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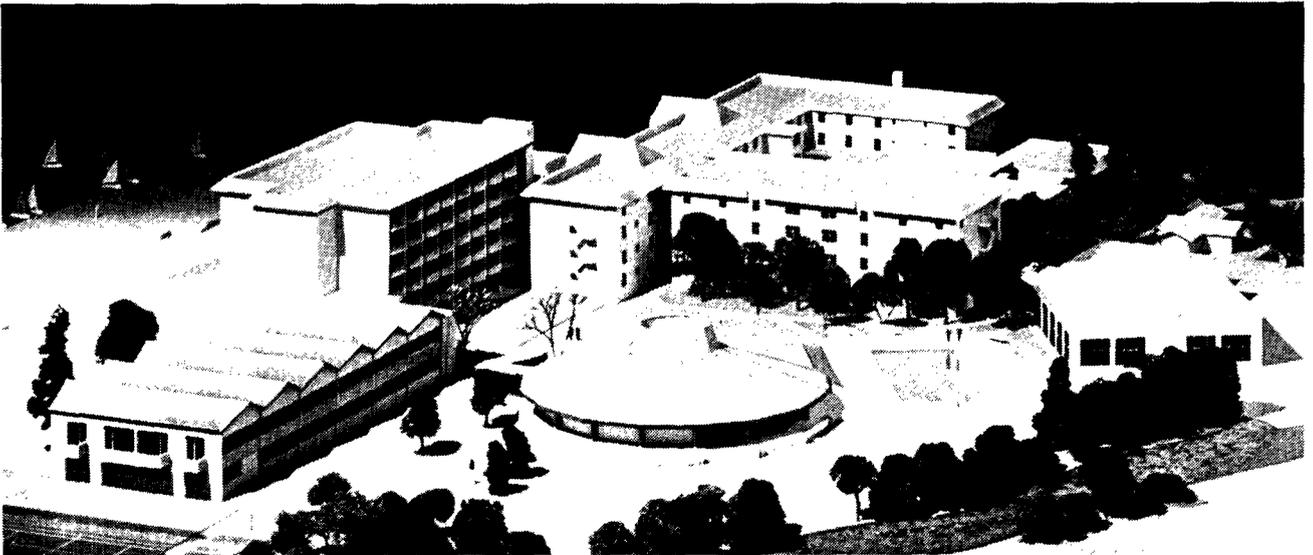


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DAWN OF EQUALITY OR DEATH OF A CULTURE?**

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Indian Education:

Dawn of Equality or Death of a Culture?

Tycoons and teachers, butchers and bakers, and possibly even candlestick makers, are wont to impress upon their children these days the predominant educational theme of this decade. *Don't drop out.* Get a good education or society will sentence you to a life of digging ditches, collecting garbage or suffering the indignities of social assistance.

High school graduation on either the vocational or academic stream has become the minimum pass for entry to the benefits of our society and if one aspires to full middle-class membership, a university degree is increasingly important.

Successful preparation for a place in our culturally complex and technologically sophisticated society is no snap for even the economically

and socially advantaged WASP. It is a little harder again for the child who comes from East of Main, whose last name ends in 'ski' and whose socio-economic environment does not generally stress higher education as a natural and attainable goal. Consider then, in this context, the educational problems faced by the Indian child.

At a time when Western society is becoming slightly blasé about the technical triumphs of the space age, Indian education has only recently emerged from a relative stone age. A senior official of the Indian Affairs Branch told me recently with some pride that the average educational attainment of the Indian in B.C. is now Grade 9. His pride was well-justified when one considers that only 15 years ago the average In-

by JIM STOTT

dian child never advanced further than Grade 3. The same official, Ray Hall, Regional Superintendent of Education for the Indian Affairs Branch estimated that a young Indian entering the school system today has a 75 per cent chance of finishing Grade 10 and a 50 per cent chance of graduating from high school. His chances of entering or graduating from university are so remote as to be barely worth considering from a statistical point of view.

There are more than 49,000 Indian residents in B.C. A total of 25 of them attend university. In a non-Indian context such statistics would represent a dismal and reprehensible failure of the entire educational system. Yet the past record of Indian education is so abysmal that even these sad statistics represent a minor triumph. Hall, however, points out that in the past decade, and particularly in the past five years, both opportunity and attainment in education has improved considerably and the stated goal of integrating Indians into the provincial school system is fast changing from policy to concrete reality.

Integration began more than 20 years ago in 1948 when a handful of Indian pupils began attending a provincial school at Hazelton. Today the school population split is in favor of integration, with 7,713 of the province's Indian children attending provincial schools and the balance of 5,686 enrolled at Indian day schools, residential schools and parochial schools.

The number of Indian students attaining higher grade levels has also increased. In 1956-57, for example, there were 27 Indians in Grade 12 compared to a 1968-69 total of 238 in Grade 12, an almost tenfold increase in a dozen years. And a joint agreement on Indian education signed earlier this year between the federal government and the B.C. government will hasten integration to the point where the Indian Affairs Branch will likely be phased out of education in several years. "We are working toward integration, toward elimination of our department," Hall says. "It won't be long before I will be the last of the Mohicans in federal Indian education here."

The agreement provides the legislative machinery for integration in

areas where Indian groups and local school districts agree. Both parties generally appear in favor of the idea. But neither Hall nor anyone else familiar with the problem believes that putting Indian children in the same classroom as non-Indians will provide a total answer to a situation which involves complex cultural and economic factors and is the culmination of hundreds of years of exploitation followed by bumbling paternalism.

Or, as one veteran teacher I talked to put it: "I think it is very difficult for most teachers, and I'd be one of them, to deal with Indian children because of the experience which Indians have undergone since the European came to this continent. He came as a destroyer, physically through the barrel of a gun, through alcohol and venereal disease and just straight power."

First up with his hand is young Musqueam lad during Grade 3 math class at Southlands elementary school.

Several Indians I talked to in the 30 or under age group stressed that the school system had done little to prepare them for entry into a competitive white society. They felt that school experiences had fostered, rather than helped eradicate, a poor self-image.

Ernest Willy, a 30-year-old Indian from the Kingcome Reserve, 180 miles north of Vancouver, was ordained as an Anglican priest in 1968 and is now assistant priest at St. Helen's parish in North Surrey. Both his profession and his own inclinations keep him in touch with young Indians in the city who are either in or recently out of the school system. He told me: "At one time they were pushing Indians into trades and vocational training but that has changed in the past five years. A young Indian can go into what he wants now. But there's still



Bill Loitselle



Rev. Ernest Willy displays an Indian "copper" and wood carving during talk on Indian art. He wants schools to develop the total man.

a great push to get you financially established come hell or high water."

Rev. Willy feels that the education system has both failed to develop the Indian as a human being, and to improve his self-image, which is often a cause for despair among young Indians. "The education system has to be more idealistic," he says. "It has to develop a full person rather than a machine and the whole philosophy of education has to be reviewed to consider the whole man and not just a part of him. The self-images of many young Indians is that of second-class people and they are resigned to the fact. They feel that as far as being people is concerned they have nothing to offer, they have never been asked to offer anything and why should they anyway?"

Rev. Willy left home at the age of 10 to enter the first grade of a residential school at Alert Bay. At that time he could not speak English and was caned by teachers if he used his native tongue. But the

worst part of residential school for him was the separation from brothers and sisters and parents. "I needed my family and I was taken away from them," he says. "They destroyed the most precious thing I knew because the school never replaced the family. Dividing the families is the greatest crime the residential school system ever committed. You had to stay within the school grounds and when parents came to see you the atmosphere was like visitors coming into a jail."

Despite such experiences, Rev. Willy is not bitter and he and his wife Maureen, a white schoolteacher, could be any young couple making their way in the world with some success. He has no sympathy with Red Power advocates and cannot see that movement has any constructive future.

Bob Joseph, a 29-year-old reporter for the Vancouver Sun, is also a graduate of the Indian residential and day school system. He was a Community Development Worker for the Indian Affairs Branch and

Program Director of the Vancouver Indian Centre before going into newspaper work last year.

At the beginning of our interview, I asked Joseph what effect the school system had had on him and he said that the residential system wasn't ideal but he felt that he had to look back at the positive aspects that might help him now. Later, I asked him the same question again when the ice had cracked a little and he said: "The effect of the educational system on me? I could say it in one word; 'nothing'! I came from one background and I was forced into another. I feel as if I am suspended between two worlds. It would be a lot easier for me to stay home on the reserve and I wouldn't have to worry about image or status. Some young Indians are ashamed of what they are and the school system gives them no direction, does nothing to give them a positive attitude. Kids coming from remote areas have a different value system. The reserve system is a communal system, sharing, caring and doing things together. This is contrary to the capitalist system where status is important."

Joseph says he has a deep concern for the painful process of adjustment to white society which young Indians go through and for the drunkenness, squalor and lack of purpose which is part of the lives of many of them. "I have a wife and four children and my first obligation is to my family," he says. "That is why I don't become a radical, or militant or anti-establishment."

Much of Joseph's spare time is spent behind prison walls at Oakalla, the Haney Correctional Institute or the B.C. Penitentiary where he conducts discussion groups with Indian prisoners. I attended one of these sessions at Oakalla with Joseph. The basic and long-term purpose is to try to get young Indians who are in prison involved in a process of self-analysis, to try to determine the factors which got them into trouble with the law and whether the individual can do anything to correct them. Half a dozen young Indians attended the session, ranging in age from the middle 'teens to 21 and serving terms which varied from a few months to almost five years. As a group they were intelligent, polite, but apathetic about their situation and not inclined

to self-analysis. One or two of the group had reached the Grade 10 level but the majority had quit at Grade 8 where the federal school system ends and the provincial system picks up.

The common denominator which emerged from a discussion of their educational experiences was an apparent lack of motivation either personal or external to regard the education process as anything more than something which had to be submitted to for a certain number of years. One 20-year-old, a bright intelligent boy who said the Indian Affairs Branch had offered to finance his university education if he stayed in school, said he had quit in the middle of Grade 10 to take a job because he "just saw no point" in attending school. Another who attended a residential school run by a Roman Catholic order said he didn't like it because there was a great deal of emphasis on religion and "the nuns made you pray all the time."

It was impossible to make any fair assessment from talking to the group what effect, if any, their educational experiences had had on the development of their outlook and the fact that they eventually ended up in jail. The one clear conclusion was that none of them got the message—if it was transmitted—that education could be the key to a better life, at least in terms of social acceptance and economic status, and that without it their chances of successful participation in our society were drastically reduced.

Frank Hardwick, a professor of education at the University of B.C. who recently helped organize a conference of Indian teachers on campus to get their views on educational needs, says lack of education and low economic status are part of the vicious circle for the Indian. "Economically, the Indian is not a part of the community," he says. "It seems to me that if we don't find some way of breaking the circle by which the Indian, generation after generation, is trapped in a subservient position in the community, we are going to have the same kind of problems here which are emerging everywhere". Professor Hardwick believes that the school system has done little to bolster the self-respect of the Indian or to provide him with the incentive to better himself. "It is dangerous to generalize but I have used many

textbooks over the years and I think it is fair to say that the texts used in Canadian schools have been historically unfair to the Indian," he says. "Despite the best attempts of the writers to be objective the Indian has been placed in an inferior position. The school system has supported this by its very operation and organization. There has been a paternal attitude and both the Indian child and the Indian parent have been placed in a subordinate position in the pecking order. Today there is a chance to remedy this through new approaches to teaching. More material either written or

inspired by Indians has begun to seep like lava into the school system."

One of the primary objectives of Indian education must be, in Prof. Hardwick's opinion, to produce a cadre of teachers who are well-informed on Indian history and culture. "I doubt that more than a small minority of our teachers are sufficiently aware of the Indian culture and way of life. If the Indians are going to be integrated into the provincial school system, as they are, it will offer a tremendous challenge for teachers. There must be special programs and training and

Vancouver Sun reporter Bob Joseph condemns Indian residential schools for perpetuating Indian sense of inferiority.



Ray Allen/Vancouver Sun



Mrs. Anne Malcolm (left) teaches Grade 1 reading at Vancouver's Southlands elementary school, now attended by children from the Musqueam Indian band.

we are trying to start these up now but this will only scratch the surface."

