SPECIAL COLLECTIONS

First moves made in plan to aid low-income students

The University of B.C. has embarked on a plan aimed at ensuring that low-income B.C. students will have enough money to cover basic expenses while studying full-time at UBC.

UBC's president, Dr. Douglas Kenny, who announced today that the Board of Governors had taken steps to implement the plan at its Feb. 6 meeting, said it was the first in a series of initiatives to improve accessibility to the University.

The Board approved a proposal to add $250,000 over the next five years to UBC bursary funds to aid low-income students. The move means that UBC will make available more than $450,000 annually from its own funds and from donors to aid low-income students or to supplement financial awards made by the B.C. Student Assistance Program.

The Board also endorsed a statement on student aid (see box for full text) issued by the presidents of UBC, the University of Victoria and Simon Fraser University following a Dec. 7 meeting with student leaders from the three universities.

Since the Dec. 7 meeting the ministry of education has responded to some of the short-range concerns expressed at the December meeting by speeding up the processing of student applications for aid and by providing more information about the assistance programs through pamphlets and brochures.

The presidents of the three universities are seeking an early meeting with ministry of education officials to discuss long-range concerns and to press for improvements in the B.C. Student Assistance Program through implementation of the recommendations made by a Universities Council of B.C. committee on student aid, approved by the Council in January, 1978.

Prof. Erich Vogt, UBC's vice-president for faculty and student affairs, said implementation of the UCBC committee's report, together with the increase in UBC bursary funds and other planned initiatives, should ensure that any B.C. student granted admission to the University would be guaranteed enough money through the government's loan-grant program and the UBC bursary program "to sustain them at a basic level throughout the year."

Under the existing regulations of the B.C. Student Assistance Program eligible students can obtain a total of $3,500 annually to pay for their education.

The plan has two interrelated components:

- The Canada Student Loan Plan, funded by the federal government and provincially administered, which provides for a repayable loan up to a maximum of $1,800 a year; and
- The B.C. Provincial Grant Program, funded by the province, which provides non-repayable grants to a maximum of $1,700 annually.

Byron Hender, director of student awards at UBC, said that roughly one-third, or more than 7,000 UBC students, annually receive support from government and UBC sources. He said awards under the B.C. government plan range from $100 up to the maximum $3,500, with the average award being in the neighborhood of $1,800.

He said single students are advised that they will need at least $3,500 to cover the costs of an eight-month UBC term if they live away from home. "That doesn't provide for a very fancy standard of living," he said, "and the annual costs are substantially higher for married and single-parent students who have children to support."

The UCBC committee on student aid made 19 recommendations to the provincial government for changes in the B.C. Student Assistance Program.

Among other things, the committee recommended:

- A stepped-up publicity campaign in B.C. high schools to acquaint students with sources of financial aid and procedures for application;
- A supplementary grant program to cover some or all of the costs of tuition and books for students deemed to be dependent under the government program and single-parent and married students who have a negative family income, are taking at least 80 per cent of a full course load and are enrolled in the first three years of post-secondary studies;
- Grants to dependent students who must leave their home towns to attend an institution to cover the cost of one trip annually between their home and place of study and loan and grant assistance to cover the cost of a second trip;
- Expansion of the provincial grants program to include part-time students and graduate students;
- Waiving of a portion of the required student contribution to the cost of his or her education where projected net earnings are inadequate; and
- Streamlining of existing procedures for processing award applications.

Statement

On Dec. 7, 1978, the presidents of the three B.C. universities — Douglas Kenny, UBC; Dan Birch, acting president, SFU; and Howard Petch, UVic — met at UBC with student leaders from the three universities. Here is the full text of the statement issued by the three presidents following the meeting.

"The presidents of the three British Columbia universities are concerned about the need to improve the student-aid program of the province and to develop programs aimed at improving accessibility to post-secondary education for students from all sectors of the community.

"In particular, it is important to improve rapidly the program of student grants and loans administered by the provincial government. The presidents regret the failure of the provincial government to make use of all the funds it allocated for this purpose.

"In improving student aid programs, the provincial government should consider the implementation of the recommendations about such improvements made in the recent report of the Universities Council of British Columbia.

"The three university presidents will be seeking a meeting with Ministry of Education officials on this question of student aid."

UBC reports

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Education 'myths' attacked

UBC president Douglas Kenny said last week that it is "pure nonsense" to suggest that higher education is a waste of money because there are no jobs for university graduates.

In a speech dealing with a number of what he labelled "myths about higher education," Dr. Kenny told a service club luncheon (Vancouver Kiwanis Club) that the unemployment rate for university graduates in Canada is currently 3.4 per cent.

He said the rate for high school dropouts is 9.4 per cent, for high school graduates 9 per cent, and for holders of diplomas or certificates from community colleges or technical institutions the rate is 5.2 per cent.

"Now it goes against my grain to suggest that people should be going to university just for job security," Dr. Kenny said. "But it bothers me even more when I read or hear reports which suggest that we are throwing our money away educating young people today because they won't be able to get a job when they finish school. This is pure nonsense and it is a myth which we should lay to rest here and now."

Dr. Kenny also said that the true role of a university should be to prepare people to go to work, not simply to prepare them for a job.

"I submit there is a big difference between the two," he said.

"It is important to understand that the basic yardstick by which we measure the effectiveness of a university is not by its degree of success as a vocational college, but by the quality of its graduates and their approach to life and its problems.

"In a world where knowledge is doubling every 10 years we must be educating people who have the capability to cope with complexity, and to find new ways to make all our lives better."

