

# U BC REPORTS

## DR. ROSS REELECTED CHANCELLOR

Dr. Phyllis G. Ross, C.B.E., has been re-elected chancellor of the University of British Columbia by acclamation.

Dr. Ross, who was elected chancellor in November, 1961, to fill the unexpired term of the late Dr. A. E. Grauer, who died during his second term of office, has been re-elected for three years.

She is eligible to serve for an additional three years when her present term of office expires.

Elections will take place May 21 for the 15 members of the University Senate elected by Convocation. A total of 38 persons have been nominated for the 15 seats.

Renominated are: Mrs. H. F. Angus, Kenneth P. Caple, Joseph E. A. Kania, John L. Keays, Ian McTaggart Cowan, Eric P. Nicol, The Hon. Mr. Justice David Verchere, and Arnold Webster, all of Vancouver; Willard E. Ireland and J. Stuart Keate, both of Victoria; Arthur P. Dawe, Okanagan Mission; George C. Hacker, Abbotsford, and Joseph V. Rogers, Trail.

New nominations are: G. E. Baynes, Richard Bibbs, Mrs. Alex W. Fisher, C. J. Frederickson, R. R. Jeffels, Donovan Miller, Alex B. Macdonald, Malcolm F. McGregor, Barnett Savery, Peter Sharp, The Hon. James Sinclair, Thomas M. C. Taylor, David W. H. Tupper, Frank Turnbull, Charles C. Watson, Harry V. Warren, S. M. Friedman and Hugh Keenleyside, all of Vancouver; Charles M. Campbell, Bralorne; J. V. Murray, Creston; Mrs. H. J. MacKay, Revelstoke; Greville Rowland, Penticton; Mrs. C. Douglas Stevenson, Williams Lake; David R. Williams, Duncan, and Mrs. Laurence Bruce, Kelowna.

The Convocation of the University, which will elect 15 of those nominated, is composed of all graduates, original convocation members, members of the UBC faculty, and honorary degree holders.

### three attend WUSC seminar

Two students and an associate professor of Slavonic studies of the University of British Columbia have been named to attend the 14th annual World University Service of Canada seminar beginning in mid-June in Pakistan.

Those named to attend the two-month event are graduate student Bernie Papke, coordinator of activities on the current UBC students' council; 3rd year honours chemistry student Andrew Pickard, and Alexander W. Wainman, associate professor of Slavonic studies.

A total of 35 students from universities in Canada will attend the seminar.

Mr. Horace Wesley Fowler,  
4580 W. 1st Ave.,  
Vancouver 8, B. C.

BA 26  
MA 29  
BEd 43



DR. PHYLLIS G. ROSS  
... re-elected chancellor

### library school gets approval

The school of librarianship at UBC has been given the "seal of approval" of the American and Canadian Library Associations.

The UBC school, which has been operating for only 18 months, has been accredited by the two associations in the minimum permissible time, according to the school's director, Dr. Samuel Rothstein.

The accreditation was awarded on the basis of a detailed evaluation of the school's curriculum, students and faculty, including a recent visit of inspection by external examiners from Chicago, Seattle and Regina.

Dr. Rothstein said that several hundred North American institutions offer programs in library education, but UBC is only the 35th to have gained accredited status and the third in Canada. Usually, he added, such recognition is achieved only after several years of operation.

Accreditation will mean that graduates of the UBC school will be eligible for placement in the best Canadian and American libraries, Dr. Rothstein added.

### unique lab opened with CARS grant

A unique laboratory for investigating the relationship between rheumatoid arthritis and viruses has opened at the University of British Columbia.

The Canadian Arthritis and Rheumatism Society has contributed a total of \$13,000 for the establishment of the laboratory, which is located in the UBC department of pathology.

Dr. Denys K. Ford, associate professor in the department of medicine and director of the CARS research unit at UBC, said the virus lab would be the only one of its kind in Canada and possibly North America.

He said there is increasing interest in the possibility that viruses may be related in some way to rheumatoid arthritis.

In the lab scientists will compare live cells taken from the joints of healthy persons and sufferers from rheumatoid arthritis. They will look for differences between the two types of cells which might be attributable to viruses.

In addition to incubators and other equipment for culturing live cells, the laboratory contains a special electric deep freeze unit capable of temperatures down to minus 80 degrees centigrade for storing live viruses.

In charge of the lab will be Dr. Jang Oh, a Korean-born virologist who came to UBC from the University of Washington in 1961.

