

UBC REPORTS

VOLUME TWENTY, NUMBER FOUR
FEB. 27, 1974, VANCOUVER, B.C.

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President Promises Discussion Of Premier Barrett's Challenge

Premier David Barrett's challenge to British Columbia's public universities will be thoroughly discussed by the Board of Governors and other authorities at the University of B.C., President Walter H. Gage has promised.

Premier Barrett, in his budget speech in the Legislature Feb. 11, urged the universities to seek new ways to maximize the use of their facilities, to develop "bold, imaginative and thoughtful programs", and to make their services more readily available to the public.

He backed his challenge with an offer of additional funds to finance such new undertakings. (See Page 2.) This offer is bound to have a strong attraction for the universities, in view of the disappointingly small increase in the normal annual operating grant announced by Premier Barrett.

The province's first \$2-billion budget contained only a 10-per-cent increase over the current fiscal year's \$100-million grant to the three universities. This was substantially less than the universities had anticipated.

UBC's Alumni Association has pointed out that the grant total appears to have been set in the absence of up-to-date information about the recent upsurge in university enrolments, and has asked the government to reconsider the situation (See Page 12).

The size of individual operating grants for the three universities has not yet been determined. However, UBC expects to receive \$62,720,000 (the amount of the 1973-74 grant), plus a share, estimated at about \$6.1 million, of the total \$10 million increase provided for the three universities. This would bring UBC's grant to about \$68.8 million.

President Gage pointed out that most of UBC's increase is already committed to cover salary increases and annual increments, which took effect last July 1, for the University's 1,653 faculty members and 2,740 employed staff.

NECESSARY COSTS

There will not be enough left, he said, to provide increases in the coming year sufficient to offset the effects of inflation, and comparable to increases in other areas of the public sector, as well as meet other necessary costs for programs and services.

He recalled that last year's increase for faculty members averaged only 7 per cent, substantially less than the 9.1-per-cent increase in the cost of living during 1973. The Faculty Association, he said, is making a strong case for a larger catch-up increase in the coming year.

In the short section of his budget speech that dealt with university financing, and in a subsequent elaboration in an interview with Vancouver broadcaster Jack Webster, Premier Barrett seemed

particularly concerned to increase the utilization of university facilities.

He offered extra funds to the universities "if they wish to use their professional schools on evenings, weekends and fully during the summer months..." He told Mr. Webster and his listeners that UBC's medical school "is used about eight months of the year and only used briefly during the summer months."

President Gage said UBC is constantly trying to improve its utilization of buildings and equipment.

He pointed out that during the current Winter Session, UBC has 1,257 students enrolled in extra-session courses, taken in the evenings or in late afternoon, after regular daytime classes have finished.

TOTAL ENROLMENT

Additional thousands of persons use campus facilities throughout the academic year. The total enrolment in 1972-73 in all UBC credit and non-credit educational programs was 66,508, President Gage said.

He said the University is making strong efforts to attract more students to its Summer Session and seems to have checked the decline in Summer Session enrolment which had developed, for a variety of reasons, in recent years.

In addition, he said, the University has developed a growing inter-session program, running through May and June and into July, to fill the gap between Winter and Summer Sessions. More than 1,000 students are expected to enrol for inter-session courses this year.

President Gage also pointed out that UBC's graduate students, and most undergraduates in the health sciences, are involved in research and academic and clinical work on a year-round basis.

"Our 2,623 graduate students continue to make use of University laboratories, libraries and computer facilities throughout the summer," he said.

Recent curricular changes in the health sciences have lengthened the academic year to the point where students can no longer take summer jobs to help pay the costs of their education, and have only brief vacation periods.

In the Faculty of Medicine, for example, students who have completed two years of training in the basic medical sciences then embark on an almost continuous period of 86 weeks of clinical training, which makes up the third and fourth years of the medical degree program.

In UBC's School of Nursing, the first two years of the academic program include a summer term of at least 12 weeks which is largely devoted to intensive clinical practice in hospitals, clinics and doctors' offices.

Extensive clinical work is also required during

the summer for students enrolled in UBC's School of Rehabilitation Medicine — nine weeks after the first year of the program, 12 weeks after the second, and 16 weeks after the third.

President Gage agreed, however, that the University must continue to look for new ways to achieve optimum utilization of its facilities. He said the Board of Governors, the deans and the Faculties will all be giving serious consideration, in the weeks ahead, to how the University can best respond to Premier Barrett's offer to fund innovative programs.

"We must realize, however," he said, "that special funding for special programs does nothing to improve or even maintain the basic services that the University must provide for its regular programs."

One suggestion of Premier Barrett's — that the B.C. universities convert to a system used by some American universities, in which courses are given throughout the year in four three-month quarters — should be considered jointly by all three universities.

He noted that members of UBC's Academic Planning staff have been unable to locate a Ford Foundation study which Premier Barrett told the Legislature indicated that universities could achieve a 25-per-cent increase in capacity with only an 11-per-cent increase in staff.

Two other recent studies, however, have shown little justification for year-round operations.

A Berkeley study indicated that year-round operations could be expected to yield only a 5-per-cent increase in graduation rates. Enrolment in the summer term would be only about one-third of the level in the regular academic year, unless an attempt was made to control student attendance patterns by offering certain courses only during the summer.

EXAMINE STUDIES

Another study, conducted in 1971 for the Commission on Post-Secondary Education in Ontario, examined all the research on quarter and trimester systems that had been conducted in Canada and the United States in the preceding 12 years.

The authors concluded that "The potential improvement in utilization that can result from opening summer instruction is vastly over-rated..." and that a summer semester would improve space utilization in Ontario universities by only about 10 per cent, and that substantial extra costs would be involved.

"Our findings... indicate conclusively that the economies from year-round operations would be marginal," they said.

"A shift to year-round operations now, and as a general concept, will result in incremental costs of 20 to 30 per cent with little benefit to justify the expenditure."

New Heart Disease Theory Proposed

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Ocean Research Spurred by Grant

-SEE PAGE SIX

CONVERSATIONS

PREMIER'S BUDGET STATEMENT

The following remarks, by Premier David Barrett, were made in the course of his budget speech to the provincial Legislature on Feb. 11.

"... Grants to the universities are increased \$10 million to \$121 million. And, Mr. Speaker, I said at the press conference (on the budget) that the universities, if they wish to pioneer new programs, if they wish to pioneer new services, if they wish to experiment with the quarter system, if they wish to use their professional schools on evenings, weekends and fully during the summer months, we will fund them for those new developments.

"Mr. Speaker, if the universities wish to go out to the community, and take their professional skills and professional helps in a new form of education at the community level, we will help them through financing.

"If the universities come to us with programs that allow the industrial worker or the working women of the province of British Columbia to take courses on regularly scheduled hours to meet night-shift, graveyard-shift or day-shift requirements of full-time employment, we will finance those programs as well.

"Mr. Speaker, we do not like the fact that in the United States of America, 27 per cent of all high-school graduates go on to college education while the figure is only 12.5 per cent here in the province of British Columbia. The Ford Foundation did research indicating that if universities went on to a quarter system, with an 11-per-cent increase in staff they could have a 25-per-cent increase in capacity.

"Mr. Speaker, if the universities come to us with these programs, the money will be there to implement them on behalf of those people who desperately need higher education out there in that community.

"And, Mr. Speaker, these people want this education. We have no intention of telling the universities what to do, but if the universities come to us with these bold, imaginative and thoughtful programs, they will not be turned down at Treasury Board. Our people deserve and should be obtaining, and should have every opportunity to obtain, the best kind of education they want to fulfill their needs..."

On Feb. 12, the day after his budget speech in the B.C. Legislature, Premier Barrett appeared as a guest on broadcaster Jack Webster's open-line show from Victoria. What follows is a verbatim transcript of the exchange between the Premier and Mr. Webster on the subject of universities.

WEBSTER: Why have you been so tough on universities? I mean, they thought when you came in that you were really going to be generous in operating grants. You were tight last year. You were tight this year. Now you talk about a quota system. You're going to shake that tenure-ridden establishment of our university, staffed by our American friends, very severely.

PREMIER BARRETT: Well, it's not a question of not being generous to the universities. I've made it very clear that there'll be lots of money available.

WEBSTER: If...

PREMIER BARRETT: All they have to do is show us innovative programs, the maximum use of facilities, and the reaching out to the community. Now, there are ex-



PREMIER DAVID BARRETT

citing university programs that have been researched all over North America, new approaches to allow more people to make themselves available of a higher education. If the university wishes to embark on these areas, funds will be available.

WEBSTER: I don't understand you. ... Are you suggesting that the staffs and faculties are not working a full year and not using the buildings and facilities to the proper extent?

PREMIER BARRETT: Well, I'm not going to tell the universities what to do, but, for example, the medical school. Now, it's used about eight months of the year and only used briefly during the summer months. Last year, there were over 300 young students wanted to become doctors. They only took 80. Now, if the university wants to accommodate these youngsters, we do too. If the university wants to make their facilities available evenings, weekends and full-time during the summer, and they have to increase staff to do this, we will finance their budgets to increase the staffs to make maximum use of those facilities.

WEBSTER: You want, quite clearly, ... the year-round use of facilities to produce the specialists whom we need, like doctors, in British Columbia.

PREMIER BARRETT: Well, I'm not opposed to that. After all, the taxpayers have spent a great deal of money building those facilities and it hurts me to see them standing idle. Now, if they come to us and say they want to hire more training doctors, they want to hire more faculties, so that they can get maximum use of those buildings, the government will be very sympathetic to that approach.

WEBSTER: You're going to do the same, you're going to put the same carrot or knife, as I call it, in front of the universities as you put in front of the 3,000 administrative teachers whom you want to get back into the classroom.

PREMIER BARRETT: No, I don't see why you simplistically evaluate things as a carrot or a knife. I'm talk-

ing about progressive initiative in terms of people making decisions. In terms of the university, they have the facilities, they have the capacity to expand. I'm suggesting (that) if they show the initiative and the desire to expand, money will not be an impediment.

WEBSTER: And if they use the American quarter system.

PREMIER BARRETT: Well, the American quarter system is a very beneficial one. You know, we're no longer an agricultural society. The whole concept of summer off for universities was based on the kids going out and shredding wheat or something.

WEBSTER: Would it be correct, Mr. Barrett, and I forget who told me this, that there are actually more totem poles than there are native Indian students at the University of British Columbia?

PREMIER BARRETT: That's probably correct, and I'm suggesting that the universities reach out into the communities and do training in the communities.

WEBSTER: You want to see more Indians and underprivileged people than totem poles and monuments?

PREMIER BARRETT: Look, it's no longer a necessity of having a piece of paper to qualify for something. If the university wants to show public health programs, or medical education programs, where a team of students go out into Lillooet or into Chetwynd and train people on the spot - they're not interested in the degree. They're interested in some basic knowledge of how to help other people. If this kind of program is initiated by the university, the money will be available. But if a building sits idle for four months of the year, and that's a conscious decision of the Governors and the administrators of the university, I can't see us giving more money.

WEBSTER: You want them to get off their butts and become barefoot doctors for the people and do their training and the work where it's needed.

PREMIER BARRETT: Mr. Webster, you have a funny way of using the vernacular. I just want expanded programs.

Dr. Robert M. Clark, director of UBC's Office of Academic Planning, was a guest on Jack Webster's open-line radio program on Feb. 15. He appeared at Mr. Webster's request to respond to the remarks about universities made by Premier Barrett during Mr. Webster's broadcast of Feb. 12. What follows is an edited transcript of the discussion between Dr. Clark and Mr. Webster and Dr. Clark's answers to questions from callers.

WEBSTER: When I was interviewing Premier Barrett in Victoria on Tuesday morning I was quite surprised by his attitude towards universities. A caller had asked about university grants. Mr. Barrett made it perfectly clear that he's not for giving any more money than presently in the estimates for the three universities in British Columbia, and he indicated that they would only get more money from him if they changed their method of operation. And he talked about bringing universities into town. He talked about the American quarter system. He talked about the system under which he was educated in the United States where you can work three months and then go back to university for three months. And he talked about welfare mothers and barefoot doctors and all the rest of bringing the university to the people.

But for the purposes of this morning I'm going to interview Dr. Robert Clark from the Office of Academic Planning of the University of British Columbia, and ask him what's going to happen if Premier Barrett keeps to his ... estimates that so far he's put aside the same money as last year for the operating grants of each of the three universities with \$10 million unallocated. Now, can the universities cope with the normal growth in costs with the money presently in the budget?