Despite this need for what he termed "thinkers," Dr. Kenny pointed out that 60 per cent of UBC's

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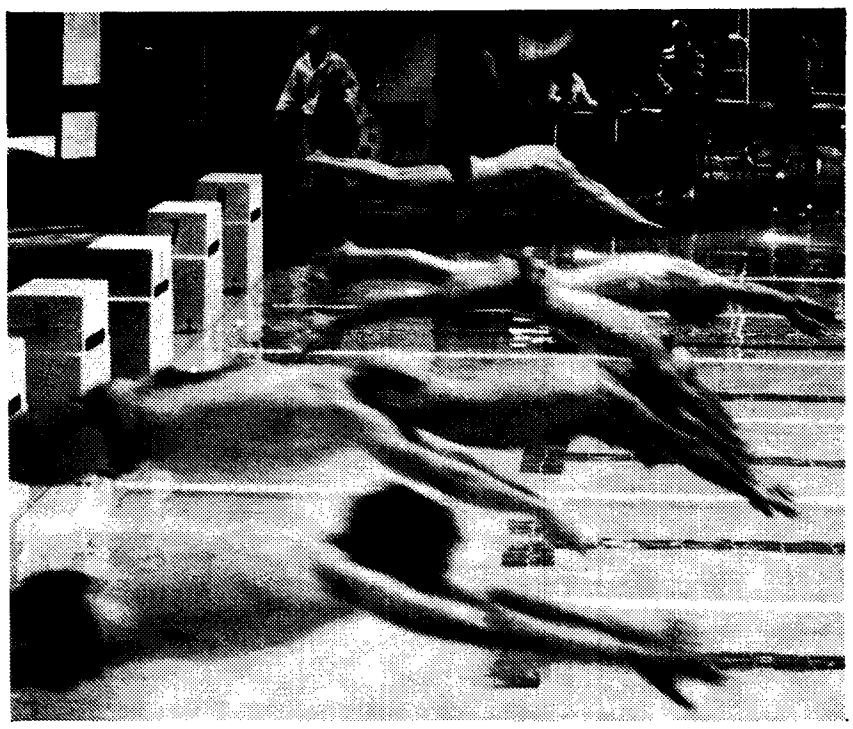

Jim Banham photo

There'll be swimming action galore beginning tomorrow (Thursday) and continuing through Saturday at campus Aquatic Centre as UBC hosts the Canada West swimming championships. Events begin Thursday at 1 p.m. and at approximately 9 a.m. Friday and Saturday. Finals begin each day at 7 p.m.

Board approves heads for two UBC departments

UBC's Board of Governors has approved the appointment of new heads for the Department of Chemical Engineering and the Department of Geophysics and Astronomy at UBC.

The new head of Chemical Engineering in the Faculty of Applied Science is Canadian-born Prof. John Ross Grace, a graduate of the University of Western Ontario and currently an associate professor at McGill University in Montreal.

The new head of Geophysics and Astronomy in the Faculty of Science is Dr. Thuppalay K. Menon, professor of astrophysics at Tata Institute of Fundamental Research in Bombay, India, who is currently on a year's leave of absence doing research at the Goddard Space Flight Centre of the U.S. National Academy of Sciences in Maryland.

Dr. Grace, 36, a native of London, Ont., was awarded two medals when he graduated in engineering from the University of Western Ontario in 1965. Three years later he was awarded the degree of Doctor of Philosophy at Cambridge University in England.

He joined the chemical engineering department at McGill University in 1968. He held the position of senior industrial fellow with the National Research Council in 1974 and 1975 and has served for a number of years as a guest lecturer at the Centre for Professional Advancement in Somerville, New Jersey.

Prof. Grace will continue work on an important area of research called fluidization, which has significant industrial applications. UBC has been a leader in work in this area as a result

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Interns get to assess their skills

"A university education is not meant to be a guarantee to a job."

"Education in the arts and humanities serves to round out character and train the mind to think. It's not intended to be a meal ticket."

No doubt you've heard these sentiments expressed a hundred times or more.

But what happens to a student who comes out of four years or more of humanities education and is suddenly faced with the prospect of finding employment? Eventually, students must come to grips with what they have to offer in a job market, and how they can best sell their skills.

And in these days of under- and unemployment, people can no longer sit back and wait for positions to open up which fit their interests. They have to go looking for work.

Realizing all these trends, and feeling that those students least prepared in assessing their skills were women Arts students in their final years, the Women Students' Office began a program a year ago to attack the problem.

Over the year, the Internship Program has gained popularity and credibility, both with students and employers.

"We originally began the program for women students in fourth-year Arts," said Maryke Gilmore, who imported the idea from Sarah Lawrence College in New York where she had been director of career counselling and field work.

"We had felt that those were the students who needed the greatest help in linking their educational background with career opportunities."

However, the internship program is now open to both men and women students who are interested in getting some practical experience under their belts.

Students in the program, and there are now between 30 and 40 students involved, spend four to eight hours a week working with Vancouver businesses such as CKVU Television, the Centennial Museum, The Bay, IBM, Vancouver City Hall or the Maritime Museum. They do a variety of supervised work, perhaps involving writing or cataloguing, public relations, working on specific projects.

Ms. Gilmore screened the firms carefully before they signed up with the program, so that they understood the purpose of the internships. "I wanted to make sure that none of the students ended up answering phones and licking envelopes. I wanted to make it a real learning experience."

One English major found his background in chemistry useful when he began his internship as part of the restoration program at the Centennial Museum. Another in her final year in Political Science worked as an intern under the supervision of Alderman May Brown last year, then landed a summer job with the provincial government's Regional District Review Committee.