### English professor dies at 41

Dr. Arthur E. (Ted) Sawyer, an assistant professor in the department of English at the University of British Columbia, died in February after a lengthy illness.

Dr. Sawyer, 41, was born in Toronto. He was educated at the University of Toronto, where he was awarded the degree of bachelor of arts in 1948 and the degree of doctor of philosophy in 1960. Dr. Sawyer also did post-graduate work at the University of London, England, from 1950 to 1952.

In 1948 and 1949, while at University College at the University of Toronto, Dr. Sawyer was a teaching fellow. When he returned from England in 1952 he served for a year as director of English at the Ontario College of Art.

Dr. Sawyer joined the UBC faculty as an instructor in 1953. He was promoted to the rank of assistant professor in 1959. During World War II Dr. Sawyer served overseas with a fighter pilot squadron in the Royal Canadian Air Force. He attained the rank of flight lieutenant.

Dr. Sawyer is survived by his wife, Isobel and three children in Vancouver, and his mother and brother in Toronto.

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DR. GILBERT J. PARFITT

## DENTISTRY DEPARTMENT HEAD NAMED

Dr. Gilbert John Parfitt, professor of dentistry at the University of Alabama, has been named the first department head in the faculty of dentistry at UBC.

Dr. Parfitt, 53, will head the department of oral medicine in the UBC faculty which plans to enrol its first class of students in 1964. Oral medicine is the study of diseases of the teeth and gums.

Dr. S. Wah Leung, dean of the faculty of dentistry at UBC, said Dr. Parfitt's appointment was a significant one because oral medicine is an area of major importance to dental health.

"We feel singularly fortunate," Dr. Leung said, "in having attracted a scientist of the calibre of Dr. Parfitt to UBC. His research ability and clinical competence will make him a valuable member of the faculty."

Dr. Parfitt was born in Reading, England, and completed undergraduate training in medicine and dentistry at Guy's Hospital, London, England, from 1928 to 1938. He carried out postgraduate work in Dublin, Ireland.

He holds a fellowship in dental surgery from the Royal College of Surgeons, and is a licentiate of the Royal College of Physicians. He also holds the degree of doctor of dental medicine from the University of Alabama.

From 1935 until 1946 Dr. Parfitt was associated with the Guy's Hospital dental school as house surgeon, demonstrator of operative dental surgery, and registrar of the orthodontic and children's department.

In 1946 he was named director of periodontal and preventive dentistry at Guy's Hospital dental school, and in 1949 senior lecturer and head of the preventive dentistry department in the Institute of Dental Surgery, British Postgraduate Medical Federation.

In 1955 Dr. Parfitt came to the United States where he joined the faculty of the University of Alabama school of dentistry.

# PLANNING AND ACTION IN EDUCATION OF GRAVEST URGENCY

(During March President John B. Macdonald spoke on the national network of the Canadian Broadcasting Corporation. What follows is the text of his address.)

In recent years many Canadians have become aware of the growing need for additional opportunities and facilities for higher education. Planning and action to meet the demands of the sixties must be accelerated if Canada is to provide educational opportunities necessary for its social, economic and cultural progress. The matter is one of the gravest urgency.

In the realm of scientific and technological change, and the effect of these two forces on every aspect of human life, more has been accomplished in the last half century than in all previous human history. As a measure of the pace of change, it has been stated that 90 percent of all the scientists who ever lived are alive today. We are witnesses to the first act of a new scientific revolution. Our work, our play, our lives are inevitably shaped by that revolution; and if man is to survive as a species, and if we are to prosper as a nation and as individuals, we must strive to understand the meaning of the revolution as we plan for the years ahead.

We have moved into a new world in which the skills of today become obsolete tomorrow. The days are rapidly disappearing when the man with little formal training can make an appreciable contribution to our national strength. Education, and more particularly higher education, must be designed to permit individuals to interpret and understand the revolutionary changes which are occurring everywhere. The persons who will make the greatest contribution to society, and who will lead happy and rewarding lives, will be those educated to the limits of their capacities and talents by the best kinds of educational institutions we can finance and staff.

The predicted growth in the Canadian population is reflected directly in the number of students who are seeking education beyond the high school level. It is estimated that by 1970, 312,000 high school graduates will be enrolled or seeking entry to our universities and colleges. That number must be compared with an enrollment of 130,000 now. Moreover, it must be related to the expected growth in enrollment in the U.S.A. because the market for the required professors and teachers for colleges and universities includes the U.S. The enrollments in the U.S. will double for a total of 7 million students by 1971 — a growth rate of 300,000 a year, or twice as many additional students each year as are now educated in the whole of Canada. The doubling of Canadian enrollments means that in 7 years we must provide more new facilities for higher education than we have managed to provide in all the years since Confederation.

