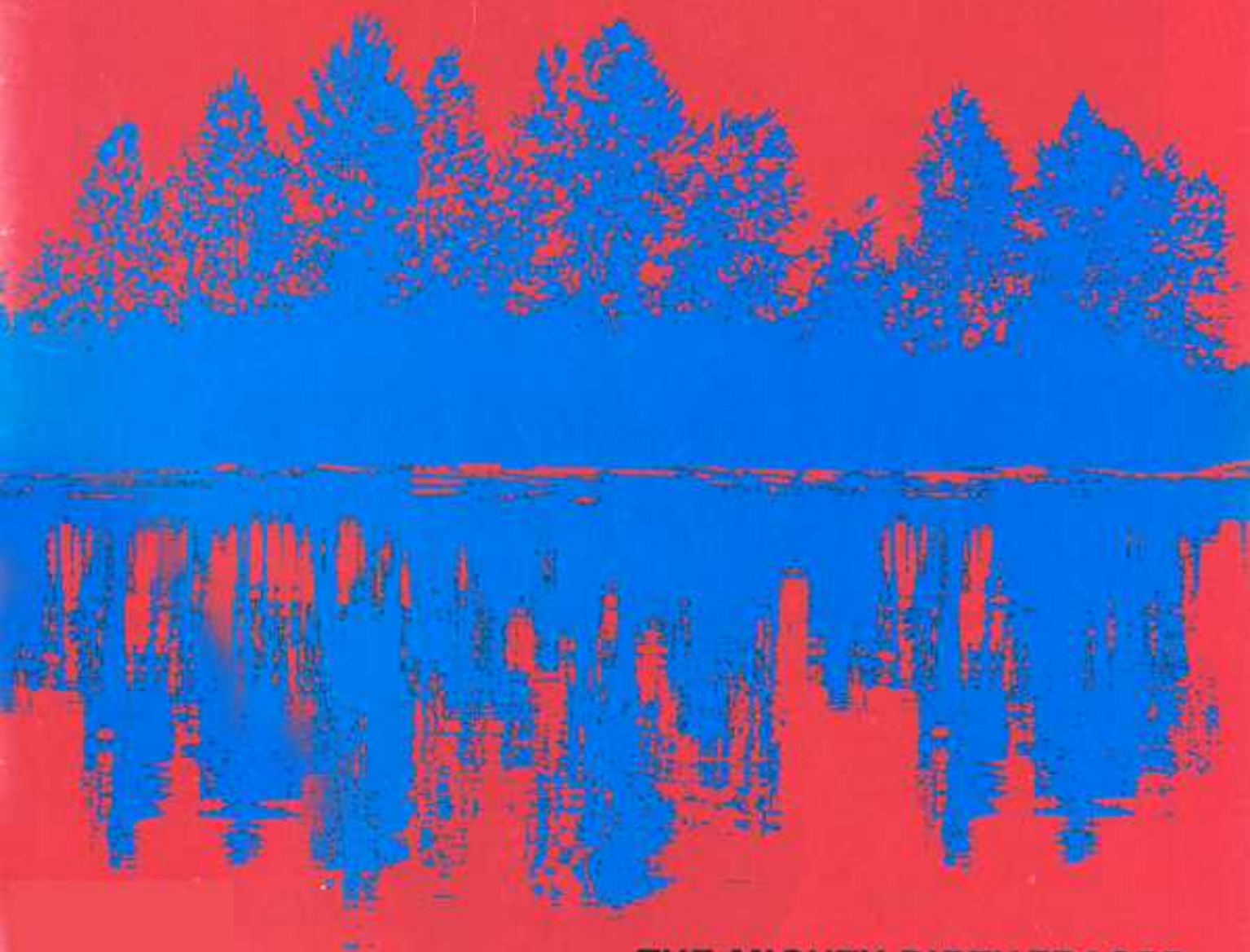


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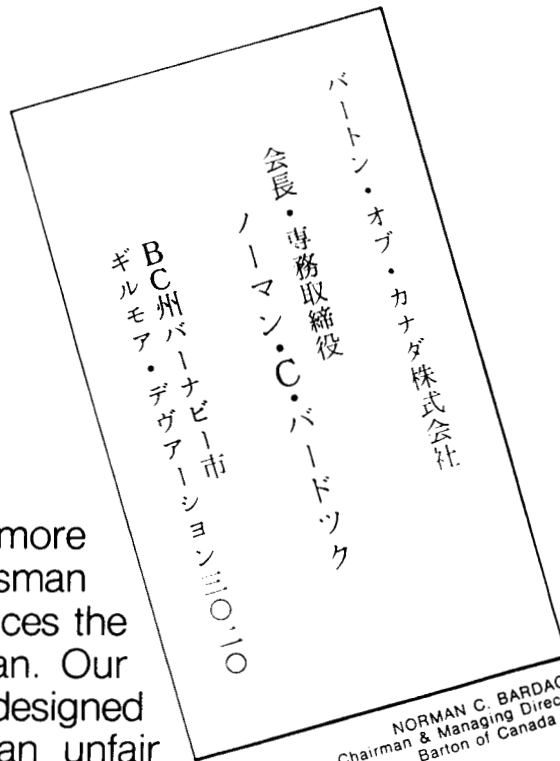
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The Struggle To Reduce Birth Defects

How UBC Researchers Are Pioneering In Developmental Medicine

Viveca Ohm

The average woman of a century ago must have approached child-birth with as much trepidation as we would open-heart surgery. Certainly the procedure was riddled with risks, from the first labour pains, uneased by natural delivery yoga or pre-natal positive thinking. Happiness might be a hefty dose of chloroform. After that you were in the hands of the doctor, hands which might be as unclean as his instruments. A doctor at all, rather than a midwife, was a great step forward; while both Roman and Arabian early medicine recognized the need for a trained physician in difficult deliveries, it was not until the mid-nineteenth century that obstetrics changed from folk medicine to a medical science.

Though infection kept infant mortality high, the chief concern was for the mother. She could, after all, always have another baby: provided puerperal fever did not spread through her blood and prove fatal or render her sterile, provided she had weeks of bedrest to recover from convulsions and weakness, and provided she was willing to go through the whole gamble again.

The average pregnant woman today faces no such ordeal — thanks to available contraception she is likely carrying a wanted baby; thanks to obstetrical advances, she need no longer worry about the delivery procedure itself. Nor is infant mortality as great a concern as it formerly was. But the pregnant woman today is by no means free of worries. She has the ever-present anxiety: will the baby be normal? Will it have any genetic defects? Will any drugs she has taken or diseases she has been exposed to affect the child?

Understandable anxieties. Although the chance of a baby having any birth defect, either major or minor, is generally only two per cent, the memory of the thalidomide tragedy still haunts us. Mongolism afflicts one in six to seven hundred babies in the province, a newborn infant is susceptible to certain respiratory disorders and developmental weaknesses, and the stress of labour is still a trauma for the baby.

