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SCIENCE COUNCIL

HINTS AT MORE RESEARCH

MONEY

A substantial increase in federal research funds flowing into Canadian universities was hinted at during a meeting of the Science Council of Canada at UBC last week.

And there are other indications that the chief beneficiaries of these federal grants are likely to be researchers in the social sciences.

The increased emphasis on research in the social sciences stems directly from broad statements of science policy which the Council has been developing since it was formed almost three years ago to advise the Canadian government on scientific development in Canada.

Dr. O. M. Solandt, chairman of the Council and a noted scientist who is vice-chairman of the Electric Reduction Company of Canada, told a news conference in Cecil Green Park, the UBC Alumni Centre, that the Council had already made recommendations to the government advocating a broad change in the balance of Canada's scientific effort.

SWITCH EMPHASIS

This switch, he said, would involve more emphasis on applied research and the use of science and technology for the achievement of social goals such as the improvement of life in our cities, the elimination of poverty, and helping in the problems of getting Indians and Eskimos into the 20th century and assisting with Canada's problem of national unity.

He said that the term "science policy" involved the development of an outline of strategy about how best



Dr. O. M. Solandt, centre, chairman of the Science Council of Canada, hinted that Canadian universities can expect increased funds for research at a news conference at UBC last week. For details, see story below. Also taking part in the meeting with news-

men were Dr. Roger Gaudry, right, vice-chairman of the Council, and Dr. Patrick McTaggart-Cowan, former president of Simon Fraser University who is now executive director of the Council. Photo by UBC Extension Photo Services.

to use science in the interests of the nation.

The Council, he said, has concentrated on trying to find out what is going on in Canada scientifically and developing ideas about how the current situation might be altered in pursuing national goals.

"Broadly," he said, "the direction in which we see the needs for change in Canada is that there has been a tendency to do rather more research work in government laboratories and rather less in universities and industry than appears to be desirable."

REPORT DISCUSSED

Dr. Roger Gaudry, rector of the University of Montreal and vice-chairman of the Council, said the advisory body is deeply concerned about the growth of research in the universities and had begun discussions of a report on federal government support of research in Canadian universities by former UBC president, Dr. John B. Macdonald.

He said it was hoped that in the near future the Science Council would come up with fairly broad and precise recommendations to the government on the future funding of research in the universities.

Dr. Macdonald himself said, in an address to the Vancouver Institute at UBC in mid-February, that the government must provide substantially more money for research in the social sciences and humanities.

In his speech, which was based on a two-year study of federal government support of university research, Dr. Macdonald echoed Dr. Solandt's statement that research in the social sciences was necessary to find ways of solving the problems of crime, poverty and other social ills.

Dr. Macdonald's 600-page report contains 77 recommendations and is

currently being printed. It will be released sometime in April.

Dr. Macdonald, who is now executive vice-president of the Committee of Presidents of the Universities of Ontario, also drew attention in his Vancouver Institute address to the imbalance in the distribution of research funds.

He said that 94 per cent of the \$9 million in federal research grants to UBC in 1967-68 went to the natural sciences, engineering and health. Only five per cent went to the social sciences and one per cent to the humanities.

On the national scale in the same year the federal government granted some \$77 million, Dr. Macdonald said. But with 47 universities eligible to share the money, one got 18 per cent, five got 50 per cent and ten got 83 per cent of the total.

There were indications during the Science Council news conference at UBC that the Council would expect a clearer science policy to be articulated within the universities themselves.

ARTICULATE POLICY

Dr. Patrick D. McTaggart-Cowan, former president of Simon Fraser University and now executive director of the Council, said universities are going to have to do a far more conscious job of articulating a science policy.

They would have to decide which areas to emphasize in their research effort and where centres of excellence were to be established, he said.

Dr. Solandt also made it clear that the Council would try to direct a fair proportion of resources to problems of particular importance to Canada. "The idea of specialization is very important in any Canadian science policy," he said.

UNIVERSITY EDUCATION FOR UNDESIRABLE, CHAOTIC, UNJUST EXPENSIVE,

says KEITH R. BAGOO, a UBC graduate (BA'62, MEd'68), who now teaches biology at Vancouver City College. His forceful views on University education, expressed above and in the article which follows, were contained in a "position paper" presented recently to a course in higher education in the faculty of education.

Instead of trying, as at present, to give everybody a quantity and not a quality education, the higher education scene should return to the time when the university was the realm of the scholar, and a community of ideas and scholarship.

It is my fervent belief that not everyone in pursuit of a university education has the tenacity, intellectual capability, and creativity demanded by this institution. It is my suggestion then that there should be a university for those who really want it and those who qualify for it, and other institutions for those who are genuinely after well-defined vocations.

"Universities should once again become research centres where research findings for practical application are initiated."