"One of the things the students gain is being able to see themselves in terms of other people who are in the work force. If they come out of the University cold, with no real work experience, then they have no sense of the skills that they have. With the internship program, they have a much better chance of getting a job because they come across much more confidently and they have a much better sense of what they want and how to get it," Ms. Gilmore explained.

The internships are really an implementation of the information available to students in some of the other programs sponsored by the Women Students' Office — panel discussions involving representatives from various careers, Career Counselling Workshops and individual career orientation talks.

"Students can assess their skills first through Career Counselling Workshops, then look to the internship program to put those skills into practice," said Diane Waterman, who works with Maryke Gilmore on the program.

"Trying to prevent underemployment was really my main concern when I began these programs," Ms. Gilmore added. "People choose a career from what they're familiar with, and generally the Arts students don't know what their skills are or how they could use them."

Jim Banham photo

Museum of Anthropology curator Madeline Rowan, left, dicusses "touchable" museum carving — a Haida bear — with anthropology student Cathy Berson, an intern involved in work-study program sponsored by the Women Students' Office. Ms. Berson is gathering information on how B.C. school teachers make use of the museum for teaching with the aim of compiling a pamphlet to aid other teachers. A second student intern, Melanie Fosdick, is aiding Ms. Rowan in developing braille descriptions of artifacts for blind students.

MYTHS

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academic budget is devoted to professional and vocational training — "agriculture, engineering, architecture, nursing, home economics, librarianship, social work, language translation, commerce and business administration, accounting, dentistry, teaching, forestry, law, medicine and pharmacy."

The president also cited figures from a national survey published in 1978 on the attitude of Canadians toward higher education, which showed "economic advancement" and "a more satisfying life" as the two major reasons for wanting a good education, with 42 per cent choosing the former and 41 per cent the latter.

"It does my heart good to know that for every person who sees education only as an economic stepping stone, there is another who sees education as the path to a fuller and more satisfying life," Dr. Kenny said.

He said that in British Columbia, only 24 per cent listed economic advancement as the main reason, with fully 61 per cent opting for a more satisfying life.

Dr. Kenny also spoke on what he termed the "myth of declining standards" — "the mistaken view that things are a lot easier now than they were, that today's graduates are poorly equipped and improperly trained."

Although he conceded that some students coming out of high school are weak in written English and the expression of ideas, Dr. Kenny said things are becoming increasingly difficult for students at UBC — "tougher once you get into UBC and tougher to get there in the first place."

He said a policy to raise admission standards was adopted last year and would be fully in force in 1981, making UBC's entrance requirements "probably the most stringent in the nation."

He said some Canadian universities are lowering standards as a method of luring students, but he believed public sentiment would be on the side of UBC. "It is my firm belief that what the public expects from its universities is high quality," Dr. Kenny said.

He added that although university enrolment has declined across Canada, most of the drop has taken place in eastern Canada. He said enrolment is holding steady in the west, and that total enrolment at UBC for fiscal 1978 was 31,985 students — an all-time high.

"What is decreasing in steady terms, however," Dr. Kenny said, "is government support of our university educational system."

He said government grants have not kept pace with inflation; as a result, the quality of education is threatened.

"There could be no more debilitating factor in our nation than to deprive the youth of our country of a good education, for they will need it if we are going to compete economically with other nations.

"Canada simply cannot afford to spend less on education and research if it is going to compete in the international marketplace."

Volunteers sought

Help!

Volunteers are needed to make Open House a success.

Student organizers of Open House say they would like anyone interested in helping during the two days of Open House — March 2 and 3 — to get in touch with them.

Drop in at the Open House Committee in Room 238 of SUB or phone them at 228-5415.

* * *

Open House Committee secretary Marie MacLachlan would like to receive the names of student and faculty representatives. She can be reached at the number above or mail the names to the Open House Committee, Box 59, SUB.

* * *

Departments and faculties planning tours should contact Open House Tours Director Van McLean, who wants to organize tours for visiting high school students. See above for address and phone number.

YEP forms here

Applications for the 1979 provincial Youth Employment Program are now available in the offices of UBC's 12 faculties.

Dick Shirran, director of the UBC Office of Student Services and coordinator of the 1979 program, said projects suggested by students or faculty members must be related to the student's educational or career goals. Students employed under the program must be Canadian citizens or landed immigrants.

'Birds top team

The UBC Thunderbirds football squad was named Team of the Year Sunday (Feb. 11) when the awards were given out at the annual Sport B.C. banquet.

The 'Birds, who had a 6-2 record in regular season play in the Canada West conference, went on to defeat Calgary for the western title and the Wilfrid Laurier Golden Hawks in the Western Bowl to earn a berth in the national final against Queen's University in Toronto, where the 'Birds went down 16-3.

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of research by the late Dr. Kishan B. Mathur, who died suddenly in the fall of 1978.

Prof. Grace has also had extensive research experience in coal conversion technology and will be a member of an interdisciplinary group that will take part in a recently announced UBC program to expand teaching and research on coal.

Prof. Grace succeeds Prof. Francis E. Murray, who will remain at UBC as a teacher and researcher.

Prof. Menon, 53, was educated in India, where he received his honors bachelor's degree in physics in 1947 and at Harvard University, where he was awarded the Doctor of Philosophy degree in 1956.

He was director of the Harvard Radio Astronomy Project in 1957 and 1958 and taught at the University of Pennsylvania and the University of Hawaii before returning to India in 1971 to join the staff of the Tata Institute. Between 1960 and 1967 he was associated with the U.S. National Radio Astronomy Observatory.

He has published more than 30 papers resulting from his research on problems associated with nebulae — distant gas clouds or star clusters — using radio astronomy.

Prof. Menon succeeds Dr. R.D. Russell, a geophysicist, who will also remain at UBC to teach and carry out research.

