to believe that the quality of science education is not what it should be. Abelson, writing editorially in Science, considered the matter and feared that our preoccupation with numbers will produce a generation of technicians and may concurrently diminish the number of gifted and creative individuals in science.

One Enrico Fermi is more valuable than a thousand ordinary Ph.D.'s. How much of the vast volume of scientific literature is pedestrian or worse?

How few of our new scientists produce imaginative ideas with an impact on the forward movement of science? How often is the equipment superb and the idea inconsequential?

How often is today's affluent graduate student content to work 40 hours a week, whereas 70 to 90 hours a week was common a generation ago?

The availability of adequate funds in agencies such as the National Institutes of Health has not been accompanied by a consistently high level of applications. Less than half the applications receive support. It is significant that by far the most frequent reasons for rejection have been associated with inadequacies of the applicant personally, his choice of problem or his approach. Anyone who has served on a review committee knows that such committees tend to bend over backward in favor of the applicant. The fact is that many applications are shockingly bad.

TEACHERS INADEQUATE

Part of the reason for the problem of quality is inadequacy of teachers at both the high school and university level. Canadian documentation is hard to find because we are too busy defending the indefensible idea that education is a provincial, not a federal concern.

A study in the U.S. in 1962 showed that among high school teachers with bachelor's degrees or higher, 66 percent of those teaching physics had 17 college credits or less in the field of physics, and 23 percent had fewer than nine credits. Of those teaching chemistry, 34 percent had 17 or less credits in chemistry. Of those teaching mathematics, 23 percent had 17 or less mathematics credits.

University teachers, on the other hand, tend to begin their careers with up-to-date subject matter and no teaching experience. They are inclined to develop into mature science teachers with extensive

DR. JOHN MACDONALD

teaching experience but little up-to-date information. It is doubtful today if the productive "half-life" of the scientist or engineer is 10 years: the pace of technological advance is so fast. More organized opportunity and encouragement for up-dating qualifications is needed.

Must we wily nily accept a deterioration in quality of science education just because we are educating large numbers, as suggested by "Science"? I think not. I suggest the solutions lie in four directions.

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First, the recognition and recruitment of untapped talent. Second, the generation of interest and beginning competence in science at an early age. Third, a renewed concern within our universities with the quality of teaching. Fourth and most difficult, development of a more precise awareness of the conditions of stimulation toward scientific creativity and productivity in the student.

The untapped talent must be very large. Recent figures for Canada indicate that only one-half the students matriculating from high school with 70 percent average or more go on to university. More than half of those in the universities graduated from high school with less than 70 percent. Of 100 Canadians in grade two, nine will enter university. Six will graduate.

In British Columbia, the province with the highest school retention rate, about 40 percent of the students in grades 2 through 6 never reach grade 12.

In addition, in both Canada and the U.S., a large and virutally untapped resource for science is the woman student. Few of them enter science in the first place, and few of them return to their careers after the early years of child rearing. This waste stands in stark contrast to what is occurring in many other countries.

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To attract to the universities and a career in science a larger part of the pool of talent requires some hard decisions. The first is introduction of substantially more science into early education than we offer at present. Our students, especially in the early years, have the energy and ability to assimilate substantially more science than we offer them without in any way reducing or restricting the content in humanities and social studies. Others have done it; so can we.

The second requirement to interest elementary and high school students in science is better science teaching. Here progress is being made. The subject content in teacher training is rising.

For the secondary teacher in this province, for example, 15 units in each of two subjects taught in high school is required. It is better than it used to be; it is not good enough. The material being taught has been undergoing drastic revision in recent years, as a result of various teaching institutes offered under the guidance of outstanding scientists in the various disciplines.

These have been highly successful in modernizing curricula and they surely must become a permanent part of our techniques for up-dating teaching programs in elementary and secondary schools. Their success requires the energies and knowledge of the best university teachers.