But it may not be long before even this kind of worry is taken out of giving birth. The focus of obstet-

rics is now on the "quality" of pregnancy, and developmental medicine is concerned with eliminating or correcting defects in the infant, often while it is still in the womb. For the first time the fetus is regarded as a patient.

As the first university in Canada to delve into developmental medicine on any large scale, UBC can boast a well-known group of investigators. A Canadian geneticist studying mongolism. A Czech expert on fetal nutrition. A British-trained obstetrician who operates on pregnant goats. An Ontario practitioner who turned full-time researcher on spontaneous abortions. A Montreal-born pediatrician who heads the intensive care nursery at Vancouver General Hospital. These are some of the UBC medical faculty who are making heady strides in the research of developmental medicine.

In small, usually inadequate, labs they have been poring over test tubes, microscopes, dead and living tissue. As the theories have emerged into proof and print, developmental research has moved from a little-known and largely ignored field to a dynamic and growing branch of medicine, and one in which UBC is becoming a leader.

In response to the situation — and not a moment too soon, as far as the research group is concerned — the Centre for Developmental Medicine was opened last year to provide the doctors with much-needed facilities. Built on VGH land but operated by UBC, the centre is the first for developmental medicine in Canada.

It is an unprepossessing little building. Squatting on Tenth Avenue beneath the imposing hulk of the hospital's Centennial Pavilion, it looks more like a small-town motel or a modest radio station than anything that could lay claim to "first in Canada". The researchers within might not exactly have room to run in its 2,000 square feet, but they admit that it is a decided improvement over previous working conditions. The \$54,000 cost of the centre was raised through the Health Centre for Children Society; it opened in December 1972 with the installation of Drs. Peter Hahn and Molly Towell, both of whom have joint appointments in UBC's departments of pediatrics and obstetrics and gynecology.

