

'Very thorough' talks on research park continue

UBC is still involved in "amicable but very thorough" negotiations with Discovery Parks Inc. (DPI) for a research park on campus, UBC president Dr. Douglas Kenny said this week following a Jan. 24 public information meeting.

The meeting in the Student Union Building, sponsored by the Student Representative Assembly's research park committee, was attended by an audience of about 100 and lasted almost three hours. Those attending appeared to be evenly divided between those supporting the research park concept and those opposed.

The concept of a research park at UBC was raised in 1977, and the University offered land to the provincial government for this purpose in 1978. Direct negotiations for a specific 58-acre site on the southeast corner of the campus began last year.

Discovery Parks on five sites

The provincial government has announced that Discovery Parks, or high-technology research areas, will be established at five locations, including UBC. The other sites are at Simon Fraser University, the University of Victoria, near the B.C. Institute of Technology in Burnaby, and at the Institute of Ocean Sciences at Patricia Bay on Vancouver Island.

President Kenny and Don Larsen, the president of Discovery Parks Inc., took part in the Jan. 24 public meeting, which began with a statement by President Kenny, who described the history of the proposal and listed the conditions the University is insisting on in its negotiations with DPI. (A lengthy question period, summarized on page 2, followed opening statements by President Kenny and Mr. Larsen.)

In his opening statement President Kenny said no official group has indicated its opposition to the establishment of a Discovery Park at UBC, adding that it is "very understandable" that individuals may be concerned about the proposal.

He told the meeting that any research conducted at Discovery Park UBC must be related to University interests and expertise and that on-going involvement of faculty and students with research park tenants must be guaranteed.

He emphasized that Discovery Park tenants must meet University standards (laid down by provincial and national regulatory and funding agencies) with respect to environmental and pollution control, biological and radiation hazards, fire protection and the care of experimental animals. Park tenants will have to meet "the same conditions that must be met by any individual researcher or group of researchers at the University," the president said.

Some research to be prohibited

The University is also insisting that there be no manufacturing at the UBC development, beyond taking a project to the pilot-plant stage, and that secrecy in research must not go beyond protection of proprietary interests.

President Kenny stated categorically that there would be no nuclear-weapons or nuclear-power research permitted on the UBC site, nor would there be bacterial research. "That kind of research does not take place at this University and it's undoubtedly not going to take place at Discovery Park," he emphasized. Mr. Larsen agreed.

He said that for many years various outside research agencies had occupied UBC land for research purposes, including three federal government laboratories on Southwest Marine Drive; B.C. Research, an applied research organization that will occupy 12 of the 58 acres of the proposed research park; and TRIUMF, a facility for pure research into the fundamental nature of the atom operated by four western Canadian universities, including UBC.

Elaborating on the work of TRIUMF following the meeting, President Kenny said it is not a nuclear reactor and that it is a user and not a producer of power. TRIUMF, he added, is a cyclotron that produces minuscule amounts of radioactivity: "It produces virtually no waste products, radioactive or otherwise," he said, "and is turned off and on with the flick of a switch."

Medical spinoffs at TRIUMF

The president added that quite apart from pure research, TRIUMF has developed two practical spinoffs, both related to advances in medicine. "It is expected that sub-atomic particles produced by the machine will be more effective in killing cancerous tumors than x-rays or other conventional radiation sources," he said, "and new kinds of isotopes widely used to diagnose diseases are being manufactured at TRIUMF and shipped to hospitals in Canada and abroad."

President Kenny said "a certain amount of nonsense" had been written to the effect that Discovery Park would be controlled by business people. He said a large number of those who sit on the board of management of Discovery Foundation come from universities.

"Related to that," he continued, "is the concern that multinational corporations are going to manipulate this province and this University. That's no more going to take place in the future than it has up to this juncture (in) the research activities on this campus."

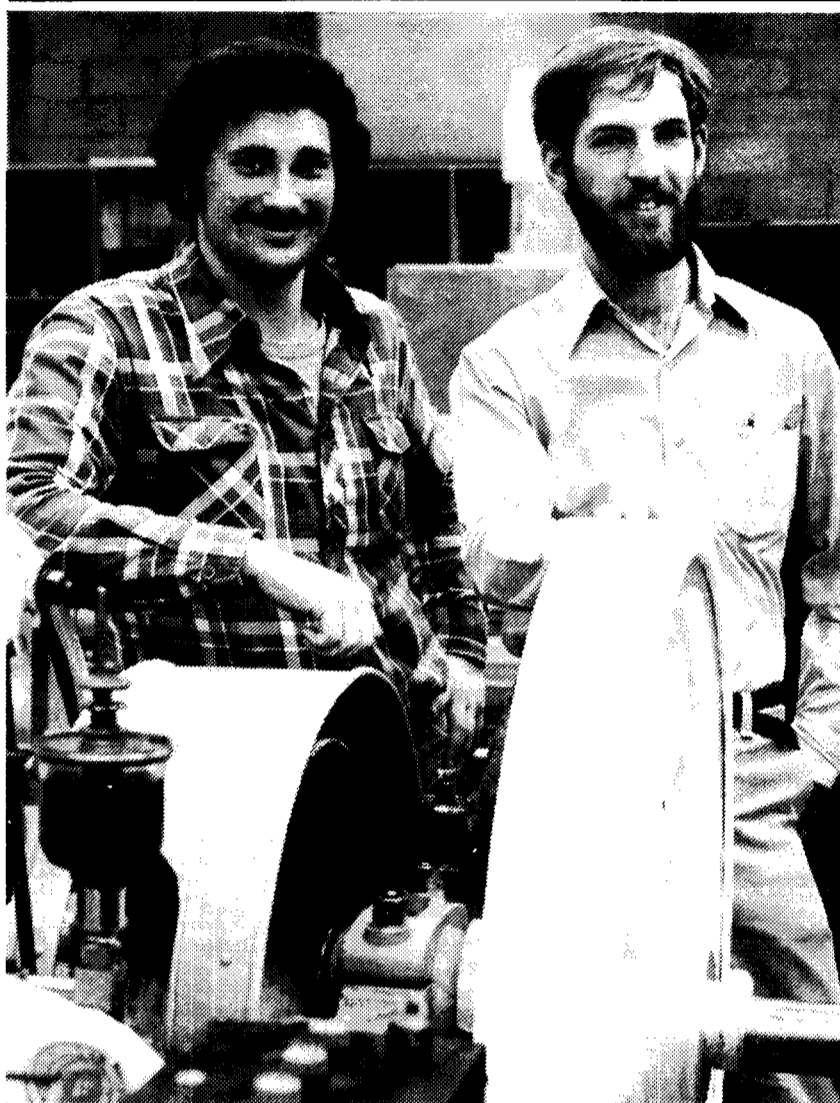
Later in the meeting, President Kenny said the basic function of Discovery Parks was to try to "mesh business, government and industry so that at long last in this country people can work