CLARK: No. ... much of that (the extra \$10 million) has already been allocated because salary increases at the University start as of last July 1 and those commitments are our first charge on money which becomes available as of April 1 in the provincial government's fiscal year. In fact there will be not enough money to pay increases in salary to compensate for the inflation that has occurred within the last 12 months, quite apart from increases for any other purpose. ...

Now, in addition, the three universities together are expecting more than 2,300 additional full-time-equivalent students and there'll be additional costs in trying to accommodate them. So that if we look at the proposed grant, after allowing for inflation, per student it is less than we were getting in the academic year 1972-73.

WEBSTER: In terms of real dollars.

CLARK: Yes.

WITH JACK WEBSTER

WEBSTER: Now, let me put a very elementary question to you. Presumably the universities present their proposed operating grants to the Minister of Finance long before he makes up his budget.

CLARK: Yes.

WEBSTER: My deduction, therefore, Dr. Clark, as an ordinary high school dropout, must be that Premier Barrett has deliberately undercut your money to force you to cut costs. He must have known that \$10 million wouldn't be enough to meet your salary increases and the normal negotiable wages in our free society.

CLARK: Yes, I believe he knew that.

WEBSTER: So, he's deliberately cut your throat by not meeting your normal demands to keep pace with the cost of living.

CLARK: Well, I wouldn't call it quite that far, but he's certainly made it tougher for people and I think there's very widespread feeling at all three universities that people have not been treated fairly.

WEBSTER: Well, now, what do you do now? He stuck his feet in the other day, much to my surprise, and said he wants this and this and this and this and a change of



MR. JACK WEBSTER

this and this and that, and if you do those things, you're going to have more money. But for the moment you're stymied.

CLARK: Well, I think what will happen is this. The acting chairman of the Board of Governors, with whom I discussed this briefly yesterday, thought that the presidents and Boards of Governors would make a further representation to the government after they've had an opportunity to look at some of the cost implications of what has been done and the costs of alternatives that the Premier has put before us.

Now, one of his proposals is to go to a quarter system. Now, we'll have to explore precisely what the cost of that is, what the consequences (would be). Certainly, from an academic point of view, it's inferior education. It means that the students don't have enough time to reflect upon what they're learning before their quarter's over and they're starting new courses, examinations and so on. So, academically, it's inferior education that he's advocating for us.

Now, there has been a definitive Canadian study on this point published in Ontario for the Commission on Post-Secondary Education and called The Organization of the Academic Year. They have analysed all the studies available, American and Canadian, and they are against the idea of the quarter system, both on academic and financial grounds.

It simply is not true, as has been suggested, that we could get a 25-per-cent increase in the number of students by operating on a quarter system because most students don't want to go for all 12 months. The experience at Simon Fraser with the trimester system is that they get about half as many in their third term as they do in the other two, and they have to get additional grants, in comparison with the other universities to compensate for the higher costs involved.

WEBSTER: I don't suppose Mr. Barrett has been presented yet with this particular set of information.

CLARK: I wouldn't think so, since his statements have ... just been made on your program. ... They'll be brought to his attention.

WEBSTER: That's very good indeed. I do like to act as a catalyst in these kind of things, because I'm sure Premier Barrett doesn't say things off the top of his head and he obviously has a good socialist dedication in bringing the university to the people. Have you looked at that aspect, of bringing the university to the people?

CLARK: Yes.

WEBSTER: Is that feasible, practical and desirable?

CLARK: Let me try to give you some information as to what we have done there. We're increasingly catering to part-time students. We're providing more and more courses in the evening for students. This year, we have 1,257 taking evening programs for credit towards degrees. We have a large number of non-credit courses. These are offered throughout the year.

I can just give you mention of a few of these as illustrations. We put on in adult education for working professionals in various fields, 835. For courses for people in resource industries, we've had nearly 2,000. These are extra courses. In community planning and architecture, about 400. Education extension conferences for teachers, about 3,500. Continuing courses for engineers wanting to update their facilities, about 1,300. For lawyers, about the same. For social work, human relations and aging, some 613.

Now, all of those come under the heading of professional courses and then we have a large number of non-credit, general education courses not toward a degree at all and ...

WEBSTER: Is it possible for me to go to university, UBC or Simon Fraser or what-have-you on a part-time basis and finish up with a degree?

CLARK: Yes.

WEBSTER: Night school alone.

CLARK: Yes, you could. Now, you couldn't in every program.

WEBSTER: No.

CLARK: But there'd be a very wide range of programs where you could.

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WEBSTER: Some very outspoken remarks and comments here this morning from Dr. Robert Clark, the Office of Academic Planning, University of British Columbia, in which he — to give the lie wouldn't be the right phrase — in which he presents some facts for the ears of you and Premier Barrett and he was telling me, much to my surprise, that it is possible for a person with the proper basic qualifications to get a degree on a part-time basis from the University of British Columbia.

I'd like you to continue on that theme just for a moment. You've already told me a couple of things. That the Premier's advocacy of the quarter system, a la American universities, is fallacious in your view, bad.

CLARK: I think it's bad academically, unwise financially.

WEBSTER: OK. You already told me, too, for those who just tuned in, that you're going to be very strapped to meet your present budgets with wage increases if he only gives the extra \$10 million between the three universities, right? And now you're telling me — as Barrett was putting it to me, he wants you back into, he wants you to become involved in the community.

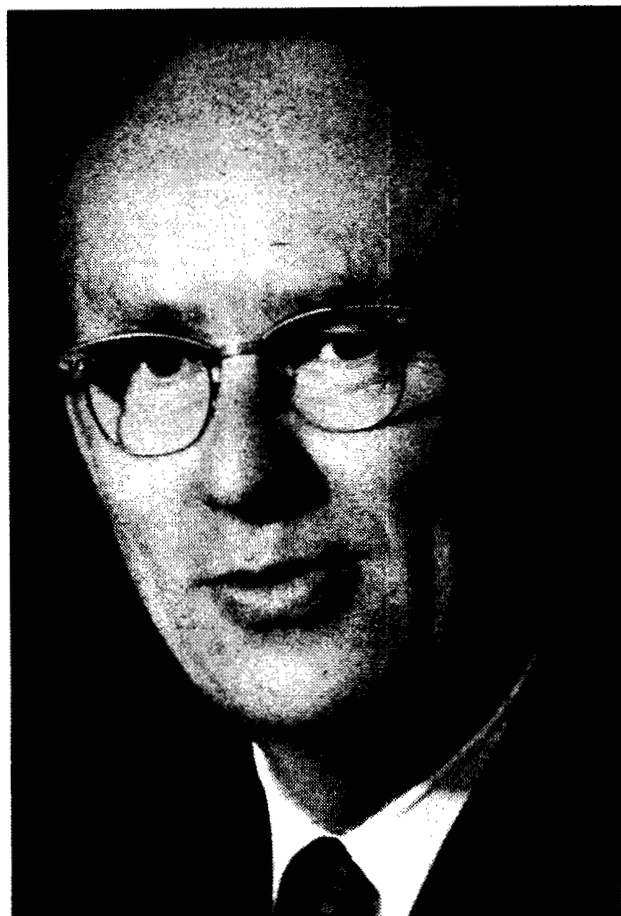
CLARK: All right, let me just give some more information there. We have 13,000 people in this last year taking part in non-credit general education courses. Courses on urban affairs, social science, public affairs, courses on art, science and so on. We had 4,000 people taking part in a course on Indian education. Now, this is on Indian culture and it's used in the B.C. schools and it's on a loan out to the schools. The Faculty of Commerce put on a very heavy program, diploma program. They looked after, in the last year, over 9,000 students. Health Sciences people, various fields including Nursing, looked after some 3,700 students. So if we look at the whole thing — Winter Session, Summer Session, credit, non-credit — there were some 68,000 people involved last year in things being put on by the university.

WEBSTER: All right. Question. And I'm sure this is one that Premier Barrett would ask you too. Is it not a fact, however, that despite your magnificent record — 68,000 people in the University, non-credit, credit, part-time, night school, community education — that your buildings are not used 12 months a year?

CLARK: No, that's not correct either. Now, as I recall from the Premier's statements, he particularly focussed here on the Faculty of Medicine, and I'd like to comment about that in general.

WEBSTER: Well, let's set the stage for that, first of all. He had said it was not good that only 80 British Columbians could enter the medical school of British Columbia after all these millions had been spent for medical education in B.C. As I recall, I think it was McGeer told me, there were 300 applicants, 250 of whom might have made good doctors, but they just couldn't get in to the University. And I see now that 31 per cent of all doctors in Canada are immigrants. So therefore, you have to answer that one. Why do you only take 80 doctors per year for training in Medicine at our expensive lavish University on the campus at Point Grey?

CLARK: Well, it costs substantially more to educate doctors than it does to educate people in most other programs. Our facilities were built to handle 60 students coming in a year, and there's four years in the program so that's 240, roughly. Now, we expanded that to take 80 students, but we weren't able to increase the facilities correspondingly. Now, under help from the provincial government we are in the planning stage of expanding that to 160 and likewise providing an increase in the



PROF. ROBERT CLARK

School of Rehabilitation Medicine and in Nursing. But we are heavily utilizing our facilities right now in this area.

The third- and fourth-year students are taking Medicine 50 weeks out of the year. The place isn't idle during the summer. And the faculty who are teaching, less than a third of their teaching is for future doctors. They're also teaching people in Rehabilitation Medicine, Dentistry, Pharmacy and so on. Our clinical departments, which are major departments, are teaching all year round, including the weekends. This is medicine, surgery, psychiatry, obstetrics, radiology, pediatrics, and so on. The graduate work in the Faculty of Medicine goes on all year round and there's a lot of that being done especially in the basic departments. Our clinical facilities are the bottleneck now and when we get these expanded, then we'll be able to take more doctors.

WEBSTER: By clinical facilities do you mean clinical facilities on the campus?

CLARK: No. Most of the new facilities are going to be built at the Shaughnessy Hospital (as part of the new B.C. Medical Centre).

WEBSTER: And that's where — is that where most of the teaching of doctors is in fact done? Do the students attend classes at the University and then take their training in the hospitals downtown?

CLARK: They take a lot of their classes on campus and a lot of them also at the hospital. ... Surgery would be virtually entirely done at the hospital, whereas something like biochemistry or anatomy would be done, virtually all on the campus.

WEBSTER: Now, you're telling me, and this is new to me, — you enter 80 each year at the moment. That means that when you've gone through a four-year peri-

Please turn to Page Ten
See CONVERSATIONS

UBC pathologist Dr. Paris Constantinides has developed a new theory about the cause of arteriosclerosis, a major factor in most heart disease.



NEW HEART DISEASE THEORY

By PETER THOMPSON
UBC Reports Staff Writer

More than half of all the Canadians who will die this year will be killed by heart disease. Associated with most of these deaths will be arteriosclerosis, or hardening of the arteries.

Arteriosclerosis is the replacement of the muscular, elastic walls of the arteries with fat particles which produce masses of scar tissue. The arterial walls, normally supple, become brittle and thick, narrowing the bore of the arteries.

A blood clot or thrombosis may form in the narrowed artery. Thromboses are common causes of strokes and heart attacks.

Before arteriosclerosis can be treated or prevented, we must understand how it comes about in the first place. This is the first step in the attack against the disease. Once its mechanism is understood, it should be easy to interrupt its course so that the arteries remain healthy.

A major contribution to that first step may have been accomplished by a medical researcher at the University of B.C. Dr. Paris Constantinides, professor in UBC's Department of Pathology, has discovered major evidence supporting a new theory he advanced on the mechanism behind arteriosclerosis. His theory opposes the established explanation.

According to the established theory, so entrenched that scientists find it difficult to abandon, arteriosclerosis is a spin-off of a natural process.

Cholesterol molecules combine with other fat and protein molecules from food digested in the intestine to form huge lipoprotein molecules, the largest molecules in the blood stream.

Lipoproteins, according to the established theory, continuously percolate out of the blood stream through pores in the arterial wall into the tissues surrounding the arteries. But if the concentration of lipoproteins in the

UBC SCHOOL OF COMMUNITY AND

By PETER THOMPSON
UBC Reports Staff Writer

Though 21st birthday celebrations usually apply only to people, the University of B.C.'s School of Community and Regional Planning is having one.

Its celebration — a two-day conference on March 1 and 2 — will also be a bit of a coming-out party, in spite of the fact that the School has long since passed the age of legal consent.