Dr. Hahn, who studies the enzyme defects connected with fetal nutrition, was in fact the reason for the Centre for Developmental Medicine being built in the first place. The prospect of getting Dr. Hahn, an internationally-respected authority in metabolic research, on the UBC faculty, called for some re-evaluation of existing facilities. When Dr. Hahn fled his native Czechoslovakia in 1968 following the Russian invasion, Dr. Sydney Segal of the medical faculty met him in London and was able to offer him a position and a promise of workspace at UBC. But if Dr. Hahn was the catalyst, Dr. Segal was the instigator. He had long been pushing for an interdisciplinary centre, not bound by any department, that would be open to researchers from different universities and hospitals who shared common interests.

The irony is that now the centre is in operation, Dr. Segal, who was to have used it also, has gracefully withdrawn as the size of the building had to be cut back. A second storey is planned, however, which may open more of the initial possibilities.

If the term developmental medicine is general and broad, so is the field. Developmental medicine is concerned with organs and body systems in stages of development as opposed to mere growth. While periods of development occur all through life — in infancy, adolescence, pregnancy, senility — the work at UBC relates mainly to the fetus and newborn infant. This is tied in, as Dr. Segal explains, with the organization of the department to span such closely related fields as pediatrics, obstetrics, embryology. A professor in the department of pediatrics, Dr. Segal is also head of the division of maternal, fetal and neo-natal medicine.

In his office in the Health Centre for Children, adjoining VGH, Dr. Segal outlines some of the problems surrounding birth and infancy that fall under the heading of developmental medicine. His own work is concerned particularly with the sudden infant death syndrome (SIDS), which strikes three in a thousand babies and is the most common cause of childhood death, until traffic accidents takes over after the toddler stage. The remarkable thing about SIDS is that no one has been able to pin down the

cause; the infants almost all die in their sleep with no visible signs of violence or discomfort. That the deaths take place during rapid eye movement (REM) sleep — the time of dreaming — suggests a sudden surge of nervous activity. Adult heart attacks that occur in sleep also take place during the REM dream period. With infants, there could be a connection with the development of the nervous system, heart, and lungs, all of which take place at the same time as the high-risk age for SIDS (up to 3 months).

Dr. Segal: "I've got a window on this whole area because I've been involved with the American government in their program for SIDS. I'm chairman of the Los Angeles group to evaluate causes, so I can see which are the most likely areas for research."

A sudden physical jolt can sometimes ward off SIDS, and Dr. Segal wants to create a program to study babies who have survived in this way. These are the infants who are also more likely to die from SIDS later on. Why? What makes these babies different? He also hopes to set up a high-risk register for infants with any kind of weakness or problem in order to bring them back later to check on the treatment efficacy. For transporting babies in need of special treatment, Dr. Segal has designed a transport incubator which lets the attendant reach in with his hands without breaking the sealed oxygen and heat environment that protects the child. Until recently, he explains, babies were sent on aircraft like parcels and little care was possible in such situations.

Of the intensive care nursery he is in charge of, Dr. Segal says, "We have the best nursery west of Toronto...or make that Winnipeg." The claim gets a boost when department head, Dr. Sydney Israels, walks in and joyously announces that B.C. scored highest in this year's federally-set exams (those that allow physicians to practice medicine) and that pediatrics led the other provinces by the greatest margin.

Another infant danger that challenges developmental medicine is the respiratory distress syndrome. Also known as Hyaline membrane disease, it received a burst of public attention when Patrick Kennedy, the fourth child of the President died of it. The defect relates to the

development of the lungs and usually occurs in premature babies. The air sacs can be stuck together ("like wet plates", according to Dr. Segal) by surface tension; there is a substance that overcomes this by allowing the lungs to inflate easily. This material, the main component of which is lecithin, is made in the lungs in the fetal stage; it cannot be injected or injected, so that if a baby is born before it develops, or if the substance is damaged or destroyed, the infant will not survive. Dr. Segal has been studying this problem for several years, trying to arrive both through animal research and human observation at the factors which affect the substance. He also explains that giving oxygen in the treatment of respiratory problems is complicated by the fact that too much oxygen is as dangerous as too little; it can cause lung damage and even blindness.