UBC readies enrichment program for gifted children

Several thousand B.C. kids with a "case of the smarts" will be getting special attention in school classrooms this fall as the result of a provincial-government funded project underway in UBC's Faculty of Education.

Prof. Stanley Blank, a UBC graduate and 12-year member of the UBC faculty, is co-ordinating an enrichment program for gifted children, who have been a "woefully-neglected" segment of the North American school population until recently.

Between now and mid-August, Prof. Blank and a team of eight persons — six graduate students and two consultants — will develop curriculum materials for gifted children in grades 4, 5 and 12, which will be introduced as a pilot project in several B.C. school districts in the fall.

Concurrently, the UBC team will develop a special kit of material

1979 International Year of the Child

designed to train school teachers in the techniques of dealing with gifted children in the districts where the pilot project is to be introduced.

The teachers will come to the UBC campus in late August for an intensive one-week immersion course to introduce them to the program. In addition, Prof. Blank and other members of the project team will visit the school districts during the 1979-80 school year to provide the teachers with additional assistance and to begin an evaluation of the program.

Prof. Blank says he hopes to test the UBC pilot project for gifted children in widely-scattered, large and small school districts in various parts of the province. "What we'll be looking for is a variety of settings ranging from isolated, rural areas to heavily populated urban districts on the Mainland and Vancouver Island," he said.

Prof. Blank estimates that out of B.C.'s total school population of just over 500,000 pupils more than 50,000 could be described as gifted. "The definition of the term 'gifted' varies widely," he said, "from the narrow two per cent who are in the near-genius category up to 12 to 15 per cent who will score high on IQ or academic achievement tests and who also exhibit talents in other areas such as leadership or creative thinking, or in specific areas of achievement such as the performing or creative arts."

Prof. Blank estimates that five per cent of the students in the school districts to be chosen will take part in the UBC pilot project in the coming year.

The ability of gifted children to synthesize knowledge is the general characteristic which distinguishes them from others, Prof. Blank said.

The gifted child outperforms other pupils at almost every level of learning, he says, from the lowest, "where you are simply teaching students about things," through the next level of learning how to use basic knowledge, which leads to teaching students how to apply knowledge.

"The gifted child," Prof. Blank said, "has the ability to go beyond the level of knowledge application. He or she is able to analyse, to look for causal relationships, to connect seemingly unrelated ideas and synthesize them so that he or she is able to solve problems in unique and creative ways."

Able to evaluate

Gifted children, he adds, also have a remarkable ability to evaluate, "to be able to look at a problem, develop criteria for evaluating it, and to go through the evaluation process in a meaningful way.

"In short, you have a child who thinks differently, who is not only able to do more quantitatively, but who can do much more with the knowledge he or she has."

The program which Prof. Blank and his project team is putting together for gifted children will be founded on enrichment as opposed to acceleration.

"In the past," he said, "teachers tended to meet the needs of the gifted child through acceleration, by keeping them occupied through an increased work load. Anything to keep them from getting bored, which leads to behavior problems and, in many cases, dropping out.

"Allowing the gifted to skip grades was another way of dealing with them. For a very few gifted children, those at the near-genius level, this probably makes sense. But for the majority of the gifted, removal from their peer group can result in some pretty maladjusted kids who are simply not able to cope with the social and emotional environment of an older age group."

Skipping grades is not advisable on philosophical grounds as well, Prof. Blank said. It's ill-advised to push gifted children ahead by a year or two, he said, when the opportunity exists to provide them with greater depth and breadth of knowledge using as a basis the curriculum of their peer group.

"Enrichment involves increasing the complexity of the problems presented to the gifted child," Prof. Blank said. Enrichment for a grade five child studying language arts, for instance, would mean utilizing the grade five curriculum to expand his or her awareness of non-verbal communication, body language say, so he or she understands that people communicate in a variety of ways.

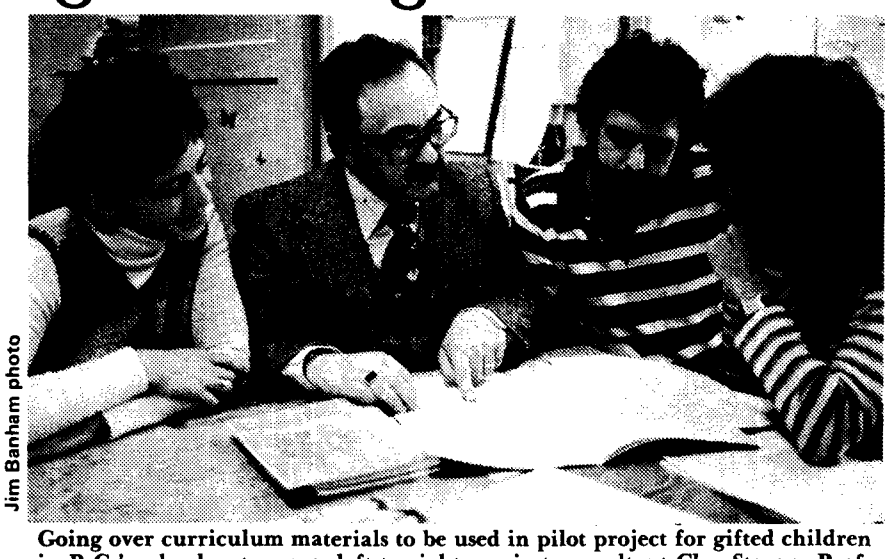
Learn how, why

"Enrichment would also mean learning about how and why language was invented and other methods of communication as an addition to or an auxiliary to language. The object is to develop in the gifted child a richer understanding of language and communication as opposed to merely developing competence in language usage."