One of the most hopeful efforts to "scratch the surface" is being planned by Professor A. J. More of UBC. He is planning a 10-day Extension Department course this summer to introduce teachers to the historical background and sociological position of Indians. It is hoped the course will better prepare them for their role as teachers in integrated classrooms. Both More and others in the field, including officials of the Indian Affairs Education Department, hope that the summer course will lead to a credit program at UBC designed to give teachers specialization in the particular problems of Indian education. "This province," says More, "is further ahead than most in the school integration process and adaptations are needed to give Indian children equal opportunity, not just turn them into little white kids. One of the most urgent needs is special programs in the English language for Indian children. Young Indians tend to speak a different kind of English from us — a concrete English which has difficulty in handling abstract concepts such as you find, for example, in new math. And it's really tough for them when you get to the level where a fine differ-

ence in the use of words can sometimes mean the difference between a pass and a fail."

Dr. Read Campbell, a specialist in speech communication at UBC, has been busily scratching the surface since about four years ago when, as she says, "I began to have pricks of conscience about these girls coming in and living on Skid Road and I asked myself what I was doing about it." Mrs. Campbell tackles the problem from the viewpoint that feelings of inadequacy experienced by young Indians are often related to difficulties with oral communication. "Speech communication enables a person to build and maintain a satisfactory self-concept," she says. "You build your image, you create a role. Indian students often do not have a satisfactory self-image and they have a need for a warm personality to interact with them. If you don't have your human self properly established you are going to foist your frustrations on others. Two or three young adult students I had last winter felt great bitterness in their hearts and were drawn to the Red Power movement. One of them told me about being down in the Skid Road area. A drunken woman was lying there, the paddy wagon had been called, and she was being kicked while she lay there. He asked me

if I wouldn't get violent in these circumstances."

One of Dr. Campbell's most ambitious projects, for which she has made a submission for support to the Canada Council, is a Centre for Studies in Cross-Cultural Interaction. "We need a cross-cultural centre here, I'd like to call it a spore, a pretty germane grass roots word. I'd like to establish something like that here, working with my UBC colleagues, and then turn it over to the Indians as soon as possible."

In her submission to the Canada Council, Dr. Campbell described the rationale for a cross-cultural centre; "There exists in many young Indian adults today an aspiration, often unconscious and unarticulated, to take a more effective part in the society in which we live. As the intellectual sophistication, economic status, and social customs of Canada's native Indian population change, methods and means which may have been adequate in a former day are no longer appropriate. Since learning occurs primarily in a social-emotional climate, a study of communicative behaviour must be concerned with the self-concepts of the learner, with his self-confidence feelings, emotions, and with his internal thought processes. There is a great need to explore communication problems at an imaginative and

sophisticated level." Dr. Campbell hopes that a program to tackle such problems can be started at UBC, taught eventually by native Indian graduates and, hopefully, repeated with appropriate variations at several locations across Canada.

Probably the most comprehensive survey of the state of Indian education in Canada was prepared for the federal government and published recently by Dr. H. B. Hawthorn, a UBC anthropologist, as a joint project with co-investigators at several other universities. The report, recently published by the Queen's Printer, drew a number of conclusions:

Integration of schools may have proceeded to the point where no further urging is needed for local boards and for provinces to take up their general responsibility, but the problems it has failed to solve and others it has created still bear heavily on the Indian child.

The prime assumption of the survey has been that Indians should be enabled to make meaningful choices between desirable alternatives; that this should not happen at some time in the future but *now*. Many of the desirable alternatives are open only to those educated for them. Consequently Indian children and adults must find schools and proper programs ready to receive them

The efforts to get all children in school, keep them there for a longer time and share all the educational benefits received by other Canadian children have been vastly increased from the time the first moves toward school integration were made some 20 years ago. However, the numbers in high school and post-secondary institutions are not yet near the size needed to reach educational equality with the rest of the nation, and most of the Indians' problems have moved ahead of their educational solutions in the past decade.

School for some of them is unpleasant, frightening and painful. For these and some others it is not so much adaptive as maladaptive.

The integration of Indian children into provincial schools, once so hopefully regarded, has not settled the issue. The Indian child needs more than equality or similarity of education. In some ways he needs more and in some ways different schooling.

The attitudes of white parents and children affect profoundly, perhaps as much as those of the teacher, the capacity of the Indian child to learn in school. Where the attitudes of all of them are negative, the child is overwhelmed. Such extreme cases appear to be rare but it is common to find some parents and their children still reject or dislike an Indian child regardless of his nature and qualities, merely because he is an Indian. If total rejection is totally destructive, partial rejection is partially so.

Some of the major recommendations of the survey include:

- Integration of Indian children into the public system should proceed with due concern for all involved and after the full co-operation of local Indians and non-Indians has been secured.

- All school authorities should recognize that special and remedial programs are needed for the education of Indian children, whether under integrated or other auspices.

- Educational programs should take into account the obvious differences in background of the Indian student and also the often less obvious differences in values and motivations.

- Remedial courses in English which are a part of the regular provincial curriculum should be offered

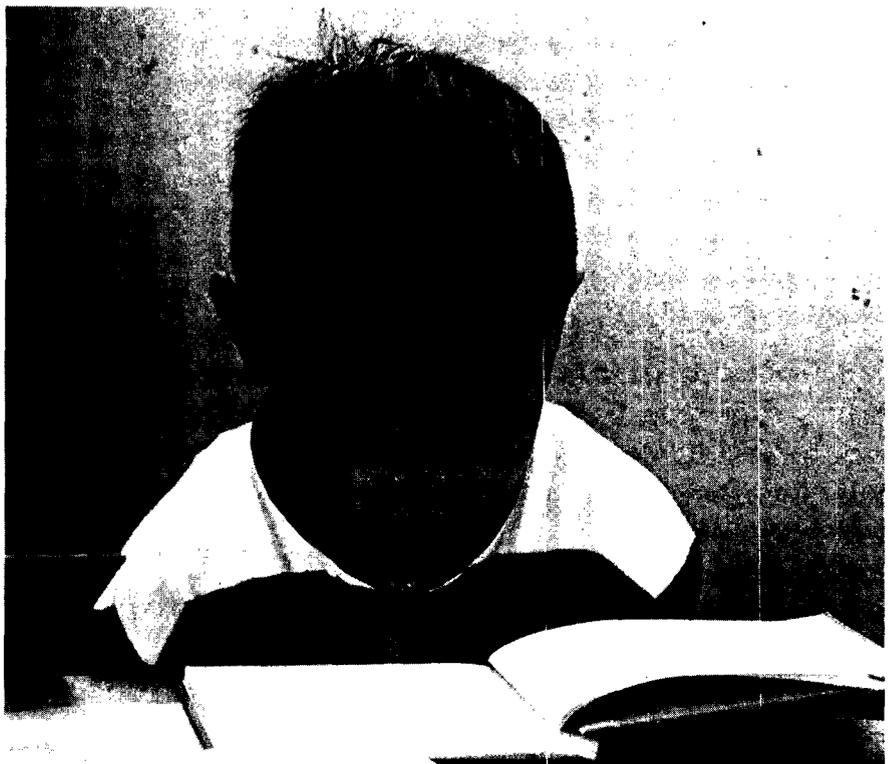
and adapted to the needs of the Indians.

- The Indian Affairs Branch should encourage university faculties of education to offer linguistic studies, including contrastive grammar, as a part of teacher training.

- Other recommendations were that existing reserve kindergarten and nursery school programs should be kept in operation except where they can be integrated; Wherever possible such programs should be co-operative so that Indian parents may share the responsibility of educating their children; Some texts, which the survey describes as containing material about Indians which is inaccurate, over-generalized and even insulting, should be removed from the curriculum.

Even if all the recommendations of the survey were implemented tomorrow, and some of them are in the process of being implemented, it will clearly be many years before Indians achieve educational parity with non-Indians. The ultimate goal, to which education is only an instrument, is acceptance of the Indian as a human being on his own merits as a social and intellectual equal of other people. An enlightened educational system is perhaps our best hope of changing public attitudes and finally achieving this goal. □

Deeply engrossed, a young Indian boy follows the reading lesson.



A Port In A Storm

Chronicle editor Clive Cocking, BA'62, probes the controversy over the Roberts Bank superport project.

SOUTH OF THE FRASER RIVER mouth a new sandy spit stretches out from the swampy shore. Three miles out it fades into a hazy grey blot on the blue horizon. From the shore dyke it seems remote, quiet, peaceful, like a natural part of the delta. But it is not. Out in Georgia Strait, the end of the man-made spit is alive with men and machines. Workers' multi-colored hardhats are bobbing everywhere, gravel-laden trucks are roaring back and forth, tiny tugs are nudging barges, cranes are swinging, earth-movers are swarming over sandpiles like a mass of yellow ants.

It is phase one of the much-praised, much-cursed Roberts Bank superport. The men are hustling to complete the dock and loading facilities in time for Kaiser Resources Ltd. to begin shipping coking coal to Japan in November. The company hopes to begin supplying Japanese steel mills then with the first of 45 million tons of Kootenay coal under a 15-year, \$650 million contract. Now 50 acres, the Kaiser port facilities represent only a tiny fraction of what is to be developed at the superport over the next 30 years. And while the port now seems so remote and peaceful from the shore, its effect has been anything but that.

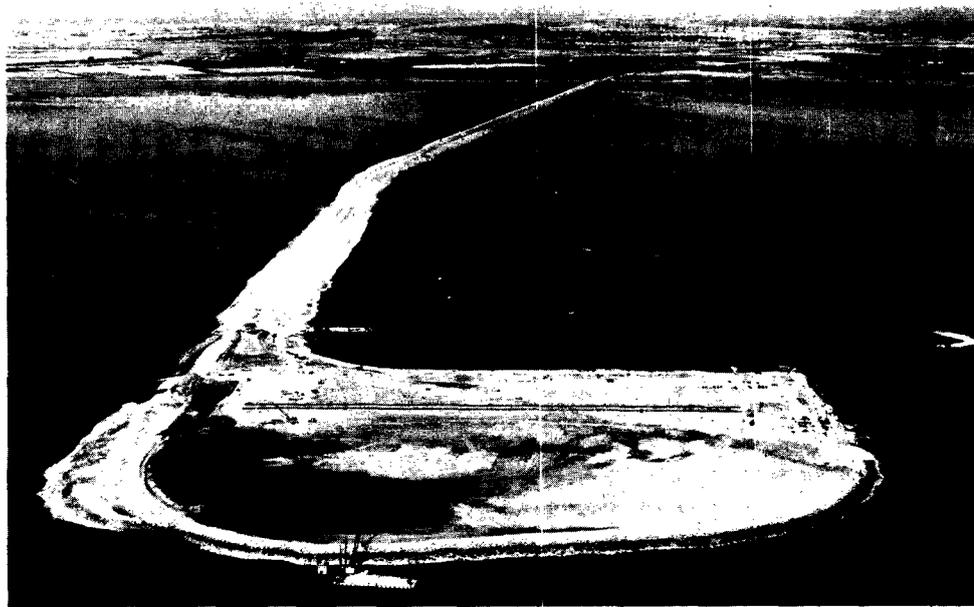
Not since the Peace River power project has an economic development caused such deep public concern and controversy. The provincial government and its crown corporations have been widely criticized for their handling of the development. Protests have ranged



Bill Loisele

Standing at the tip of the superport causeway, Delta mayor Dugald Morrison points north to wildlife habitat which could be threatened by port pollution.

Present superport causeway is only tiny fraction of the ultimate development. Photo courtesy Swan Wooster.



over everything from the provincial government's selection of a port rail route slicing through Delta, to the government's expropriation of rich farmland for port access and industry, to the threat of pollution, destruction of wildlife and possible loss of Boundary Bay for recreation. In essence, the people in the host municipality of Delta—and elsewhere—are fearful of the possible detrimental effect of the superport on the surrounding environment.

Their concerns are not unique. The Roberts Bank superport issue represents in microcosm what is happening throughout the province. Whether it be over a waterfront freeway in Vancouver, pulp mills near Prince George, strip mining in the Kootenays, or plans to divert water in the Okanagan, people everywhere are becoming alarmed at what is being done to the environment—to our water resources, wildlife and recreation potential. Many people sense that the province is on the brink of major economic developments that, while creating wealth, also have potential for destruction of our lush mountain, sea and lake environment.

This is certainly true of the superport. It offers great potential economic benefits to Delta, to the Lower Mainland and to all of Canada. In fact, the now-defunct Lower Mainland Regional Planning Board (a not uncritical agency itself) has stated that: "The port facility on Roberts Bank will perhaps be the most significant development to take

place in the Lower Mainland since the coming of rail to tide water in 1885." But, its economic contribution could be greatly diminished by its destructive effect on the environment.

Any detrimental or beneficial effects of the superport will reverberate beyond the municipality of Delta. They will be felt in the whole Lower Mainland region. Already Delta is feeling the pressure of growth—its population stands at 29,000 and has been growing 25 per cent a year. More and more people are being attracted south of the Fraser River to live in Delta's suburban-rural environment, or to find relaxation through its beaches, fishing, wildlife—and sunshine. The population of the Lower Mainland is expected to almost double to 2 million by the turn of the century, which means such amenities as these are becoming increasingly important.