The respiratory problems of the fetus form the basis of Dr. Molly Towell's widely-recognized work. In her lab in the Centre for Developmental Medicine, British-trained Dr. Towell studies pregnant goats to determine the effect of cord occlusion on the fetus. Cord occlusion, or pressure on the umbilical cord, can cause a form of fetal strangulation by interfering with the oxygen supply from the placenta. Oxygen shortage is reflected in a change in the acid base of the blood, which is normally kept balanced by the lungs and kidneys.

Cord occlusion is significant because it is similar to the type of stress a baby undergoes in labour. Dr. Towell had also been working closely with the fetal monitoring unit, a system of measuring the heartbeat, blood acidity, and respiration of the infant about to be born. If the monitoring unit shows a sudden drop in pressure, the baby is in trouble. The time and strain of normal delivery may be too much for it, and a Caesarian may be resorted to in order to treat the baby as soon as possible.

Dr. Towell was the first physician in B.C. to perform an amniocentesis. This is the pre-natal test in which a hypodermic is inserted into the uterus to withdraw a sample of the amniotic fluid which surrounds the fetus. The widening use of amniocentesis is one of the keys to preventive medicine; it can reveal a number of diseases and



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genetic defects early enough in the pregnancy for possible corrective measures to be taken.

One of the most well-known and most feared of genetic defects is mongolism, or Down's syndrome. Caused by an abnormal chromosome count in the cells, it produces both physical and mental deformities. One in every six or seven hundred babies delivered in B.C. is a mongoloid, and the risk of giving birth to a mongoloid doubles when the mother reaches 35. Dr. James Miller, acting head of UBC's medical genetics department feels that the disease could be drastically reduced with proper genetic counseling and the widespread use of the amniocentesis test. At the Genetic Counselling Clinic in the Health Centre for Children, he and his colleagues talk to pregnant women and recommend the test when risk is indicated.

The tests are usually administered around the 14th week of pregnancy. What happens is that the sample fluid contains cell matter from the fetus; this material is centrifuged, the cells cultured, and the chromosomes analyzed, all within ten to 14 days after the test. This gives time for an abortion, but only if the mother wishes. While Dr. Miller's concern is for genetic well-being and the decrease of all genetically-determined defects, he does not like to think of legislation restricting either research or individual freedom.

Enzyme study is a very new area of developmental medicine and one in which Dr. Peter Hahn has great expertise. Dr. Hahn, has spent 20 years in metabolism research, and what he cannot tell you about enzymes probably hasn't been discovered. There are about 3,000 known enzymes (cell-produced proteins that bring about certain chemical reactions in the body) and 300 known defects of those enzymes. What Dr. Hahn is working on are the mechanisms leading to the appearance or disappearance of certain enzymes at different stages in the development of the fetus. A premature baby whose enzyme system is not yet fully developed may have some defect that will retard its later growth. It may for instance be unable to utilize food given by mouth as well as a full-term baby and this, in turn would of course further impede its development.

Hormones, drugs, food components, these all affect the enzymes. In working with fetal rats, Dr. Hahn adds hormones to a liver culture and finds that some hormones act through a common substance called cyclic AMP to increase the enzymes present. Closely related to that is the somewhat more dramatic problem of how hormones given to human mothers affect the fetus. Rheumatism in pregnant women, for instance, is treated with a steroid hormone that, if Dr. Hahn's research is any indication, might be less than harmless to the liver of the fetus.

The effect of diet on the newborn is Dr. Hahn's primary concern. He has found that such adult complications as hypertension and arteriosclerosis seem to be related to the kind of diet a newborn infant receives. While still in the womb, the fetus is nourished chiefly with glucose from the mother. Mother's milk, however, is a high-fat diet, so at birth and first feeding, several enzymes that were not previously required spring into action. If, on the other hand, the baby gets not mother's milk but commercial baby food and formula milk with its high-carbohydrate rather than fat content, a later normal diet may affect him differently.

In his experiments with rats, Dr. Hahn has investigated the effect of both mother's milk and "artificial" milk. Male rats, weaned earlier than normal and put on a high-carbohydrate diet, were sterile after six months, the enzyme development was altered, and their level of cholesterol in the blood was significantly higher than for those fed breast-milk.