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UBC reports

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Applied Science students John Pellizzon, left, and Anthony Dickinson attended their first UBC Board of Governors meeting yesterday (Tuesday, Feb. 5) following their election by students on Jan. 22. Dickinson, a fourth-year civil engineering student who plans to return to UBC for graduate work in September, and Pellizzon, a third-year mechanical engineer, won election handily in a field of five candidates. They will serve on the 15-member UBC Board for one year.

Funds okayed for start on erosion-control plan

The University of B.C.'s Board of Governors has approved the expenditure of \$153,000 to carry out the first phase of a UBC-developed plan to control erosion of the Point Grey cliffs below the campus.

The funding was approved by the Board at its February meeting on Tuesday (Feb. 5) after it was told that the Universities Council of B.C. had approved the project in principle only and had informed the University that it was unable to provide any special funding for the erosion-control plan.

C.J. Connaghan, UBC's vice-president for administrative services, said the University's public works budget would provide funds for the first phase of the program.

He said the \$153,000 allocation had been arrived at by rearranging priorities and postponing some work which the University had planned to carry out in the current fiscal year.

The first phase of the project, outlined in a report prepared for the Board of Governors, calls for:

- Removal of all root-damaged and dangerously located trees from the edge of the cliff to prevent falling

trees from stripping the protective soil mantle from the cliffs;

- Erection of protective fences to
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New schedule

The annual spring break (Feb. 21 and 22) and the upcoming open house in UBC's Health Sciences Centre will result in a change in the publishing schedule for *UBC Reports*.

Normally, you'd find the next edition of your favorite campus newspaper available on Feb. 20, the day before the mid-term break begins. This month we'll appear on Feb. 27 instead. And our March publishing schedule will provide for a special issue on March 12 to serve as a guide to the Health Sciences Centre open house and a month-end edition on the 26th.

In the intervening weeks, of course, we'll continue to publish "UBCalendar" for distribution on the campus.

Best ideas from other research parks adopted

Continued from page 1
together."

In his opening statement and in subsequent remarks to the meeting, Mr. Larsen said all the major research parks in North America had been visited in order to extract from each the best possible conditions and arrangements for adaptation to B.C.'s needs.

He said plans involve clustering the buildings on the UBC site in a central, campus-like setting and the preservation of as much of the landscape as possible. Firms building in the park will be required to provide underground parking.

In addition to individual buildings to be constructed by larger firms, Mr. Larsen said plans call for a multi-tenant building to accommodate smaller users and which would include amenities such as a cafeteria, meeting rooms and computer terminals common to all park users.

"We are trying to provide an environment," he said, "that will attract research organizations from out of the province and the country...and through the multi-tenant facility we are trying to stimulate companies to stay in B.C., start a company and become good corporate citizens."

Prof. John Dennison of UBC's Faculty of Education, representing the University Endowment Lands Ratepayers' Association, told the meeting there had been some initial concern that Discovery Park would occupy a site on the Endowment Lands.

He said the group was now satisfied, as a result of announcements by the provincial government, that the development would not encroach on the lands. "So far as the effects of the research on residents (of the UEL)," he added, "we trust to the good sense

and responsible control of the University.

"We are satisfied with the kind of control that comes from the University (and) we recognize the benefits, real and potential, that can accrue from this kind of park and the high priority that must be given to research," Prof. Dennison said.

UBC graduate Tom Shandel said that as a resident of Point Grey he was concerned with the changing activities at UBC that would affect life in the

area. "My concern has to do with the standards of monitoring the safety conditions on this campus" and what was coming in and out of UBC along the limited number of traffic corridors leading from the campus to the city.

He said the relationship between UBC and DPI should be one that would enable the public to not only know that their interests were being looked after but to be able to see that those interests were being looked

after. "We're saying: make it apparent how these operations are being monitored, how our interests are being served," he said.

A member of the executive of the Engineering Undergraduate Society told the meeting his organization has approved a motion supporting the research park provided that the park was located entirely on UBC land, that the environment of the site was retained and that companies be required to vacate sites in the research park after completion of experimental programs.