This is scarcely news. Awareness is growing of the need to husband our natural environment so that there is something left to enjoy in the coming age of leisure. In fact, the Roberts Bank superport is being received with a surprisingly mature response on the part of people who will be affected by it. There is no clamor for the project to be stopped and for Delta to remain as some kind of idyllic suburbia. Virtually everyone favors the development, but would like a little 20th century technology to be used to carry it out with a minimum of disruption.

That includes those most immediately affected, people whose lands have been expropriated.

One of these is Wray Dowding, whose 120-acre farm has been taken for the rail corridor. It's been his home all his life. "My dad and mother settled here in 1909," Dowding recalled recently. "They came out here from Grey County, Ontario. I was born here on the farm in 1912." It's been a good life, the land has been rich and the climate ideal for farming. He raises peas, hay, cats and barley. Dowding feels no bitterness over the superport development; he only wants to get enough money from the government to get another farm and continue farming. But prospects so far haven't looked too good. "I don't know anywhere in Canada where we can replace this land," he said.

Allan Wilson, chief architect for the Vancouver School Board, is representative of another class of people directly affected by the port, people who like a little elbow room for living and for keeping horses. He and his wife, Sadie, have five horses for their enjoyment and for that of their son and daughter when they come to visit. Their 7¼ acre farm was expropriated in January. "We felt sick, very sick when we first heard," said Wilson. "It came as quite a blow because we had no idea that we were being involved." Although there has been no price settlement yet, the Wilsons don't feel so bad now; they recently purchased 12 acres south of Langley



Forced to make way for superport rail corridor are Mrs. Sadie Wilson (left) and husband, Allan, (right) whose land has been expropriated. They intend to relocate on a small farm in Langley.

complete with a beaver pond and a lodge. Wilson is not opposed to the development. "I wouldn't stand in the way of progress, but I would just like to be properly compensated for being uprooted," he said.

People like Allan Wilson recognize the economic inevitability of the superport. While the Kaiser coal deal got the development going, research had shown that such a port would in any case be needed in the 1970s. According to Dave King, BCom '45, BSA'45, executive secretary of the B.C. Harbors Board, the studies indicated Vancouver would surpass Montreal as the major port in Canada in the late 1960s. And this has occurred; Vancouver now handles about 23 million tons of dry cargo annually.

"The studies indicated that by 1975, the volumes going out will double—to something of the order of 45 million tons—and that by 1985, they will nearly double again," said King. "They will be up in the order of 75 to 80 million tons. This is what dictated the need for a facility like Roberts Bank. It could be demonstrated that the Burrard Inlet area could not accommodate all the economic activity that was

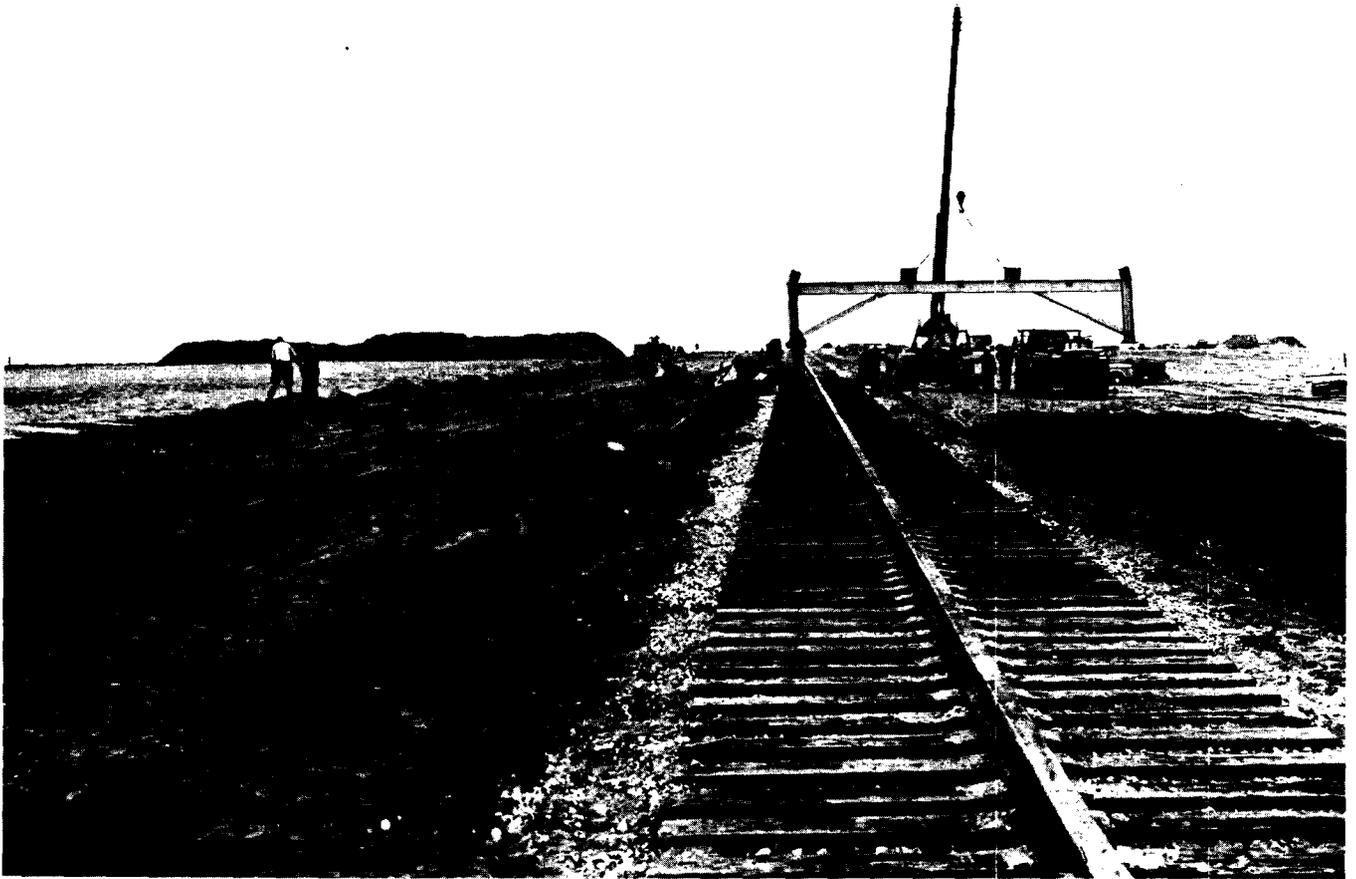
going to be brought into the area in the next 15 years."

One of the reasons for this is the anticipated fantastic demand for Canada's raw materials on the part of manufacturing nations in the early 1970s. Pacific Rim countries, in addition, are expected to have a population increase of 325 million people over the next seven years. This means that, if trends continue, the trade figure of \$700 million between B.C. and Pacific Rim countries could double by 1975.

Equally important as a factor is the technological revolution in transportation now underway. The developments in this area which have had most influence on the superport are those of unit trains—long single-cargo trains that never stop—and superfreighters in the 100,000-ton class. It is expected that, because of the great savings, the bulk of future world trade will use these systems and be carried on between a small number of superports around the world, smaller cargoes being trans-shipped by traditional means to smaller ports. The trend is already underway and it was a matter of keeping up or being left behind.

But why Roberts Bank as the site? The answer is that it is the best site in west coast North America for a superport, according to Swan Wooster Engineering Ltd. studies. Vancouver Island acts as a natural breakwater. Roberts Bank offers superfreighters needed water depths of 65 feet at berth-face, with the possibility of dredging deeper. There is plenty of backup land for quick cargo handling and direct, uncongested rail and highway access. In contrast, water depth at the Vancouver harbor entrance is an inadequate 39 feet; there is no backup land and the area is built-up and congested.

These natural assets will enable the superport to greatly expand over the next 30 years. Ultimately, it will consist of three huge causeways jutting into the sea with 47 deepsea berths and over 100 smaller berths for coastal traffic. In addition to present port access land, it will cover 5,000 acres of land reclaimed from tidal flats. Total cost: about \$150 million. "My personal opinion," said King, "is that the superport is more significant to the Canadian economy than the development of the St. Lawrence Seaway."



Steel girders are swung into place to begin erecting massive crane at the superport. Scramble is on to complete Kaiser coal-loading facilities in time to start shipping coal to Japan this November.

This may well be true. The port is also of great significance to the people of the Lower Mainland. And unfortunately there is little evidence of overall planning being undertaken to ensure that regional interests are taken into consideration. Delta municipality—which has a vital stake in the issue—has consistently complained that it has never been involved in planning the port or rail access. The Lower Mainland Regional Planning Board voiced the same complaints—before it was summarily dissolved by the provincial government. What planning being done is apparently being carried out very quietly by key ministers in the provincial cabinet, the B.C. Harbors Board, B.C. Hydro and the National Harbors Board—with technical assistance from Swan Wooster.

This is totally inadequate in the minds of people like Don Lanskaill, LLB'50, BA'50, the former chairman of the regional planning board. "This particular government has never been receptive to the idea of sharing its authority," he charged. "They feel that when they want to build a superport, they should make all the decisions and shouldn't have

to share with anybody."

What is now called, "The Great Railway Debate", raised similar suspicions in the minds of Delta officials and representatives of other groups. The debate, almost a year ago now, was over selection of the port rail route. Both the original choice and the final rail route selection ignored the provisions of the official regional plan (which the provincial government ratified in 1966) and the advice of the planning board. The route extends through the middle of the municipality, through what the official plan designated as agricultural land and ignored the rail-industrial corridor established along the Fraser River under the regional plan.

Farmers, the B.C. Wildlife Federation, Delta council, the regional planning board and some other groups opposed a rail route through the middle of Delta because it split the municipality, removed rich farmland from production, posed a threat to wildlife habitat and raised the spectre of industrial sprawl. Delta Mayor Dugald Morrison commented: "The council opposed the line along Boundary Bay because we felt that if the line came in from

the north we would be able to keep all industry in one area of Delta, instead of it spreading throughout Delta."

The protests have been of no avail. Mayor Morrison suggests the government knew where it wanted the rail route all along—despite its "second look" at the situation. "It was on the insistence of Delta that the government looked at the north and south routes," he said. "But when they got ready to build they put it exactly where they were going to put it in the first place, so I don't think there was really any question about where they were going. It was simply a smoke-screen."

The result is a rail route that will cut through 25 farms, across 14 roads, and involve construction of 21 miles of new track. The Fraser River route favored by the planning board would have involved extension of 8.6 miles of new track, upgrading of four miles of track and would leave farms virtually untouched and would involve only four level crossings or overpass situations. To the planners, the alternatives had not been examined. "The Roberts Bank rail route issue,

commented the former planning board director, Victor Parker, MSc'60, "was a classic example of the fact that there is no regional planning being done."

In the view of the officials developing the port, the time factor is the source of the difficulty. As Dave King said: "The real problem is that the project is being created very quickly and that much of the engineering is being done as the project is being constructed, in effect. Instead of having studies done, summarized for public consumption, releasing them and having people talk about them for two years, we're actually doing engineering and building things simultaneously. While this may not be desirable from a public relations point of view, it means that you very often can create a major project at considerably less cost."

At less cost to *whom?* is the question Delta officials are asking. Maybe less cost to B.C. Hydro, but not to Delta municipality. For one thing, having a railway running through the municipality will be a source of perpetual servicing problems, according to Delta's administrator, Ray Cunliffe, B.A.Sc.'49. "We're given to understand that right between Ladner and Tsawwassen will be a railway marshalling yard some 1,500 feet wide," he said. "When you start moving vehicular traffic through this, the only way to do it is up and over, and we have no assurances from anybody as to who is going to help us pay for the things we're going to need to put in to get around this problem." A similar problem will be encountered with providing additional services to Tsawwassen, which are now extended south across farmland from Ladner. "The railway is cutting right across this area," said Cunliffe, "which means that every time we try to put another water line, another utility, down to South Delta we will be tunnelling under railway tracks at a fantastic cost compared to open cut ditching." Hydro indicated they would work out a cost-sharing agreement, but have made no move to do so yet.