A confirmed advocate of breast-feeding, Dr. Hahn thinks a too-early carbohydrate diet makes us more vulnerable to the damages of starch and cholesterol in later life. If mother's milk can offer protection against hypertension, heart attacks, and hardening of the arteries, if it gives us some extra leeway in handling our deplorable sugar-ridden diet, then to choose not to breast-feed an infant borders on the criminal. So says Dr. Hahn anyway.

"The biggest problem in our society is sugar", he maintains, and points out that "England was never fed better than during the war," when all the high-starch trimmings were rationed away.

Some people are concerned about a deformed foot, but a few minutes during delivery might mean a lifetime of agony if brain damage occurs.

He offers coffee and gives a wry guided tour of his crowded but better-than-it-used-to-be quarters in the centre. He would rather talk politics than go into detail about his work; after trying out enzyme names like phosphoenolpyruvate carboxykinase on ignorant ears, he expands on his attitudes to medicine and the necessity for basic curiosity-driven research without pressure to produce immediate answers. He welcomes the shift to the preventive rather than curative orientation. To him the sound approach to medicine is that of "the Chinese emperors who paid their doctors only as long as they were in good health".

Never having been interested in practising medicine, Dr. Hahn has been working in research labs and publishing his findings since the beginning of his medical career in Czechoslovakia. He was director of the Laboratory for Developmental Nutrition of the Czechoslovakia Academy of Sciences until he came to UBC, where his work is unique in Canada.

Looking at the professional climate in the west and in his native country, Dr. Hahn finds a lot to be desired in Canada. Pre-natal care is not taken seriously enough here, and the policy of one doctor having more or less exclusive charge over a patient still inhibits the sharing of knowledge. "No single doctor can know it all." In Czechoslovakia, everyone has pre-natal and post-natal care; the pediatric care is probably the best in the world, he says, and while Czechoslovakia cannot compete with North America in terms of technical advance, the organizational side is far



Determining the cause of congenital defects is like looking at the top of the iceberg.

superior. He credits this partly to the Czech preoccupation with children, which reaches deep into the cultural roots of the nation.

Two doors down from the centre, Dr. Betty Poland conducts the only Canadian research going on at present on spontaneous abortions. With Dr. James Miller, who co-directs the study, she pursues the question of why some fetuses are rejected by the mother's body in the early stages of pregnancy. About 15 per cent of pregnancies in fact abort, and in over 50 per cent of these cases, it is because of some developmental defect.

Yet nature and the limitations of human observation seem to defy the attempt to determine a pattern. The same apparent anomaly that will

cause one woman to abort in the eighth week may be carried to full term in another woman. A seemingly perfect embryo may be aborted because the placenta is inadequate. Moreover, so many embryos are lost to study because they are rejected at such an early stage and with so little discomfort to the mother that she may never suspect she was pregnant.

Gross defects may be biochemical, as well as morphological, or structural. And here arises the major problem for Drs. Poland and Miller: biochemical defects are impossible to detect in the fetus because they can only be observed in living tissue, and the aborted material is, necessarily, dead. Consequently, a fetus may have stunted limbs and other structural deformities while the real cause of abortion is biochemical, but "we'll never know."

"Determining the cause of congenital defects is like looking at the top of the iceberg," says Dr. Poland.

Very little has been done till now in the study of spontaneous abortions. They were either undetected, or regarded as "just one of those things that happen to women." Even a pattern of repeated miscarriages was regrettable, but not cause for scientific study.

In 1910-1920 there was a surge of medical interest in the causes of abortions, but it dropped until recently, possibly due to lack of equipment, facilities, specimen, and support. The year 1952 saw the invention of a microscope to detect chromosomes; ten years later in Canada, Dr. David Carr was looking at abortions with a view to chromosomal defects. What was it in the chromosomal structure of the fetus that caused it to be aborted?

Dr. Poland was familiar with Dr. Carr's work and was encouraged by him to enter this field. Born and trained in England, she had spent 22 years in medical practice, half of those in Ontario, before turning to research after she and her family moved to B.C. in 1964. She now holds a joint appointment in the departments of pediatrics and obstetrics and gynecology at UBC. Her research, which initially concentrated on the morphological aspects of abortion, has widened to include the chromosomal as well, and is the only such study in the country.