Prof. Blank also believes that gifted children have maximum opportunity to develop their potential when they associate with other gifted children. "The gifted," he said, "need to be challenged and engaged at their own level, so I'm in favor of enrichment centres in each school district where the gifted can be brought together for so many hours per week or for specified periods of time.

"The centres don't have to be schools specifically set aside for the gifted. I think in terms of a mini-school, a school within a school, where the gifted have their own classes, but interact socially with other students."

It also takes a special kind of teacher to deal with the gifted, he



Jim Banham photo

Going over curriculum materials to be used in pilot project for gifted children in B.C.'s school system are, left to right: project consultant Clao Styron; Prof. Stanley Blank, Faculty of Education, who heads the program; and graduate students Michael Izen and Suzanne Kenney.

said. "The gifted are characterized by a higher-than-average curiosity and an enthusiasm for learning, which has to be matched by similar characteristics on the part of the teacher.

"Teachers of the gifted also have to have a relatively strong ego because in many cases the students may be more talented than the teacher. In addition to patience, the teacher of the gifted also requires a sense of humor, which is a highly developed characteristic amongst talented children."

Function differs

Prof. Blank says the teacher of the gifted performs a different function in the classroom than the teacher of normally intelligent children. They have to have the ability to guide and direct the student to the sources of knowledge and to be able to work with students on the basis of individualized instruction.

"There are a restricted number of things that can be carried on as group activities with the gifted," he says. "But one-to-one interaction is more important because the individual differences among the gifted are greater than the differences among students in the population of the normally intelligent."

Prof. Blank is no stranger to working with the gifted and with teachers of the gifted. For the past seven years he has been working in Chilliwack on enrichment programs that are now in place for grades three through nine.

A few other school districts in B.C. have started programs for the gifted, some of them using materials already on the market, others manufacturing their own. Prof. Blank has worked closely with most of the districts that have started such programs and many of the teachers working with the gifted have obtained their training at UBC.

"There's certainly been a growing concern for the needs of the gifted over the last decade or so," Prof. Blank said, "and almost every school district in the province has done something, even if it's only to establish a committee to look into the problem."

What has been lacking so far is uniformity, said Prof. Blank, and many people who deal with the gifted would maintain that uniformity is impossible in any case. "There is, however, the possibility of uniformity of approach. We can all start with an agreed-upon approach and what happens after that will depend on the interaction between student and teacher."

On a long-range basis, Prof. Blank would like to see enrichment programs developed for all school levels from kindergarten to grade 12. "Why shouldn't we have 'think tanks for kids,' as well as centres of intellectual challenge in the fine arts, music and drama?" he said.

In the final analysis, he believes there is a vast, untapped potential among gifted children.

"In the past," he said, "we've tended to treat the gifted as though they were an ordinary group of individuals who had no special needs. In many cases, even the gifted haven't been aware of their own abilities and as a result we've lost them as drop-outs.

"What we've really lost is a vital resource, a resource for future leadership by a group of people who have special talents and abilities. And we need leadership as never before in all spheres of our society, from the obvious ones such as government and education to the performing and creative arts.

"So I'm delighted that the provincial government has decided to fund this project, which could have incalculable benefits for B.C. It's especially heartening that they've chosen to do it in the UN Year of the Child, which places emphasis on education."

Awards for IYC images

A competition to promote co-operation? That sounds somewhat self-defeating.

Yet for Herb Gilbert, organizer of the competition and an associate professor in Fine Arts, it's just one way of getting people interested in world problems.

Mr. Gilbert is offering three awards of $200 each for visual images which unite the two themes of world citizenship and the International Year of the Child. He's looking for all art forms — banners, posters, paintings, sculptures, collage, photographs, songs, mime, bumper stickers or anything else that comes to mind.

The contest is open to all ages, and two workshops have been planned in conjunction with the Centre for Continuing Education to get some ideas going. The first workshop will be held on Sunday (Feb. 18) from 10 a.m. to 2 p.m. in Room 1, 800 Robson St. where participants will explore the meaning of the Year of the Child.

All contest entries will be displayed in August at Robson Square in downtown Vancouver.

Entries and enquiries can be directed to 3765 West 3rd Ave.; telephone 228-0432.

UBCalendar

SUNDAY, FEB. 18

1:00 p.m. **MUSEUM OF ANTHROPOLOGY** presents two musicians who will introduce **Turkish Music and Musical Instruments.** Museum rotunda, 6393 Northwest Marine Dr.

2:30 p.m. **RUGBY.** UBC Thunderbirds vs. James Bay Rugby Club. Thunderbird Stadium.

3:00 p.m. **MUSEUM OF ANTHROPOLOGY.** Carole Farber, Anthropology, University of Western Ontario, on **Reflections in a Mirror: The Presentation of an Ontario Town to Itself.** 6393 Northwest Marine Dr.

7:00 p.m. **SUBFILMS** presents **The Last Waltz.** Admission $1 with AMS card. Auditorium, Student Union Building.

MONDAY, FEB. 19

3:30 p.m. **COMPUTING CENTRE.** The first in a series of six lectures on **Advanced MTS Commands and Files** by Tony Buckland, Computing Centre. Room 443, Computer Sciences Building.

MANAGEMENT SCIENCE SEMINAR. Prof. R.C. Grinold, Business Administration, University of California, Berkeley, on **A Model for Long Range University Budget Planning Under Uncertainty.** Room 328, Angus.

3:45 p.m. **MECHANICAL ENGINEERING SEMINAR.** D. Worden, mechanical engineering graduate student, UBC, on **A Numerical Model for Predicting the Slamming Motion of Towed Barges.** Room 1215, Civil and Mechanical Engineering Building.