REVISE ADMISSION PROCEDURES

The third requirement for attracting more of our untapped talent into science or any other field at the university level is a revision of our admission procedures. We need to recruit actively in the high schools, looking for students with ability. We need to be sure they know of the opportunities available to them. We need to be able to offer them the necessary financial support to ensure that they are not frightened away from university for financial reasons.

I doubt that federal loans are the answer, although they are highly useful. I suspect that many good students are simply not prepared to begin their careers with a significant debt hanging over their heads.

Concurrently, we need to modify our admission standards to exclude from the universities those who are unlikely to profit from the experience. Such students are better off in other educational avenues where their abilities can meet with success.

The net effect should be not a dramatically enlarged enrolment, at least not immediately, but a more selected enrolment of young people with the potential for study at a university level.

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There is a great need to renew and strengthen our traditional concern for good teaching in the universities. Science has become highly competitive. Recognition and prestige depend primarily on the attitude of one's fellow scientists. And so it becomes important right from high school to obtain good grades, to be accepted into a good undergraduate school from which the chances for acceptance into a prestige graduate school are better.

Here, contact with distinguished scientists brings the opportunity of a better job. Frequent publication keeps a scientist in view of his associates, and universities tend to appoint on the basis of international reputation rather than local performance. Thus, teaching tends to be down-graded.

To carry on his work a scientist needs money and facilities. The availability of these is determined by committees of his fellow scientists. Thus, research productivity again is given a priority higher than teaching.

A positive feedback also is involved. Successful research brings prestige which increases the chances of a prestigious appointment.

A man with such an appointment is likely to attract more money for research and more outstanding students and thereby further enhance his prestige. The prestigious university too gains further prestige by having such men on its faculty.

One more factor lures the scientist toward the prestige status. Beyond the academic community a high reputation in science brings lucrative consultantships. In view of all these pressures, it is little wonder that teaching can be neglected.

It must be obvious to everyone that more emphasis on teaching will be needed as the shortages of teachers for the universities becomes more severe. Many approaches are available: the more effective use of graduate students and emeriti, the part-time use of Ph.D.'s employed by industry and government, better use of present faculty by application of TV, programmed learning, taped lectures, and other modern devices. Most important, however, is to restore the status of teaching. This does not mean less concern for research. It does mean a renewed recognition that teaching and research are synergistic and that a balance is in the best interests of both.

UBC Reports

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A PRESIDENTIAL APPOINTMENT

Daniells Named First 'University Professor'

Dr. Roy Daniells, head of the department of English for 13 years, has been named to the first of a limited number of Distinguished Professorships planned at UBC.

"We are beginning by recognizing one of our most distinguished scholars, who is also a distinguished Canadian poet and writer," said President John B. Macdonald. "Dr. Daniells' position will be unique among the faculty at UBC, and quite possibly at any Canadian university.

"By presidential appointment, without term, he will be University Professor of English Language and Literature, administratively responsible to the president."

Dr. Daniells relinquished his appointment as head of the department of English in order to devote himself to his scholarly interests. He is free to choose his own teaching assignments within the departments of the university, subject to invitation by department heads.

Dr. Macdonald said that the recent UBC report on academic goals, Guideposts to Innovation (P. 25) had recommended — in the words of the report — "that functional specialization as in teaching and research be accepted and rewarded. For example, it would be of value to appoint a number of outstanding scholars as University Professors, persons who would add lustre to the department to which they were attached, and who would enhance the academic development of junior members of the department and its senior students."

The president commented: "I have been impressed that this proposal can be very helpful in focusing and illustrating the university's aspirations to academic excellence, and it is appropriate to begin establishing such prestigious professorships by recognizing one of UBC's most distinguished scholars who is also one of Canada's top scholars in his field.

"There is every indication, as Roy Daniells at 63 approaches the age traditionally regarded as the end of one's active career, that his energetic pursuit of his interests in literature will continue to add richly to the vitality and well-being of his discipline, and to his stature as one of Canada's outstanding humanists.