The university should once again become a research centre and initiator of research findings for practical application, entered only by those who have demonstrated the zest, enthusiasm, scholarship and inventiveness required of the researcher.

The university of today, say one like the University of British Columbia, is a heterogeneous conglomeration of all kinds of students. Some are in search of a sound education which may later lead to a life of research, writing and the application of newly-found knowledge to social and industrial needs. Others are to be trained or educated so that they may obtain a vocation or job which will provide the security and prestige demanded by our society. Others are planning to enter well-

established professions such as medicine and law.

A fourth group of students are there simply because they have been conditioned from the earliest age to the idea that the university is the place to be. This fairly large group has accepted the belief that "it isn't what you learn, but the friends you make that matters," and "a college education is a desirable thing." Faced with the task of satisfying so many student objectives, and placed in a democratic society dedicated to the education of its citizens, plus the justification of its presence to taxpayers and politicians, the university has become a huge metropolis with its students, professors and administrators meandering hopelessly and without direction and a clear purpose. As a result, the student finds himself in an environment that is dark and bleak. He is confronted throughout most of his first two years with indifferent counselling, endless bureaucratic routines, gigantic lecture courses, and a deadening succession of textbook assignments and bluebook examinations testing his grasp of bits and pieces of scattered, unrelated knowledge.

As John H. Schaar, political science professor at Berkeley puts it, "the difference between the last two years of a student's education and the first two is chronological rather than qualitative."

"The current educational community is characterized by alienation between students and professors and students and their goals."

What we end up with is an educational community characterized by alienation between students and professors, and between students and their goals. The time has come when the educational institution must very clearly define its roles and objectives




KEITH R. BAGOO

so that this "alienation gap" can be bridged. The time has come when the educational institution must begin to take each student seriously so that there is complete satisfaction of his educational goals.

As Harold Taylor, former President of Sarah Lawrence College, has said, "The mark of a true university is whether or not it takes its students seriously." By any reasonable measurement or standard, today's multi-versity has not attained that goal. It therefore becomes necessary for the university and all educational institutions to clearly and precisely state their functions so that students may be able to select the particular institution which best satisfies his objectives.

Before I delve into the form and functions of alternative institutions which will satisfy many differing needs, there are two comments which seem to reflect the present education scene.



THE MASSES IS WASTEFUL, TIFIED AND TOO

Firstly, James Bryant Conant, former president of Harvard, in his book **Education And Liberty**, when discussing this problem, said:

"What is needed perhaps is not an extension of four year college and university enrolment but evaluation of what is the ideal education for different sorts of boys and girls irrespective of their family income."

Secondly, Andrew Hacker of Cornell University, in an article titled "The College Grad Has Been Short Changed," said:

"the vast majority of undergraduates are not greatly concerned with the quality of the education they are receiving. The millions of teenagers filling up our colleges and universities are there for career purposes. Most of today's students are not intellectuals, nor are they capable of being so. They have no ideas of their own to put forward and they want to be told what they have to know. Eight out of ten students have nothing to say or add to the educational process. We must interest in, or talent for, the intellectual life."

These two statements seem to reflect the change and reevaluation that is so badly needed.

The first major change I propose is a return to the old German system of making the university a research-centred institution. This is the place where total intellectual interplay and development will take place. This is the place where only those who reveal a strong dedication to research and a high level of academic performance and inventiveness will congregate. The selection of graduate students will definitely not depend on social and economic standing, but on strict academic performance.

"A research-centred institution will attract high calibre students and brilliant minds in all fields of research."

This kind of institution will, in time, attract not only high calibre students but brilliant minds in all fields of research. In time it will attract the finance of industry and government. This support will not only provide the expensive equipment necessary but will liberate students and professors from the more tedious routines of

teaching, which is often disliked by both parties. Already in the United States, certain universities are being singled out by the federal government as excellent research centres, and as a result are benefitting from large government grants for basic and applied research. In one fiscal year, six universities received 57 per cent of the total federal government research grants amounting to more than a billion dollars. With this kind of financial help these universities can concentrate on basic research and applied knowledge and its application, thus helping the community and industry-at-large. The university will become, as Alfred North Whitehead put it, "the place where the adventure of thought meets the adventure of action" in an atmosphere of full autonomy and self-government.

"Career-oriented institutions would serve the needs of students whose primary aim is 'know-how' and job efficiency."

The next change is the founding of institutions which are career-oriented. They admit, educate and transmit knowledge to those seeking a job — people who want to be chemists, physicists, teachers, business administrators and so on. These people are not primarily concerned with education for the sake of education, nor are they interested in being the discoverers or pioneers of new knowledge. They have sacrificed temporarily a general education for "know-how" and efficiency on the job.