The most crucial problem facing us as a result of this enormous increase will be that of finding staff for our colleges and universities. Currently we have about 9,000 faculty members in Canada. By 1970 we will need at least 25,000. That is the National Research Council's estimate. The alarming fact, however, is that the whole of Canada is graduating annually only about 280 Ph.D.s. The Ph.D. or equivalent training is now almost mandatory for anyone seeking a career in higher education.

I see the need for two basic kinds of institutions of higher education:

- (a) Universities and four-year colleges offering degree programs and advanced training for those students who have the necessary ability and aptitude.
- (b) Two-year colleges offering a variety of programs (academic and technological) of one or two years of education beyond Grade XII.

Two-year colleges are to be developed shortly in British Columbia. They will be designed for those students who plan to continue their education at a degree-granting institution; those who wish to take only one or two years of higher education (technical, academic, or a combination of both); those who are undecided about their educational future; those who by preference or for financial reasons wish to remain in their own locality. The two-year college will have its unique character and ideals and offer enough courses parallel with those of degree-granting institutions to invite the best students to pursue further studies. Although two-year colleges may differ from one another in accordance with local needs, that difference will exist mainly in the non-academic areas of their work. Such institutions could attract very able students and professors by offering courses and facilities of a distinctive character. Their academic programs must be parallel so that the best students can transfer to the University, but PARALLEL should not mean IDENTICAL.

The financing of two-year institutions should come from three sources: local, provincial, and federal. Community support is important not only because of the growing costs of higher education, but also because the pride of ownership of a regional college will be an important stimulus encouraging the development of excellent institutions. In order to provide for a balanced and harmonious development within the whole provincial system of higher education and to achieve a consolidated plan for advancing our educational ideals, it is most important that responsible and effective representations be made to the Provincial Government concerning the financial support which should be given each institution. This can be done effectively through the establishment of a Grants Commission. Requests by individual institutions must be considered in terms of the overall program for higher education. Any means established should ensure the equitable distribution of funds among institutions, and at the same time ensure that the best possible use of public funds is being made by avoiding a duplication of expensive course offerings, libraries, professional schools, laboratories, and equipment for specialized teaching and research. A Grants Commission is the logical solution.

The kind of Commission I envisage would be vested with the specific responsibility of appraising the requirements of institutions and satisfying the government of the soundness of their proposals. Such a commission would be extremely useful as a senior advisory body to the Provincial Government, not only for immediate projects, but also for a long-range plan of continuous development of education within the Province. The presence of an informed commission, commanding public respect, would increase confidence of the government itself and of the people that every precaution has been taken prior to decision.

What about costs in the years ahead? Prediction of costs is notoriously difficult, but it is safe to say that they will continue to rise dramatically. Increased numbers of students alone, without increase in costs per student, will cause costs to rise by almost 2½ times in Canada. In addition, costs per student in Canada are expected to double by 1970. Thus, it is a safe prediction that the annual Canadian cost of higher education by 1970 will be of the order of one billion dollars. Capital costs for higher education for Canada have been estimated at one billion dollars for the next five years.

While these costs must be related to an increased population and a growing economy, there can be no doubt that the relative cost of higher education must rise. This is a national problem and requires a national solution. I suggest that the federal government will need to participate more effectively than it has been required to do in the past. I suggest, in fact, that responsibilities be divided. Provincial governments should assume the primary responsibility for undergraduate education beyond high school. The federal government should recognize the opportunity to advance our society and stimulate the economy through encouraging the advanced training which can be undertaken only in our graduate and professional schools. Thus I suggest that the federal government should assume the responsibility for graduate and professional education.

## unique seaweed collection

A UBC oceanographer has nearly a ton of seaweed which will take three years to classify following a four-month collecting expedition to the Indian Ocean.

Dr. Robert F. Scagel, professor of oceanography and a member of the department of biology and botany, says his 50,000 mile trip is probably the most extensive seaweed collecting expedition ever undertaken.

As a result, UBC will have a truly unique collection for teaching and research, including a number of new species of seaweed never described before.

Dr. Scagel's trip began last year when he received a letter from the American National Science Foundation, which is underwriting the costs of the U.S. program in biology for a three-year international oceanographic expedition to the Indian Ocean. Dr. Scagel was one of a number of foreign scientists who were invited to participate in the program.