The School is the oldest, continuously-active planning school in Canada and has had a profound effect on planning in this province and elsewhere. It may now be on the threshold of greater horizons. A new director is expected to be appointed shortly and an external review of the School last year recommended that the School should shift direction to play a central role in the planning of the entire province.

FIRST STUDENTS

The School graduated its first students in 1953. The students were on a two-year master's degree program. Four years ago the School added a doctor's degree program and a total of 65 master's and eight doctor's degree students are enrolled for the 1973-74 session.

Until fairly recently, UBC graduates represented about 20 per cent of the university-trained planners in Canada. With the opening of new schools in Ontario and Quebec, the percentage has dropped.

Through the activities of its students and faculty members, the School has had a significant impact on the community, though the School's major effect, according to acting director Mr. Brahm Wiesman, has been on educating its students, rather than community involvement.

Students graduating from the School make up half the professional planners in the province. One-quarter of all graduates have become the heads of their organizations.

Two graduates are the directors of other planning schools. The heads of planning for the Nova Scotia and

New Brunswick governments are graduates of the School. So are the directors of planning for Barbados, Trinidad, Bermuda and Jamaica.

Two graduates, Bill Patterson and Darshan Johal, have become senior planners for the United Nations and have been posted to countries around the world. Dr. Patterson was the first director of planning for West Vancouver, a position he took on immediately after graduation.

Most of the students graduated recently because until 1966 the School had only three faculty members. Growth has been rapid since then, due mostly to a \$150,000 grant from the Richard King Mellon Charitable Trusts, and the School now receives about 200 applications for the 30 or so students it can take in each year.

The quality of the applicants is first class. "When you have the sons and daughters of university presidents and deans around the country enrolled, I assume we have arrived," said Mr. Wiesman.

Students, as part of their course work last year, produced a regional plan for B.C.'s Sunshine Coast. They also prepared a plan for Bowen Island and suggested that the Gulf Islands be put into trust. The provincial government seems interested in the idea. A group of the students were invited to appear before a committee of the provincial Legislature chaired by Municipal Affairs Minister James Lorimer in mid-February.

This year Powell River put up \$1,000 for the students to prepare an over-all plan for the Powell River Regional District. Students are also preparing a community plan for West Vancouver.

Many of the ten faculty members of the School are heavily involved in the community. Former School director Dr. Peter Oberlander was chairman of the Vancouver School Board and has just returned from Ottawa where he served as first secretary of the Ministry of State for Urban Affairs.

Dr. Setty Pendakur was consultant last year to the federal Ministry of Transport and is a Vancouver alderman.

Dr. William Lane still teaches a full course at the School while working as chairman of the B.C. Land Commission.

"And as for Irving Fox (director of UBC's Westwater Research Centre and a faculty member in the School), you can't go into his office without him being interrupted by



MR. BRAHM WIESMAN

blood is abnormally high, according to the established theory, more lipoproteins enter into the arterial wall than move out and some of the giant molecules accumulate and become permanently embedded in the arterial wall.

Dr. Constantinides found this difficult to believe. For one thing, lipoproteins are valuable to the body. They contain almost all the material needed to create the membrane of new cells, and many parts of the body are continuously manufacturing new cells. The lining of the intestine, for example, is replaced about every 48 hours. And bone marrow produces millions of new blood cells every minute.

"It seemed to me very stupid of the human body to lose the lipoproteins through the arterial wall," Dr. Constantinides said. "For the lipoproteins to be used in the creation of new cells, they have to be delivered to the site where the cells are being manufactured, by percolating through the walls of the fine twigs or capillaries at the end of the arterial tree.

"It seems tremendously inefficient of the body to lose lipoproteins from the pipeline before they get to their final destination."

Another reason for his doubt was that no one had shown how the lipoproteins could pass into the arterial walls.

Dr. Constantinides put forward a theory a few years ago that cholesterol-carrying lipoproteins enter the arterial wall only if the arterial wall has been injured.

To test his theory he fed one group of rabbits a diet with normal amounts of cholesterol which had been tagged with radioactive atoms so that they could be traced through the body.

Tagging a substance with radioactive atoms and tracing it or measuring it using radioactivity-sensitive equipment is a common trick in research and also in diagnosing various human diseases.

TRACES SOUGHT

After the cholesterol had been given time to disperse through the bodies of the rabbits, sections of their artery and capillary walls were searched for traces of cholesterol. The arteries examined were the aorta, the major artery of the body; the coronary arteries that branch off from the aorta and feed the heart muscle itself; and arteries in the liver, where reserves of fat are stored.

The sections were about 1/50,000 of an inch thick. Strips of especially thin, transparent photographic film were laid over the capillary and artery sections in a darkroom and the film was exposed to the radioactivity of the cholesterol in each lipoprotein molecule underneath.

So weak was the radioactivity from each lipoprotein molecule that had invaded the capillary and arterial walls

that exposure time had to be at least six weeks. At the end of this time each radioactive cholesterol molecule had blackened a tiny spot directly above it on the film. By counting the spots using an electron microscope, Dr. Constantinides could tell how many lipoprotein molecules were present in each section.

In 20 consecutive sections in the aorta of normal rabbits he found an average of 1.2 lipoprotein molecules embedded in the arterial wall compared with 40 in the capillary walls of the heart and 100 in the capillary walls of the liver.

The same procedure was repeated on a second group of rabbits whose arteries had been damaged. The number of lipoprotein molecules in 20 consecutive sections of the damaged aorta averaged 100, about 85 times higher than the level in the normal aortas.

Dr. Constantinides is satisfied that he has produced strong evidence that only damaged arteries are susceptible to arteriosclerosis.

He damaged the arteries in three ways. He raised the level of lipoproteins over several months in the blood of one group of rabbits. The high lipoprotein level, a condition known as hyperlipemia, was produced by feeding the rabbits large amounts of cholesterol daily. He increased the blood pressure of a second group of rabbits and produced an allergic reaction in the third group.

"In the rabbits with hyperlipemia the lining of their arterial walls, the endothelium, became swollen," Dr. Constantinides said, "with big holes in it like Swiss cheese and gaps appeared between endothelium cells. The lipoproteins rushed through the damaged endothelium into the arterial wall and were trapped there.

"They couldn't get out because the arterial walls don't have sufficient enzymes to break down the masses of invading lipoproteins. And the lipoproteins can't percolate out of the arterial wall, as the old theory proposes, because the walls are very dense.

"The wall of the human aorta, for example, is made up of from 40 to 60 layers of muscle like sheets of plywood with layers of an elastic material in between.

"A third reason why the lipoproteins remain embedded is that they may combine with carbohydrate chemicals that act like a glue between the various layers."

A healthy endothelium acts as a barrier against the entry of lipoprotein molecules into the arterial walls. But if the endothelium is injured, Dr. Constantinides said, the endothelium can act as a sieve.

He says he doesn't know yet why continuous washing of the arterial wall with a high concentration of lipoprotein can damage the lining or endothelium of the

wall and make it more permeable than normal. Nor is he sure of the precise mechanism through which high blood pressure or hypertension injures the endothelium. One possibility that has come out in experiments done by him and other researchers is that high blood pressure can open gaps in the endothelium.

The damaging effect of the allergic response in the blood to foreign bodies is known. A foreign substance in the blood stimulates the body to manufacture antibodies against it. The antibodies, trying to destroy the foreign substance, or antigen, combine with the antigen to form huge antigen-antibody complexes in the blood stream.

EXPLOSIVE EFFECT

"These complexes, although part of the defence mechanism of the body, can have very destructive biological effects," Dr. Constantinides said. "If there are any cell membranes near when a complex forms, the result can be as if a hand grenade were thrown at the cell. When the complex comes into contact with the cell membrane, the effect is explosive."

The complexes probably blow holes in the endothelium cells lining the arterial walls, allowing lipoproteins to flood in.

There are dozens of other ways the endothelium can be injured, he said, including smoking.

He finished this work while on sabbatical last year. He also did another experiment to try to find how the endothelial cells are held together in arteries. If the endothelial barrier can be strengthened, then perhaps arteriosclerosis can be controlled.

"The endothelial cells are coated with polysaccharide molecules which are negatively charged," he said. "The polysaccharides are a polymerisation product of carbohydrates in our diet. Between one endothelial cell and another is calcium, which carries a positive charge. Since opposite charges attract each other, the polysaccharides and calcium link the endothelium cells together like a zipper."

Last year he passed large amounts of a special chemical, known to bind and remove calcium, through sections of arteries and found that the calcium was washed away in 40 seconds. The joints between the endothelium cells were unzipped, creating gaps in the lining.

Dr. Constantinides recently returned from the fourth European Congress of Pathology in Budapest where he was chairman of one of the opening day's sessions. At the Congress he heard further evidence indicating that his theory is on the right track.

Another scientist reported that in hyperlipemia, the presence of high levels of lipoproteins in the blood over a long period of time, washes away the polysaccharide molecules covering the endothelium of arterial cells.

REGIONAL PLANNING TO CELEBRATE

phone calls from all over the world from people asking him to come and solve their problems for them, which of course he can't spare the time to do," said Mr. Wiesman.

With the resignation of Dr. Oberlander as director of the School last year, Dean Ian McT. Cowan, head of UBC's Faculty of Graduate Studies asked that a review committee be formed. Head of the committee was Dr. Peter Larkin, head of UBC's Department of Zoology and a member of the Science Council of Canada. The other committee members were a planner from the University of California at Berkeley and a professional planner from Toronto.

Mr. Wiesman said the committee submitted a general report that said, in effect, that the academic program was fine but that the school should become much more ambitious in its role in planning the entire province.

"What they said, I think, is that this province is going through a change. Without becoming political, the change in our government is indicative of a transformation from a purely resource-exploitation approach with little concern for the kinds of communities we're building, the quality of our social life, or the implications for the future of our resources," Mr. Wiesman said.

PLAN AREA

"The report said the province is still a resource frontier, highly urbanized in the Lower Mainland, but with a vast hinterland of resources yet untouched. The report wants the School to become involved with the planning of the urbanization of that vast area, and the quality of its environment."

To prepare itself to do this job, he said, the report wants the School to develop more contacts with experts in the social and applied sciences at UBC, including education, political science, business administration, health, forestry, ecology and engineering.

With these new abilities the School should reach out and link with federal, provincial and municipal agencies

throughout B.C., Mr. Wiesman said. "The message of the report was 'integrate,'" he said.

Mr. Wiesman has approached Municipal Affairs Minis-

School's Impact To be Shown

The changing role of architects will be the theme of an exhibition at the Vancouver Art Gallery March 6-30.

Called "Twenty-Eight Years of Architecture at the West Coast School," the exhibit will show how West Coast architecture, UBC's School of Architecture and architects themselves have evolved since 1946 when the UBC School was begun.

The show was sparked by the retirement on June 30 of Dr. Henry Elder as director of the School. The School's impact on the architecture of the province will be a major theme of the show.

When the School began, architects were considered designers of buildings and were taught mostly technical subjects. Today, the subject matter of architecture is vast and interdisciplinary, and architects can be involved in anything from psychology to regional planning.

The show, which will feature audience participation, will use drawings, models, graphics and audio-visual material to match the work of the School over the years with examples of architecture executed by graduates in the province.

There will also be a discussion program in the evenings involving the public, faculty members and alumni of UBC's School of Architecture, and people in disciplines now affecting architecture, such as cultural and urban geography, ecology, financial organizations, environmental psychology and sociology.

ter Lorimer with the idea of the Minister setting up a type of internship program for students in the School in the provincial department. The program would help strengthen the provincial department's planning abilities, Mr. Wiesman said. The Minister is interested in putting up money towards some of the planning projects students undertake for their degree to give them a more realistic experience.

The report says that top priority should be given to pushing the school's abilities in landscape management and planning.

ONE SCHOOL

"It's just ridiculous that in this entire country there is only, in my judgment, one reasonably good school of landscape management," he said. "Landscape management goes all the way from designing a public garden to designating national parks or where urban development should take place.

"We've decided to preserve the farmland of the province for agriculture but there is hardly anyone in the province who is competent in designing hillside communities. West Vancouver, I'd say, represents a pretty dumb approach. With its climate and topography, it's only natural that this province should develop a landscape program."

Taking part in the School's two-day conference will be Prof. Eric Trist, an international expert on the problems of planning under conditions of uncertainty and rapid change. Dr. Trist is chairman of the Management and Behavioral Science Centre and professor of organizational behavior and ecology of Wharton School at the University of Pennsylvania. He'll speak at 8:00 p.m. on March 1 in UBC's Student Union Building Ballroom, where the conference will take place.