The EUS representative, responding to a question from President Kenny, said the idea behind the provision requiring firms to leave the park after completing research was designed to prevent stagnation by bringing new firms with new ideas into the park.

An unidentified member of the audience said that research and development funding springs from the benefit the University imparts to the community about it. "The park," he said, "should provide a vehicle for the fruits of R&D done at the University to reach their way into the community (resulting in) a symbiotic relationship that would...strengthen the University both in terms of funding and...activity so as to make Canada more independent from the United States."

He suggested an innovation centre that would bring together entrepreneurs, capital ventures, small manufacturers and people who otherwise would not be able to start a business.

President Kenny said UBC had applied for funds to build an innovation centre but the federal government had chosen another location for the development.



Model by Russell Vandiver Architects shows how Discovery Park buildings would be clustered in centre of site and surrounded by green belt.

Questions and answers about UBC Discovery Park

What follows is a summary of the question-and-answer period during the public information meeting on Discovery Park held Jan. 24. In some cases related questions, asked at different times during the meeting, are grouped together with the answers from UBC President Douglas Kenny and Donald Larsen, president of Discovery Parks Inc.

Q: What companies will occupy buildings in Discovery Park UBC?

DR. KENNY: We don't know yet. All we're doing at this point is negotiating the conditions under which we will lease land to Discovery Foundation. When that agreement is signed, a board of management for the UBC park will be formed and one of its primary functions will be to draw up criteria under which companies may be recommended as tenants to the University's Board of Governors.

MR. LARSEN: We don't have a single company that will identify itself as being interested in the UBC park. At our other sites we do have companies in the fields of telecommunications, electronics and forestry who are interested and with whom we're negotiating.

Q: What is Discovery Foundation and how much money has gone into it to date?

MR. LARSEN: Discovery Foundation is a society registered under the Societies Act of B.C. to act as the entrepreneurial arm of government to promote and develop and encourage applied research in B.C. In September, 1979, the provincial government gave Discovery Foundation \$3 million out of a special surplus appropriation fund passed by the legislature in the spring of 1979.

Discovery Parks Inc., which was a wholly-owned subsidiary of the B.C.

Development Corporation, has now been purchased by Discovery Foundation so that it is separate from the corporation, because we don't want government interference in the development.

The foundation has a board of directors of ten people — five from academia and five from business. I think that's a very fair balance.

Q: Why are they (the companies with representatives on the board of directors of Discovery Foundation) using public funds to subsidize their interest in the parks?

MR. LARSEN: The inference is that companies represented on the board of Discovery Foundation are being subsidized. That's absolutely bunko. It's simply not possible for them to do that. Neither the universities nor the firms represented on the board are receiving any subsidy for their individual university or firm.

DR. KENNY: Discovery Foundation is incorporated under the Societies Act and the first clause stating its purpose says it will "operate without profit to its members as a charitable institution for the benefit of the people of British Columbia, and in particular for the benefit of universities, the provincial institutes and the Science Council for the purposes hereinafter set forth..." In other words, no one is making a nickel, other than what is going back into the universities to the gain of professors and students.

Q: You say there will be no manufacturing in the parks, but at what point does a research and development operation become a manufacturing facility?

MR. LARSEN: On this (UBC) site, one of the restrictions in the agreement is that R&D will be done to the prototype stage, where you build a lit-

tle model to see how the thing works. There will be no manufacturing of the product at UBC.

At our Willingdon site (adjacent to the B.C. Institute of Technology), that is not the case. At that site, R&D will be taken through the prototype stage to the light manufacturing stage.

Q: Will future funds for research at UBC go to Discovery Park tenants and will this affect UBC's research funding?

DR. KENNY: No, it won't. Most UBC research funds are obtained by individual faculty members who submit research proposals to one of the three major granting agencies in Ottawa. There are strict conditions under which these grants are made and they can't be diverted from one project to another. It's possible that a faculty member will come up with a project that directly or indirectly involves something going on at the research park. But the money would remain under the control of the individual researcher and would be used for the purposes stated in the application for funds.

Q: Has the University considered expanding Discovery Park to include buildings located on Southwest Marine Drive (where the federal government has agriculture, forestry and fisheries research facilities)? I understand fisheries may be moving out.

DR. KENNY: The University would like to see those groups moved into Discovery Park. We are in continuous contact with the federal government on this and we have said that if fisheries does move out we would like the space. But there has been no discussion about including the buildings on Southwest Marine in Discovery Park.

Q: The transfer of 58 acres is a major land-use issue. Why was the University's land use committee not involved in the decision to transfer the 58 acres from UBC to the foundation?

DR. KENNY: The primary function of the UBC land-use committee is to deal with the location of academic buildings. We are not talking about academic buildings when we talk about Discovery Park.

Q: Can the Douglas firs on the site be preserved?

MR. LARSEN: We have taken a survey of every single tree on (the UBC site). We are preserving as much of the landscape as is possible. The buildings will be clustered together in the centre of the site so that there is a buffer zone or conservation area surrounding them. We are looking at this with our landscape architect and those trees that deserve to be will be transplanted from one area to another.

Q: If the park goes ahead, there will be serious pressure on housing and transportation. Has B.C. Hydro been contacted about service to the area?

MR. LARSEN: A research park like the one at UBC is a very slow-growth development and we don't anticipate it will be a reality overnight. An individual company considering locating at UBC would take the availability of housing into account and if it appears there are difficulties they might well choose a different location.