A number of poorer nations border the Indian Ocean, Dr. Scagel points out, and because it has largely been neglected by science, it is felt that an intensive investigation may yield positive results in terms of new food sources, for example.

The whole expedition is under the sponsorship of UNESCO and will continue for a number of years. Other agencies in India, Australia and South Africa are providing funds for other projects.

In conjunction with another scientist at the University of California, Dr. Scagel worked out a collecting plan which took him from the west coast of Australia to several islands in the Indian Ocean and the full length of the Indian ocean coast of Africa.

"We have an extraordinary range of types of seaweed because of the varying environments from which we collected," says Dr. Scagel. On the Island of Mauritius in the Indian Ocean, for instance, he collected more than 130 different species in three hours in an area not much bigger than an ordinary football field.

Most of the samples were collected at low tide, but where necessary Dr. Scagel donned skin diving equipment to get inaccessible specimens.

Dr. Scagel doubts that seaweed can become an important source of food for the countries bordering on the Indian Ocean. "To start with," he says, "seaweed is low in protein, and many varieties contain carbohydrates which man cannot digest."

Seaweed has some potential as a source of agar, a gelatinous substance used in the pharmaceutical industry, but its real importance may be indirect as a food source and breeding ground for other forms of marine life, Dr. Scagel says.

He emphasizes that his collecting expedition will probably have little value when considered in isolation. "But considered in conjunction with other research which will be carried out as part of the total program, it may yield some useful results."

In short, Dr. Scagel adds, what seems unimportant today may assume very real importance tomorrow as the result of scientific investigation.

# SCHOOL CHANGES FACULTY

The University of British Columbia Senate has approved a proposal transferring the academic program of the school of physical education and recreation from the faculty of arts and science to the faculty and college of education, President John B. Macdonald has announced.

The school will retain administrative autonomy under Director Robert Osborne and continue to have its own council and budget.

Prof. Osborne said the chief reason for the changeover lies in the fact that nearly 80 per cent of the students registered in the program leading to the bachelor of physical education degree are planning to become teachers.

"The changeover," he added, "will lead to greater integration of all work concerned with physical education both in the school and the faculty and college of education." The changeover became effective on April 1, 1963.

Academic functions of the school of physical education and recreation are the bachelor of physical education program, physical education instruction for bachelor of education majors, required physical education program, voluntary intramural program, and proposed recreation and short course programs.

The academic program for the master of physical education degree will continue to be the responsibility of the school through the faculty of graduate studies.

The director of the school will be responsible for control and use of all gymnasias, playing fields, the field house, swimming pool, bowling alleys, tennis courts, and other athletic facilities.

UBC's extramural programs in such sports as football, basketball, soccer, etc., will continue to be the responsibility of the men's and women's athletic committees which will report to the board of governors through Dean Walter Gage, recently named dean of student affairs.

## extension offers programs

A ten-week series of radio programs on Canadian-American relations produced by the University of British Columbia is now available for distribution in Canada on a non-sponsored basis.

It is the first time that a radio series produced by a Canadian university has been offered for nation-wide distribution.