As such, the emphasis will be placed on the development of curricula and the teaching of subjects which are pertinent to the students' career. The chemist would be taught chemistry and related physical sciences and not anthropology, history or Greek literature. The biologist would be exposed to as much biology as possible, but not English, French, and psychology.

These extra subjects or disciplines, which to the biologist or physicist might be considered "frills," should come later when the student is considering his total maturity and has lots of spare time instead of occupying badly-needed space.

"Separation will mean the University can cease to be a service station for the diversified needs of the masses."

The emphasis at this institution will be on teaching and not research. This will be the only time in our history when the undergraduate will get the full attention of his teacher and when the teacher will enjoy what he is supposed to be doing — teaching. As improved instruction becomes more common, the desirable educational objectives of inquiry, critical thinking, objectivity, respect for evidence, and so on, will all be attainable within one's field of interest. With this kind of separation the university will cease to be a service station for the diversified needs of the masses, and will become a Mecca of scholarship, ambition, and motivation.

To summarize:

—there is inequality in the natural intellectual endowment of those seeking higher education, and

—there are differences in the level of motivation, drive and intellectual goals of these same people, therefore

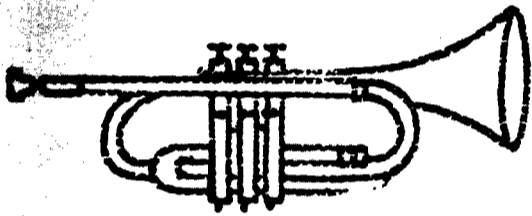
—diverse institutions should be established to cater to these inequalities and differences — universities for the brilliant, devoted scholar and other institutions for the student who is career- or vocation-oriented.

This idea of inequality was eloquently expressed by Felix Schelling when he said:

"True education makes for inequality, the inequality of individuality, the inequality of success; the glorious inequality of talent, of genius. For inequality, not mediocrity — individual superiority, not standardization — is the measure of progress in the world."



Assistant professor of music John Swan, right, is both leader and performer in UBC's 20-piece jazz band.



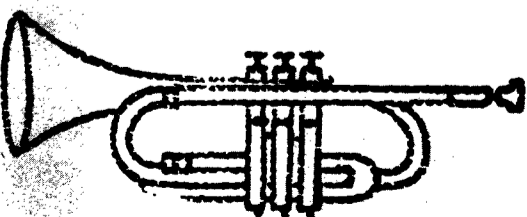
BIG BAND

JAZZ IS

ALIVE AND

WELL

AT UBC



Big band jazz is alive and well at the University of B.C., thanks to a student and a professor in the school of music.

Each week, a 20-piece student orchestra, under the direction of assistant professor of music John Swan, gathers in the basement rehearsal hall of the Music Building and spends two hours poring over arrangements for a type of music that has virtually disappeared from the entertainment scene on this continent.

WEEKLY SESSIONS

The weekly sessions are not an exercise in nostalgia, according to leader Swan. He puts it very simply: "Playing this kind of music will make these students better musicians."

The chief advantage for the students, Swan goes on to explain, is that big band jazz is part of the contemporary cultural tradition. "Learning to play Mozart," he says, "is important, but the music of Mozart's time has little relevance for the student in the second half of the twentieth century."

About half the band has had some previous jazz experience, Swan says. "For those who have had no jazz experience, this kind of music offers them something entirely new. In playing jazz they're freed from the visual aspects of music, and they learn to use their musical ear — to hear better, in other words."

All these sentiments are echoed by Sharman King, a fourth year music student, who was one of the prime movers in getting the band organized when UBC began its 1968-69 session last September.

STUDENTS BENEFIT

"This band just sort of happened," says King, who plays trombone in the group. "One minute we were discussing the idea and the next thing we knew we were in rehearsal."

Big band jazz, King feels, is a good place to start learning about contemporary music. Like Swan, he feels the students benefit from having a familiar musical framework within which to work.

"Many of these students," Swan adds, "will become teachers in high schools and will be expected to organize rehearsal bands. The experience they get here as a member of a big band will stand them in good stead when that time comes."

Leader Swan, who holds music degrees from the University of Toronto and Yale University, is eminently suited to drill a big jazz band. He plays his trumpet frequently in Vancouver nightclubs and at after-hours jam sessions, and is also a sometime member of the Vancouver Symphony. At UBC he teaches theory, orchestration, trumpet and brass instruments and also finds time to compose and arrange.

BAND ON TOUR

The UBC orchestra has already proved that it can produce big band jazz worth listening to. Last December, the band played a noon-hour concert in the Music Building auditorium that drew a near-capacity and enthusiastic audience.

Swan and his sidemen will appear again at the Place Vanier residences for an evening concert on March 27 and will tour the Fraser Valley March 31 and April 1 with the University Concert Band.

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