We are carrying out an environmental impact study on the site and the question of transportation and bus access is part of it. We have a firm of consultants doing this but I can't say whether they have talked to B.C. Hydro specifically yet.

1980 YEP forms now available

Application forms for the provincial government's 1980 Youth Employment Program are now available in the offices of UBC's 12 faculties and at the Student Counselling and Resources Centre (formerly the Office of Student Services).

Dick Shirran, UBC's YEP administrator and director of the counselling and resources centre, said the provincial labor ministry had approved the distribution of application forms for the 1980 summer program despite the fact that the legislature had not yet met to approve a budget.

Mr. Shirran said that he hoped more students would band together this year to suggest projects to be funded under YEP. In the past, most applications for funds have come from faculty members.

Students who wish to discuss projects should contact Mr. Shirran in Ponderosa Annex F at 2008 Lower Mall or by telephone (228-4326).

He said projects suggested by students and faculty members must be related to the student's educational or career goals and contribute to the social and economic development of the province.

Pay rates for the 1980 program remain the same as last year: \$650 a month for first- and second-year students; \$700 a month for third-, fourth- and fifth-year students; and \$775 a month for students who have completed one or more years of graduate education.

YEP will operate from May 1 to Aug. 29 and positions will be created for a minimum of two months up to a maximum of four months.

Last year some 650 students took part in 354 YEP projects under a UBC fund allocation of about \$1.5 million.

Faculty members and students who submit applications should enquire at faculty offices about submission deadlines. Mr. Shirran has set a deadline of Feb. 21 for the return of completed application forms to his office.

Sorry for the inconvenience

Members of the University community will have to be patient about getting in and out of the Fraser River or R parking lot in the northwest corner of the campus during February.

Only one lane of traffic will be functioning in and out of the lot for most of this month while workmen install underground services to the Asian Centre, which is being completed at the north end of the parking lot.

UBC's traffic and security department will provide extra patrolmen to speed traffic into the lot during the morning rush hour on campus.

EROSION CONTROL Continued from page 1

prevent destructive access to the cliff slopes;

- Improvement of access trails to Wreck Beach and Tower Beach at the base of the cliffs;

- Carrying out of the first year of a five-year program of revegetation on the eroded areas of the cliff, with heavy use of fertilizer to promote growth; and

- Redesign and reconstruction of a storm-drain which carries north-campus surface water to the base of the cliff and which was identified as one cause of erosion below the UBC Museum of Anthropology.



Six of 21 scholars from the People's Republic of China currently visiting UBC under an exchange agreement with Canada got an escorted tour of the campus recently from UBC information officer Peter Thompson, fourth from left, who stopped briefly in the Woodward Library so visitors could view tapestry manufactured in China showing famed Canadian surgeon Norman Bethune operating on Chinese soldier. Tapestry was purchased for UBC by the late Dr. H.R. MacMillan. Visitors, all of whom are doing advanced work in medicine, engineering, science and pharmaceutical sciences, are, left to right: Ye Guo-Ying, Mineral Engineering; Wei Chi-Ho, Metallurgy; Lin Hao-Ren, Zoology; Chen Zhu-Chang, Civil Engineering; Qin Yu-Hui, Cancer Research; and Li Bo-Cheng, Oceanography. Details on how B.C. academics can participate in the exchange program appear below.

B.C. academics offered visitor posts in China

British Columbia academics will have the opportunity of spending up to one year in China, Dr. Pat McGeer, minister of universities, science and communications has announced.

The ministry of education of the People's Republic of China has invited the province to identify outstanding B.C. academics who would be willing to spend periods of from one month to one year as visiting professors in Chinese universities.

The aim of the program is to familiarize Chinese academics with recent developments in various disciplines, particularly in engineering, science, medicine and professional fields. The visits would supplement the program which is now in progress where some 200 mid-career Chinese scholars have come to Canadian

universities for updating in their academic fields. UBC is hosting 21 Chinese academics.

The Chinese government will provide living and travel expenses in China for selected visiting B.C. professors. The province, the university and the candidate will be responsible for travel to and from China and for continuing salary and benefits.

Applications should include a curriculum vitae, a statement of specialized fields for which lectures and seminars will be offered, and dates over the next three years in which the candidate will be available. Submissions should be mailed to the British Columbia/PRC Academic Exchange Program, c/o Universities Council of B.C., #500 - 805 West Broadway, Vancouver, B.C. V5Z 1K1. Deadline for initial applications is March 1.

UBC hosts Canada West swim championships

About 100 swimmers and divers from six western Canadian universities will compete in the three-day Canada West swimming championships at UBC's Aquatic Centre Feb. 14-16.

UBC swimming coach Jack Kelso has high hopes that UBC will win the meet and represent western universities at the national intercollegiate championships scheduled for March 6-8 at Laval University in Quebec City. He said an especially strong men's and women's diving team should give UBC the edge in the western Canada meet.

In addition to UBC, universities competing here will be Victoria, Alberta, Calgary, Manitoba and Lakehead University in Thunder Bay.

Swimming events in the Canada West meet get underway on Feb. 14 at 1:00 p.m. with finals at 7:00 p.m. The following day diving competition from the one-metre board begins at 8:45

a.m. with finals at 3:00 p.m. Swimming heats on Feb. 15 begin at 11:15 a.m. with finals at 7:00 p.m.

Competition in diving from the three-metre board and swimming events on Feb. 16 follow the same time schedule as Feb. 15.