Another professor from the University of Pennsylvania, Dr. Ian McHarg, will speak at UBC on March 13 and 14 as part of the School's anniversary celebrations (see story on Page 7).

Twenty UBC researchers, including the four pictured at right, are about to embark on a massive research project on the management of the oceans under the direction of the Institute of International Relations

OCEAN RESEARCH SPURRED

The current approach to the sea is: "Hey, baby, we've raped the land. Now let's get busy and rape the ocean. We have the same approach to the oceans as the early immigrants had towards North America; one big expense to rip the guts out of. Do as you please with it."

—Farley Mowat

By JOHN ARNETT
UBC Reports Staff Writer

Dr. Mark Zacher, director of UBC's Institute of International Relations, and his 20 UBC colleagues who are undertaking a massive research project on the international management of the oceans, have probably not viewed their task as an attempt to fight off the rape that Canadian author Farley Mowat so eloquently described in a recent magazine interview, but that is exactly what they are setting out to do.

For, without international rules and regulations covering everything from fishing to pollution to commercial and military uses of the seabed, man will almost certainly wreak the same kind of havoc in the ocean that he has on land.

The grim portents are already there.

The oceans are being overfished in certain areas and estimates have it that in 10 years' time we will be expending twice the current amount of effort to reap less than the 1972 catch.

Every report of an oil spill only increases the odds that some day, somewhere, one of the gigantic tankers currently plying the oceans will spill its cargo into the sea, causing horrendous environmental damage.

Nobody can yet say for sure what effects toxic chemicals that have already found their way into the oceans via industrial wastes will have on ocean life. Traces of DDT have been found in Antarctic penguins and there are fears that toxic residues in the oceans could affect the genetic makeup of marine organisms, with a resultant serious effect on fish populations.

Seabed mining for the rich manganese nodules which contain nickel, cobalt and copper is expected to start in the not-too-distant future in the Pacific Ocean between the coast of Mexico and the International Dateline. The mining operations would be carried out entirely at sea, with wastes being dumped overboard and possibly carried off on ocean currents, causing more pollution.

LONGEST COASTLINE

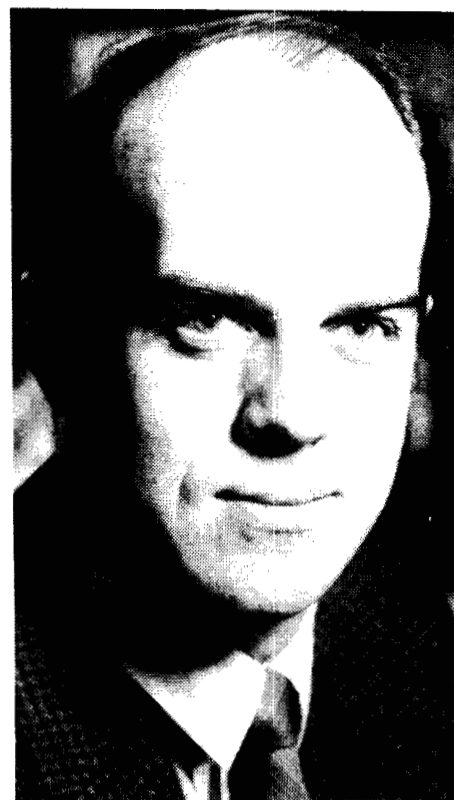
Canada, with the world's longest coastline and a vast continental margin totalling half of its land territory, has been a world leader in advocating some form of international management of the oceans.

The University of B.C., is, in turn, becoming a major centre for oceans research in Canada with its Institute of Oceanography, its Institute of Animal Resource Ecology (formerly the Institute of Fisheries), and now the Institute of International Relations with its research project on International Management of the Oceans.

The Institute of International Relations, established



DR. MARK ZACHER



DR. TREVOR HEAVER



DR. BARRY BUZAN

in 1970, is part of the University's Faculty of Graduate Studies. It is specifically charged with promoting multi-disciplinary research projects involving faculty and graduate students.

It has been awarded \$170,000 by the Donner Canadian Foundation to carry out a study entitled "Canada and the International Management of the Oceans."

Twenty researchers from Law, Commerce, Political Science, Economics, Geography, Slavonic Studies, Applied Mathematics, and Resource Ecology will, under the auspices of the Institute, investigate problems ranging from the international regulation of ship-generated oil pollution to the politics of ocean fisheries to the regulation of the commercial and military uses of the seabed.

Dr. Zacher says the project marks the first time in Canada that a group of researchers from a variety of disciplines has been brought together to study such a broad range of ocean-policy problems.

Goals of the project are to develop a major body of social-science research on the international management of the oceans and also to produce experts who will not only be in a position to advise governments but also to act as public critics of government policies.

FUTURE DECISIONS

Those involved in the research work will produce books, monographs, papers, articles and other publications containing information which could have an important influence on any future decisions with regard to ocean management.

The studies are organized under five headings — marine pollution, fishing, seabed mining, military uses of the ocean and a general section. Studies will focus both on Canadian interests and policies as well as policies of other nations as they affect Canada.

Prof. Charles Bourne, of UBC's Faculty of Law, will do a book on international law on pollution of the marine environment.

"The marine environment is threatened increasingly by the polluting by-products of modern civilization," he says. "The establishment of international rules to prevent and to abate pollution of the sea has become an important and urgent matter."

Prof. Bourne says Canada has played a leading role in awakening the international community to the dangers to the marine environment from pollution, especially in the Arctic, and is pressing for the development of effective rules of international law to prevent and control pollution.

There is virtually no international law to cover problems of the environment, adds Prof. Bourne, though he says forthcoming Law of the Sea conferences in Caracas and Vienna will be looking at rules and enforcement procedures.

Another member of UBC's Law Faculty, Mr. Donald McRae, will try to separate the responsibilities of different United Nations organizations with respect to maritime law.

The aim is to assist the Canadian government, and others, in deciding on which organization they should deal with if they have a particular problem. At the moment, he says, different organizations have overlapping

responsibilities, and in some cases new agencies are created for jobs that are already being partially done by other agencies.

"No one has really investigated to find out to what extent the different agencies overlap," he says. In fact, it's quite possible that the survey could show that in some areas the government could further its objectives by switching agencies.

The structure of Canadian representation to different UN agencies will also be investigated by Mr. McRae and strategies to be adopted in the light of the division of responsibilities will be looked into.

Another area of growing concern to all nations is the control of seabed mining, which will be the subject of a book by Dr. Barry Buzan, a research fellow in the Institute of International Relations.

Because no country can lay claim to the ocean bed beyond coastal territorial limits, decisions must be made as to how mining will be regulated in international waters, says Dr. Buzan.

"The old idea of freedom of the seas is fine as far as ships are concerned, but it doesn't work when it comes to seabed mining. A set of principles or rules to govern these areas must be developed to prevent any country from doing what it likes.

"Nothing much has been agreed on so far. All we have to date is a set of very general principles that there should be some international organization of some sort, but there is wide disagreement as to what kind of organization this should be and how it should be constituted."

Seabed mining has important implications for Canada because the manganese nodules found extensively in the ocean contain heavy concentrations of nickel, which could affect Canada's position as the world's major producer of nickel.

While pollution from tanker oil spills is a continuing worry, there is equal concern about the elimination of tanker wastes — the oil residue that is left behind after a tanker discharges its cargo and which must be discharged either at sea or on land.

Dr. Trevor Heaver, of the Faculty of Commerce, and Dr. William Waters, of the Department of Economics, will investigate the costs of alternative means of disposing of tanker wastes.

PROVIDE BALLAST

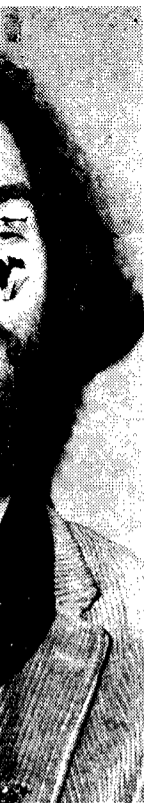
Dr. Heaver says that the oil tanks of a tanker are usually swilled out with salt water after the oil has been discharged. The tanks are then filled with seawater to provide ballast for the return trip to pick up more oil.

B.C. residents need have no fear from this type of pollution once the tankers start running down the B.C. coast from Alaska to Cherry Point in Washington, says Dr. Heaver, because land facilities are being constructed at Valdez, Alaska, to receive the residue.

Dr. Heaver's study will estimate costs of constructing such facilities at ports and discuss how these costs should be shared.

There is a strong possibility that Canada will soon control all fisheries resources within 200 miles of the coast either through international agreement or by federal legislation.

Three faculty members — Dr. G.R. Munro, Economics; Prof. Colin Clark, Mathematics; and Prof. Peter



MR. DONALD McRAE

Pearse, Economics — will look into the economic problems associated with the 200-mile limit.

"One's first reaction might be to see the acquisition of the new fisheries resource as an opportunity to expand Canadian fishing activity, with more vessels being employed and more jobs for fishermen," say the three faculty members in a brief outlining their proposed research.

"While such an approach might appeal to national pride, it could prove to be economic nonsense," the brief adds. It suggests that instead of restricting the area to Canadian fishermen, agreements might be entered into with foreign countries to permit fishing within Canada's limits in return for fishing rights in foreign waters. On the other hand, foreigners could pay royalties to fish in Canadian waters. Another alternative might be to ban fishing entirely to permit stocks to be built up.

PRODUCE BOOK

The three faculty members plan to produce a book outlining the many alternatives that will face this country if and when a 200-mile fishing limit is established.

Prof. Frank Langdon, of the Department of Political Science, will undertake a study on prospects for formal and informal co-operation between Canada and Japan with regard to trade rights.

Prof. Langdon says Australia is on the verge of concluding a treaty with Japan to ensure Japan's access to future supplies of raw materials "in what is an enormous reversal of its traditional foreign policy. I would like to give attention to some of Australia's policies toward Japan to see if they suggest anything useful for consideration by Canada in similar matters."

Prof. Langdon says the book that he proposes would also evaluate the idea of a Pacific Community similar to the European Common Market. He also envisages continued conflict between Japan and Canada over the matter of fishing rights because each has put forward very different proposals in Law of the Sea negotiations.

Dr. Zacher, director of the Institute, also plans to write a book on the international regulation of ship-generated oil pollution.

"In the past there have been many studies which have examined the effects of oil pollution, analyzed the nature of existing regulations and proposed various regulations for managing the problem. But there have been very few studies which have sought to analyze why various countries have supported and opposed regulator arrangements. This is the area that I intend to explore," he says.

Such an examination of the problem should be helpful in developing new measures to prevent future disagreement.

While the Donner grant for the overall research project covers a three-year period, Dr. Zacher said the Institute's work in ocean research will probably cover at least six to 10 years.

He said any assumption that the problems of international oceans are likely to be solved at the forthcoming Law of the Sea conferences is wrong because any agreements will be of a general nature and will necessitate a great deal of future bargaining before they are implemented.

Three Green Lecturers To Visit UBC in March

Three distinguished scholars will visit the University of B.C. in March as Cecil H. and Ida Green Visiting Professors.

☆☆☆

Dr. Richard Evans Schultes is a leading worker in studies of South and Central American ethnobotany, especially studies of narcotics and poisons used by primitive peoples.

He took his A.B., M.A. and Ph.D. degrees from Harvard University, where he is professor of Biology and director of the Botanical Museum.

Dr. Schultes is a member of the U.S. National Academy of Science, American Association for the Advancement of Science, and is a fellow of the American Academy of Arts and Science.

On March 5 at 12:30 p.m. in Lecture Hall No. 2 of the Instructional Resources Centre he will speak on "Hallucinogenic Plants of the New World."

The following day at 12:30 p.m. in the Hebb Lecture Theatre Dr. Schultes will give a talk on "Plant Exploration for New Drug Plants from the Amazon," based on his 14 years of residence as a plant explorer in South America.

"Cannabis: Friend or Foe of Mankind?" will be the title of his last lecture on March 7 at 8:15 p.m. in

Council Panel Here March 1

A panel of senior Canada Council officials will visit UBC Friday (March 1) for a public meeting designed to allow artists and university representatives to air their views.

Representatives of Notre Dame and Simon Fraser Universities have also been invited to the open meeting, which begins at 10:00 a.m. in the ballroom of UBC Graduate Student Centre. Faculty members and graduate students are invited to attend.