It may be that Delta hasn't seen anything yet. W. C. Mearns, B.C. Harbors Board chairman, has stated that in his opinion 20,000 acres of backup land for access and industry

is the minimum necessary to make an economic superport. Neither Delta nor the reorganized regional planning agency has had any part in planning for this possibility. Mayor Morrison of Delta noted: "B. C. Harbors Board officials did bring out a map to show us what they anticipated as the eventual use of Delta land and it showed an area all the way from the Gulf of Georgia right up to Colebrook Road in Surrey as industrial land. This would involve the 20,000 acres. Delta comprises approximately 43,000 acres and this would take the bulk of our flat-lands, pretty well all of our farmlands. If this was to develop as the harbors board see it, Delta would pretty well become a Ruhr Valley." Aside from the danger of industrial sprawl, there is the question whether it is necessary to convert rich farmland to industry, particularly since there is already 48,000 acres of industrial land set aside in the Lower Mainland and only 7,400 acres in use.

The rail line and accompanying industrial development are not the only factors threatening Delta's environment for living. Pollution is another. Delta officials have become almost resigned to this prospect since port authorities have not announced any definite pollution control measures. Vague comments about spraying coal with water or oil to curb air pollution have not changed this feeling. Nor has a spirit of optimism been encouraged by the knowledge that the port in coming years will also handle sulphur, potash and crude oil. But air pollution is the immediate threat. In summer the prevailing winds off Roberts Bank are the westerlies, which could result in coal dust—or other pollutants—being wafted up over posh Tsawwassen homes. The mayor, in fact, is almost certain this will happen. "During the spring and summer they're likely to get some pollution up there," Morrison shrugs.

Pollution by water—particularly through oil spillage—presents the greatest danger to the major waterfowl populations in the area. The port, in fact, could have a tragic impact on the waterfowl and the reason (again) lies in a lack of overall planning. Howard Paish, B.E.D. '63, executive director of the B.C.



Cargo of bolts is lowered into place for start of construction of huge superport crane. In the background feverish work is underway to complete the first berths for bulk carriers at Roberts Bank.

Wildlife Federation, pointed out: "The relationship between the provincial government and its own Fish and Wildlife Branch was about the same as between the provincial government and the Lower Mainland Regional Planning Board. They seem to have been totally ignored." He said neither the provincial Fish and Wildlife Branch, nor the federal Canadian Wildlife Service were involved in planning the port, or requested to present recommendations regarding its possible effects on wildlife. And a year before the port was announced, said Paish, the B.C. Wildlife Federation, anticipating the project, urged B.C. Recreation and Conservation Minister Kenneth Kiernan to have studies undertaken on the impact of the port on recreation and wildlife. Nothing was done, he said. Closest anyone came to this

goal was when Swan Wooster, following some controversy, solicited the views of wildlife experts.

The wildlife experts have good cause for concern. The foreshore and sub-tidal areas of the Fraser River delta, just north of the port, represent the largest single piece of untouched waterfowl habitat on the Pacific flyway. These areas, and the farmland behind them, support over one million migratory birds and between 100,000 and 200,000 wintering birds each year. It's a key piece or habitat that supports birds which migrate each year from as far away as Russia all the way to Mexico. A moderate oil spillage could have devastating results—20 gallons of oil alone could cover an acre of water.

But this isn't the only threat to the birds. Conversion of farmland behind the port and near Boundary Bay to industry would amount to taking food away from the birds. For many birds, the farmland complements the foreshore habitat. As Paish said, "The birds will be lost

pretty well in direct ratio to the amount of habitat removed, whether it's on the foreshore or inland." Developments elsewhere have already chopped heavily into available habitat—all of San Francisco Bay has been lost and much of Puget Sound.

To Paish, the answer is not to stop the superport, but to safeguard large foreshore areas from alienation and prevent farmland being wantonly carved up. But he is not optimistic the provincial government will take firm action. "Recreation Minister Ken Kiernan has said that Boundary Bay will be safeguarded and that the foreshore of Westham Island will be reserved for waterfowl, but try and persuade him to put firm reserve status on them—he won't do it," said Paish.

Measures to protect the waterfowl are important, in Paish's view, not just so that hunters will have something to shoot at, but so that all people can enjoy them. Increasing numbers of city people are finding pleasure in the natural beauty

of birds and other wildlife—in watching and photographing them. It's all part of preserving an environment that adds to the quality of life.

And that's what the debate over our environment is all about. Fundamentally, critics of the Roberts Bank superport are concerned that the project—or any other major development—be designed so that natural amenities that make life enjoyable are not casually destroyed in the pursuit of "progress."

Yet, at the root of it all, the concern perhaps runs even deeper. Awareness of the devastating effects of many economic activities on natural surroundings and wildlife populations may be, as Paish suggests, stirring deeper chords in people. "People are beginning to look on wild creatures as sort of symbolic of our own problems," he said. "More and more I sense that this concern for our total environment is a sort of symbolic approach to our concern for our own survival as a species." □



It Behooves Us To Beware The Hunters

"THE COMMON MAN is today the most fiercely hunted of all God's creatures. He is Big Game. Nobody enjoys hunting lions in Africa as much as The Man With A Plan does in stalking his fellow human, the only animal known to cheer on his captor." So wrote a morose student of human affairs a few years ago, expressing a, perhaps, unduly glum viewpoint. However, he had a point for the citizen who has no intention of being softened up to serve as the raw material for somebody else's New Jerusalem. Such a recalcitrant individual keeps himself well up on what's cooking, most conveniently through daily reading of a good newspaper, like the Vancouver Sun, and is always a jump ahead of the man eaters.

SEE IT IN THE SUN

Super-Ideas For A Superport

WATER SKIING in between oil storage tanks at a major port? A town centre built over top of a freeway? Sounds a bit way out, right? Well, these are some of the ideas developed by 43 University of B.C. architecture students for making the Roberts Bank superport into a truly *super* port. And they don't think their ideas are the least bit way out. In fact, they're convinced that if the port is to enhance rather than detract from Delta's environment, someone soon is going to have to come up with imaginative ideas and, above all, start *planning*.

As a five-week project this year, the whole of the second-year design class in architecture studied the Roberts Bank superport development. Actually, two of them, David Graham and Gordon Stene, found the development so important that they spent the whole year studying it and coming up with proposals for improving it. But why, you might ask, architecture students?

The answer, according to UBC associate architecture professor Robin Clarke, chairman of the design program, is that architects today have to be concerned with far more than problems of erecting buildings. "Educationally," he said, "the project was designed essentially to develop the students' judgement and understanding of the role of industrial buildings in a more complex urban pattern. Architects are no longer simply builders of buildings; they have to understand a whole range of urban problems."

The student proposals concerned everything from rapid transit to new patterns of housing development. The following are outlines of four student plans.

In recognition of the port's importance David Graham and Gordon Stene spent the whole school

year developing a presentation on its likely impact. "We concluded," said Graham, "that it was the biggest thing since the coming of rail to tide water here and so we had better continue on with it." They looked at the economic justification for the port, world trade patterns, the transportation revolution, Lower Mainland trends in demand for industrial sites, housing and recreation.

The students concluded that over the next 25 years Delta will experience intensive industrial and residential development which will place a premium on recreational areas. "We found that Delta possesses some amenities the city no longer possesses in abundance and which the Lower Mainland needs," said Graham. "These amenities are a lot of ocean frontage, river frontage for fishing and marinas and wildlife areas. We must effectively

Gordon Stene (left) and David Graham (right) unroll their maps detailing the possible impact on Delta of the superport.

develop and utilize these. We don't want the port to take precedence over everything else in the area. We would like to see some holistic development of the area."

Aside from the threat of pollution, the two students found little to be concerned about with regard to the port itself. "The port operation won't affect Delta's land area too much," said Stene. "But the industrial development behind the port will either make it or break it. It could develop into sprawl."

They have been unable to discover any plan for locating industries on the lands behind the port, so they have developed some recommendations. First, they believe the area should contain only export-oriented industry; those catering to domestic markets can find plenty of land elsewhere in the Lower Mainland. Second, they suggest in-



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dustries should not be allowed to locate at random and be linked with the main rail line by a spaghetti-like tangle of spur lines. "We advocate a road and rail loop system for back-to-back development," said Graham. "Industry would have its back on a railroad line and would front on a road. It would create a park-like atmosphere and would provide more efficient access."

Most suburban communities tend not to have a heart. In the sense, at least, of sprawling over the countryside without developing a defineable centre. This is true also of Delta. As his project, Larry McFarland proposed that Delta consciously develop a centre as a way of containing the growth to result from the superport. He sees the centre as an element to unite the three residential pockets of North Delta, Ladner and Tsawwassen.

"Roberts Bank superport is being imposed on what is now a suburban area," said McFarland. "As the scale grows, people in Delta will have less and less contact with Vancouver and New Westminster. My feeling is that in future any possibility of urban interaction between these people will be severely limited unless something is done to facilitate it. Vancouver seaport has its downtown and Roberts Bank will need one too."

McFarland's Roberts Bank regional centre would be an integrated, multi-level development built over the Tsawwassen highway. It is designed to straddle the highway to facilitate access and to eliminate congestion normally found at intersections in traditional town centres. The centre would have administrative offices for the port, a department store, community college, cultural centre, and retail shops strung out on the central spine, with residential developments jutting out to the sides in two arms. The facilities in the centre would be located in relation to parking on the basis of volume of users and duration of stay. The centre is also designed for flexible expansion. "It was my intention," said McFarland, "to develop a regional centre that has the advantages of growth potential and which offers the urban setting of Lower Mainland communities."

Dennis Christianson developed a novel proposal that would permit



Architecture student Larry McFarland explains how his proposed Roberts Bank regional centre will eliminate sprawl and congestion.

boating and water skiing in between oil storage tanks at the port. "A port this size would draw a fantastic number of tourists," he said. "Rather than develop it all for industry, I tried to combine industry and recreation."

His scheme focussed on the southern edge of the ultimate port development, what is now the Tsawwassen ferry terminal. This terminal will eventually be widened to form the third major arm of the superport. It is also expected that within six years an oil company will be shipping crude oil out of the port and will consequently have several oil storage tanks at the port.

Christianson proposes, first, that the ferry terminal be shifted closer toward shore on the causeway and angled north at about 45 degrees. Adjacent to this would be bulk loading facilities. "The benefits of locating the ferry terminal there are that it would avoid traffic backup blocking access to the bulk loading facilities and it would give people a view of the port," he said. "As the ferry left the terminal, tourists would get a free tour of the port. It would allow people to participate in the port without being a hindrance."

At the tip of this causeway, Christianson envisages locating several oil

storage pods in the water. They would be made out of soil cement, in his scheme, and would have grass and trees growing on their slopes, and marinas located around their edges. He suggests also that the southern edge of the causeway be developed as a linear beach and have a major hotel located on it.

A unique scheme for improving Ladner and for providing low cost housing for superport workers was developed by another student, Frank Koldewyn. The plan would focus Ladner's downtown, now rather run-down, on a re-developed, attractive complex on the river bank. "The town right now doesn't relate to the waterfront at all," said Koldewyn.

Koldewyn's plan would see the development on the river of a commercial centre, apartments, offices, retail stores, a sea food restaurant, docks for fishing boats and pleasure craft. Interestingly, he also envisaged, as part of the plan, a housing boat community for port workers.

"I tried to maintain the character of Ladner in developing this," said Koldewyn. "I think the development would go a long way toward providing housing and recreational facilities that will be needed when the port is developed, as well as improving Ladner's waterfront." □



Adventures of a Fly-By-Night Scholar

by Trevor Lautens

The other day I remarked to an acquaintance that I had got a university degree entirely by means of part-time studies over 13 years.

My friend rose in great agitation, strode over, and vigorously shook my hand.

"Marvellous! Marvellous!" he said, a new look of respect filling his eyes, quickly drained of the Falstaffian bonhomie inspired by a fourth Scotch.

Now in this cynical age there is little enough respect for anything or anyone, especially me. So I accepted his reverence with an engaging modesty that I have craftily picked up along life's way, both on the street and in the sparser groves—I know no other—of academe. Perhaps he was only being polite. Perhaps he approached in a spirit of scientific inquiry (he is a university graduate himself) to see what a slow learner

looks like up close. Perhaps he had too many Scotches.

In any event he was clearly ignorant of my course record, which reads like a list of bad vintages: 1955, English 1a6 at McMaster—a thin little wine; 1958, French 1a6—a nasty bouquet; 1960, English 9 by correspondence from Queen's—badly corked (alas, some wines do not travel well); 1964, Economics 357 at UBC—very vinegary. . . and so on.

The whole caper, with its night courses, summer courses, correspondence courses, letters of permission and fuzzy bureaucracy, was not merely improbable; it would have been impossible, at least at UBC, where I understand you must serve at least one year full-time before they throw the bunting over you.

In pragmatic Ontario they are more tolerant of fly-by-night stu-

dents. My home school, which faithfully kept score over these 13 years of instalment-plan learning, evidently thinks that the resulting shabbiness of scholarship is more or less balanced by the production of sheer good character that accrues from the exercise.