Fund will benefit

UBC's Frank Gnuv Memorial Scholarship Fund will be the big winner when friends and colleagues of Eric Whitehead gather in the Devonshire Hotel Feb. 26 to mark the retirement of *The Province* sports columnist.

Net proceeds of the event will go to the Gnuv fund, which provides awards to deserving students entering UBC for the first time. Tickets, at \$35 each or \$280 for a table of eight, can be reserved by calling 731-4631.

Home Ec unit gets approval

The Universities Council of B.C. has given UBC the green light to call tenders for a new \$5 million building to house the School of Home Economics.

The new building will be constructed on the East Mall opposite the new Library Processing Centre. It will have four floors — one below ground and three above — and include 55,000 square feet of space.

Four classrooms will be included in the building's basement floor while the rest of the building will be made up of offices for faculty members and laboratories.

Architects for the project are Dalla-Lana Griffin. Expected completion date is June, 1981.

Also ready to go to tender is a new four-building development for the Department of Poultry Science to be constructed on UBC's south campus to the north of the existing Dairy Cattle Teaching and Research Unit.

The new buildings, which will cost a total of \$1.1 million, will replace poultry and quail units now located on Agronomy Road adjacent to the Electrical Engineering Building.

In preparation are plans for a new building to house the Department of Psychology, which will be constructed at the corner of the West Mall and University Boulevard.

No change in 1979 pass rate

The pass rate in the English composition examination for first-year students at the University of British Columbia was the same this Christmas as it was a year ago, according to the chairman of English 100, Dr. Andrew Parkin.

"Of the 3,164 students who wrote the exam, 1,727 passed and 1,437 failed," Dr. Parkin said. "That is a pass rate of 55 per cent, the same as it was last year."

He predicted an end-of-term English 100 rate of about 80 to 85 per cent, the same as usual.

The UBC Department of English is not offering remedial English classes this year. Students expected to have trouble with English composition were advised in September to enrol in composition workshops, at their own expense, at the Centre for Continuing Education.

"It's really too soon to try to place any significance on this year's Christmas composition exam," Dr. Parkin said. "But I think it is important that the English department is no longer teaching high school English. If they know they will have to pay extra for remedial English at UBC, I think many high school students may work a little harder along the way."

He said about 200 students took the Continuing Education workshops in the first term.

Brochures ready

Brochures outlining qualifications for the annual \$50,000 Royal Bank Award are available in the offices of UBC faculties, departments and schools. The award is made to a Canadian or resident of Canada who has made a major contribution to human welfare and the common good.

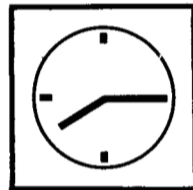
UBC's chancellor, Hon. J.V. Clyne, chairs the seven-member selection committee which screens applications and chooses the recipient of the award.

UBC Calendar

UBC CALENDAR DEADLINES

Events in the week of:
 Feb. 17 to Feb. 23 Deadline is 5 p.m. Feb. 7.
 Feb. 24 to March 1 Deadline is 5 p.m. Feb. 14
 Send notices to Information Services, 6328 Memorial Road (Old Administration Building) Campus. Further information is available at 228-3131.

THE VANCOUVER INSTITUTE



SATURDAY, FEB. 9
 Prof. Eli Mandel, English and Humanities, York University, on *A Poet's World: Readings and Comments.*

SATURDAY, FEB. 16
 Michael H. Wilson, physicist, musician and social worker, Stourbridge, England, on *Color Perception.*
 Both lectures at 8:15 p.m., Lecture Hall 2, Woodward Instructional Resources Centre.

SUNDAY, FEB. 10

- 1:30 p.m. **USES OF THE CEDAR TREE.** Northwest Coast Indian students present a program on the many traditional uses of the cedar tree. This program is repeated at 2:30 p.m. Museum, 6393 Northwest Marine Dr.
- 3:00 p.m. **LES JEUNES SOLISTES DE MONTREAL,** an internationally acclaimed string and wind group, performs in the Museum, 6393 Northwest Marine Dr.
- 8:00 p.m. **SCHOLARSHIP RECITAL.** Robert Silverman, piano, performs *Music of Brahms, Ravel, Chopin and Rachmaninoff.* Recital Hall, Music Building. Tickets, \$5; students and seniors, \$3, available from the UBC Music department or the Vancouver Academy of Music.