The Canada Council panel will hold a second meeting the same afternoon at 2:00 p.m. at the Vancouver East Cultural Centre, 1895 Venables St.

Dr. Dennis Healy, former dean of the Faculty of Arts at UBC, has been named chairman of a Canada Council commission to inquire into the state of Canadian graduate studies in the humanities and social sciences.

Dr. Healy is currently the president and vice-chancellor of Bishop's University, in Lennoxville, Quebec.

Terms of reference for the commission will be defined in consultation with the Canada Council and announced later: The commission will hold hearings across Canada and its findings will be published.

Canada Council Director Andre Fortier said one of the main factors prompting the inquiry is the increasing uncertainty as to the purposes, effectiveness and general orientation of graduate studies in the light of present-day needs and conditions.

He also pointed to the changing attitudes of students towards advanced university education, as exemplified in Canada by fluctuations in enrolment at the doctoral level over the past three years.

The Council has a direct interest in the commission's work, Mr. Fortier said, since a large part of the Council's budget is allocated for assistance to graduate students in the humanities and social sciences.

Five Overseas Courses Offered

UBC's Centre for Continuing Education, in co-operation with the Departments of Fine Arts and English and the School of Physical Education, is offering five courses in Europe this summer.

Those participating may study Shakespeare at Stratford-upon-Avon; Western Art Since 1800 in London; Historical Techniques in Mosaics, Stained Glass and Enamelling in Paris; Art of the Renaissance in Florence; and Physical Education in England.

More details of these courses, which may be taken for credit or non-credit, are available from the Centre for Continuing Education, UBC, 2075 Wesbrook Place, Vancouver, B.C. V6T 1W5.

Lecture Hall No. 2 of the Instructional Resources Centre. This lecture will be based on botanical history, present botanico-chemical studies and Dr. Schultes' own field work on marijuana in Afghanistan.

☆☆☆

Dr. Michael Riffaterre, chairman of the Department of French and Romance Philology at Columbia University, New York, is one of the few specialists in stylistics and textual analysis.

His publications are important to linguistics, the philosophy of language and English and Romance literatures.

Dr. Riffaterre has been general editor of the *Romanic Review* of Columbia University since 1971. Previous to taking over as chairman of Columbia's Department of French and Romance Philology, he was chairman of that University's Department of Spanish and Portuguese.

He was president in 1965 and 1966 of the American Association for the Study of Dada and Surrealism. He reassumed the presidency of the Association last year.

On Monday, March 11, at 12:30 p.m. in Room 106 of the Buchanan Building Dr. Riffaterre will speak in French on "Du Genre au Texte: Méthodes de la Critique Actuelle."

The following day in the same room at 12:30 p.m. he will speak on "Structural Analysis in Literature: The Referential Fallacy."

"The Structuralist Approach to Literature" will be the topic of his talk on Wednesday, March 13, at 3:30 p.m. in Salons A, B and C of UBC's Faculty Club.

☆☆☆

Mr. Ian McHarg is a leader of a group of landscape architects and regional planners who claim that land use should be determined by ecology rather than prof-



MR. IAN McHARG

it. He has proposed that planners make an ecological inventory of the land areas they plan so that development is ecologically logical and non-destructive.

Mr. McHarg has now added social values to his theory of ecological determinism. He calls his new concept of planning "human ecological planning."

Instead of taking into account only ecological factors such as water drainage, wind direction, slope erosion, soil permeability, scenic beauty and plant and animal life in planning land use, Mr. McHarg says that cultural anthropology, ethnology, public health and other social factors should be included.

He will speak at 8:00 p.m. on Wednesday, March 13, in the Old Auditorium on "A Theory of Man-Environment."

The next day at 12:30 p.m. he'll talk on "A Case Study in Ecological Planning" in Lecture Hall No. 2 in the Instructional Resources Centre.

He is chairman of the Department of Landscape Architecture and Regional Planning at the Graduate School of Fine Arts at the University of Pennsylvania and is a partner in a firm of landscape architects and city and regional planners in Philadelphia.

Leading UBC Geologist Dies

Prof. Merton Yarwood Williams, a member of the UBC faculty for 29 years and recognized as one of Canada's pioneering oil geologists, died suddenly on Feb. 3 at the age of 90.

The tall, spare figure of Prof. Williams, or "M.Y." as he was known to UBC colleagues, continued to be a familiar sight on the campus for two decades after he retired as head of the Department of Geology and Geography in 1950. A sign that M.Y. was on the campus was his Nash automobile, vintage circa 1935, parked in the vicinity of the old Geology and Geography Building.

Born in Bloomfield, Ont., in 1883, Prof. Williams graduated from Queen's University in 1909 with the degree of Bachelor of Science in Mining Engineering. In 1912 he received the degree of Doctor of Philosophy from Yale University.

Immediately after graduating from Yale, Prof. Williams joined the federal Geological Survey of Canada, eventually becoming geologist in charge of petroleum investigations. Between 1912 and 1921, when he joined the UBC faculty, most of his exploration activities were confined to Ontario.

Almost every summer between 1921 and 1944 found M.Y. in the field carrying out geological work connected with petroleum and mineral resources.

He explored the Mackenzie River Valley in 1921-22 and southern Alberta and Saskatchewan in the years 1923 through 1926. During the 1930s and 1940s he carried out additional explorations in Ontario, the Peace River area and along the Alaska Highway.

In 1924-25 Prof. Williams was a member of a Canadian team of scientists who carried out the first geological survey of Hong Kong.

In the summers of 1929 and 1930 he was in charge of geological explorations for a survey of resources by the Pacific Great Eastern Railway in the Peace River, Cariboo and Lillooet areas.

Prof. Williams became head of the Department of Geology and Geography at UBC in 1936, a post he held until his retirement in 1950.

He held executive positions with most of the important geological societies in North America and in 1960 was elected president of the Royal Society of Canada, this country's most prestigious academic organization.

UBC conferred the honorary degree of Doctor of Science on Prof. Williams at its Spring Congregation in 1972.

Lecture Honors Health Educator

An annual lecture on education in the health sciences has been created at the University of B.C. in honor of Dr. John F. McCreary.

Dr. McCreary, chairman of the education committee for the B.C. Medical Centre to be built at the Shaughnessy Hospital site and former dean of UBC's Faculty of Medicine, has been acknowledged as the originator and driving force behind health sciences centres, the most sweeping concept in health science education since the Second World War.

Nurses, dentists, nutritionists, physicians and other health professionals have traditionally been trained separately. Health sciences centres aim at centralizing and co-ordinating the training of all these students in the health sciences.

A major goal of health centres is to train health professionals to work more efficiently as teams when they graduate. Treatment of the majority of diseases now involves a variety of health professions and this means that professionals can no longer operate in isolated disciplines.

The recently-released report of the provincial health security project headed by Dr. Richard Foulkes credits Dr. McCreary with pioneering the concept of health sciences centres.

Dr. McCreary's work has resulted in construction of health sciences centres across North America. UBC's Health Sciences Centre combines the Faculties of Pharmaceutical Sciences, Dentistry and Medicine and the Schools of Nursing and Rehabilitation Medicine.

The first of the new series of lectures will be given next year when UBC's Faculty of Medicine celebrates its 25th anniversary and when Dr. McCreary retires as Co-ordinator of Health Sciences at UBC.

A fund to receive contributions has been set up to finance the annual lecture. Donations should be made payable to the University of B.C. — John F. McCreary Lectureship Fund and mailed to the Department of Finance, University of B.C., Vancouver V6T 1W5.

EDUCATION FACULTY AIMS

In a recent address to the Vancouver Institute, the Dean of UBC's Faculty of Education, Dr. John Andrews, outlined some of the innovative programs now being worked out in his Faculty to improve the quality of teacher education. What follows is the latter part of his talk, which describes the new programs.

At present, British Columbia has four universities engaged in teacher education, all with different kinds of programs and all recognized by the Department of Education for certification purposes. This diversity, in my view, provides important advantages as long as healthy rivalries between institutions do not preclude adequate co-ordination among them.

Our Faculty (of Education) sees no reason to restrict alternative programs to different universities. We see no reason why, with a Faculty as large as ours, we should not have a number of alternative programs within the one Faculty. The fact is that within a certain range there is no one *best* way to educate teachers. People call a program "good" if it reflects their own particular views on teacher education and if it is compatible with their learning style (if a student), their teaching style (if a professor or associated teacher), or if it produces the particular kind of teacher they favor (if an employer).

Since we live in a pluralistic society there is every reason for us to be pluralistic in our provision of teacher education. Not only does this seem to be a highly desirable principle to follow where the Faculty is large enough, but it has many practical advantages as well. The resulting smaller-scale programs can be more highly personal than is otherwise the case in a large Faculty. If students and professors can choose a program which they strongly favor it is highly likely that for them it will be a successful program.

BROKEN FRONT

Finally, alternative programs provide a means by which a large Faculty can undertake fundamental changes in its program on a broken front. It is not only difficult but extremely hazardous for a large Faculty to change all at once to a fundamentally new, untried program. With a variety of approved alternative programs we can try out different kinds of content, different kinds of learning situations and different ways of involving practicing teachers.

The present program of the Faculty will continue as the regular program. Different alternatives will replace all or particular parts of this regular program. While much of the innovative effort of the Faculty will focus on developing alternative programs, we will also continue to improve the regular program. Indeed, features of some of the alternative programs may well prove to be of such general merit that they should be incorporated into the regular program.

Let me describe some of the alternative programs presently being worked out or considered to make this concept more concrete.

EXTENDED PRACTICUM. The extended practicum would deviate from the regular program in that it would provide an opportunity for a student to spend a solid block of 3½ or 4 months in a school in addition to other student teaching of shorter duration as is presently involved in the regular program. The extra time in the schools would either replace optional courses which the student would otherwise take or would integrate methodology courses with the practicum so that methodology would be learned in a school setting rather than on campus.

SCHOOL-BASED PROGRAMS. The school-based program has a restricted group of students working *all year* with a small team of professors in a single school or a small group of schools. In the school setting the students have an integrated program, including what would otherwise be individual courses in Education Foundations, Educational Psychology and Teaching Methodology, and also do their student teaching. Not only is there, thus, integration of material across different course areas but also movement back and forth from seminar situations in the school to the classroom itself for demonstration and individual practice. Members of the school staff constitute a most important part of the total program both as instructors of student teachers and as participants in in-service education seminars.

COMPETENCY-BASED PROGRAMS. The competency-based program is an alternative which emphasizes individual study for the student. It may be applied to both course work and practicum or may be restricted to either. This approach identifies the specific competencies which a good teacher should have and then provides specific learning experiences to enable the student

to develop them. The whole focus of the program is upon objectives rather than upon different subjects. The intent is, thus, to make clear to the student the relevance of the material he is learning, eliminate the overlapping material which tends to accumulate in course-based teacher education programs, and to throw a great deal of the responsibility for learning upon the individual student rather than the student being a somewhat passive participant in the whole process. In such a program professors and associated teachers perform a consultative role to the student as he proceeds through the individualized materials rather than emphasizing presentation and direction.

OPEN-AREA TEACHER PROGRAM. The role of the teacher in an open-area school is sufficiently different from that of the orthodox teacher that preparation programs require more differentiation from the regular program than just the location of the student teaching. This is particularly true since open-area programs in schools are still relatively new and are not fully developed. They are innovations, presently in the process of growth. Thus there appears to be a need for student teachers and selected professors to work particularly closely with the teachers of existing open-area programs so that all are involved together in the double process of teacher education and the further development of open-area programs themselves. Not only is there a need for the preparation of new teachers in the open-area role but also, at a different level, for experienced teachers who wish to move to open-area schools.

PREPARATION OF NATIVE INDIAN TEACHERS. Those who are concerned about Indian education are in substantial agreement that one of the main factors in improvement is the need for more certificated teachers who are native Indians. This is so because of the need for teachers who thoroughly understand the culture of the Indian children and also to provide for Indian children some models of success in the educational system. At the present time there are only approximately 25 certificated Indian teachers working in the schools. If their numbers were proportionate to their population there would be approximately 600.

Since the regular program is clearly not overcoming the deficiency it seems necessary to design a special program which will be appropriate to their circumstances and culture. Such a program would be a natural outgrowth of substantial work already done by the Indian Education Resources Centre at UBC and by the teacher-preparation program for Indian education which to this point has largely attracted non-Indian students.