This might even be true. A certain patience is required. A stoicism. A tenacity. Or something.

During those years I was chiefly engaged in assaulting the newspaper business' glacial indifference to my talents, and grappling with the more homespun day-to-day problems. I gave my studies about my third-best shot. I have only admiration for

Mr. Lautens is editor of Page Five and author of a weekly column in the Vancouver Sun. He earned his BA from McMaster in 1968.

those with a finer scale of values. I was too busy ingratiating myself with a series of city editors to do more than pluck the lower-hanging fruits of scholarship. Perhaps this was just as well; if I'd tried for the big ones at the top of the sun-drenched tree, my intellect probably would have melted like Icarus' wings.

On the other hand I confess to a feeling of moral superiority over most teachers who take the same route. They, after all, suffer along at least partly in hope of crass commercial gain ahead. They are not there to learn for the sake of learn—but to Upgrade Their Certificates, or something like that. This gives the enterprise an air of grubbiness, of Babbitry, that I warmly welcomed because it gave me someone to feel better than. (*Lots of people to feel better than; I often felt intimidated by the sheer numbers of teachers taking extension courses.*)

However, I concede that gratification of my ego isn't everything, and quite apart from that aspect I found myself deploring their blatant anti-intellectualism. Now I am not often driven to defend intellectualism; I can barely spell the word, and am

ignorant of its consequences. Intellectuals are quite capable, maybe too capable, of defending themselves, and need no help from mental apprentices with mail-order BA's like me.

But the anti-intellectualism of teachers is something else; a crystallized form of the more vaporous university-as-factory atmosphere that threatens universities everywhere, that would roll the whole education process into a gigantic omnibus course: Making It 4a6.

Very well, I am exaggerating again—and being quite unfair to the poor teachers, probably because the careerism of some of them is the main example to come into my narrow purview. I may also simply be envious. All that lovely extra money just for taking such-and-such courses! I, on the other hand, am worth exactly as much to my firm with a BA as without one, and thus agreeably yield to the temptation of believing that I undertook studies purely for love of squinting into dusty tomes, out of rapture for the smell of the lamp of learning, and so forth.

In fact my motives were mixed.

Those courses in the dark of night and the heat of summer began as a diversion; became a mistress; ended up an obsession. For a time I aspired to the teaching life myself—there, that's the source of my malice toward teachers, a secret realization of shared guilt, like that between Lord Jim and Gentleman Brown.

But gradually my day-to-day work consumed me; like most of us, I am drowning in a mediocre success; in the later years my studies became agony, crushed into a dehumanizing schedule; finally the diploma, fluttering a step or two away, was nakedly sought for itself. Merely as proof—proof that I had passed by.

And yet I don't know. Last fall, the diploma snared and safely hanging on a wall in a distant place, I opened the paper and fell under the old lure. Winter classes at UBC starting again. Those magic, mouth-watering lists.

I enrolled. I cursed and sweated all winter, stayed up reading until curious hours, pieced out ragged essays. Marvellous, as my friend said? Or masochism. Perhaps the monk learns to love his hair shirt. □

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Explorations And Experiments

SCIENTIFIC RESEARCH AT UBC TAKES THE WHOLE UNIVERSE for its laboratory. Whether it's a radio astronomer studying pulsars, an educator probing human learning, an oceanographer analyzing wave action, UBC professors are working on all fronts to extend human knowledge. Supported by \$11 million in grants, the research varies from the pure to the applied, from the highly controlled to the exploratory and unorthodox. Following is a small sampling.

Professor Plays Music To Study Whales By

By the small pool at Vancouver Public Aquarium a bearded gnome of a man regularly plays tape-recorded music—sometimes even a violin—to a killer whale. A culture fiend? No, it's assistant psychiatry professor Dr. Paul Spong trying to learn more about whale behavior by studying the functioning of its sensory systems.

Skana. He learned a good deal, but the biggest discovery was that whales find the standard rat psychology approach to such matters boring.

Working with a two-year-old whale, Dr. Spong is now studying the whale auditory system, principally how complex an auditory stimulus the animal can discriminate. And he's abandoned standard tests with food rewards. He's found that music is the best reinforcement for shaping the whale's behavior.

Psychiatry professor Dr. Paul Spong fiddles while killer whale grooves.

It all began two years ago when Dr. Spong started studying the vision of a dolphin and the whale,



Dr. Spong, above, pipes taped music into whale pool and, below, tinkles brass bell to the whale's delight.



Using taped music played through an underwater speaker as the reward, Dr. Spong has trained the whale to swim around the pool and to vocalize. Lately, he's been grading the music reinforcement to the whale's behavior with great success.

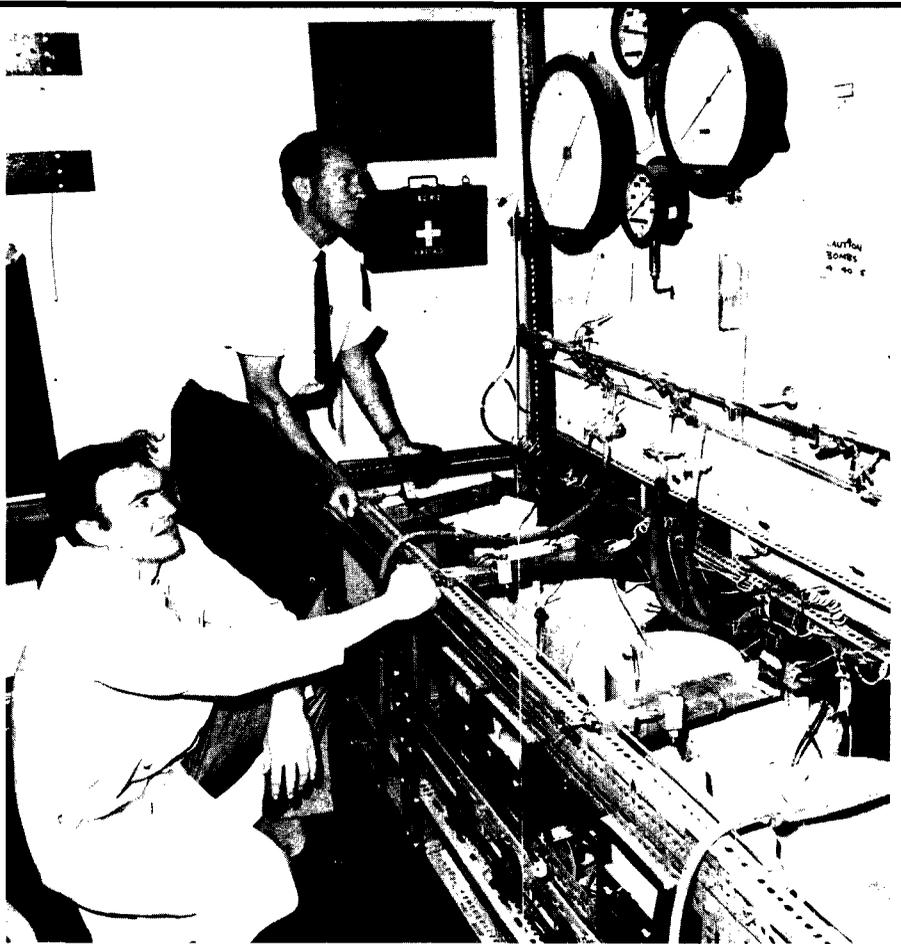
"I was sitting here at the window one evening playing a glass and a bell into the microphone and differentially making sounds in relation to his behavior," Dr. Spong said. "Now that animal had never in the year that he's been here leapt out of the water. As soon as I started doing this, and he caught on that the sounds I was making were related to his behavior, he started swimming around the pool so fast that great waves were washing over the side. And he started to leap up out of the water and breach, and he came up out of the water and breached half a dozen times". Dr. Spong is convinced he's learning much more, faster about whales than he could in any other way—and the whale is enjoying it.

UBC 'Bombs' Aid Knowledge Explosion

The sign upon the door reads: "Counter-revolutionary Bomb Room. Straights, Bourgeoisie, Welcome. Fascists, too!" But behind it, the only "bombs" that associate geology professor Dr. Hugh Greenwood makes are those he uses in his research into how minerals are formed deep inside the earth. The research is carried out by simulating the temperatures and pressures found in the bowels of the earth.

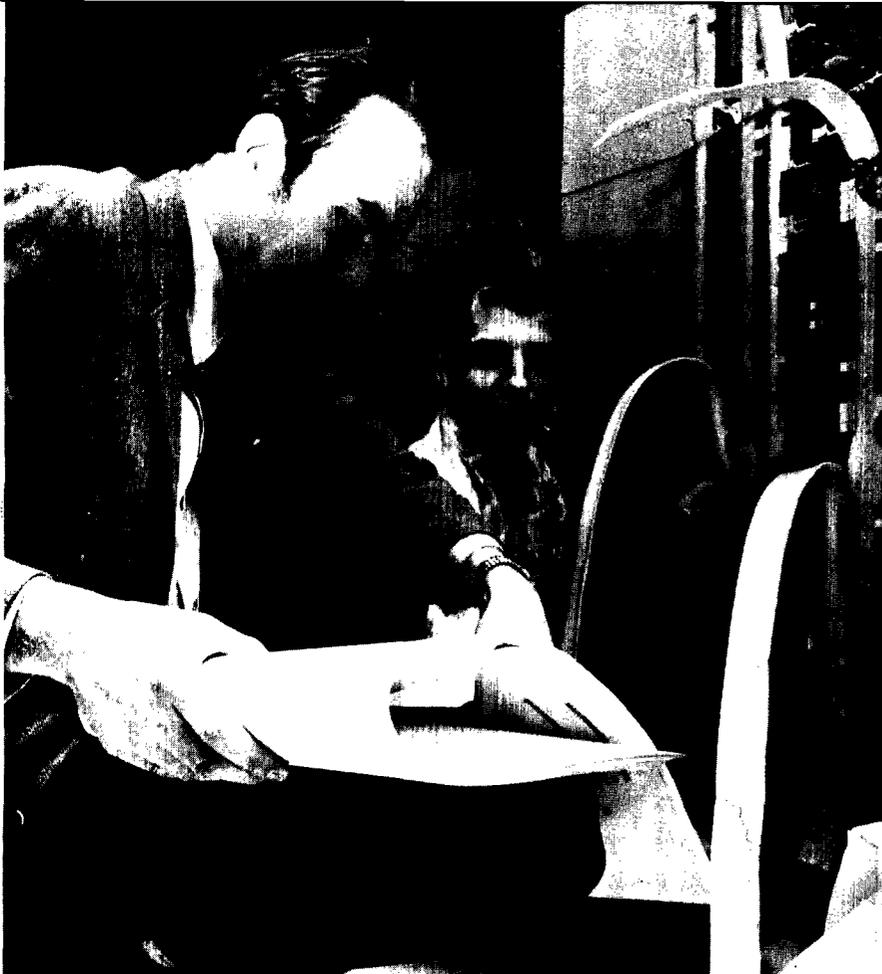
The heart of his lab consists of two banks of pressure vessels, one called "furnaces", the other "garbage cans". Normal procedure is for Dr. Greenwood, or a colleague, to place a sample of rock or mineral material or chemical oxides into a platinum capsule, called a "bomb" (they occasionally break with a bang), and insert it into a pressure vessel. The temperature and pressure is then stepped up to simulate conditions within the earth, giving information at what point certain minerals break down or chemicals crystallize into minerals.

"All our metallic minerals ultimately come from the depths of the earth and it's a prime question to know in what manner they arrive at the surface and then in what manner they are concentrated into a form that is concentrated enough to be worth mining," Dr. Greenwood said. "If we know these things, we have a much better likelihood of looking for them in an intelligent way."



Getting experiment underway, above, Dr. Hugh Greenwood (centre) and post-doctoral fellow Dr. Terry Gordon study gauges for the pressure vessels. Below Dr. Greenwood plants a "bomb" in a "garbage can" to subject a mineral to subterranean temperature and pressure.





Above, electrical engineer Dr. John Macdonald (left) and technologist Ron Spilsbury (right) check circuits in St. Paul's computer. Below, pathologist Dr. Richard Pearce (left), St. Paul's chief biochemist Dr. C. K. Harris (centre) and assistant biochemist Elaine Duke (right) discuss linking autoanalyzers with the computer.



Team Automating Hospital Testing

What has an electrical engineer got in common with a clinical pathologist? When it comes to Dr. John Macdonald of UBC's electrical engineering department and Dr. Richard Pearce of pathology, it's an interest in using computer technology to make hospital operation more efficient. They united forces two years ago in a research-development project aimed at automating St. Paul's Hospital clinical laboratory.