Like Dr. Hahn, Betty Poland balks at the "practical focus, immediate uses" approach to research. The progress is slow and infinitely careful. She has looked at around 150 specimens a year since 1966, yet the answers remain elusive.

Reduction deformity (the incidence of missing limbs or parts of limbs) peaked recently in the western provinces, but only long-term study may link these abortions to possible environmental causes. Perhaps there are none says Dr. Poland's staff, who have come to have as much respect for chance as for the Necessary Cause. The sporadic incidence of abortions over the years have taught them that: "Sometimes there will be ten abortions within a few weeks, then none." The moon, the weather, large-scale pesticide spray, diet, drugs, cosmetics? Impossible to pin down.

What the team can offer with reasonable certainty is what does not cause spontaneous abortion. Bleeding during pregnancy does not necessarily endanger a fetus; in fact, in terms of congenital defects,

it may even be a good sign. The time factor is also crucial when studying an interfering agent; thalidomide caused gross deformities only when it had been taken by the mother at a specific time during pregnancy; any earlier or later, it could have had very different effects or none at all. The stage in life a particular drug is taken is also important; while thalidomide had no effect on the mothers themselves beyond the beneficial one of alleviating nausea, it physically stunted the fetus, and when given to elderly women, caused paralysis.

The first eight weeks in the gestation period are the most crucial. This is the embryonic stage when the single cell develops into a human form. During this time, the organs and systems will all be formed. After the first eight-week period, the fetus, as it is then referred to, only grows in size.

All congenital defects occur in the first eight weeks. Past that, the margin of safety takes a jump. The problem is that very few women know they have conceived until several weeks later; in the meantime they may in happy ignorance

reach into the pharmacopeia of drugs to treat their headaches, colds, diet problems etc., but harm the baby they don't know they are carrying. The safest course would be the impracticable extreme of having all women abstain from any kind of drug and any chemically affected environment while there is the slightest chance they may be pregnant.

If there are brighter sides to this difficult puzzle, one is that there is no lack of cooperation from patients and doctors in providing the necessary data. A woman who has had a spontaneous abortion rather than a therapeutically-induced one will usually be more than willing to do what she can toward discovering the cause.

Ultimately, of course, Dr. Poland sees her work as contributing to healthier infants and decreasing the incidence of mental and physical deformities in the newborn. She works in conjunction with the registry of handicapped children and adults, established in 1950, which lists all known birth defects in the province.

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dollar goes to looking after crippled children," she says with some regret. Early recognition of birth defects could both cut down on parental heartache and shift the scarce funds to other needed areas.

The problems all these researchers share are money and space. And in human research, material. The money comes for the most part from the Medical Research Council, but never in the plentiful flow an ideal research situation would have.

The theme that crops up again and again in talking with the doctors involved in infant and fetal development is the "quality of pregnancy", and the idea that "now that abortions and contraception have practically eliminated unwanted pregnancies, the concern for the wanted babies is greater than ever."

There is still so much that can happen to a baby, from high blood pressure in the mother to the possible effects of pollutants. (A recent discovery indicates that DDT starts the enzyme system developing before nature would have it). The risks run the gamut of the genetic and environmental. It is a vital field to be working in, but Dr. Herminia Salvador, also of the UBC department of obstetrics and gynecology, is not alone in finding that babies are still taken casually and the best facilities given to adult patients.

To Dr. Salvador, a former associate of Molly Towell but now concentrating on stress on the infant, the most important factor in the "quality" of birth is mentality. If a newborn baby doesn't breathe right away, brain damage can occur and can be severe. "These are some of the babies we can save. Some people are concerned about a deformed foot, but a few minutes during delivery might mean a lifetime of agony if brain damage occurs. That's why developmental medicine is so important — although it isn't as dramatic as cancer research or heart disease...."

In the long-term view, the preoccupation with healthy babies cannot but insure better care both by medical experts and in the home. And that can only give us a good, strong lead in becoming a healthier society. □

Viveca Ohm, BA'69, a Vancouver free-lance writer, is currently working on her second novel.

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Oh yes, teacher.

It has been 52 years since Harry V. Warren began his association with the University of British Columbia. He entered as a first-year student in 1921. Except for a few years away to study at Oxford and at the California Institute of Technology, he's been part of the University ever since. His role has changed from that of student to graduate to lecturer in geology and eventually to that of professor, and now it's changing again. Officially, he's retiring. But anyone who knows Harry Warren knows there's really no such thing for him as retirement. A withdrawal from active teaching perhaps, but not retirement.