LEARNING DISABILITIES. For a number of years there have been substantial opportunities for specialization in this area in the initial teacher-preparation program, at the diploma level and at the graduate level. In the face of increasing numbers of programs being developed by the schools for children with learning disabilities there is a sharp increase in demand for specialized teachers in this area. Accordingly, we are in the process of working out alternative programs designed to meet particular additional needs.

In addition to alternative programs like those described, we want to make some changes in the present regular program. Again, to give the flavor of proposed changes, let me describe some.

PROFESSIONAL YEAR. At the present time the regular program for elementary teachers does not have any single year which is exclusively under the jurisdiction of the Faculty of Education. In all years, at present, there are some courses taken in other Faculties, such as Arts or Science. This fact greatly limits the degrees of freedom in the variety of alternative programs which can be developed. We are now involved in reshuffling the placement of courses in years so that elementary student teachers as well as others have one year which may be termed "a professional year." Additional degrees of freedom may be obtained in the programs for all students by semestering the courses within their professional year. The plan which seems to have the most advantages is a semester which is simply half of the present university year.

ROLE OF SPONSOR TEACHER. Many of the alternative programs being developed feature a much more central role than in the past for the practicing teacher who supervises the work of the student teacher in the schools. Although the regular program will probably not go as far in this direction as the school-based program, there is need to make the role of the sponsor teacher more meaningful than it now is.

NEW SPECIALIZATION EMPHASES. As society changes, both the schools and the teacher-education institutions continually are identifying new areas of emphasis in curriculum and corresponding areas of emphasis in the training of teachers. Some of these new areas, in addition to those mentioned under alternative

FOR DEEPER INVOLVEMENT

programs, are mentioned briefly here. Several new programs, designed to meet the critical shortage of home economics teachers, have already been designed and implemented within the last few months. Some other burgeoning areas are family life education, environmental education, kindergarten teaching, outdoor education and the teaching of reading in secondary schools. These and other specializations are presently being extended or developed within the regular program.

STANDARDS OF TEACHING. One of the perennial problems of a teacher-education program has been to ensure that all its graduates will be good teachers as opposed simply to having obtained satisfactory marks in courses. For many years the demand for teachers has been so strong that a certain measure of leniency has possibly been justifiable on the grounds of public interest. Now that a general shortage no longer exists we are face to face with the problem of selection in more acute form than at any time in recent history.

Obviously, an excellent program of teacher education is a good start. It cannot be the full answer, however, unless one makes the rash assumption that anyone who



DEAN JOHN ANDREWS

is a good student can be made into a good teacher. A good program, therefore, must be accompanied by effective measures for initial and continuous selection. That much is clear and is generally agreed upon. The problem, of course, is the absence of objective measures which can be used. As a result, heavy reliance must be placed upon the subjective judgments of experienced teachers and professors with the consequent difficulty of "disagreement among experts" in a certain number of the cases.

If we are serious about improving the general standard of teaching in our graduates there is a clear need for a great deal of practical research on selection techniques. In the meantime there are some measures which should be given serious consideration. One possibility is a practicum experience in May or June of the year before a student enrolls in the program. There would need to be a heavy concentration of supervisors whose pooled assessments would be more valid than the usual two or three. A tangible basis for self-selection would also be provided. An obvious shortcoming of this practice is that it is sampling raw ability without benefit of any preparation or training. Certainly the nature of the assessments would have to take this into account.

Another possibility is simply setting a higher standard for passing in practice teaching at all points in the program where it occurs. There is a group of marginal students, in terms of present standards, whose fate is vigorously debated. Considerable improvement might be obtained by passing only those about whom there is little doubt of effective performance. In fairness to the student, however, such a change in standard should take effect at an early point in the program so that his or her losses may be cut to a minimum.

As I foreshadowed in my earlier remarks, a major new direction of the Faculty must be more extensive involvement in schools. Teacher education cannot be conducted effectively in an ivory tower. It is essentially

a co-operative process between a Faculty of Education and the schools, requiring close working relationships in both directions. Such relationships cannot usefully be restricted narrowly to initial teacher education. They should also include heavy involvement in school programs for in-service education and curriculum development. Involvement of this kind has been increasing rapidly in recent years but it still proceeds largely on an unco-ordinated basis through the spare-time efforts of those in the schools and universities who have special enthusiasm and stamina. There is an urgent need for all of the agencies involved to work out a general provincial plan for in-service education and curriculum development. Specific financial support is a basic requirement. Such a plan could well prove to be the very basis of future efforts to improve education in British Columbia.

USEFUL SERVICES

For our own part in the UBC Faculty of Education we are increasing as much as possible our involvement in schools. Such activities not only provide useful services to schools but also, by keeping our professors in the mainstream of school developments, contribute an essential vitality and currency to our teacher education program. In addition, we are now working out the details of a professor-teacher program as a direct in-service education opportunity for professors. This program envisages a straight exchange, with the professor taking on a teaching position for a period of time and the teacher working in the Faculty of Education.

Another important new emphasis must be deeper involvement in the University. It is easy to forget that a major part of the education of a new teacher is carried out by Faculties at the University other than the Faculty of Education. For this reason it is important that the Faculty of Education build strong relationships with those others in the University who provide for prospective teachers their general liberal education and their subject specialization. Special attention must continue to be given to reconciling this University involvement with our commitment to the schools. We have already taken important steps to strengthen our working relationships with related departments outside the Faculty and hope to keep strengthening them as occasions arise.

The last major new emphasis I will describe is further development of the graduate program.

As school programs become increasingly complex and sophisticated there is need for larger numbers of highly specialized people in such areas as counselling, administration, special education and curriculum development. The Faculty can be proud of the accomplishments of its graduate program over the many years of its experience but present-day requirements of schools make it clear that a substantial increase in trained specialists is required if standards of practice in the schools are to be improved.

A particular cause of concern is the large number of British Columbia teachers who have felt it necessary to leave the province to obtain graduate degrees. It would be comforting to feel that such an exodus was caused by people deliberately leaving British Columbia to broaden their background or to seek a lower-standard program to which they could be admitted. Unfortunately the evidence indicates this is not by any means entirely the case.

Accordingly we are continuing to work on improving the quality of our graduate programs but also are paying special attention to their accessibility. It would be no service to the schools of this province to lower standards substantially in the interests of producing more trained specialists. On the other hand, we must carefully examine requirements for admission and residence and the adequacy of assistantships to insure that all possible obstacles are removed. We must also consider seriously the offering of off-campus graduate courses as one very important way of increasing accessibility.

MEET CHALLENGE

In conclusion, the new directions and new emphases described here are merely a snapshot view of Phase Two at the present stage of planning. Many shifts in direction and additional emphases will no doubt emerge as we proceed.

In the background of all this present thinking is the nagging realization that all the new school programs presently emerging will be of no benefit to the children and youth of this province unless they are handled with the skill and understanding of excellent teachers. We feel heavily our responsibility for continuing and increasing efforts to meet this challenge.

Grant for UBC Book Collection

The Andrew Mellon Foundation, of New York, has made a grant of \$75,000 to the University of B.C. for the purchase of books in the field of East Asian studies.

And UBC's Librarian, Mr. Basil Stuart-Stubbs, frankly admits that the news of the grant was "a bolt out of the blue."

No application was made by UBC for such a grant, he said. "I can only assume that the foundation has made a survey of libraries that already have substantial holdings of Asian materials and has decided to approve grants to supplement existing holdings."

The grants, according to the foundation, have been made to a "select number of universities in the United States and Canada to enable these institutions to increase their library resources in support of East Asian studies."

UBC has the largest collection of Asian material in Canada, made up of more than 170,000 volumes, most of them in Chinese and Japanese. The collection will eventually be housed in the new Asian Centre, now under construction at the north end of the campus Fraser River parking lot.

The grant, which must be spent within a period of three years, is to be used to supplement, and not replace, funds which UBC would normally appropriate for the purchase of material for its Asian studies collection.

Another condition of the grant is that it should be used to purchase material designed to assist a broad range of interests within the Asian studies area.

Mr. Stuart-Stubbs said the Library is currently circulating a list made up of a backlog of needed books and has asked faculty members in the Asian studies area to indicate priorities.

"We've also been in touch with dealers to determine whether some material, particularly large and expensive sets of books, is available and the prices," he said.

Book Fund

A memorial book fund honoring the late Prof. Lionel Stevenson, who died on Dec. 21, 1973, has been established by friends and colleagues at UBC.

Prof. Stevenson, a member of the Arts '22 graduating class who went on to become a distinguished teacher and writer in the field of Victorian literature, was a visiting professor in UBC's Department of English for the current Winter Session.

He was a prolific author who wrote ten books, ten critical introductions and 56 articles and served as editor or advisor to ten learned journals.

The memorial to Prof. Stevenson will take the form of a collection of books bearing his name. Cheques for the fund, made out to the "Lionel Stevenson Memorial Book Fund," should be sent to the Department of Finance, University of B.C., 2075 Wesbrook Place, Vancouver, B.C., V6T 1W5. Receipts for income tax purposes will be supplied by the Finance department.

Author Speaks

Malcolm Muggeridge, journalist, author and former editor of *Punch*, the famed British humor magazine, will speak on the UBC campus on Tuesday, March 12.

He will speak on "Social Perspectives" at 12:30 p.m. in the ballroom of the Student Union Building. He is currently a resident on Saltspring Island, where he is working on a book.

Mr. Muggeridge, who is noted for his controversial opinions and his vigorous debating style, is a recent convert to Christianity. His visit to UBC is sponsored by the UBC Pro-Life Society, a student organization.

UBC
REPORTS

Vol. 20, No. 4 — Feb. 27, 1974. Published by the University of British Columbia and distributed free. UBC Reports appears on Wednesdays during the University's Winter Session. J.A. Banham, Editor. Louise Hoskin and Jean Rands, Production Supervisors. Letters to the Editor should be sent to Information Services, Main Mall North Administration Building, UBC, 2075 Wesbrook Place, Vancouver, B.C. V6T 1W5.

CONVERSATIONS

Continued from Page Three

od, you'll have 320 in the mill at any given time, less dropouts.

CLARK: Yes.

WEBSTER: When will you have the first entry of 160 . . . student doctors into the campus facilities?

CLARK: Well, we're going ahead at high speed planning those facilities, and I haven't heard precisely . . . Let me guess, and it's only a guess, Jack, that it would be two years.

WEBSTER: Two years. You have the money for that?

CLARK: No. The government has said they would put up the money to construct those facilities and we expect that the money will be provided (and) operating grants, too.

WEBSTER: . . . Although the total for capital grants to universities of \$11 million is the same this year as last year, UBC is allocated \$8 million. Is that going to be enough for your clinical facilities and other expansion at UBC?

CLARK: No. That \$11 million has nothing to do with the medical expansion at Shaughnessy site.

WEBSTER: Are these capital grants already for approved expenditures?

CLARK: Yes. That money will not really be enough to enable us to keep up with our needs. Looking at it in terms of the three universities, back in 1969-70, we were getting \$15 million a year. All right? Now, this coming year and last year, the three universities are getting \$11 million. You know how building costs have gone up in that space of time. We aren't, in my judgment, able to keep up with the depreciation of old buildings on our campus, and we have many needs that we're not adequately being able to meet on this basis.

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WEBSTER: You've told me . . . that Premier Barrett is wrong on the quarter system. Is it your opinion or the opinion of the University at large that the quarter system would result in the deterioration in educational standards?

CLARK: It's not been debated as a matter of general University policy, but the view that I have, I think, would be shared by a large majority of faculty, by the administration of the University and, I would think, by a majority of students.

WEBSTER: I want to ask you a redneck question which I don't even think Premier Barrett would put to you. He said he'd like to have 25 per cent more people out at the University. Do we need an increase in an output from our universities in this small province of an additional 25 per cent or are we going to finish up with another 10,000 BAs looking for jobs as laborers?

CLARK: A most reasonable question to put. Let me try to answer it. First of all, (you can) think of education as, in part, an investment to help a person earn more than they otherwise would. But it's a lot more than that, because it opens to them a broader range of opportunities than they'd otherwise have. Also, presumably, it helps people learn things which they're going to enjoy just for the sake of enjoying them, even though it doesn't affect their income in the least.

Now, in that sense, looking at all of those together, I think it is desirable to have an increasing number of people having university education in the province if they want it. And so, over a period of time, yes, I'd like to see an increase and I think most people at the University would, but that we're concerned also to preserve the quality of what we're doing . . .

WEBSTER: Universal higher-grade post-secondary education and training, I suppose, is desirable from anybody's standpoint. But you forgot one thing: If we can afford it. And apparently we can't afford it at the moment, because Mr. Barrett has said, unless you do certain things, no more money.