MONDAY, FEB. 11

- 12 noon **CANCER RESEARCH SEMINAR.** Dr. M. Ashwood-Smith, Biology, University of Victoria, on *Photobiological Effects of Furocoumarins With Special Reference to the Lethal, Mutagenic and Plastogenic Properties of 5-Methoxypsoralin, A Substance Widely Used in Some European Suntan Preparations.* Lecture Theatre, B.C. Cancer Research Centre, 601 W. 10th Ave.
- 12:30 p.m. **HISTORY LECTURE.** Prof. Bela K. Kiraly, director, Program on Social Change, City University of New York, on *War and Society in Modern Europe: East and West.* Room 320, Buchanan Building.
- 3:30 p.m. **APPLIED MATHEMATICS SEMINAR.** Dr. John Rinzal, professor, National Institutes of Health, Bethesda, Md., on *Onset and Annihilation of Repetitive Nerve Firing: Theory and Experiment.* Room 203, Mathematics Building.
- OCEANOGRAPHY SEMINAR.** Dr. John A. Johnson, School of Mathematics and Physics, University of East Anglia, England, on *Models of Long-Shore Currents in Upwelling Regions.* Room 1465, west wing, Biological Sciences Building.
- MANAGEMENT SCIENCE SEMINAR.** Prof. C.B. Weinberg, Commerce, UBC, on *Systems for Sales Territory: Definition and Account Assignment.* Room 512, Angus Building.
- 4:00 p.m. **BIOCHEMISTRY SEMINAR.** Daniel St. Louis, Biochemistry, UBC, on *The Expression of Drosophila rRNA Genes in vitro.* Lecture Hall 3, Woodward Instructional Resources Centre.
- ASTRONOMY SEMINAR.** Prof. K.V. Apparao, Tata Institute of Fundamental Research, Bombay, India, on *New Results From the Einstein Observatory.* Room 318, Hennings Building.
- 4:30 p.m. **ZOOLOGY/PHYSIOLOGY SEMINAR.** Dr. Diane Van Alstyne, Paediatrics, UBC, on *Persistent Rubella Virus Infection in Rat Brain.* Room 2449, Biological Sciences Building.
- 7:30 p.m. **CHEMICAL INSTITUTE OF CANADA.** Dr. Carl Djerassi, Chemistry, Stanford University, Calif., and a pioneer in the development of oral contraceptives, on *The Politics of Contraception.* Cecil Green Park. Tickets, \$2, in advance from Room 257, Chemistry Building.

TUESDAY, FEB. 12

- 12 noon **MONEY TALKS,** a series of free noon-hour lectures presented by UBC's Centre for Continuing Education. The fourth in this series is *Planning for Retirement,* with Jim Rogers, insurance consultant/broker. Robson Square Media Centre, 800 Hornby St., downtown Vancouver.
- 12:30 p.m. **GAY WEEK 1980.** Vancouver lawyer Diane Davison, who worked on the *Gay Tide v. The Vancouver Sun* case, will speak in Room 187, Law Building.
- ANTHROPOLOGY AND SOCIOLOGY LECTURE.** Prof. Donald Grayson, Anthropology, University of Washington, Seattle, on *A Critical Look at the Use of Archeological Vertebrates in Paleo Environmental Analysis.* Room 207, Anthropology and Sociology Building.
- FREESEE FILM SERIES** presents a six-part series on Civilization with Kenneth Clark. This week's film is *The Fallacies of Hope.* Auditorium, Student Union Building. Free.
- BOTANY SEMINAR.** Richard Gornall, Botany, UBC, on *Generic Limits in Boykinia Group of Genera.* Room 3219, Biological Sciences Building.
- LAW STUDENTS ASSOCIATION Film Committee** presents *War Game,* Peter Watkins' 1968 film that the BBC refused to show. Rooms 101/102, Law Building.
- ACADEMIC WOMEN'S ASSOCIATION** discussion on *Critical Issues.* Penthouse, Buchanan Building.
- ASIAN RESEARCH LECTURE.** Dr. Benedict R. Stavis, Agricultural Economics, Michigan State University, on *Contemporary Problems and Strategies in Rural Development in China.* Room 106, Buchanan Building.

TUESDAY, FEB. 12 (Continued)

- 1:30 p.m. **ELECTRICAL ENGINEERING SEMINAR.** Dr. D. VanDommelen, Katholieke Universiteit, Leuven, on *Safety Considerations in Electrical Distribution.* Room 402, MacLeod Building.
- 3:30 p.m. **OCEANOGRAPHY SEMINAR.** Dr. D. Mackas, Institute of Ocean Sciences, Sidney, B.C., on *Plankton Distribution Off Vancouver Island - Effects of Juan de Fuca Estuarine Circulation.* Room 1465, west wing, Biological Sciences Building.
- 4:30 p.m. **CHEMISTRY COLLOQUIUM.** Dr. Carl Djerassi, Chemistry, Stanford University, on *Structure and Possible Biological Function of Novel Marine Steroids.* Room 250, Chemistry Building.
- 7:00 p.m. **HAMLET ON FILM.** The Olivier version of *Hamlet,* sponsored by the English department and the Undergraduate Film Society. Auditorium, Student Union Building. Admission, \$1. There will be a second showing at 9:30 p.m.
- 7:30 p.m. **GAMES NIGHT** at the Coffeeplace, International House.
- DIALOGUES IN DEVELOPMENT.** CUSO presents *Food and Health* with resource person Prof. Indrajit Desai, Human Nutrition, UBC. Upper Lounge, International House.
- 8:00 p.m. **AMS SPEAKERS FORUM** presents Peter C. Newman. Ballroom, Student Union Building.