4:00 p.m. **BIOCHEMICAL SEMINAR.** Dr. C. Astell, Biochemistry, UBC, on **Structure of the 3'-Terminus of Autonomous Parvoviruses.** Lecture Hall 3, I.R.C.

4:30 p.m. **ZOOLOGY/PHYSIOLOGY SEMINAR.** Dr. D.H. *Cohen, Physiology, University of Virginia, on* **The Functional Neuroanatomy of Conditioned Heart Rate Change.** Room 2449, Biological Sciences Building.

8:00 p.m. **UBC COLLEGIUM MUSICUM** directed by John Sawyer performs **Music from Italian courts c. 1500 and England c. 1600 — Isaac, Arcadelt, Byrd and Dowland.** Recital Hall, Music Building.

IMMUNOLOGY SEMINAR. Dr. Diane Van Alstyne, Pediatrics, UBC, on **Persistent Rubella Virus Infection.** Salons B and C, Faculty Club.

TUESDAY, FEB. 20

12:30 p.m. **UBC HUMANITIES ASSOCIATION** fourth in a series of lectures on **Religion and Literature.** Dr. Arsenio Pacheco, Hispanic and Italian Studies, UBC, on **Metaphysics and Poetry: A. Machado, An Agnostic in Search of Faith.** Room 2238, Buchanan Building.

BOTANY SEMINAR. Prof. Jack R. Harlan, Plant Genetics, University of Illinois at Urbana, on **Weeds for All Seasons.** Room 3219, Biological Sciences Building.

1:30 p.m. **ELECTRICAL ENGINEERING SEMINAR.** Prof. C.Y. Suen, Concordia University, on **Automatic Recognition of Hand Written Characters.** Room 402, Electrical Engineering Building.

MODERN CHEMICAL SCIENCE SEMINAR. Dr. G.E. Styan on **Technology Forecasting — The Scientist's Role.** Room 225, Chemistry Building.

3:30 p.m. **BOTANY SEMINAR.** Prof. Jack R. Harlan will hold an informal discussion on **Aspects of Plant Domestication and Agricultural Origins.** Room 3219, Biological Sciences Building.

OPTIMIZATION SEMINAR. Prof. F.H. Clarke, Mathematics, UBC, on **Hamiltonian Trajectories Having Prescribed Minimal Period.** Room 203, Mathematics Building.

ENGLISH COLLOQUIUM. James Gilhooley on **"The Cold Snows of a Dream": Yeat's Evocation of Hypnagogic Images.** Fifth floor lounge, Buchanan Tower.

OCEANOGRAPHY SEMINAR. Dr. T.J. Simons, C.C.I.W., Burlington, Ont., on **Hydrodynamic Models of Large Lakes.** Room 1465, Biological Sciences Building.

***SCIENCE AND TECHNOLOGY STUDIES** workshop* on **The History of Exact Sciences** continues with a series of presentations on **Ancient and Medieval Mechanics: From Aristotle and Archimedes to Abu Sahl Al-Kuhi** by Prof. Len Berggren, Mathematics, SFU. Room 3252, Buchanan Building.

4:30 p.m. **CHEMISTRY RESEARCH SEMINAR.** R.M. Acheson, Chemistry, Oxford University, on **Experiments with 1-Methoxy and Other Indoles.** Room 250, Chemistry Building.

7:30 p.m. **MUSEUM OF ANTHROPOLOGY** third of a weekly seven-part series on **Northwest Coast Indian Art,** with Peter Macnair, co-ordinator. Single lectures, $2.50 for members; $3.50 for non-members. Museum, 6393 Northwest Marine Dr.

WEDNESDAY, FEB. 21

12 noon **PHARMACOLOGY SEMINAR.** Dr. David R. Jones, Zoology, UBC, on **The Nervous Control of the Cardiovascular and Respiratory Responses to Diving in Birds and Mammals.** Room 114, Block C, Medical Sciences Building.

THE CHANGING WORLD series presented by the UBC Centre for Continuing Education. Harriet Critchley, Strategic Studies, Political Sciences, UBC, on **Arms Control and the Neutron Bomb.** Robson Square Theatre, corner of Robson and Hornby Sts., Vancouver.

12:30 p.m. **NOON-HOUR CONCERT** with Timothy Oldroyd, baritone. Recital Hall, Music Building.

PSYCHOLOGY STUDENTS' ASSOCIATION lecture. Dr. John Yuille, Psychology, UBC, on **Psychology and Why It Is Not a Science.** Room 110, Angus.

12:35 p.m. **FREESEE FILM SERIES on The Human Journey.** This week's film is **The Middle Years.** Auditorium, SUB.

3:00 p.m. **EDUCATIONAL PSYCHOLOGY SEMINAR.** Bob Chester, chairman, Department of Reading Education, UBC, on **Needs Assessment Research in Reading.** Room 1021, Scarfe Building.

WEDNESDAY, FEB. 21 (Continued)

3:30 p.m. **APPLIED PROBABILITY AND STATISTICS** Workshop. Prof. Donald G. Watts, Mathematics and Statistics, Queen's University, on **Estimating the Severity of a Heart Attack.** Room 223, Angus Building.

4:00 p.m. **GEOPHYSICS SEMINAR.** Dr. Mathew Yedlin, Physics, University of Alberta, Edmonton, on **The Source Mechanisms of Earthquakes — Use of the Seismic Moment Tensor.** Room 260, Geophysics and Astronomy.

4:30 p.m. **ECOLOGY SEMINAR.** Dr. Steve Rothstein, Zoology, University of California, Santa Barbara, on **Egg Recognition: Parental Investment and Optimality in Birds.** Room 2449, Biological Sciences Building.