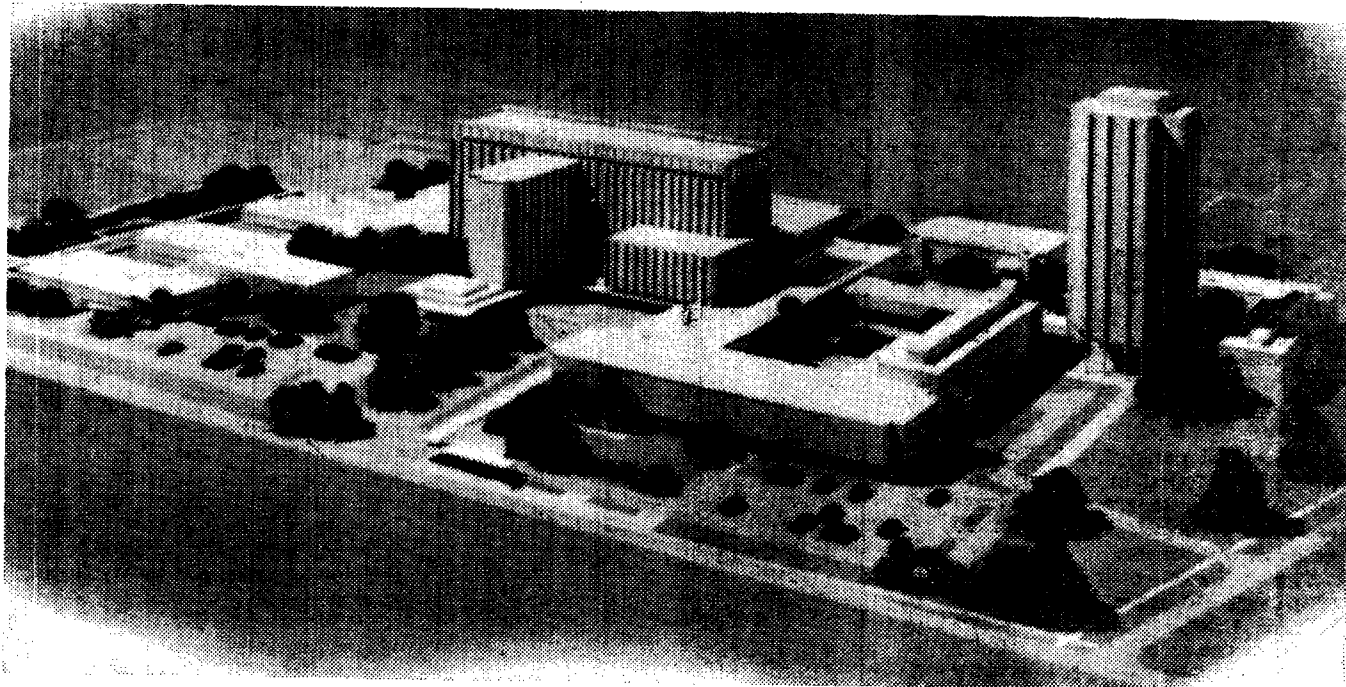
The bulk of the programs deals with current Canadian-American problems including joint policy, water rights, United States control of Canadian industries and international unions.

Specially recorded statements by Canadian and American authorities are used in the programs which were written and narrated by William McCarthy. The programs were produced by UBC on a grant from the National Association of Educational Broadcasters.

For further information contact the UBC extension department.

## U BC REPORTS

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BILL PAVING WAY for establishment of UBC's \$18 million Health Sciences Centre, shown in architect's model above, has been passed by the provincial legislature. The 410-bed hospital has been in planning for four years and construction may start within the next two years opposite the War Memorial gymnasium. The central teaching hospital is the high rise building in the centre of the picture

and the tall structure at right is for research facilities. In the right foreground is the building for the faculty of dentistry. Already in existence are three buildings for pre-clinical medical students, and the Westbrook building, which contains the school of nursing and the faculty of pharmacy.

## FOUNDATION GIFT AIDS RESEARCH

President John B. Macdonald has announced a gift of \$250,000 for the establishment of two named professorships for the study of vascular diseases in UBC's faculty of medicine.

The chairs are the gift of Mr. and Mrs. P. A. Woodward's Foundation, and bring recent contributions of the Foundation to UBC to more than half a million dollars.

The Foundation recently gave UBC \$250,000 for construction of the Woodward Library for the use of students in the bio-medical sciences. Plans for the Library are now on the drawing boards and it is hoped that tenders for its construction can be called in May.

The Foundation's gift for the establishment of the two professorships will be made at the rate of \$25,000 per year for five years for each chair. The funds will provide for the salaries of the professor and a team of assistants.

The Woodward professors will undertake investigation into the cause and treatment of diseases of the blood vessels supplying the brain, the limbs, the kidney and liver.

They will not duplicate work on the heart now proceeding in other research centres. One professor will concentrate on the approach at the basic sciences level, the other at the clinical level.

In announcing the gift President Macdonald said: "The extent of peripheral vascular disease as a crippling complaint in modern society is assuming alarming proportions when one thinks of our aging population and the ravages of arteriosclerosis to which it is heir."

He added: "The foresight of the University's friends, Mr. and Mrs. P. A. Woodward, has again been demonstrated in this very practical way. We have to provide, at Point Grey, diagnostic and treatment services of a high order for the use of all British Columbians. We hope that the Woodward benefaction will serve as an example to other citizens."

## annual meeting of Convocation

Due notice is hereby given that the annual meeting of the Convocation of the University of British Columbia will be held at the hour of 5:30 p.m. on Thursday, May 6, 1963, in the board room of the Hotel Vancouver.