Using their complementary knowledge, they have developed a relatively cheap and flexible system of computerizing testing and data handling in a hospital lab. Total cost of the system for development and computer hardware is \$150,000, compared to about \$3 million for a typical commercial system. They are now ironing out kinks in the program prior to starting the first phase of automated operation.

Under the system, most regular tests will be automatically conducted by analyzing equipment, the results will be fed into the computer and a record will be printed out. At the end of the day, completely updated records will be printed out for patients who have been treated during the day, greatly reducing the volume of paper. The system is designed to be operated by ordinary lab technicians and for easy adaptation to any hospital.

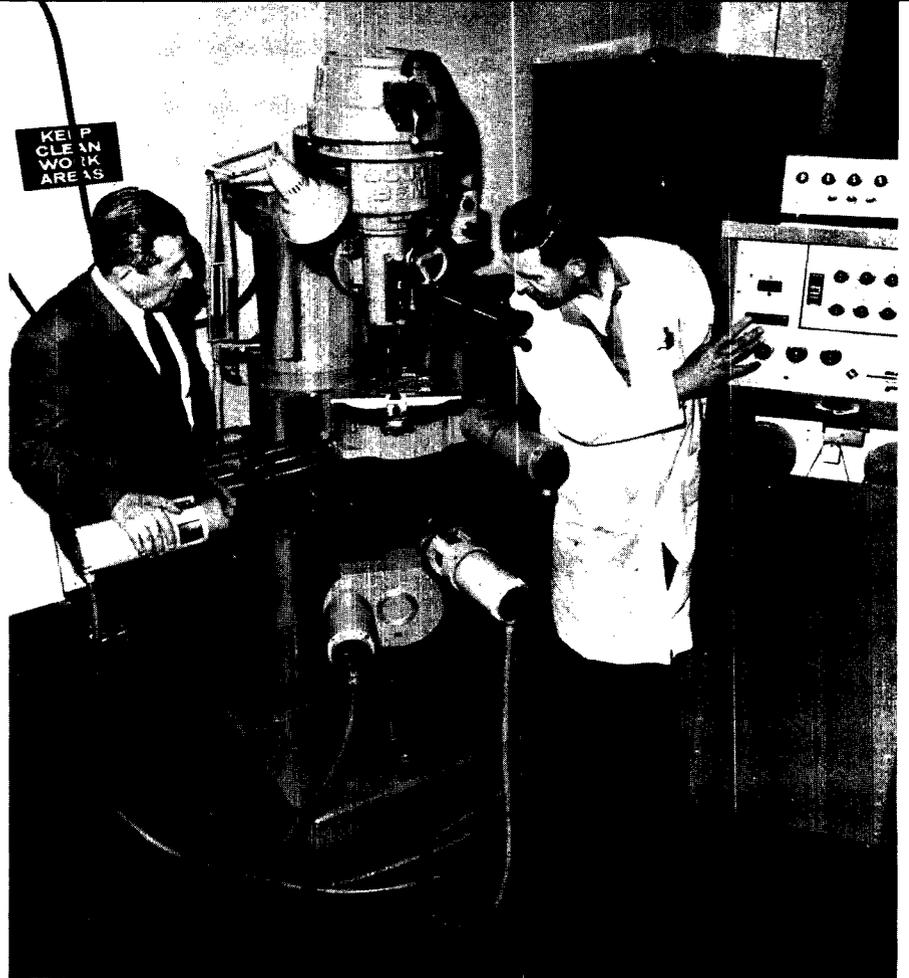
Because of their work, the two scientists have been in demand to chair symposiums in such places as Montreal, the Mayo Clinic and the National Institute of Health in Washington, D.C.

Engineers Studying Automation Methods

UBC mechanical engineering students are getting right up-to-date preparation for the age of automation thanks largely to the department head's research project. Dr. James Duncan received a National Research Council grant for studies aimed at discovering the stiffest yet lightest support structure for mirrors sent up in orbiting astronomical telescopes. For intricate machining, the project necessitated a \$11,500 numerically controlled (automated, to you) cutting machine—and the spin-off is a revamped educational program.

In effect, the machine is a large drill press which does what it's told by a computer. Dr. Duncan is using it to make models in exploring variations of the "Michell structure" (an intricate spider web-like form) as a support to keep an orbiting mirror steady and prevent it changing shape once it's free of earth's gravity. The machine will be used to make the inflector for the TRIUMF accelerator also; other people are interested in it for making heart valve ducts and aerodynamic models.

All third-year mechanical engineering students learn to program and to use the equipment—a first in Canada. This is a vitally important step to Dr. Duncan. "The movement toward automation of machine processes started in the 1950s," he said, "and it's getting to the point where more than 50 per cent—probably 75 per cent—of all machine tools will be operated by this means in future. I want these students to be acquainted with this trend." □



Watching automated machine operate, above, are mechanical engineering head Dr. James Duncan (left) and technician John Hoar. Below, Dr. Duncan displays some of the complex models created by the machine.





Walter Gage Named Sixth UBC President

THE MAN who has often been called, "Mr. UBC", and "Dean of Everything", is now the sixth president of the University of B.C. Walter Gage was officially installed in the office by outgoing Chancellor John Buchanan at UBC's annual Congregation ceremonies on May 28.

The ceremony climaxed 48 years on the UBC campus as student, professor and administrator. He was welcomed to the post by a standing ovation from about 2,100 graduating students and spectators following the ceremony in UBC's War Memorial Gymnasium. President Gage, whose most recent titles were dean of inter-faculty and student affairs and acting president, was named president in April after the resignation of Dr. Kenneth Hare.

The 64-year-old president spoke briefly following his installation. Gage said anyone assuming an administrative post owes much to his predecessors, and paid tribute to the five men who have served as president since UBC's beginning in 1915. He had a special tribute for Dr. Hare, who served less than a year after being plagued by ill health. "The warmth of his personality," said Gage, "and his extraordinary understanding of the problems of the contemporary university helped us immensely over a difficult period of our history."

A native of Vancouver, President Gage received his bachelor and master of arts degrees from UBC in mathematics and physics. He began teaching mathematics at UBC in 1926. His superlative teaching record was recognized last December when he became the first recipient of the UBC Master Teacher Award.

Also during Congregation, Allan M. McGavin, was officially installed as chancellor of UBC. McGavin has been a member of the UBC board of governors for three years and has been co-chairman of the Three-University Capital Fund since 1964.



UBC Extension/Graphic Arts

President Walter Gage speaks to the 1969 Congregation after being welcomed to his new post with a standing ovation.

Hebenton Elected New Alumni President

THE NEW PRESIDENT of the UBC Alumni Association is Sholto Hebenton, BA'57, BA (Oxford)'59, BCL (Oxford)'60, LLM (Harvard)'61. Hebenton, a Vancouver lawyer, was elected by acclamation to the position for 1969-70 at the annual alumni meeting May 7. He replaces Stan Evans, BA'41, BEd'44, in the post.

Hebenton has been active in the alumni association for several years. Most recently, he was third vice-president of the association and two years ago he was chairman of the branches committee. He has also been active in the government relations committee, being chairman of a group which prepared an alumni brief to the Perry Committee on Inter-University Relations during the past year.

Another highlight of the annual meeting was the presentation of the Alumni Award of Merit to noted Canadian humorist and playwright,

Eric Nicol, BA'41, MA'48. A columnist for the Vancouver Province for the past 18 years, Nicol is the author of numerous books, TV and radio scripts and plays, and a three-time winner of the Leacock Medal for Humor.

Recognition was also paid to student achievement by the annual meeting. Alumni Awards of Student Merit, each carrying a \$50 book prize, were made to graduate political science student Don Munton and to third-year rehabilitation medicine student Anne Smith. The keynote address at the annual meeting was given by Stanley Burke, BSA'48, host of CBC-TV's National News.

The other key members of the new executive elected at the annual meeting are: first vice-president, T. Barrie Lindsay, BCom'58; second vice-president, Frank C. Walden, BA'49; third vice-president, Mrs. Frederick Field, BA'42; and treasurer, William Redpath, BCom'47.



Charlotte Warren

New Face For UBC Alumni Fund

THE UBC ALUMNI FUND is going to make use of a little feminine charm in its campaign this year. It's going to be supplied by Charlotte Warren, BCom'58, who has been named chairman of the class agent-faculty program. She will coordinate direct mail appeals by class agents and faculty deans as part of the Alumni Fund campaign to raise \$250,000 in 1969.

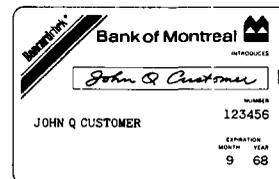
A former school teacher, Miss Warren is now with World-Wide International Travel. She served as alumni representative on the Women's Athletic Committee for seven years. She said she was eager to help the Alumni Fund since it had helped the Women's Athletic Committee—lately with grants of about \$1,500 annually. "I don't think you can continue to go on asking for funds, you've got to do something," she said. "That may sound terribly virtuous, but I feel you've got to pull your weight in raising some of that money."

On another matter, the Alumni Fund has enabled 15 UBC forestry students to participate in a summer-long education tour of Europe. The Fund contributed \$2,000 toward the students' transportation costs, matching another \$2,000 contributed by Walter Koerner, Chairman of the Board of Governors. The tour is designed to give the students insight into European methods in forestry genetics. □



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Spotlight



Dr. Hugh Keenleyside, (centre), is installed as Chancellor of Notre Dame University by Bishop W. E. Doyle (right), assisted by Rev. Aquinas Thomas.

THE FINE ART of being a university chancellor has two new initiates. At Notre Dame University in Nelson, B.C. **Dr. Hugh L. Keenleyside**, BA'20, PhD (Clark), LLD'45, retired co-chairman of the B.C. Hydro, was recently installed as chancellor, the first non-cleric to hold the post. The election for chancellor at Simon Fraser University was won by **Kenneth Caple**, BSA'26, MSA'27, former head of the Canadian Broadcasting Corporation in B.C. He will take office in June with the official installation to follow at a later date. Both new chancellors have considerable experience in university government, having served on the senate at UBC. Mr. Caple is a former member of the board of governors at UBC and Dr. Keenleyside has been on the boards at Clark and Carleton universities.

'19-'27

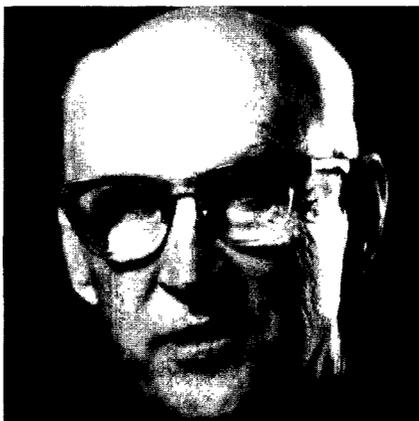
At the end of June, **Richard Conrad Emmons**, BA'19, MA'20, PhD(Wiscon.) retires after 45 years on the faculty at the University of Wisconsin where he has been a teacher, researcher and administrator in the department of geology and geophysics. He has published over 50 papers on his research into the origins of granite and the relationship of its overall origins to major regional earth structure. He was appointed professor in 1936 and served as department head for 15 years. One course that he initiated in the 1920's on gems and precious stones and taught for the last time this year, gave him an additional duty to perform—as he says 'as Cupid's little helper'. He would be asked to give his approval on the engagement rings that his students were buying. His retirement plans include work on two books on

geology and some mountain climbing—a very suitable hobby for a geologist. . . . **Mrs. C. Douglas Stevenson**, BA'27, (Anne MacKenzie), was the only B.C. school trustee to attend the Canadian Education Association conference held during May in Banff. . . . **Dorothy Walsh**, BA '23, MA(Toronto), PhD(Bryn Mawr), recently retired from the faculty at Smith College, is the author of a new book, *Literature and Knowledge*, published by Wesleyan University Press.