WEDNESDAY, FEB. 13

- 12 noon **ENERGY LECTURE SERIES,** sponsored by UBC's Centre for Continuing Education and the B.C. Ministry of Energy, Mines and Petroleum Resources. Prof. John Helliwell, Economics, UBC, starts the series with *Energy Issues in British Columbia.* Theatre, Robson Square Media Centre.
- PHARMACOLOGY SEMINAR.** Dr. Kenneth M. Leighton, Anaesthesia and Pharmacology, UBC, on *Sabbatical Experience in Linkoping, Sweden.* Room 114, Block C, Medical Sciences Building.
- 12:30 p.m. **GAY WEEK 1980** presents documentary films in the Auditorium, Student Union Building.
- NOON-HOUR CONCERT.** Martin Hackleman, French horn, and Anthony Elliot, cello, perform *Music of Weisgarber.* Recital Hall, Music Building.
- HABITAT LECTURE** on *Ghana's Settlement System: Can It Be Planned for Comprehensive Development?* with Prof. P. Austin Tetteh, Visiting Scholar-in-Residence, UBC Centre for Human Settlements, on *Professional Education and Training for Planning, for Development.* Room 107, Lasserre Building.
- WOMEN'S WEEK 1980** presents the film *We Will Not Be Beaten.* Rooms 101/102, Law Building.
- HISTORY LECTURE.** Prof. Geoffrey Parker, History, University of St. Andrew's, on *The State, the Community and the Criminal Law of Europe, 1100-1800.* Room 102, Buchanan Building.
- 2:30 p.m. **CHEMISTRY SEMINAR.** Dr. Grenfell N. Patey, NRC, Ottawa, on *Theory of Polar Liquids and Electrolyte Solutions.* Room 225, Chemistry Building.
- 3:30 p.m. **STATISTICS WORKSHOP.** Prof. H. Stauffer, Mathematics, UBC, on *Sampling for Tree Density: Estimating Sample Size Using Computer Simulation.* Room 310, Angus Building.
- GEOPHYSICS SEMINAR.** Dr. Dick Couch, Geophysics Group, Oregon State University, on *Geophysical Studies in the Oregon Cascades.* Room 260, Geophysical and Astronomy Building.
- 4:00 p.m. **ECOLOGY SEMINAR.** Dr. Ken Loftus, director, Fisheries Branch, Ministry of Natural Resources, Ontario, on *Strategic Planning for Ontario Fisheries: Past, Present and Future.* Room 2449, Biological Sciences Building.
- 4:30 p.m. **COMPARATIVE LITERATURE COLLOQUIUM.** Dr. C. Chiarenza, Hispanic and Italian Studies, UBC, on *The Word and the Image: Notes for a Semiotic of 'Narrative.'* Penthouse, Buchanan Building.
- 7:00 p.m. **HAMLET ON FILM.** The Olivier version of *Hamlet,* sponsored by the English department and the Undergraduate Film Society. Auditorium, Student Union Building. Admission, \$1. There will be a second showing at 9:30 p.m.
- 8:00 p.m. **IMMUNOLOGY SEMINAR.** Dr. John Roder, Microbiology, Queen's University, Kingston, Ont., on *Genetics and Physiological Control of Natural Killer Cells.* Salon C, Faculty Club.

EXHIBIT

Night Skies, an exhibition of the recent oil paintings of Gathie Falk, opens on Tuesday, Feb. 5, and continues until March 1. Tuesday through Saturday, 10 a.m. - 5 p.m. Fine Arts Gallery, basement, Main Library.

GRADUATE STUDENTS 1980-81

The UBC Awards Office offers a number of graduate fellowships for masters and Ph.D. students attending UBC. Further information can be obtained from the department in which you are or will be studying. The deadline for receipt of applications is Feb. 14, 1980.

FINAL ORAL EXAMINATIONS FOR THE DEGREES OF DOCTOR OF PHILOSOPHY AND DOCTOR OF EDUCATION

Listed below are scheduled final examinations for the degrees of Doctor of Philosophy and Doctor of Education at the University. Unless otherwise noted, all examinations are held in the Faculty of Graduate Studies Examination Room, General Services Administration Building.

Monday, Feb. 11, 10:00 a.m.: ANNE SCOTT, Education; *Implementing Performance Change Among Health-Care Professionals.* (Conference Room)

Tuesday, Feb. 12, 3:30 p.m.: MAXINE CHARLESWORTH, Psychology; *Interpersonal Trust: The Role of Risk in Trust Behavior.*

Friday, Feb. 15, 2:00 p.m.: YIGAL GERCHAK, Commerce and Business Administration; *Stochastic Models of Changes in Population Distribution Among Categories.*

THURSDAY, FEB. 14

- 12:30 p.m. **UBC SYMPHONY ORCHESTRA,** directed by Douglas Talney, performs *Music of Sibelius, Wagner and Chopin.* Old Auditorium.
- FOUR FACES OF IRAN.** The last in a four-part series of illustrated lectures. Dr. Hanna Kassis, Religious Studies, UBC, on *Safavid Glory: Architecture of a Mystical Theocracy.* Room 104, Lasserre Building.
- B.C. MENTAL RETARDATION INSTITUTE** Lecture. Dr. Richard Koch, medical director, Division of Medical Genetics, Children's Hospital of Los Angeles, on *Mental Retardation and the Family.* Lecture Hall 3, Woodward Instructional Resources Centre.
- GAY WEEK 1980** presents Rev. Ellen Barrett, Episcopalian Church, U.S. Co-sponsored by the Co-operative Christian Campus Ministry and the UBC Women's Centre. Party Room, Student Union Building.
- HUMAN NUTRITION RESEARCH SEMINAR.** Dr. Joanne Weinberg, Division of Human Nutrition, Home Economics, UBC, on *Iron Deficiency During Early Development in the Rat: Behavioral and Physiological Consequences.* Conference Room, Home Economics Building.
- CANADA AT MIDLIFE CRISIS** lecture series. Louis Balthazar, Laval University, on *Constitutional Options Facing Quebec.* Room 104, Buchanan Building.
- BOTANY SEMINAR.** Geoff Tomlins, Canada Centre for Remote Sensing, Ottawa, on *Applications of Satellite Data to Management of Estuarine Resources.* Room 3219, Biological Sciences Building.
- ACADEMIC WOMEN'S ASSOCIATION** session on *Critical Issues* at UBC. Penthouse, Buchanan Building. Non-members welcome.
- 1:00 p.m. **CANADA WEST UNIVERSITY SWIMMING CHAMPIONSHIPS** open with short-distance heats. Finals for these men's and women's events at 7 p.m. Meet continues Friday and Saturday. UBC Aquatic Centre.
- 2:30 p.m. **PHYSICS CONDENSED-MATTER SEMINAR.** John Fischer, University of Pennsylvania, on *Graphite Inter-calculation Compounds.* Room 318, Hennings Building.
- 4:00 p.m. **PHYSICS COLLOQUIUM.** William Krueer, Lawrence Livermore Lab., University of California, on *Prospects for Laser Fusion.* Room 201, Hennings Building.
- 4:30 p.m. **ZOOLOGY SEMINAR.** Dr. C.L. Prosser, Physiology, University of Illinois, on *Thermal Acclimation in Fresh Water Fish.* Room 2000, Biological Sciences Building.
- 7:00 p.m. **SOCCER.** UBC Thunderbirds vs. Simon Fraser University Clansmen. Empire Stadium.
- 8:00 p.m. **YOUNG ALUMNI CLUB** presents an evening of relaxing live music. Full facilities. Fourth-year and graduate students may join. Continues until 12 midnight at Cecil Green Park. Information at 228-3313.