The meeting of Convocation will be followed by the Alumni Association annual dinner, which begins at 6:45 p.m., and the annual meeting of the Association, which will include entertainment and a featured speaker.

## leading chemist returns

One of the world's leading chemists in the field of the electronic structure of large molecules will rejoin the department of chemistry at the University of British Columbia this year.

He is Dr. James Ferguson, 31, a member of UBC's chemistry department in 1957 and 1958, and currently a visiting research scientist at the Bell Telephone Laboratories in Murray Hill, New Jersey.

Professor C. A. McDowell, head of the UBC chemistry department, said Dr. Ferguson would rejoin the department as an associate professor on July 1, 1963.

He said Dr. Ferguson had carried out a large amount of research in the field of chemical spectroscopy which holds out great promise because of its bearing on fundamental studies in the transfer of electrons between energy levels in molecules.

Dr. McDowell added that such fundamental work has application in the industrial field in the development of semi-conductors similar to transistors, and lasers, a device for producing intense beams of non-scatterable light, which are used in space research.

Dr. Ferguson was born in Sydney, Australia, and attended the University of Sydney where he received the degrees of bachelor of science with first class honours, master of science, and doctor of philosophy.

Following graduation from the University of Sydney, Dr. Ferguson was awarded a post-doctoral fellowship by Canada's National Research Council for further work in Ottawa.

After teaching at UBC in 1957 and 1958, Dr. Ferguson returned to Australia where he was a senior research officer in the division of chemical physics of the Commonwealth Scientific and Industrial Research Organization at Melbourne.

He has been at the Bell Telephone laboratories since 1960. Dr. Ferguson is married and has three children.

## few students earn enough for expenses

University of British Columbia students earned a total of \$9,392,500 at summer jobs in 1962, according to statistics released by UBC's personnel and counselling bureau.

But only 17.1 per cent of the 13,505 students reported earnings of \$1200 or more. UBC officials cite \$1200 as the minimum figure for meeting all expenses at UBC, including room and board, for one year.

If the 13,505 students who reported summer earnings had each earned \$1200 they would have amassed a grand total of just over \$16,000,000, according to John F. McLean, director of UBC's personnel and counselling bureau.

While total and average earnings per student were generally higher in 1962 than in the previous year, Mr. McLean notes, the number of students who did not work at all or who earned less than \$200 adds up to about a quarter of the total student body.

This reflects, said Mr. McLean, the growing difficulty of students in obtaining summer employment.

Other statistics on the occupational goals of students show that more than 25 per cent of UBC's enrolment plans a career in teaching, either at the University or public and secondary school levels.

The number of students planning careers in architecture, dentistry, and the armed services has increased considerably, the report says, while the number planning to enter engineering continues to drop.

A total of 1763 students — about 13 per cent of UBC's enrolment — are married, and more than half of those married have children. 440 married students have one child, 327 have two, 166 have three, and 66 report four or more.

## grant aids committee

A \$1500 grant from the Canadian government's northern affairs department to a UBC committee has enabled a former student to obtain his PhD and furthered planning for 1963 research projects.

\$1000 of the grant to the President's Committee on Arctic and Alpine Research enabled Arthur Pearson, an MA graduate of UBC, to carry out research in Finland which led to his receiving a PhD from the University of Helsinki. He is now employed by the Canadian Wildlife Service in the Yukon.

Pearson's research project dealt with small animal populations and ecology in arctic regions.

The balance of the grant is enabling the committee to lay plans for summer expeditions to the Canadian arctic.



## digging yields results

The oldest perishable Indian artifacts ever found in western Canada have been unearthed by a team of UBC archaeologists within 20 miles of Vancouver.

The artifacts, estimated to be 2000 years old, were found by one of four UBC summer expeditions at Beach Grove, a small community on the western rim of Boundary Bay near the United States border.

Dr. Charles Borden, in charge of archaeology in UBC's department of anthropology and general director of all four expeditions, said the finds are "quite extraordinary" because of their remarkable state of preservation.

The artifacts consist of a series of stakes and wedges and what appears to be a piece of woven rush matting or a basket.

All the items were found imbedded in a moist layer of silt-like clay which sealed off the air for two thousand years or more and prevented decay. The artifacts were discovered four or five feet below the surface of the site which has now been obliterated to make way for a housing development.

The Beach Grove excavations were carried out with funds from the provincial government under the Archaeological Sites Protection Act, passed in 1960, which provides for the investigation of threatened remains.