"Since 1948 Dr. Daniells has guided with distinction the largest department at UBC through a period of unprecedented and prodigious growth. Last year there were 125 teachers and 10,400 individual students registered for the department's offerings.

"Roy Daniells virtually created the graduate program in English. He has brought it to a point where it attracts students not only from all over Canada, but from the United States, Britain and other parts of the Commonwealth.

"In spite of the arduous duties involved in managing so large a department, Dr. Daniells has continued to teach a wide variety of courses involving all levels of students from freshmen to graduates.

"As teacher, administrator and writer, Dr. Daniells has earned and won the respect of thousands of students who have benefited from his teaching and of his academic colleagues throughout the nation who have been enlightened by his scholarship."

DR. ROY DANIELLS

Born in London, England, on April 6, 1902, Roy Daniells first came to UBC as a student in 1928. He obtained his B.A. at UBC in 1930. He took his M.A. in 1931 and his Ph.D. in 1936 at the University of Toronto, where he began teaching at University College in 1930.

He was head of the English Department at the University of Manitoba for nine years before coming to UBC in 1947, to become head of the English Department in 1948.

ALUMNI FUND RAISING

North American Award Goes to UBC Association

The UBC Alumni Association has won the 1965 top award among North American public universities for improvement in fund raising by alumni. Last year the award went to the University of Michigan.

Alumni President Rod Macdonald accepted the $1,000 award on behalf of the association in Atlantic City at the 50th Annual General Conference of the American Alumni Council. The award is derived from a grant by the United States Steel Foundation.

Mr. Macdonald was chairman of the UBC Alumni Annual Giving Campaign during 1963, the year upon which the 1965 award is based. In 1963, alumni donors increased from 2,527 to 3,728 (by 48 percent), contributions rose from $36,749 to $89,370 (by 143 percent), and the average contribution rose from $14.54 to $23.97.

WELL DESERVED

"This award was well deserved by the Alumni Association," said UBC President John B. Macdonald. "Through the intensive and tireless drive of Mr. Macdonald and Gordon Thom, executive director of the campaign, alumni giving moved onto a higher and much broader plateau.

"The slogan in 1963 was 'Participation, Not Amount' but the drive achieved both—much greater participation by alumni, and a much higher rate of giving.

"The permanent results were indicated by the 1964 campaign, when the drive raised more than $100,000 for the university and the number of donors increased to 4,500.

"The university needs all the financial support it can get from all sources, including the extremely valuable support of a large number of actively interested alumni throughout the province and the nation."

Alumni President Rod Macdonald said: "Much of our success came from the strong support of the Board of Management of the Alumni Association. The board gave wonderful backing to our 'Participation, Not Amount' slogan when every member of the board made a personal contribution at the start of the campaign."

Gordon Thom, director of the Alumni Annual Giving Campaign said: "The award is really a tribute to the many alumni who supported our effort."

NEW APPROACH

The 1963 campaign introduced a new approach which Mr. Macdonald and Mr. Thom developed after attending the American Alumni Councils Conference in Banff in 1962.

Mr. Thom became fulltime executive director, and a clerk was added. Where alumni had been solicited with a single brochure in 1962, 60,000 letters were sent out during 1963, with particular types of letters directed at groups with interests — such as profession, class year or faculty. A system of monthly and quarterly reports on contributions by alumni was established.

First priority in disbursing alumni contributions goes to the support of traditional Alumni Association projects, including 42 Norman MacKenzie Scholarships of $350 each (one for each provincial riding in B.C.), to the President's Fund, the UBC library, to athletics and recreation — a total amount of around $40,000 a year.

Dr. Dolman Resigns to Write Book

Dr. Claude E. Dolman, head of the University of B.C.'s department of bacteriology and immunology, has resigned to devote full time to research and scholarly writing, President John B. Macdonald has announced.