"What's happening is that I change from salary to pension, but I won't be teaching, except on the odd occasion," he explains. He will continue with his research work, expanding an inter-disciplinary field which he developed in the 1930s. While prospecting for minerals he says he just "got tired of digging holes" and started looking for other clues of deposits' locations. Since

plants are continually exploring the underground with their roots and drawing their findings upwards, he began to scan fauna for traces of the elements which they acquired. The result is called biogeochemistry, something that was laughed off at first, but is now treated with the greatest of respect by Warren's fellow scientists.

In recent years his biogeochemistry has been taking him into the field of medicine, carefully examining how concentrations of such minerals as lead, copper, zinc and molybdenum are absorbed by plant life and eventually become part of the food we eat. He believes that the resulting concentrations can contribute to diseases such as cancer and multiple sclerosis. For his efforts, Britain's Royal College of General Practice recently made him an honorary fellow. He takes pride in the honour and delight in the thought of a geologist being a member of that major medical organization.

But it's not just his academic and scientific work that's earned him respect. In June a dinner was given in his honour to mark his retirement. The tributes flowed in from all corners of the globe — from students, business associations, fellow professors, men in the mining industry, figures in the world of amateur sport — all speaking highly of his contributions to a multitude of fields.

His prime professional activities have had two intertwined forces — a constant striving for excellence in teaching and in stimulating the minds of those who came to his classes; and a vital concern for the sane development of the vast mineral resources of his native province. The two are totally related. He taught students to see the wealth in the ground around them, to know its worth, and to utilize it wisely; and in industry he was out in the field seeking new mineral deposits or at the lectern trying to educate the public. For 40 years he has been associated with the B.C. and Yukon Chamber of Mines and served as its president for three of those years.

Harry Warren's not a bashful man. For decades he has aimed his keen, professional eye at governments and their activities and proffered straight-from-the-shoulder advice — whether they wanted to

hear it or not. "I've always felt that the university was there to serve the people of B.C., and that included any governments who were wishful of taking non-partisan advice." He hasn't been partisan. The provincial Liberals felt his wrath in the late 1930s over patronage in the civil service; W.A.C. Bennett's Social Credit government was given much advice on hydro policies; and, more recently, Dave Barrett's New Democrats have been rapped for introducing bills which Warren felt would squeeze the small prospector out of British Columbia's mining industry.

But that's the professional side of the man. Away from mines and dams and minerals is a man equally concerned with amateur sport, culture, and the quality of life in the university community, the urban community and the global community.

Sitting on the well-worn leather sofa in the den of his home (just a stone's throw from the university), the visitor gazes around and sees memorabilia recording a vast range of human endeavour. There are honorary memberships in professional societies ("You know you're getting old when they start giving you life memberships"), loving cups, team photographs from Oxford and Cambridge, the Great Trekker Award which the Alma Mater Society presented to him in 1968, shields, pennants, bookshelves lined with volume upon volume of the Cricketer's Almanack and the Canadian Journal of Earth Science.

He's always been interested in sport — *amateur* sport. One can feel the anger well up in him when he talks about the great amount of attention focussed on professional sports ("They're just a lot of paid gladiators"), while hundreds of fine athletes, many of them of international calibre, are next-to-ignored in the amateur realm.

The name of Harry Warren has been strongly tied to rugby and cricket, but it is with field hockey that it is most closely associated. He's served in a host of positions in all three sports and at one point was president of the Canadian Field Hockey Association. At UBC, he served on the Men's Athletic Committee for many years.

Today he decries the decreased interest in sport on campus. He sees

athletics as an important part of university life, an area in which people from divergent disciplines can get together for comradeship. "It's hard for a budding doctor, a budding lawyer, and a budding engineer to get to know each other if there isn't a common ground." The playing field, he says, is one ground that all can share.

He obviously enjoys reminiscing about his five-plus decades on campus, although the passing of certain traditions and institutions saddens him. "There are a lot of things that I'm glad I lived through and I'm sorry to see go. The Players Club was one of those things. It introduced me to the theatre and to people whom I, as an engineer, would never have met otherwise — people from arts and sciences and agriculture. The cultural contributions of people in the Players Club were great, and these things have been lost."