MEDICAL RESEARCH OPEN MEETING with Dr. Rene Simard, president, Dr. Francis Rolleston, director, Special Programs, and M.R.C. grantees and other interested individuals. Lecture Hall 6, Woodward I.R.C.

7:00 p.m. **DUPLICATE BRIDGE.** Informal game at the Faculty Club. Faculty, staff and graduate students are invited to participate. $1.75 per person includes refreshments. For further information, call Steve Rettig at 228-4865.

THURSDAY, FEB. 22

11:30 a.m. **BIOCHEMICAL DISEASES SEMINAR.** Dr. E. Ramirez on **Ulcerative Colitis.** Department of Population Pedatrics conference room, Children's Hospital, 250 W. 59th Ave.

12:10 p.m. **THE NEW WORKING WOMAN.** Last in the series on **Building a Career Through Volunteer Employment.** Isabel Kimmitt, Assistant Deputy Minister, director, Community Services, Ministry of Health, on **Volunteer Experience as a Basis for Career Opportunity — Some Personal Reflections.** Women's Resources Centre, 1144 Robson St. For information, call 685-3934.

12:30 p.m. **ANIMAL RESOURCE ECOLOGY LECTURE.** Prof. Don Michael, Planning and Public Policy, University of Michigan, on **The New Competence: Embracing Error.** Room 2000, Biological Sciences Bldg.

ENERGY ENGINEERING SEMINAR. R. Evans, B.C. Energy Commission, and T. Adams, Mechanical Engineering, UBC, on **Wood Waste Fuel Utilization in B.C.** Room 1202, Civil and Mechanical Engineering.

KOERNER LECTURER. Prof. John R. Searle, Philosophy, University of California, Berkeley, on **Intention and Action.** Room 169, Curtis Building.

1:00 p.m. **FACULTY ASSOCIATION GENERAL MEETING.** Room 100, Mathematics Building.

3:30 p.m. **APPLIED MATHEMATICS SEMINAR.** Prof. Richard Plant, Mathematics, University of California, Davis, on **Modelling Neuromuscular Control Systems: Building on the Hodgkin-Huxley Theory.** Room 203, Mathematics Building.

ASIAN RESEARCH SEMINAR on **Asians in Canada.** Dr. Eve Armentrout-Ma, Chinese American History Project, University of California, Davis, on **The Politics of the Disenfranchised: Chinese Immigrants' Reactions to U.S. Government Pressures, 1893-1943.** Room A-210, Mechanical Engineering Annex A.

4:00 p.m. **PHYSICS COLLOQUIUM.** M. Schick, University of Washington, on **Introduction to the Renormalisation Group.** Room 201, Hennings Building.

4:30 p.m. **ZOOLOGY SEMINAR.** Dr. C.R. Taylor, Museum of Comparative Zoology, Harvard University, on **How Do Muscles Work During Locomotion, or Do They?** Room 2000, Biological Sciences Building.

7:00 p.m. **SUBFILMS** presents **Julia.** Repeated Friday and Saturday at 7:00 and 9:30 p.m. and Sunday at 7:00 p.m. Admission $1 with AMS card. Auditorium, SUB.

7:30 p.m. **DIALOGUES IN DEVELOPMENT,** sponsored by the UBC Department of Continuing Education and CUSO, presents **Tanzania: The Struggle for Self-Reliance.** Upper Lounge, International House. Pre-registration recommended. For information, call 228-4886, days, or 261-4476, evenings.

THURSDAY, FEB. 22 (Continued)

8:00 p.m. **CENTRE FOR CONTINUING EDUCATION** presents Dr. Theodore Roszak, professor of History and Chairman of General Studies at California State University, Hayward, and author, in a lecture/discussion on **People/Planet: The Missing Link of Personhood.** Lecture Hall 2, Woodward I.R.C. Admission, $4; students, $3. Information 228-2181, local 261.

FRIDAY, FEB. 23

11:30 a.m. **DEVELOPMENTAL MEDICINE SEMINAR.** Dr. M. Towell, Centre for Developmental Medicine, UBC, on **Tissue $P0_2$ in the Fetal Lamb Measured with the Bessman-Schultz 0_2 Electrode.** Centre for Developmental Medicine, 811 W. 10th Ave.

12:30 p.m. **SCIENCE AND TECHNOLOGY STUDIES COMMITTEE** Lecture in conjunction with the solar eclipse of Feb. 26. Prof. Stephen Straker, History, UBC, on **Watch Your Retina! Observations of Solar Eclipses Since Antiquity and Some Consequences for the Modern Theory of Vision.** Room 201, Hennings Building.

CANADIAN INSTITUTE OF UKRAINIAN STUDIES. Prof. Frances Swyripa on **Perceptions of Ukrainian Canadians in English-Language Works.** Room 2244, Buchanan Building.

3:30 p.m. **SOIL SCIENCE SEMINAR.** Dr. David Shackleton, Animal Science, UBC, and Dr. Michael Pitt, Plant Science, UBC, on **California Bighorn Sheep Research.** Room 154, MacMillan Building.

JAPAN SEMINAR. Prof. H. Onishi, Visiting Professor from Tokyo University, on **Sesshu's Paintings.** Room 102, Lasserre Building.

LINGUISTICS COLLOQUIUM. Carolyn Johnson, Audiology and Speech Sciences, UBC, on **The Questionable Uses of Children's Questions: An Inquiry into the Relation of Language Use to Language Form.** Room 2225, Buchanan Building.

COMPUTER SCIENCE COLLOQUIUM. Domenico Ferrari, Computer Science, University of California, Berkeley, on **Characterizing a Workload for the Comparison of Interactive Services.** Room 301, Computer Sciences Building.