Dr. Dolman, a member of the UBC faculty since 1935, will continue to hold the rank of full professor in the department.

Dr. Dolman said relief from administrative duties would allow him to concentrate on writing a history of microbiology.

He said he would also continue to supervise the work of a number of graduate students and conduct research on botulism, a fatal form of bacterial food poisoning. Dr. Dolman is recognized as a world authority on botulism.

Born and educated in England, Dr. Dolman holds the degrees of bachelor of medicine and science and doctor of philosophy from the University of London.

He holds fellowships in the Royal College of Physicians and Surgeons of London and Canada, the Royal Society of Canada, and the American Public Health Association.

He came to Canada in 1931 to join the Connaught Medical Research Laboratories at the University of Toronto. A year after joining the UBC faculty in 1935 he was named head of the department of bacteriology and preventive medicine, which later became the bacteriology and immunology department.

Dean Heads Geography Body

Dean Neville V. Scarfe is the first non-American to be elected president of the 50-year-old National Council for Geographic Education in America.

The dean of UBC's faculty of education was chosen to head the American organization at the annual meeting in Minneapolis.

The National Council is an association of geographers dedicated to the promotion of better geography teaching in the schools. It publishes a monthly magazine with a world-wide circulation called the Journal of Geography.

Educationalist Will Work in Africa, U.S.

G. H. Cannon, an associate professor of education at UBC, has been named a visiting professor to the new African country of Tanzania for the coming year.

Cannon will spend the next year in Dar es Salaam lecturing in physics and education in the faculty of science of University College, a branch of the University of East Africa.

In addition to lecturing, Cannon will develop an option in education in the faculty of science which will allow science students to receive their teaching certificates on graduation.

We will also be associated with the Institute of Education at University College on problems of curriculum development for the Tanzanian education system.

He has been granted a year's leave of absence from UBC and will return to the faculty of education in September, 1966.

MIT PROJECT

Cannon was also recently named to an international conference which begins work this summer at Massachusetts Institute of Technology to design new programs of study in occupational, technical and vocational education.

Cannon said the MIT program would continue for a number of years and he would continue to be associated with it.

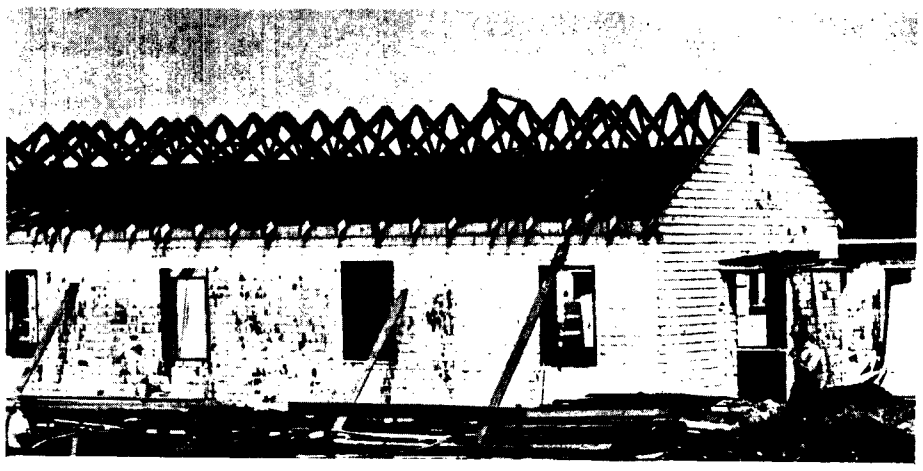
Second Major Award for UBC Chemist

Dr. James Trotter, associate professor of chemistry at the University of B.C. has been awarded a much-coveted research grant from the Alfred P. Sloan Foundation of New York.