'30-'33

Mrs. Harold Newcomb, BA'30, LLB '50, (Mary F. McQuarrie) is on the staff of the chief clerk of the Iowa House of Representatives. In her fourth session as engrossing clerk she looks after all the legislative bills and keeps track of what she calls 'the action' in the permanent book. She has also served in the legislative research bureau and as committee clerk for the chairman of the judiciary

Dr. Richard C. Emmons



committee. . . . **Edith J. Green**, BA'31, BLS, MSN(U of Wash.), PhD(Indiana), associate professor at the school of nursing of Indiana University has taken on the additional duties of assistant dean for academic programs at the school. Before joining the faculty in 1958 she spent two years at the University of Alexandria in Egypt, setting up a regional college of nursing for the World Health Organization. . . . One of the world's leading geneticists, **I. Michael Lerner**, BSA'31, MSA'32, PhD(California), DSc'62, chairman of the department of genetics at Berkeley, has been awarded the Weldon Memorial Prize from Oxford. The award is given for the most outstanding contribution to biometric science in the previous six years. . . . **Douglas McK. Brown**, BA'33, has joined the board of directors of Wall & Redekop Corp. Ltd. . . . The number of female public principals in the Vancouver area remains at one with a retirement and a new appointment. **Kathleen Reynolds**, BA'33, MA'43, has retired as principal of the Queensbury elementary school in North Vancouver after 45 years of teaching. **Christine Swanson**, MEd'68, becomes the first woman principal in over 30 years in the Vancouver school system. For the past year she has been vice-principal at Sir Wilfred Grenfell elementary school. **Dudley Lucas**, BA'49, BED '60, **Kenneth M. Macpherson**, BA'54, BED'58 and **Robert Austin Muir**, BA'57, BED'59, MEd'67 were appointed principals at the same time.

'36-'39

Lyle Creelman, BASc'36, is looking ahead to a well-earned but busy retirement, after 15 years with the nursing division of the World Health Organization. As head of the section since 1954 she has become a true globetrotter, visiting the more than 70 countries where WHO nurses are helping with the development of nursing schools or working with local nurses to improve nursing services and public health on both the national and local levels. Her first retirement project is a survey for WHO of

Dr. I. Michael Lerner





Robert G. McElhanney

services in south east Asia. . . **Bruce A. Robinson**, BA'36, BAsc'36, professor and head of the department of commerce at Acadia University, represented UBC at the installation of Henry P. MacKeen as the first chancellor at Acadia. . . **Albert C. Lake**, BA'38, an authority on the operation and design of libraries, will be designing the new civic library at Fullerton, California. He is presently on the staff of the library at Riverside. . . **Jack J. R. Campbell**, BSA'39, PhD(Cornell), head of the microbiology department at UBC, has been awarded the Harrison Prize by the Royal Society of Canada for his work in non-medical bacteriology. . . **Robert G. McElhanney**, BAsc'39, has been elected vice-president of Dorr-Oliver Inc. He has been general manager of the process equipment division since 1966. He will continue to be responsible for the division as well as for development planning. Before moving to the USA he was vice-president of their Canadian subsidiary and is still a director of that company.

'40-'45

Alumni association past president **Stan Evans**, BA'40, BEd'43, will be keeping his presidential talents in trim over the next year as the newly elected president of the Rotary Club of Vancouver. . . **Thomas H. Anstey**, BSA'41, MSA'43, PhD(Minnesota), director of the federal department of agriculture research station at Lethbridge has been appointed assistant director-general of the research branch. From headquarters in Ottawa he will be in charge of the western Canadian research operations. He is presently in England on a six month Nuffield travelling fellowship studying research management in universities, government and private institutions. . . **Joseph M. Adam**, BCom'42, has been elected vice-president and director of trade relations for the R. T. French Company. He has been with the company for over twenty years, and was most recently general sales manager at their Mustard Street office. . . **Robert K. Porter**, BCom'42, president of the Thomas J. Lipton company has been elected president of the Grocery Products Manufacturers of Canada. . . **Daniel P. Tatoff**, BA'43, BEd'58, MED'68, who was awarded the UBC



Stan Evans

summer school association prize in 1968 for his work in the education master's program also received a French ministry of foreign affairs scholarship for two months study in France. . . **J. David King**, BCom'45, BSA'45, industrial development agent with the B.C. Hydro has now added some new responsibilities as executive secretary of the B.C. Harbours Board. The harbours board is handling the provincial aspects of the Roberts Bank superport development. . . **Leonard G. Wannop**, BAsc'45 and his family are now living in Marsa El Brega, Lybia, where he is plant manager for Esso Lybia. This position includes supervision of a new \$300 million natural gas plant as well as the refinery and other installations.

'46-'47

Rhys D. Bevan, BAsc'46, general manager of the industrial chemicals division of Canadian Industries Ltd. has been elected a director of the Chlorine Institute. He has been active in several professional organizations including a term as founding chairman of the chemical economics division of the Chemical Institute of Canada. . . **Oswald K. Miniato**, BAsc'46, MAsc'47, is now manager of the manufacturing, transportation and marketing division of the planning and economics department in the head office of Shell Canada. He was previously refinery superintendent at Shell's Oakville operation. . . **Anthony D. Scott**, BCom'46, BA'47, AM(Harvard), PhD(London), professor of econo-

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Dr. Albert L. Babb

mics at UBC, has been elected a Fellow of the Royal Society of Canada. He recently resigned after four years as head of the economics department to spend more time on teaching and research. . . . Alumni association treasurer **William E. Redpath**, BCom'47, has been named chairman of the board and chief executive officer of Can-Am Systems.

'48-'49

Albert L. Babb, BAsc'48, MS, PhD (Illinois), has been named Engineer of the Year by the Washington Society of Professional Engineers. The award recognizes his work on processing nuclear fuel elements as well as his discovery of a new early detection technique for cystic fibrosis. Another area of his research has been designing improved components for the artificial kidney machine. A result of his work has been the establishment of a division of bio-engineering to co-ordinate the use of engineering, mathematics and physics in helping to develop new types of equipment for biology and medical research. Dr. Babb has been a faculty member at the University of Washington since 1952 and is currently chairman of the department of nuclear engineering and professor of chemical engineering. . . . **William A. Bain**, BAsc'48, MAsc'50, is now in New York where he is working on a special assignment with Standard Oil. For the last four years he has been executive vice-president of Building Products of Canada in Montreal. . . . Something new in British television is daytime programming for women. The commercial network's planning for these programs is under the direction of **Mrs. Michael Barnes**, BA'48 (Elizabeth Cowley). During the past season she has produced a nightly magazine-type program and she hopes to update and expand programming that she says 'has either been old fashioned or non-existent.' . . . Trial by jury in the Langley family and children's courts has occasionally meant a juvenile jury if **Judge Leslie M. McDonald**, LLB'48, has been presiding. He has recommended that his experiment be continued after he leaves to take up a new appointment to the county court in New Westminster. . . . Interested in old books and



Ronald J. Baker

Africana? If so you might visit the new bookstore that **Mrs. Simon Ottenberg**, BA'48 (O. Nora J. Clark) has opened in Seattle. She will be specializing in the social sciences and 'anything on Africa'. . . . **Donald A. Smith**, BA'48, PhD (Toronto), has been named a senior laboratory head at the Kodak research laboratory in Rochester. He has been with the company since 1951 and was previously head of the polymer vehicles section.

Charles F. Armstrong, BCom'49, is now head of transportation with the Canadian National Railway. He has held several senior posts in his 16 years with CN, most recently as area manager in southwest Ontario. . . . **Frank G. P. Lewis**, BA'49, LLB'50, was recently elected president of the John Howard Society of Canada. . . . **Douglas U. Tate**, BSA'49, has been named vice-president, marketing, for McNeil Laboratories (Canada) Ltd. He has been a member of the board of directors since 1967.

'50-'52

John T. Carson, BA'50, MBA (West. Ont.) has been appointed director of marketing for Alberta Distillers Ltd. . . . A new university and a new president. . . when the University of Prince Edward Island is formed this summer through the merger of St. Dunstan's University and Prince of Wales College its president will be **Ronald J. Baker**, BA'51, MA'53. One of the original faculty members at

Thomas J. Campbell



Simon Fraser University, he was head of the English department, director of academic planning and a senate member before beginning a research sabbatical in England last fall. . . . **Lorna J. Sager**, BA '51, is now chief librarian at the Barnes Library at the University of Birmingham. Previously she was education librarian at the University of Alberta. . . . **Brien Wygle**, BAsc'51, was the flight engineer on the first flight of the Boeing 747 jumbo jet. He is a test pilot and assistant director of flight operations for Boeing in Seattle.

One large omission in Spotlight's review of the Vancouver civic election—there was no mention of *Tom Terrific*—who is as well known as **Thomas J. Campbell**, LLB'52, who was overwhelmingly elected to his second term as mayor of Vancouver—our apologies to his fan club. . . . **Donald J. Hudson**, BA '52, has recently returned from Toronto to be general manager for the Vancouver area Eaton's stores. A former member of the alumni board of management, he was previously merchandising manager of Eaton's central division. . . . **Robert V. Zellinsky**, BAsc'52, has been appointed general sales manager for Bingham Pump Co. Ltd.

'53-'55

John L. Davies, BA'53, LLB'54, who has been practising law in Burnaby has been appointed a magistrate in Vancouver. . . . **Harold E. Hatt**, BA'53 PhD (Vanderbilt) and his family will be spending the next year in Paris where he will be doing research on a post doctoral fellowship from the American Association of Theological Schools. . . . **John W. Hogan**, BAsc'53, has recently joined the staff of L. J. Manning & Associates. He was a pioneer of the Elliott Lake uranium camp and has had experience in exploration and mining geology all over North America as well as overseas. . . . **Richard I. Nelson**, BAsc'53, MBA (Harvard) has been named president and chief executive officer of British Columbia Packers Ltd. Previously he was president of Nelson Bros. Fisheries, a subsidiary firm. . . . **William E. Philpott**, LLB'53, who practised law for many years in Vancouver and was well known in labour arbitrations has been appointed a

James W. Killeen



family court judge in Nanaimo. . . .
James W. Killeen, BA'54, MED'62, vice-principal at John Oliver secondary school in Vancouver has been elected president of the B.C. Teachers' Federation for the coming year. For the past two years he has been the education degree representative on the alumni board of management.

Donald P. MacKinnon, BASc'54, is now back in Vancouver as assistant manager for Canadian National Railways. He was previously in charge of a corporate long-range planning group at the CN research and development department in Montreal. . . . Newest of B.C.'s new look in political leaders is **Thomas R. Berger**, BA'55, LLB'56. He was elected leader of the provincial NDP party at their recent convention in Vancouver. He now becomes the leader of the opposition in the legislature. . . . **Mark M. deWeerd**, LLB'55, who is practising law in Yellowknife is now Queen's Counsel. . . . **Patrick E. Peacock-Loukes**, BArch'55, has been appointed project director on the architectural staff of Edmundson, Kochendofer, Kennedy & Daniel, a Portland consulting firm specializing in comprehensive industrial and architectural design. . . . **Joe D. Quan**, BCom'55, is now with West-East Realty Co. Ltd. He will be establishing an investment-commercial-industrial division for the company as well as acting as sales manager and co-ordinator.

'56-'59

Keith J. Bennett, BCom'56, is now assistant manager of Forest Industrial Relations Ltd. . . . **T. Roland Fredriksen**, BASc'56, MASc(Purdue) has been appointed vice-president, engineering for Electrogas Inc. in California. An internationally known expert on closed loop control of motors, he was with IBM before joining Electrogas in 1967 as electrical engineering manager. He has made numerous contributions to technical publications and has six patents (with four more pending) on his electrical inventions. . . . **Dr. James Alan Herd**, MD'56, has been appointed associate professor of physiology at Harvard medical school. . . . **Michael A. Williams**, BCom'56, has been named treasurer and manager of accounting for Canadian

Thomas R. Berger



Delhi Oil Ltd. . . . **Burke C. Corbet**, BASc'57, MBA(West. Ont.) is now in Vancouver as western associate for Canadian Enterprises Corporation Ltd. . . . **Thomas A. Criol**, BASc'57, MASc'59, and **Perry W. Nelson**, BSA'53 have been awarded Sloan Fellowships for the coming year at the Sloan school of management at MIT. . . . **Robert W. Maier**, BA'57, MBA(West. Ont.) has been appointed executive vice-president of Honig-Cooper & Harrington advertising agency in San Francisco.

New appointments to the St. Paul's Hospital Board include **Mrs. Donald C. Cook**, BEd'58 (Thelma Sharp), **D. Ross Fitzpatrick**, BCom'58, and **A. Gordon Armstrong**, LLB'59. Chairman of the board is **Harry L. Purdy**, BA'26. Mrs. Cook's appointment is rather unique as she is the first woman, other than the sisters of the order that founded St. Paul's in 1894 to sit on the board. . . . A letter from behind 'the silence curtain' surrounding Biafra has come in from **Dr. Ania Nnubia**, MD'58. He tells of how the events of the war have affected the lives of his countrymen and how he has joined the militia in what he calls a total effort by every Biafran. Dr. Nnubia enclosed a list of badly needed medical supplies—further information and copies of the letter are available from Dean McCreary of Medicine. . . .