CHEMICAL ENGINEERING SEMINAR. G. Kennedy on **Simultaneous Heat and Mass Transfer in Freezing Soil-Water Systems.** Room 206, Chemical Engineering Building.

7:30 p.m. **ICE HOCKEY.** UBC Thunderbirds vs. the University of Saskatchewan. Thunderbird Winter Sports Centre.

8:00 p.m. **UKRAINIAN STUDIES SEMINAR.** Frances Swyripa on **Perceptions of Ukrainian Canadians in English-Language Works.** Langara College.

FACULTY RECITAL. Paul Douglas, Baroque flute and eight-keyed flute; Karen Rustad, recorder; Elizabeth Olson, Barqoue flute; Nan Mackie, viola da gamba; and Denella Sing, harpsichord and hammerfluegel, perform **Music of Hotteterre, Leclair, Naudot, Pleyel and Donizetti.** Recital Hall, Music Building.

8:30 p.m. **BASKETBALL.** UBC Thunderbirds vs. the University of Saskatchewan. War Memorial Gymnasium.

SATURDAY, FEB. 24

9:00 a.m. ***INTENSIVE WEEKEND IN FRENCH,*** offered through the UBC Language Institute, at elementary to advanced levels. Continues until 5 p.m. Sunday. $35 includes meals. Call 228-2181, local 285, for registration.

9:30 a.m. **METRIC WORKSHOP.** Will Dunlop, Metric Training Co-ordinator, B.C. Ministry of Education, on **You Too Can Measure It Metrically: A Metric Familiarization Seminar.** Psychiatry Lecture Theatre, Health Sciences Centre. For information, call the UBC Centre for Continuing Education, 228-2181, local 240.

2:00 p.m. **MUSEUM OF ANTHROPOLOGY** weekly series of films which influenced the Canadian documentary, introduced by Lucy Turner, visiting curator. This week's film is **In the Land of the War Canoes.** Museum, 6393 Northwest Marine Dr. Free with museum admission.

7:30 p.m. **ICE HOCKEY.** UBC Thunderbirds vs. University of Saskatchewan. Thunderbird Winter Sports Centre.

8:30 p.m. **BASKETBALL.** UBC Thunderbirds vs. University of Saskatchewan. War Memorial Gymnasium.

VANCOUVER INSTITUTE

Saturday, Feb. 17

Dr. Randall Ivany, Ombudsman, Province of Alberta, speaks on **Whither Goes the Ombudsman?**

Saturday, Feb. 24

Prof. Anne Treisman, Psychology, UBC, on **The Psychology of Perception and Thought.**

Both lectures at 8:15 p.m., Lecture Hall 2, Woodward Instructional Resources Centre.

UBC CALENDAR DEADLINES

Events in the week of

Feb. 25-March 3	Deadline is 5 p.m. Feb. 15
March 4-March 10	Deadline is 5 p.m. Feb. 22

Send notices to Information Services, 6328 Memorial Road (Old Administration Building), Campus. Further information is available at 228-3131.

SPANISH AND FRENCH STUDY

Conversational French and Latin American Spanish are being offered through the UBC Language Institute at on and off-campus locations. Beginning Feb. 26, 12-session courses are available from beginners to advanced levels. Beginning Feb. 21, a six-session plus one intensive weekend course is offered in Spanish, and in French beginning Feb. 28. Call the UBC Language Institute, 228-2181, local 285, for registration.

ENGLISH AS A SECOND LANGUAGE

Morning sessions at off-campus locations are aimed at improving spoken and written English. 12-session program begins Feb. 27; 16-session program begins March 5. Evening sessions of 12-week duration begin March 5 also. Call UBC Language Institute, 228-2181, local 285 for registration.

SKATING

Skate UBC spring session eight-week program begins Saturday, Feb. 24. Children and adults put into groups according to age and skill. Skating lessons, $16. Power skating, $29. For further information, call 228-5995, 9 a.m. to 1 p.m.

GRADUATE STUDENT CENTRE

The Graduate Student Centre is now taking reservations for Christmas 1979 functions. Call 228-3202 for reservations.

EXHIBITS

An exhibition of the paintings of Gloria Masse, Claudia Headley and Wendy Hamlin, three recent graduates from the B.F.A. program, will be held from Monday, Feb. 19, until March 2; 10:30 a.m. to 3:30 p.m., Monday through Friday. Art Gallery, Student Union Building.

An exhibition in celebration of hats and headgear, **Headspace,** is on display until March 3. Fine Arts Gallery, Main Library. Tuesday to Saturday; 10:30 a.m. — 5:00 p.m.

EXTENDED CARE HELPS

The residents of UBC's extended care unit in the Health Sciences Centre Hospital are offering their services to the University community. The average age of the volunteers is 84, so the services they offer are limited. If you have stapling, envelope filling, collating or other simple tasks that you need help with, call Kathy Scalzo, director of rehabilitation, at 228-5487.

FINAL ORAL EXAMINATIONS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Listed below are scheduled final oral 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 on the second floor of the General Services Administration Building. Members of the University community are encouraged to attend the examinations, provided they do not arrive after the examination has commenced.

Tuesday, Feb. 20, 10:00 a.m.: J. PETER ROTHE, Educational Administration; **An Exploration of Existential Phenomenology as an Approach to Curriculum Evaluation.**

Friday, Feb. 23, 1:30 p.m.: KAUSHIK D. MEISHERI, Pharmaceutical Sciences; **Beta-Adrenoceptor-Induced Relaxation and Cyclic Nucleotide Levels in Rat Uterus.**