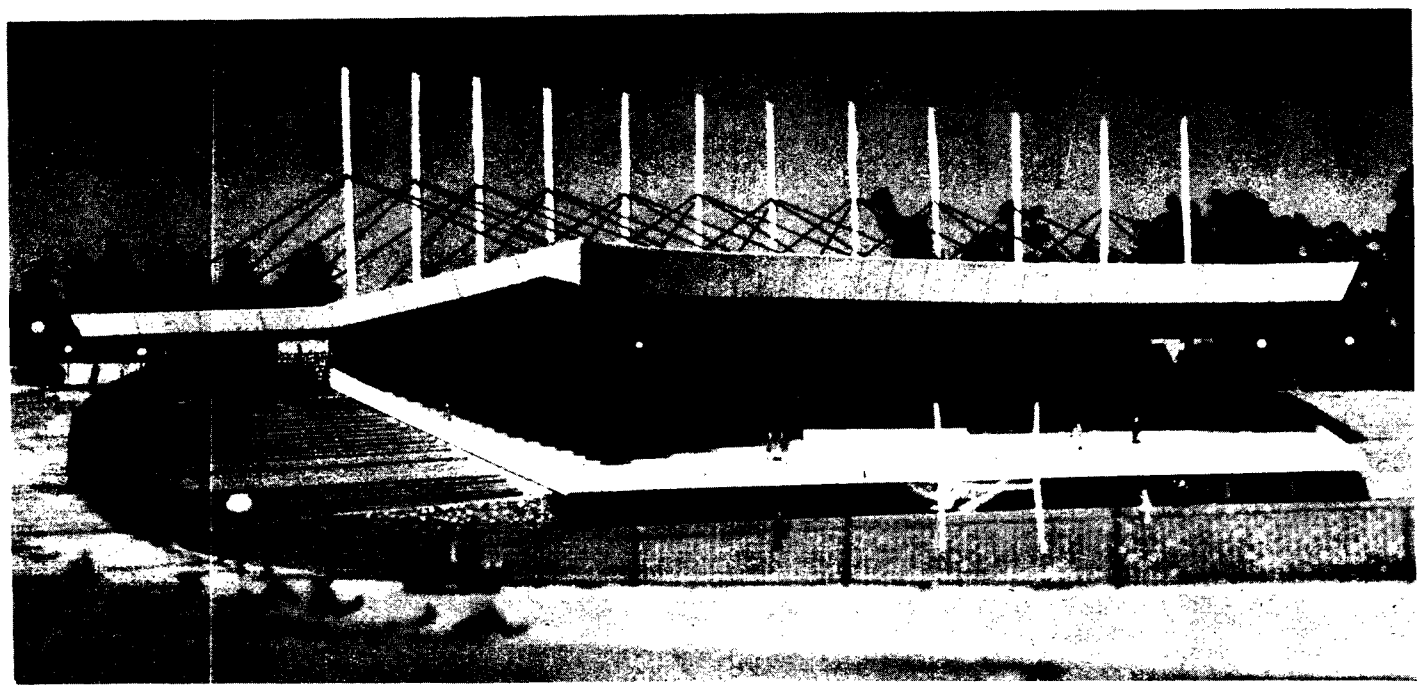
Dr. Trotter is one of 91 scientists in the U.S. and Canada who have received 1965 grants totalling 1.4 million dollars. The award to Dr. Trotter is one of two made in Canada.

Dr. Trotter will receive a total of $15,000 over the next two years from the Sloan Foundation for continuation of his work in the field of X-ray crystallography, a field of chemistry concerned with the structure of large molecules.

This is the second major award which Dr. Trotter has received in the past two years. In 1963 he was the recipient of the Meldola Medal of the Royal Institute of Chemistry in Great Britain.