FRIDAY, FEB. 15

- 8:45 a.m. **CANADA WEST UNIVERSITY SWIMMING CHAMPIONSHIPS** continue with preliminary men's and women's diving events on one-metre board. Diving finals begin at 3:00 p.m. Swimming heats begin at 11:15 a.m. with finals at 7:00 p.m. Continues Saturday. UBC Aquatic Centre.
- 9:00 a.m. **PEDIATRIC GRAND ROUNDS.** Dr. Koch, pediatric endocrinologist, UCLA, on *Current Strategies in Management of Galactosemia.* Lecture Hall B, Heather Pavilion, Vancouver General Hospital.
- 11:30 a.m. **DEVELOPMENTAL MEDICINE SEMINAR.** Dr. D. Quastel, Pharmacology, UBC, on *Diverse Mechanisms of Neuromuscular Blockade.* Centre for Developmental Medicine, Room 15, 811 W. 10th Ave.
- 12:30 p.m. **ORGANIZATIONAL BEHAVIOR WORKSHOP.** Prof. Craig Pinder, Commerce, UBC, on *Feedback and Control Perceptions in Cognitive Evaluation Theory.* Penthouse, Angus Building.
- LECTURE ON AGING,** sponsored by the UBC President's Committee on Gerontology. Prof. Edith McGeer, head, Neurological Sciences, UBC, on *Neurotransmitters in the Aging Brain.* Lecture Hall 3, Woodward Instructional Resources Centre.
- 1:00 p.m. **ADULT EDUCATION SEMINAR.** J. Belanger, Margaret Hanscom and Richard Darville on *Instructional Techniques in ABE.* Adult Education department, 5670 Toronto Rd.
- MEDICAL GENETICS SEMINAR.** Dr. P. MacLeod, Dr. B. McGillivray and Dr. S.L. Yong with *Clinical Case Presentations.* 4th floor conference room, Health Centre for Children, Vancouver General Hospital.
- 2:30 p.m. **GEOLOGICAL SCIENCES LECTURE.** Dr. Maureen Gallagher, Geology, University of Calgary, on *Foraminiferid Ecology: Fact and Fantasy.* Room 330A, Geological Sciences Centre.
- 3:30 p.m. **MATHEMATICS COLLOQUIUM.** Prof. B. Grunbaum, University of Washington, on *Tiling Three Space by Congruent Polyhedral: Crystallographers Over Mathematicians.* 38-20. Room 1100, Mathematics Building Annex.
- LINGUISTICS COLLOQUIUM.** Dr. Geoffrey N. O'Grady, Linguistics, University of Victoria, on *Change in Australian Languages: Pama-Nyungan Comparative Reconstruction.* Room 2225, Buchanan Building.
- CHEMICAL ENGINEERING SEMINAR.** Matthew Ohanomah on *A New Approach to Multicomponent Vapor-Liquid Isothermal Flash Calculations.* Room 206, Chemical Engineering Building.
- 8:00 p.m. **UBC SYMPHONY,** directed by Douglas Talney, performs *Music of Sibelius, Wagner and Chopin.* Old Auditorium.
- GAY WEEK 1980** and **WOMEN'S WEEK 1980** present Kate Millett, noted American feminist. Lecture 2, Woodward Instructional Resources Centre. Admission, \$3. A wine and cheese reception follow.
- 8:30 p.m. **BASKETBALL.** UBC Thunderbirds vs. the University of Alberta. War Memorial Gymnasium.
- CARIBBEAN NIGHT** in the Upper Lounge of International House. Members, free; non-members, 50 cents.

SATURDAY, FEB. 16

- 8:45 a.m. **CANADA WEST UNIVERSITY SWIMMING CHAMPIONSHIPS** continue with preliminary men's and women's diving events on three-metre board. Diving finals at 3:00 p.m. Swimming heats begin at 11:15 a.m. with finals at 7:00 p.m. UBC Aquatic Centre.
- 2:00 p.m. **MUSEUM OF ANTHROPOLOGY** presents a "touchable" exhibit for the visually handicapped. Participation by appointment. Call 228-5087.
- 8:30 p.m. **BASKETBALL.** UBC vs. the University of Alberta. War Memorial Gymnasium.