CLARK: Well, he's not saying, if I understand him correctly, that we can't afford it. He's not saying that at all. He said, we choose not to give it a priority.

WEBSTER: Well, now, where do we go from here?

CLARK: I would like to make one other comment here I think. This question of the University being available. Increasingly we have members of the public using our facilities. Our computing centre is widely used. It's open 24 hours a day. I think, six days a week. The Library is open from 8:00 in the morning until 11:45 at night on Friday. It's open on Saturdays from 9:00 to 5:00. Sundays from noon till 11:00 p.m. and we're getting a huge number of inter-library loans, people coming not connected with the University at all, wanting help on various things in which they are interested. We have over 23,000 loans last year, people coming asking for things, who aren't students at all. Crane Library for the Blind, with braille books, cassettes and so on, had over 20,000 people using their facilities last year. So that, I would say we are reaching out to the community now.

We have faculty members who go out from the University and put on short courses in various parts of the

MORE HEARINGS SET

The Committee on University Governance will return to UBC on March 8 to hear briefs on proposed changes in the *Universities Act* from the Senates of UBC and Simon Fraser University, the Canadian Association of University Teachers, and the Student Coalition, a group representing UBC and Simon Fraser University students.

The UBC and SFU Senate briefs will be heard at a morning session beginning at 9:00 a.m. in the Board and Senate Room of the Main Mall North Administration Building. The CAUT and Student Coalition briefs will be presented at the afternoon session. The committee meetings are public and interested members of the University community and the public may attend.

The Committee on University Governance, chaired by Prof. Walter Young, head of the Political Science Department at the University of Victoria, was established in September, 1973, by the provincial government.

CHANGE ACT

The committee was charged with studying the relationship between B.C. universities and the provincial government and with making recommendations on changes in the *Universities Act*, the provincial legislation which outlines the basic structure and government of public universities in B.C.

The committee previously held public hearings at UBC on Jan. 22 and 23.

UBC's Senate has approved 19 recommendations for changes in the *Universities Act*, which were discussed at a series of four special Senate meetings, the last of which was held on Feb. 16.

Dean A.J. McClean, head of UBC's Faculty of Law, chaired the ad hoc committee of Senate which prepared the report on proposed changes in the *Universities Act*.

The major recommendations approved by Senate include the following.

1. Establishment of a 10-15 member Provincial Universities Commission, made up of university representatives and provincial-government appointees, who would have the power to advise the government on all matters pertaining to university education.
2. Continuance of the bicameral system of internal university government with two main governing bodies, a Board of Governors and a Senate, as at present.
3. A restructured Board of Governors totalling 17 members, made up of six persons appointed by the

province. And I think that's a good thing. But that's been going on for over 40 years.

WEBSTER: Are you prepared to admit any major failures, though, in your academic planning or in your outreach to the community, or do you feel that you're doing all you possibly can on your present money?

CLARK: Well, you know, it's awfully hard to assess the effectiveness of what we're doing, and if I suggested that we had no failures, no, I couldn't say that to myself, and therefore I couldn't say it to you.

WEBSTER: All right, but let me go back to another point, though, on academic planning. How do you decide? Do you decide merely by public demand, or the demand of potential students, how many people of what grade of degree you're going to process and put through the mill? Or do you decide yourselves arbitrarily how many? Obviously, it's limited by money in the expensive sciences like medicine, but in the other ones, can you channel people or must you just give them the degrees they seek?

CLARK: For the most part, we respond to the demand for students. If there's an increased interest in Forestry, we try to provide more facilities in Forestry. For instance, we put through a new Nursing program this year, with somewhat less emphasis on chemistry and science and more on the social sciences and so on and that caused a big increase in the number in Nursing and we will endeavor to accommodate to them. . . . Most of the initiative for new courses comes from faculty members who have an interest. They see a need to be served, and they put it forward. . . . And those Faculties which grow, they get a larger share of the budget as compared with those where there isn't a growing demand.

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WEBSTER: One thing which we lay people do not understand is the tenure system. Why should a university professor have a lifetime job forever and a day merely because he made that a condition of coming to the university?

CLARK: Oh, he can't make that a condition of coming to the university.

Lieutenant-Governor in Council; three members of the faculty who are members of Senate; three members of the student body who are members of Senate; three members elected from Senate who are neither members of the faculty nor of the student body; the Chancellor; and the President.

(Currently, the Board of Governors consists of 11 members — six appointed by the Lieutenant-Governor in Council, three elected by Senate, the President and the Chancellor.)

4. A Senate which, in UBC's case, would be slightly larger than its current membership of 98. The basis for determining much of the proposed Senate membership rests on the number of ex officio members, a group made up of the Chancellor, the President, the Deans, the director of the Centre for Continuing Education and the Librarian.

Applying this formula to UBC's current structure would lead to the automatic appointment of 17 persons. In addition, there would be community representatives not greater in number than the ex officio members, students equal in number to the ex officio members, faculty in a number equal to three times the number of ex officio members, one representative of each affiliated college, and such other senior university officers as may be determined by Senate.

One result of this formula would be to increase student representation on Senate to 17 from the current 12 members.

Only one of the 20 original recommendations made by Dean McClean's committee was totally rejected by Senate. This called for the president to nominate, after consultation with a Senate committee, a member of Senate to act as chairman for one year. Under the existing *Universities Act* the President is designated as Senate's chairman.

SENATE CHAIRMAN

Dean McClean told *UBC Reports* that Senate's rejection of the committee's recommendation clearly implied that it was intended that the President should remain chairman of Senate.

With only one exception the committee did not recommend any changes in the present powers of the Board of Governors or Senate. The one change approved related to the powers of Senate and would allow it to delegate to a committee or committees established by it such of its powers and duties as it may determine by resolution receiving a majority of two-thirds of those members present at a meeting.

WEBSTER: Oh, there have been cases where tenure has been granted on new staff coming, have there not?

CLARK: In general, virtually anybody comes to the university on probation, say, as a young person. . . . Most of the recruitment is done at the lower ages, the lower ranks, and the decision on tenure is typically made after four years, and maybe after five.

WEBSTER: But tenure itself must surely in itself be a bad thing. There's no danger now that a professor's freedom of speech is going to be impinged by any government in Canada today, and that's the old commie excuse for tenure, is it not? So that he can't be fired because he's an outspoken revolutionary of some kind, a free thinker?

CLARK: I think (many faculty members) regard it as a personal protection of their liberty . . . to hold views that are unpopular, let us say, with the public, or for that matter with their colleagues, or with their students. It is a protection to them against arbitrary dismissal on grounds unrelated to their contribution to the university. That's how most of them look at it.

WEBSTER: How do you look at it? Is that the way you look at it?

CLARK: I'm critical of the tenure system personally, but I don't think my views are typical of most people. What troubles me about it, Jack, is that it is essentially a once-and-for-all decision, and I think it's unfortunate to make the choice on that particular basis, even though it's done with the greatest of care and trying to ensure that only competent people get appointed. I want to add that it does not follow that because a person has tenure, that he can't be dismissed. That is not the case.

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CALLER: . . . I've been through both systems myself. I attended the American quarter system and UBC, and I don't think . . . the excellence of the education has really anything to do with the type of system you work under. I think it's more appropriate to what type of professors you have and the students' incentive to learn. Actually, in my own experience I found I lost interest in courses going over such a long period up here and would

much prefer to go a shorter time, learn what I could, and then get into something new. . . .

Now this was four or five years ago when I went (to UBC) but it was true that there were only a very few students out there in the summer and by-and-large, the facilities are unused. And I found, in the quarter system, that . . . we had maybe 75 to 80 per cent of the fall enrolment going in the summer. . . .

And finally I would like to say that the reason that they have these problems at UBC, and you can have a similar criticism about Simon Fraser, it's because they're so separated from what really goes on in the real world, that students have to make a special effort to get out there. In other words, students have to go to the school instead of the opposite way around. And where I went to school they had the school right downtown and there were just as many businessmen . . . going to school there as there were regular students. And it helped everybody concerned because we finally got some realistic opinions into classes, rather than having these "egg-heads," you know, who really didn't know what is happening. It really helped on two-way discourse. I really mean that. . . .

CLARK: . . . It simply is not true that most of the facilities at UBC are unused during the summer. Graduate work is going on all year round and so is research. It is true, that we have some 3,500 to 3,600 in Summer Session as compared with 21,000 in the fall, so we don't have as many in the classrooms, but the rest of the space is being extensively used. . . .

I think he's right, that if the University were located downtown we would be attracting more students in the summer. But overall it's an immense advantage to have the University located where it is because it then has enough land to expand. Every university that's been built in the downtown area's valuable property in other cities finds that they're very constrained for expansion. They're all hemmed in.

WEBSTER: The other point, of course, is that UBC is where it is and there's no way you can move it now.

CLARK: That's right. Now, he commented also about the "egg-heads" being out of touch with reality. I am not in favor of "egg-heads" being out of touch with reality, so I don't defend them. But . . . I don't expect he intended it as a generalized description of the people who are teaching at our University, or at Simon Fraser.

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WEBSTER: When will you be going to see the Premier, the Minister of Finance it is, to tell him — or does he already know — that the monies are not enough to meet a normal operational growth on all three campuses?

CLARK: . . . I expect the Boards of Governors of the three universities will be sending a delegation over there just as soon as they get enough information on various points to go. I don't know just when that will be.

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CALLER: I would just like to verify that any person in B.C. who really wants to work at it can get a degree in part-time attendance at the University. I got my master's degree that way, through night school, summer school and correspondence, and I found that it was very satisfactory and I really enjoyed it, and anyone can if they put their mind to it.

CALLER: . . . My daughter is 16 now and she's finishing high school . . . And she's very interested in medicine. She has been for quite a number of years and I can see now that, you know, it's not just a child's fantasy. And what is going to be her chances of getting in to UBC?

CLARK: Well, the first thing that presumably she would do would be to take a Bachelor of Science degree, which is a four-year program. She could conceivably go in to Medicine at the end of three years. I think most do get their Bachelor of Science first. Then, if she had a sufficiently good average, there'd be opportunity for her to go in. Now, by the time she gets through high school, doubtless we'll be having 160 students a year. I don't think that she would need to feel concerned that there would be less opportunity for her as a woman. It may interest you to know that in 1973, 24 per cent of those who were in the Faculty of Medicine getting degrees to be doctors were women. And that proportion is rising. . . .

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WEBSTER: I know there's a government committee at the moment, is there not, on revisions to the *Universities Act*? . . . What do you want to see them revise yourself? What needs revision in the *Universities Act*?

CLARK: I think the basic change that is necessary is to have an independent commission between the universities and the government which will receive requests from the universities, will make the case to the government, will allocate money from the government to the universities. I think that's the biggest change that is likely to come about and the one that is most needed.

WEBSTER: And as a matter of fact, this year's crisis is a classic example of the need for such a commission.

CLARK: Yes, I think so. Now, the universities naturally have a concern in the setting up of this that they will be able to preserve their independence. Academic freedom is sometimes used to defend a very wide range of things. Let me be more specific. I think the universities want to

be free to choose whom they will fire and hire for faculty members. They want to be able to choose their programs, which ones they'll put in. They don't want to have to go to the premier and say, "Look, we want this. Will you give us money for this as compared with that?" Because on that sort of basis, what is politically popular at the moment is likely to get support, and what isn't is apt to get turned down. And that's no basis for . . . maintaining a strong university.

WEBSTER: Is that the way you operate at the moment, you've got to go and say, we want money for this?

CLARK: No. This is what, in part, he's saying to us. "If you want more money, come to me and propose some new programs and we'll look at them on an individual basis and let you know."

WEBSTER: And you're saying that's not the way to run a university.

CLARK: That's emphatically what I say, and I think that there'd be general support for that. So, universities are concerned to maintain their independence, then, in terms of what programs they're going to offer and in terms of what students they will admit.

WEBSTER: You in fact are saying that if Premier Barrett does this carrot business, "give me the programs and the type of thing I want and I'll give you the money" — that that is in fact political interference.

CLARK: Yes.

WEBSTER: But surely there must be some measure of political interference?

CLARK: Well, I think the government is entitled to say — they're responsible to the people, they're entitled to say, "this is the amount of money that we're prepared to put up for the universities, and the onus is on the university to make their case to show the things that they want to do, what programs they want and how the money will be divided if they get it." . . .

WEBSTER: But you will concede that there must be a measure of direction from the government in the way it wants the universities to go in the broad scheme of things.