FIRST 16 ARMY HUTS put up on the UBC campus have been turned over to a contractor to be torn down. Several have been demolished. Most of the teaching and other work being done in the huts will transfer to the new commerce and social sciences building, to be known as the Henry Angus building, which will open in late summer. The new building is a 3-Universities fund project. Hundreds of army huts were rushed to the campus 20 years ago to accommodate the homecoming tide of student-veterans. UBC bursar William White says the Board of Governors has authorized a long-range program to dispose of the old huts as new buildings come into use. (Extension Dept. Photo).



WORLD'S FIRST cable suspension stadium roof design has been created by UBC School of Architecture graduate Vladimir Plavsic for Thunderbird Stadium at UBC (See story P. 1). The design eliminates support posts but will be cheaper than cantilever. The roof will hang by 1½ inch cables from a dozen 80-foot prestressed concrete pillars, visible all over the campus, and each topped by a thunderbird cast in concrete from a design by Indian art expert, Bill Read. Grandstand faces west for sun warmth and seats 3,000, like the old stadium. It can be expanded to seat 15,000 if required. (Vladimir Plavsic photo).

MacMILLAN FAMILY FUND DONATES:

Fellowships Honor Former Presidents

The H. R. MacMillan Family Fund has honored the three former presidents of UBC by establishing in their names a fellowship program totalling $1,332,000 — a 40 percent expansion of the fellowship program established by the fund in February.

The overall program will now provide over 20 years $4,662,000 for 63 annual Ph.D. fellowships at $3,200 each (plus $500 to UBC for overhead and essential travel), President John B. Macdonald said in announcing the new gift recently.

The additional 18 fellowships are divided into three groups, each named to honor a former president, and to provide six fellowships in his field of special interest, the president said.

The general conditions are the same as for 45 annual fellowships donated by the H. R. MacMillan Family Fund last February.

Applicants must be Canadian citizens who are undertaking Ph.D. programs at UBC. They must agree to remain in Canada for a reasonable time after obtaining their doctorates, provided they are offered suitable positions.

The fellowships will be renewed each year on a basis of performance for a maximum of three years to any individual or until a degree is obtained. The total of 18 fellowships includes renewals.

The three new fellowship groups are:

- The Frank F. Wesbrook Fellowship, in microbiology or bacteriology, named for the first UBC president, who died in 1919.
- The Leonard S. Klinck Fellowship, in agricultural research, named for UBC's second president, now 88, and living at 2627 Marine Drive, West Vancouver.
- The Norman MacKenzie Fellowship, named for the third president, now living at 4509 West Fourth Avenue, Vancouver, to be available in the fields of international relations, or Canadian history, political science or economics, or international law.

Six of the new fellowships (two in each group) will be available in September, 1966; a total of 12 will be available in September, 1967, and a full 18 in September, 1968.

There will be 18 fellowships available for 20 years in all, tapering off in the two following years to 12 and then to 6.

Dr. Macdonald commented today: "When the MacMillan Family Fund donated the original 45 fellowships in February, 1965, and Dr. MacMillan personally contributed nearly $4 million for our library, I called these the most generous gifts ever made to graduate education in Canada.

"Now this generosity has been greatly extended. This new evidence of support for graduate education will be welcomed enthusiastically by the academic community. The additional fellowships will add important momentum to the development of graduate studies in the areas selected.

"Beyond that, they will underscore the urgency of producing a great many more Ph.D.'s in this country, to provide teachers of high quality at our expanding universities, and to maintain and improve the whole calibre of Canadian life, economically and culturally.

"The H. R. MacMillan Family Fellowships appear to me to be the most rewarding way of investing dollars in a great Canadian future, and in keeping with the character of the founder of this fund.

"We hope that Dr. MacMillan's unique example will be actively emulated right across Canada."

Australian Named Head of Mechanical Engineering

Advanced methods of stress analysis will become one of the specialties of the UBC's department of mechanical engineering, says Dr. James Playford Duncan, new head of the department.

Dr. Duncan, 46, will assume the headship in the summer of 1966, after completing a year as visiting professor at Pennsylvania State University, and returning for a final year as head of mechanical engineering at Britain's University of Sheffield.