The perishable items and other artifacts discovered on the site seem to indicate that the Beach Grove Indians were linked culturally to Indians who lived about the same time in the Marpole area within the Vancouver city limits.

A second expedition of five persons, also under Dr. Borden's general direction, came up with another exciting find at a site located 17 miles from Lillooet in the interior of B.C. This expedition was sponsored jointly by UBC and the National Museum of Canada.

The site was thought to be a likely Indian burial ground but excavations showed that graves in the area had already been looted.

At Dr. Borden's suggestion the expedition continued digging and about six feet below the burial site the archaeologists came upon a rich find of artifacts estimated to be 2000 to 3000 years old.

The most exciting discovery was a large number of items which archaeologists call "microblades." These are small pieces of basalt, a glass-like volcanic rock, measuring an inch in length and a quarter inch in width, which were placed in grooves on the side of spear points to increase cutting power.

The importance of the find, says Dr. Borden, lies in the fact that it provides another clue to the diffusion route of the technique by which the blades were made.

"The technique required to make these blades," says Dr. Borden, "is highly specialized and involves great skill. The technique is very old and originated in Eurasia and spread to the new world about 3500 B.C."

He said the chipping technique required to make the blades was one of man's most important inventions and is the starting point for the whole blade group of tools.

Archaeologists can now trace the diffusion route of the microblades from the Yukon to the mouth of the Fraser river with an off-shoot starting in the interior of B.C. and ending in the interior of the state of Oregon.

The field director of the Lillooet expedition was David Sanger, a UBC graduate who received the first master of arts degree in anthropology with specialization in archaeology at UBC's fall congregation last October.

The third expedition Dr. Borden oversaw was the excavation of an Indian pit house in the Fraser Canyon north of Hope. The pit house, measured 36 feet in diameter, was



JOHN B. THOMAS has been named the first full time director of UBC's International House. He was formerly associated with the University of Toronto's foreign student program and came to UBC from Dawson Creek where he was director of adult education.

occupied at the time Simon Fraser came down the canyon in 1808.

The pit house represents the last chapter in the history of inhabitation in that area embracing some 2900 years. From artifacts found in the area it appears that the Indians living in this locality traded with settlements far to the east or south, rather than with Indians at the mouth of the Fraser as might be expected, Dr. Borden says.

While these expeditions were proceeding with periodic visits from Dr. Borden, he was carrying out a terrain survey of the Peace River basin in preparation for intensive archaeological investigation before the basin is flooded as a result of the Peace River power development.

Dr. Borden covered more than 3000 miles in this area over the summer and plans to recommend that digging begin in the Fort McLeod area next year.

## support sought from foundations

Two new administrative appointments at the University of British Columbia have been announced by President John B. Macdonald.

They are Dr. William C. Gibson as special assistant to the president on University development, and Donald A. McRae as assistant registrar of the University.

Dr. Gibson will continue to act as director of the Kinsman Laboratory for Neurological Research and head of the department of the history of medicine and science.

His new position will be an extension of the work he has carried on for a number of years in obtaining support from large foundations for research and development at UBC, Dr. Macdonald said.

Mr. McRae, a graduate of UBC, will be responsible for registration procedures, student record management, and other business management aspects of the registrar's office, according to J. E. A. Parnall, UBC's registrar.

Mr. McRae received his bachelor of commerce degree from UBC in 1947, and has completed most of the requirements for his master of business administration degree.

He was treasurer of the Alma Mater Society at UBC in 1946 following service with the RCAF in world war two.

Since graduation he has been employed as a senior field representative for Canadian Forest Products Ltd., as general manager for Mercedes Benz Distributors Western Ltd., and laterally as branch manager for Canfor Building Products, a subsidiary of Canadian Forest Products Ltd.

## salmon raised in fresh water

Two fisheries scientists at UBC have succeeded in maturing two varieties of commercial salmon, pinks and chums, in fresh water.

"I've been writing for ten years or more that pinks and chums could not survive indefinitely in fresh water," says Dr. William Hoar, professor of zoology and fisheries. "Now I have to eat my own words."

Not only have the pink salmon completed their normal life cycle in fresh water but half of them have spawned and a second generation of pinks is now on its way to maturity.

Dr. Hoar and PhD student John McInerney began the experiment in the fall of 1960 when pink salmon eggs were obtained from the Skeena river system and chum eggs from Cultus Lake.

The tiny fish, when hatched, were fed a special diet of commercial trout food three times a day in open pools beside the biological sciences building.