Ralph R. Brown, BCom'59, has been elected a director and vice-president of E. A. Whitehead Ltd. He was previously B.C. manager for the insurance firm. . . . **Dr. Douglas B. Clement**, BSc(U of Oregon), MD'59, was one of five Canadians to receive the Vanier Outstanding Young Men's Award for 1968. A former Olympic team member, he is president of the B.C. Track and Field Association and head of the department of medicine at Richmond General Hospital. . . . **Robert N. Pollard**, BA'59, MED'68, has joined the faculty at McGill as assistant professor and director of the instructional media centre in the Faculty of Education.

'60-'62

Edwin R. Black, BA(West. Ont.), MA'60, PhD(Duke), is leaving the political science department at Queen's University to be director of a new research



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organization for the Progressive Conservative Party. . . . **Gordon E. Forward**, BASc'60, MASc'62, PhD(MIT), is now technical section head corporate development, for the Lake Ontario Steel Company. Previously he was senior research engineer with the Steel Company of Canada in Hamilton.

David M. Howard, BCom'61, is now controller of United Provincial Investments Ltd. **Nelson M. Skalbania**, BASc'61, MSc(Cal Tech), who has specialized in earthquake resistant designs in high rise buildings, is vice-president at UPI. . . . A new law practice—**Jacobsen, Drysdale, Mackey & Hemsworth**—has been set up in Vancouver. **Roy B. Jacobsen**, LLB'61, will do corporate and real estate law; **John A. W. Drysdale**, BA'49, LLB'52, a former member of parliament, specializes in immigration law; **J. Michael Mackey**, BA'61, LLB'64, corporation and securities commission law and **H. Barry Hemsworth**, BCom'64, LLB'65 specializes in securities commission law and 'dabbles' in criminal law. . . . The architect for the B.C. pavilion—or rather sculpture—at Expo 70 is **Barclay McLeod**, BArch'61.

David M. Ezart, BASc'62, is now production manager with Smith Lithograph in Vancouver. . . . **Stephen W. Hagemoen**, BASc'62, senior electrical engineer with Universal Dynamics Ltd. has recently been appointed a director of the firm. . . . **Robert E. McKechnie**, BASc'62, PhD(Berkeley) is now on the faculty of engineering at McGill. . . . **Thomas H. Woodside**, BA'62, has been



Ross P. Fraser

named director of advertising and special services for Canadian Motor Industries Ltd.



Beverly J. Ketchen

UBC's contingent at the CUSO office in Ottawa is growing—a former volunteer and co-ordinator in Dar-es-Salaam, **Rudy Carter**, BA'65, is assistant to the director of the east and central Africa programme. **Brian Marson**, BA'62, MA'64, one of the original CUSO volunteers returned from New Delhi last year where he was in charge of CUSO's India operation to become director of the Asia program. **Jim Ward**, BSA'64, spent four years in India working with farmers to improve farming methods. He returned to Canada last October to be CUSO's agricultural consultant. Another member of the CUSO team, but abroad is **Christopher M. Brown**, BA'65, who is field officer in Tanzania. . . . **Kyle R.**

'63-'68

John E. Kepper, BCom'63, is teaching business administration at the University of Western Ontario. . . . **Terence M. Gordon**, BASc'64, MSc(Princeton) has been awarded his doctorate in geological and geophysical sciences from Princeton. . . . **Beverly J. Ketchen**, BA'64, MSc (Wisconsin) is with the Western Institute for the Deaf in Vancouver as clinical audiologist.



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Lynton S. Gromley

Mitchell, BCom'65, LLB'66, has joined the National Student Marketing organization in New York as director of personnel.

An experiment in tropical living is ahead for **Mrs. Henry Riese**, BHE'66. (Judy Gaudin) and her husband. They have taken on the project of developing 1,000 acres of plantation on the island of Curaçao in the Netherlands Antilles.

Ross P. Fraser, BA(Sir Geo. Williams), MA'67, is now dean of student and college affairs at Selkirk College, Castlegar. He joined the faculty in 1966 to teach English and last year was appointed administrative assistant to the principal.

Lynton S. Gromley, BASc'68, who is working on his doctorate in chemical engineering at UBC has been awarded a \$4,000 Shell Canada fellowship which is tenable for three years.

Births

MR. and MRS. **STUART R. BOISVERT**, (She-lagh Goodman, BA'64), a son, Wesley Michael Stuart, October 25, 1968 in Vankleek Hill, Ontario.

MR. and MRS. **W. HUNT**, (Miriam Shep-ard, BHE'62), a daughter, Susan Leigh, March 26, 1969, in Sarnia Ontario.

MR. and MRS. **BRIAN C. IRWIN**, BA'62, LLB'65 (Maureen Irving, BA'63), a son, March 26, 1969 in Vancouver.

Marriages

LONSDALE-GIGUÉRE. Cliff Lonsdale, to Roséa Giguère, BA'66, May 17, 1969 in Toronto.

SOULDERS-CURTIS. John Martin Souders, to Lucy Bronwen Curtis, BA'64, Feb-ruary 1, 1969 in Alexandria, Virginia.

VICKERS-TREMBLEY. D. Neil Vickers, BA'63 to Jo-Anne Lucille Trembley, December 28, 1968 in Victoria.

Deaths

1920's

Jack McDougall Arkley, BA'23, March 1969 in Vancouver. Survived by his wife,

daughter, son-in-law and two brothers, Stanley, BA'25 and Heileman, BA'25.

Dr. Henry Roy L. Davis, BSA'21, MD, CM(McGill), January 1969 in Vancou-ver. He is survived by his wife.

John Denzil Jones, BA'24, March 1969 in Cloverdale, B.C. During his career he was a teacher, principal and later a professor at the Seminary of Christ the King.

Dr. Charles D. MacKenzie, BSA'29, MSA'32, PhD(Alta.), April 1969 in Fort Langley, B.C. Dr. MacKenzie had been on sick leave from UBC where he was professor of animal husbandry and assist-ant dean of agriculture. He was with the federal department of agriculture from 1935 to 1950 with the exception of service in the Signal Corps in the Second World War. He is survived by his wife, daughter, three sons and sisters: Mar-garet, BA'30, Mary, BA'23, and Mrs. R. C. Armstrong (Dorothy), BASc'31.

L. Frank Pumphrey, BA'23, March 1969 in Vancouver. Survived by a bro-ther and two sisters (Avis, BA'27).

Dr. Christopher Riley, BA(McMaster), MA'29, PhD(Chicago), March 1969 in Vancouver. Dr. Riley was an outstanding mining geologist whose work as a con-sultant had taken him all over Canada and to many parts of the world. He served terms as president of the B.C. section of the Canadian Institute of Mining and Metallurgy and of the B.C. & Yukon Chamber of Mines. Survived by his wife, daughter, brothers and sister.

Dr. Jack William Shier, BA'23, Aug-ust 1968 in Vancouver. He is survived by his wife (Grace I. Hilton, BASc'30).

Ernest F. Wilks, BASc'26, March 1969 in Vancouver. During his career as a professional engineer he was with Cana-dian General Electric and later with the B.C. Electric Co. before starting his own firm—Metalspray Co. in Vancouver in 1936. He served in both world wars—in the Imperial Army as a lieutenant in the first war and as a squadron leader with the RCAF in the second. Following the war he joined the public service of Canada and was in charge of marine plant & dredges at Vancouver. He re-tired in 1955 and returned to UBC two years later to do post-graduate work in geology. He is survived by a nephew.

1930's

Everett R. Bewell, MSA'31, April 1965 in Victoria.

Virginia Gloster, BA'32, February 1969 in New Westminster, B.C.

Kenny N. Stewart, BA'32, February 1969 in Edmonton, Alberta. He was president and managing director of Trites-Wood Co. Ltd., a department store company in the Kootenay district. His most recent community activities included chairmanship of the Fernie Hospital Board, director of the Fernie Rotary Club and Board of Trade and commissioner of the East Kootenay Boy Scouts. He was a member of the Cana-dian Institute of Mining and Metallurgy and had been on the staff of the federal Bureau of Mines in the early 1940's. He is survived by his wife, daughter and three sons.

Mrs. Alfred Watts, (Rosalind Young), BA'33, March 1969 in West Vancouver. She carried on her family's tradition of public service as a founding member of the West Vancouver Memorial Library, the pension appeal tribunal in Vancou-ver, an active worker for the North Shore Community Chest and the Family Service Agency in Vancouver. She is sur-vided by her husband, Magistrate Al-fred Watts, BCom'32, a daughter, Mrs. J. F. Hutchinson (Patricia), BCom'63, and three sons, Peter, BCom'67, LLB'68, Richard and Robert.

Mrs. Thomas P. Wilson, (Kathleen Sybil Webb), BA'36, April 1969 in Vinsulla, B.C.

Judge Frank Wilson, BSc(Durham), MA'37, December 1968 in Chilliwack, B.C. He was born in England and came to Canada in 1923 to teach agricultural science at the University of Saskat-atchewan. After a period with the Bell Telephone Co. he attended UBC to obtain his teaching certificate. His teaching career lasted ten years—from Matsqui School, to Prince George High School where he was principal, to UBC where he lectured in the department of education. In 1941 he became an articled student in Chilliwack and was called to the Bar four years later. An active com-munity worker, he was a member of the Chilliwack School Board for 16 years and was a past president of the B.C. School Trustees Association and the Chilliwack Board of Trade. He was appointed to the bench of the county court of West-minster in 1967. After Judge Wilson's death the court held a special sitting to pay tribute to his outstanding contribu-tions and service to the Bar. He is sur-vided by his wife and two daughters.

John J. West, BA'38, February 1969 in Vancouver. He was vice-president and director of Wood, Gundy Securities Ltd. and of Douglas Lake Cattle Ranch Co. Ltd. At UBC he had been a member of the rowing crew and participated in ten-nis and cross-country skiing. He is sur-vided by his wife, son, daughter and sister.

1940's

Rev. Alex Campbell Aicken, BA'43, January 1966 in Bridgen, Ontario.

Frederick Small, BA'43, BASc'44, Feb-ruary 1969 in Vancouver. He was a mechanical engineer at the B.C. Sugar Refinery and a member of the Profes-sional Engineering Institute of B.C. He is survived by his wife (Loretta S. Roberts, BA'31) and four children (Eliza-beth, BED'68).

Esther Grace Harrop, BA(Queen's), BEd'46, March 1969 in Vancouver. She retired in 1958 after a teaching career of over 30 years with the Van-couver School Board. For the next five years she headed the teachers' profes-sional library at the school board office as well as editing the book review sec-tion of the *B.C. Teacher*. She is survived by a brother and sister.

John H. Fish, BCom'48, BA'49, Sep-tember 1967 in Ottawa, Ontario.

Alumni Directory

Frank M. Latin, BCom'48, April 1969 in Williams Lake, B.C. He was manager of H. J. Gardner & Sons Building Supplies Ltd. and is survived by his wife and brother.

Cameron A. Maddin, BCom'48, November 1968 in West Vancouver.

Gordon C. Pike, BA'48, MA'51, April 1969 in Nanaimo. He was on the staff of the Nanaimo biological research station of the Fisheries Research Board of Canada. He is survived by his sister.

Chester H. Millar, BSP'49, BEd'64, April 1969 in Salmon Arm, B.C. He was a teacher in the Salmon Arm district and a former alumni branch contact. He is survived by his wife and two children.

'50-'60

Robert Henry Carswell, BASc'53, April 1969 in Vancouver.

Murray R. Euler, BCom'52, January 1969 in Vancouver. He was a department manager with Woodward's stores and is survived by his mother.

Mrs. Helen Lowes Worthington, BHE '59, November 1968 in London, England. She is survived by her sister, Betty D. Lowes, BA'48, BSW'49.

Ralph A. Green, BASc'65, December 1968 in Victoria. He was an officer with the federal department of trade and commerce and is survived by his father.

Thomas Peters, BEd'61, MEd'68, April 1969 in Burnaby. He was a teacher at Killarney High School in Vancouver and is survived by his wife.

ALUMNI ASSOCIATION EXECUTIVE COMMITTEE

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Mrs. Mary S. Grantham, BA'57; George Morfitt, BCom'58; M. Murray McKenzie, BASc'58;

John R. P. Powell, BASc'45.

EX-OFFICIO MEMBERS:

Robert Johnson, BA'63, LLB'67; Stanley Arkley, BA'25.

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Jack K. Stathers, BA'55, MA'58, Alumni Association Director; Fraser Hodge, President, Alma Mater Society; John Ritchie, President, 1969 Grad Class.

ALUMNI ASSOCIATION EXECUTIVE STAFF

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Director, Alumni Fund: Ian C. Malcolm, DSW(Waterloo)

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