Dr. W. O. Richmond will continue as acting head of mechanical engineering at UBC, and after 1966, will remain as professor and devote himself to academic work. Dr. Richmond resigned as head late in 1963.

At Pennsylvania State University, Dr. Duncan was studying the geometry of curved surfaces in the field of deep-sea torpedoes, fins and propellers.

His assistant in this work, Charles Roland Hazell, 27, has joined UBC's mechanical engineering department as assistant professor. Born in Halifax, Mr. Hazell obtained his B.Sc. at Nova Scotia Technical College, his M.Sc. at the Pennsylvania State University, and will receive his Ph.D. from that university this summer.

Australian-born, Dr. Duncan received his B.E. in 1941 and an M.E. in 1954 from the University of Adelaide, and a D.Sc. from the University of Manchester (Britain) in 1964. He is a specialist in steam - turbine power plant design and in teaching design and engineering economy.

He spent 6½ years in automobile body design in Australia with Chrysler Export Corporation of Detroit, and was acting head of mechanical engineering at the University of Adelaide.

DR. JAMES P. DUNCAN

In Britain, he was at the University of Manchester, before becoming head of mechanical engineering at the University of Sheffield in 1957.

UBC to Offer Ph.D. in Mechanical Eng.

A proposal to offer the doctor of philosophy degree in mechanical engineering at UBC has been approved by the Senate.

The degree will be offered in the 1965-66 session with special concentration in the areas of applied mechanics, aerodynamics, aeroelasticity, space dynamics, thermodynamics, and heat transfer.

The UBC department now offers a program leading to the degree of master of applied science in mechanical engineering. A total of 21 masters degrees were awarded in the period 1959-64.

Senate Clarifies Policy

The UBC Senate has clarified its standing policy of permitting public donations to provide athletic awards for outstanding athletes who maintain general proficiency in their studies.

Here is the full text of the Senate statement:

AWARDS FOR ATHLETES

Athletes at the University of B.C. who have met academic and other qualifications have always received their share of scholarships and bursaries open to the student body at large.

The continuing Senate policy, however, does not permit the establishment under University auspices of "athletic scholarships," designed for the primary purpose of recruiting selected players for teams.

On the other hand, present Senate regulations do make it possible for donors to establish awards, similar to bursaries, which are open in competition to students who combine merit and participation in athletics with sound academic standing. These awards, when established under terms acceptable to Senate, are administered by the Joint Faculty Committee on Prizes, Scholarships and Bursaries.

In determining the athletic qualifications of candidates, this committee is assisted by members of faculty who serve on the Men's Athletic Committee, the Women's Athletic Committee, and in the School of Physical Education.

To be eligible a candidate must have the same academic standing required to hold a bursary.

The first responsibility of the winner of any award established by Senate is to his academic studies. If, at any time, the holder of an award fails to maintain satisfactory academic standards he may forfeit the balance of his award.

If he finds it necessary, however, to curtail his extra curricular or athletic activities in order to maintain these standards, he is not required during the remainder of the session to relinquish any part of it.

These awards are intended for students whose secondary schooling was taken in British Columbia, and others who have chosen to attend the University of B.C. because of its academic programs.

Political Science Head Appointed

Professor R. Stephen Milne, head of the department of political science at the University of Singapore, has been named head of a new political science department at UBC.

The department of economics and political science was split into separate units July 1, the date when Prof. Milne's appointment became effective. Prof. John Young will continue to head the department of economics at UBC.

Prof. Milne, 45, who has been organizing the department of political science and teaching at the University of Singapore since 1961, is a graduate of Queens College, Oxford University, where he received his bachelor of arts degree with first class honors in 1940, and his master of arts degree in 1947.

Prof. Milne's research interests are in the areas of elections and political parties, comparative government, and public administration.

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