The special diet and the near natural surroundings are probably the two factors which kept the fish alive, says Dr. Hoar. "Normally, a fish which is placed in unnatural surroundings quickly becomes disturbed and refuses to eat," he says.

There are notable differences between the captive pink and the chum salmon as compared to those existing in the wild state. The captive pinks, for instance, average a pound in weight and a foot in length, whereas a wild pink averages three to four pounds and usually grows to two and a half feet in length.

The same applies to the chum. Wild chum average nine to 11 pounds and grow to more than three feet in length. UBC's fresh water variety to date weigh less than a pound and are about a foot in length. No attempt has been made as yet to realize their full growth potential in captivity.

The pinks, which have a very precise two-year life cycle, were closely watched last fall when the spawning period approached. To the scientist's surprise half of them spawned, and Dr. Hoar hopes the balance will do the same thing this coming fall.

"In any case we have three-year-old pinks swimming around in our tanks," he says, "and that means we have a pretty rare animal on our hands."

The chum salmon normally have a three-year life cycle which will be completed this fall.

Dr. Hoar and Mr. McInerney are more concerned with an understanding of the biology of the species than the possible commercial applications of their research. They thought their rearing methods might have some applications in the trout farming industry. The value to sports fishing can not be overlooked either.

"The most important thing for us," says Mr. McInerney, "is the fact that we can take the fish through its entire life cycle in captivity. And that makes it an invaluable aid to research in all fields of fish science."

## gift to buy books on law

Mr. Alfred Blundell, a retired British lawyer now living in Vancouver, has made a donation of \$1500 to the UBC Library to add to its Slavonic Studies collection.

The gift will be used to purchase books and other research material relating to the law in the U.S.S.R. and the Slavonic countries of eastern Europe.

Dr. James St. Clair-Sobell, head of UBC's Slavonic Studies department, said the gift will inaugurate what is believed to be the first specialized collection in Canada on law in Slavonic countries.

"This valuable donation," he added, "will enable the University to make an important and wanted addition to its already substantial Slavonic Studies collection."

## expert views library

The University of British Columbia has one of the three best libraries in Canada for research in the humanities and social sciences.

This is apparent from the report of Edwin E. Williams, of the Harvard University library, who has just completed a survey of the resources of 14 Canadian universities for research in the humanities and social sciences for the National Conference of Canadian Universities and Colleges.

Dr. James Ranz, UBC's librarian, said it is clear from the report that library resources in Canadian universities for research in these two areas are inadequate, but UBC has the second best collection, behind Toronto and slightly better than McGill.

The two areas where UBC was found to be strongest was in Asian studies and Slavonic studies.

Toronto has the best collection of books on the Ukraine, the report states, but UBC has a superior collection on linguistics.

UBC and Toronto are again neck and neck in Asian studies, but UBC appears to be the stronger of the two in history, the report says.

The cornerstone of UBC's Asian studies collection lies in the Chinese library acquired for UBC by the Friends of the Library in 1959.

As a result, the report says, "UBC must be credited with excellent materials for research on the literature of South China, especially Kwangtung, and with valuable holdings in the classics."

UBC, the report says, has done "a remarkable job" in building up its collection of learned journals, adding considerably more than any other Canadian university since 1941.

"This has taken money," the report adds, "but it is also evidence of outstanding work done by the head of the serials division (Mr. Ronald Lanning), whose responsibilities include acquisition and, in collaboration with the faculty, selection of serials."

Summing up, the report says: "British Columbia may now be ahead of Toronto in East European history and sociology; it is substantially ahead in Commonwealth history; and it has reached the level of advanced graduate work in psychology, philosophy, Greek history, economics, political science and English literature."

The report covered the humanities and social sciences only and within these fields, Canadian material was excluded because university libraries are relatively strong in these areas. Research collections in the sciences were also excluded.

## UBC makes survey of libraries

The University of British Columbia has received a grant from the provincial Public Library Commission to conduct a study which will make recommendations about future development of public libraries in B.C.

An initial grant of \$3000 has been made to begin the study, which will be directed by Miss Rose Vainstein, associate professor in UBC's school of librarianship.

Miss Vainstein will visit all of B.C.'s 65 public libraries in conducting the study, which will take 18 months to complete.

Dr. Samuel Rothstein, head of UBC's school of librarianship, said the main purpose of the study is to look to the future and to propose more effective ways of making library services available on a province-wide basis.

The provincial government is underwriting the costs of the study through the provincial Public Library Commission.