CLARK: Yes.

WEBSTER: Well, there's a very fine line between that and political interference

CLARK: Well, the interference that is a violation of freedom and that which isn't. Yes, you're right.

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CALLER: . . . The freezing of the operating budgets . . . really means that the faculty (and for a number of other of the staff out there, it'll (mean) more years of falling behind the actual increase in cost of living. Some people might think that professors are very well-paid from the word go, after years of intensive work and very little income. It might be of interest for people to know that many professors are paid much less than elementary school and high school teachers for essentially the first half of their careers. Is that right, Dr. Clark?

CLARK: Yes.

WEBSTER: Well, I'd like you both to be more specific on that. In fact, there's another point of Premier Barrett's that we haven't touched on this morning. On Tuesday he made it quite clear that he has a thing about the six to nine hours teaching per week by the university staff. These are the figures he used. Is he wrong? Is he

Documentary Films Shown

The first of a series of six award-winning documentary films made by Frederick Wiseman will be shown on the UBC campus tomorrow (Thursday, Feb. 28).

A group of UBC Faculties, Schools and departments are sponsoring the films, which will be shown in several campus locations between Feb. 28 and April 4. All films begin at 12:30 p.m.

Tickets for the films, at \$1.10 each or \$4.80 for the series, are available at the offices of the following Faculties, Schools and departments: Architecture, Commerce, Education, Health Care and Epidemiology, Nursing, Psychiatry, Psychology, Social Work, Anthropology and Sociology, and Theatre.

Here is a list of the dates and titles of the films to be shown at UBC. Each film runs an average of 90 minutes.

Feb. 28 — "Law and Order." How a police force copes with crime. Old Auditorium.

March 7 — "Hospital." Made in the emergency ward of a New York hospital. Instructional Resources Centre Lecture Hall No. 2.

March 14 — "High School." Life in a lower-middle-class secondary school. Room 100, Education Building.

March 21 — "Basic Training." Life in a basic military training camp. Old Auditorium.

March 28 — "Essene." Life in a monastery. Recital Hall, Music Building.

April 4 — "Juvenile Court." The daily routine of a juvenile court. Old Auditorium.

misinformed in that? Do teachers at universities, one, have an adequate load right now? I get all kinds of hairy stories from callers who are upset by individual cases, but what is the score on the teaching load? Do you people work for a living?

CALLER: . . . I've never seen people work harder than many of the professors.

WEBSTER: Well, I agree, I agree with it. But let's put it bluntly to Dr. Clark.

CLARK: All right. I can't give you a fully satisfactory answer to that, Jack, because we don't have a statistical study as to how long people work. Let me say that my impression is that the average faculty member works between 45 and 50 hours a week.

WEBSTER: But he teaches . . . six to nine hours a week. . . . Is that a proper load if a university professor is doing his proper research?

CLARK: I think an average — it varies a bit from one faculty to another — but an average of around eight, nine hours I think is appropriate for the University as a whole. But when you consider, compare that with an overall working week of 45 to 50 hours, it's quite clear that the actual time in the classroom is a small fraction of the total.

WEBSTER: Another layman's question, and this is thrown at me. I've never been to university, except as a visitor on odd occasions. What does "publish or perish" mean, and why do people say to me, "oh, they use post-graduate students for this and that and they're so busy writing papers they haven't got time to teach." Is there any validity in that criticism? Must a good teacher "publish or perish" even though his forte may be teaching, not publishing?

CLARK: I would have to say that in my judgment the prime emphasis at our University, in the eyes of most faculty members, is on their research, not on their teaching. There are, however, a substantial minority who would put their teaching first.

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WEBSTER: What about salaries themselves? Are salaries standard across the country for universities with various qualifications and various Faculties?

CLARK: They vary from one university to another, and they vary, of course, by rank. Our salaries have, of course, in the last two years tended to fall behind and of course with this particular treatment proposed, we'll fall behind further what is paid at other leading universities.

WEBSTER: Would you care to give me an example of salaries at all, just to take a couple at random.

CLARK: Well, yes, I'll give you the actual figures for this year as an indication. The average assistant professor this year was paid, as a salary, \$15,296, and the largest number of faculty members are in that category. The associate professors, the average was \$18,677. That's the second-largest category. And the full professors was an average of \$26,000.

WEBSTER: Gosh. They'd be far better to get jobs with their buddies in Victoria as associate deputy ministers at \$33,000 to \$39,000, wouldn't it? You'll be losing a lot more people to the new high provincial government salaries, Dr. Clark, won't you?

CLARK: Oh, I expect we'll tend to lose an increasing number of people if this sort of circumstance continues, sure.

WEBSTER: A good plumber can make more than an associate professor. Mind you, that's perhaps only as it should be in the scheme of things in today's society.

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CALLER: Yes, my husband is a professor of metallurgy in the engineering faculty, and some of the hours that he works I think might be worth commenting on. It takes four hours to prepare for every hour lecture that he gives and he gives often ten hours lectures a week, sometimes up to 20, and then there are other hours in the labs as well which are something else again.

WEBSTER: So your husband's working a 50- to 60-hour week.

CALLER: He certainly is.

WEBSTER: Thank you, ma'am. That's a favorable call to finish on. Just for me to wrap up though, you said this morning that Premier Barrett's attitude, if it continues, is going to leave you in a particular bind, difficult to meet your commitments, and you reject, too, his proposition that the quarter system would be better for education, higher education in general, and . . . you say the facilities are used pretty much to the full although it is a lighter load in the summertime. Correct?

CLARK: Virtually correct, yes. I'm not saying we're operating at 100-per-cent capacity all the time. No university is.

WEBSTER: Now, would you like to wrap up?

CLARK: Yes. What I'd really most like would be to have the Premier and the Minister of Education take the time to visit each of the universities after the session is over for a sufficiently extended visit to really find out at first-hand what is going on. I believe their policy has been formulated without that knowledge, because they've had so many things to do in a short space of time. But I think the university community and the public would benefit.

UBC ALUMNI Contact

PREPARED FOR UBC REPORTS BY THE UBC ALUMNI ASSOCIATION

UBC ON TV
9:30 p.m., Thursdays,
Cable 10, in Vancouver



GERRY COCHRANE, BHE'65, undergoes fitness test administered by physiology graduate student James Lee, left foreground, at Home Economics nutrition

conference held at Cecil Green Park on Saturday, Feb. 16. See story on conference in Column 2 below. Picture by John Mahler.



FEDERAL government finance minister and UBC graduate John Turner will be guest speaker at the Commerce annual dinner on Thursday, March 7, in the UBC Faculty Club. Mr. Turner will speak on "Current Economic Conditions: Oil and Energy Problems." The function gets underway with a reception at 6:00 p.m., followed by dinner at 7:00 p.m. Tickets, at \$8 per person, may be obtained by phoning 228-3313.

URGE HIGHER GRANTS

The executive of the UBC Alumni Association has questioned whether the provincial government was aware of projected enrolment increases for next year when it made its decision on grants to the universities.

The executive raised this question after Premier David Barrett announced the 1974-75 grant to universities in his budget speech of Feb. 11. The government has granted the universities \$110 million in operating grants and \$11 million in capital grants (\$8 million to UBC, \$2 million to SFU and \$1 million to UVic).

The alumni officers suggest that, with rising enrolments, the allocations to universities are not high enough, and they urge the government to reconsider the level of grants.

This position was set out in a statement from Alumni Association President George Morfitt submitted to Premier Barrett, which read:

"We are pleased to note that the Premier has given the assurance that he does not wish to interfere with the autonomy of the universities. We are further pleased to hear the Premier's assurances that money will be made available for new programs.

"We are grateful for the funds provided in the budget for capital expenditures.

"Upon reading the budget speech, it would appear that it was the government's intention to increase the operating budget of the three universities by an amount sufficient to offset basically the inflationary cost spiral.

"But it would appear to us that the projected enrolment figures for the next year for the three universities were not available to the government at the time the budget was prepared. We now understand that estimated enrolment at the three universities for 1974-75 is expected to increase by 12.4 per cent, or approximately 4,000 students, over the estimated enrolment 1973-74, on which the division of the operating grants for 1973-74 was made.

"If additional funds are not forthcoming for operating purposes, it seems to us that basic programs may have to be curtailed and, in addition, the quality of education at the university level shall suffer.

"We are certain that it is not the intention of the government to see tuition fees rise in order to maintain basic programs and academic excellence. We

respectfully urge the government to reconsider the matter with a view to possibly increasing the operating grants to the three universities."

The Alumni Association executive is currently considering other courses of action in support of university needs.

Canada Needs Diet Revolution

What this country needs is not a "drinking man's diet" but a "thinking man's diet."

That is the essence of the "Diet Revolution" which St. Paul's Hospital Dietitian Sue Ross proposed to a Home Economics alumni nutrition conference held Feb. 16 at Cecil Green Park. Ms. Ross was one of several nutrition and physical fitness experts who spoke to the conference, which focussed on the relationship of diet to fitness. The day-long conference was attended by 110 home ec. graduates.

Ms. Ross said widespread misinformation about dietary matters is enabling some so-called nutritional experts to get rich. She argued that if people were better educated from childhood about diets and fitness they would be able not only to see through the extreme claims of quacks, but also to take care of themselves better. The key to the "thinking man's diet," she said, is a wide variety of foods in moderation, coupled with lots of exercise.

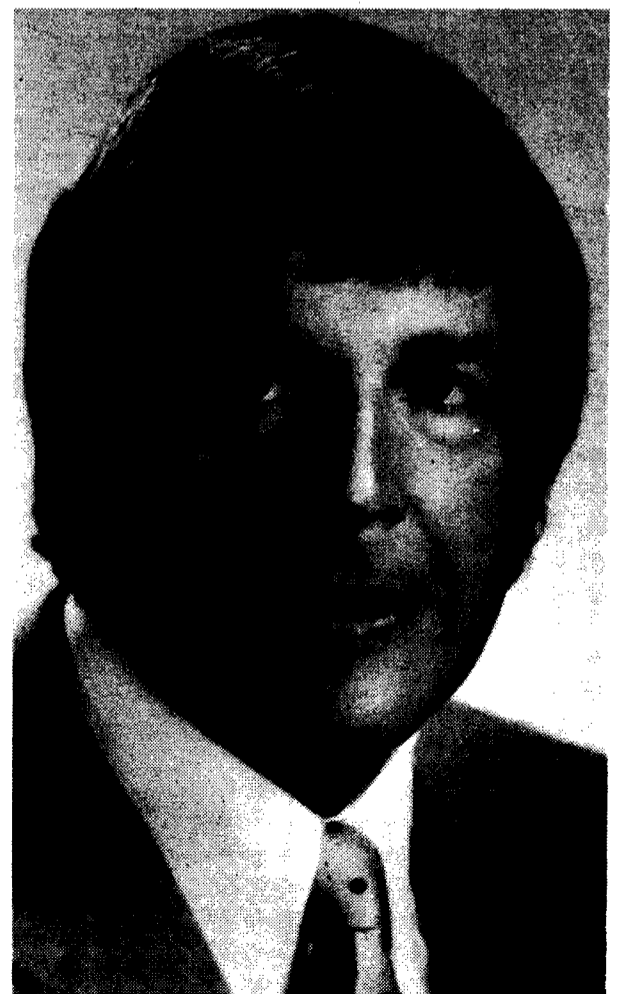
Another speaker, Bob MacKay, physical education teacher at Templeton secondary school, described physical fitness as "what some people have until they are asked to show it." He said women should not confuse physical shape with physical fitness.

Nursing Meetings

Nursing alumni are urged to circle their calendars and attend two upcoming events organized by the Nursing alumni division.

Prof. Robert Heywood, of the Commerce Faculty, will speak on "Personal Finances" at a meeting of Nursing alumni at 8:00 p.m. on Wednesday, March 20, in UBC's Instructional Resources Centre.

Anthropology teacher Dr. Helga Jacobson will speak on "New Women's Studies Programs at UBC" at 8:00 p.m. on Wednesday, April 17, in the Walter H. Gage Residence.



HERB CAPOZZI, colorful former MLA and general manager of the B.C. Lions, will be guest speaker at the annual awards night and reunion banquet of the Big Block Club on Thursday, March 14, in the UBC Faculty Club. The master of ceremonies will be associate professor of Education Dr. Norman Watt. The function begins with an alumni reception at 6:00 p.m., followed by dinner at 7:30 p.m. Tickets, \$10 for alumni, \$6 for students, may be obtained by calling 228-2531.