Other things are gone as well. "At one time our United Nations Association (on campus) was a model for Canada. We haven't even got a United Nations society now." That's a particularly sad loss for a man who worked for 23 years on the executive of the Vancouver branch of the Canadian UN Association.

"These activities were cultural things that cut across all segments of the university and greatly enriched its life. If you look at the university now, you'll find there is little or no contact — particularly between professor and student. I learned so much from knowing my teachers outside the classroom."

In recent times, Warren has been on the winning sides in two civic battles — the first to save old Shaughnessy Golf Course from being totally eaten up by real estate developers, and the other, to preserve Christ Church Cathedral.

At age 69, he still operates at full speed. During the summer months he is out prospecting when he can be. "You don't find mines by sitting in Vancouver," he says with a sly grin. He looks back over his career with equal good humour, recalling incident after incident, and adds with a thankful tone: "One thing they haven't been able to tax yet is memories." □

Murray McMillan is a fourth year arts student and a part-time writer for the Sun.

When Will UBC's Cinderella Sports Story Have A Happy Ending?

Arv Olson

They called them the "Cinderella Crew." They were UBC's eight-oared crew that seemingly rowed out of nowhere to win a gold medal at the British Empire Games back in 1954. By sheer determination, in the face of lack of finances and facilities, UBC's rowers had risen to become among the best in the world. The "Cinderella Crew". It was a catchy name and an appropriate one.

That's the way it's always been with UBC. Handicapped by anemic budgets and often inadequate facilities, the University still regularly produces its "Cinderella" stars. The latest example has been

in track and field where UBC has suddenly become a power in Canada. It always comes as a bit of a surprise when great athletes or teams emerge on campus because athletics have never been a university priority — they've never been lavishly endowed. UBC offers what is probably the most extensive intramural and extramural university athletic program in North America on total resources that work out to only a little over 20 dollars per participant.

Nor has harmony prevailed for UBC athletics. There's always been a volcanic controversy underlying the subject, susceptible to

periodic eruption. The campus has regularly and heatedly debated the direction of athletics, the achievements of UBC and the agonizing question of finances. Various committees have probed and analyzed the subject for years — at least 10 major reports have been written on athletics. And lately the beginning rumblings of another great debate on athletics have been heard.

The university senate, following a motion by student senator Derek Swain, has established a committee "to examine senate's philosophies and objectives vis-à-vis extracurricular activities and to make recommendations regarding the im-



plementation of same." While the committee was set up to take a broad look at extracurricular activities, the main concern of Swain — and many other students — is with the financial state of UBC athletics. Swain told senate he would like to see a positive statement from senate recognizing athletics as an important part of university life. The ultimate aim is clear: to get the University to play a bigger part in financing athletics.

The enigma that is the UBC athletics scene cannot really be understood without recognizing the unique climate of the university community. University climates are as fickle as the winds in Georgia Strait. The moods of students change continually with the population. This is particularly true of the student leadership and attitudes toward athletics.

UBC's traditional athletic philosophy has been to encourage student participation in a broad athletic program rather than funnelling the bulk of available funds into a few major sports involving relatively few athletes. Practically no one questions this philosophy — what is questioned is how well it's being put into practice and where the money should come from.

The ideals of athletic excellence and wide participation are not incompatible; they are, in fact, com-

plementary. Quality is achieved and sustained only by providing a broad base of participation. Some 7,500 students — almost a third UBC's enrolment — participate in the overall program, intramurals and extramurals. The validity of the philosophy has been proved by the fact that, despite UBC's poor athletic image (to some), many national and international champions have been developed on the campus.

UBC's athletic philosophy is an admirable one. But as many students are now realizing — and as athletics administrators have long known — the success of the philosophy is being strangled by a tight budget. Something will likely have to give unless more money is forthcoming.

In the men's extramural program, UBC spreads its wealth or, better, the lack of it, among 25 sports involving about 1,000 athletes. With budget estimates of \$121,257 for 1973-74 — \$22,994 of which is required for general accounts — the individual sports will be forced to operate with an average of less than \$4,000 each. Considering that \$21,490 is earmarked for hockey, \$18,792 for football,

\$10,992 for basketball and \$9,259 for rowing, precious little is left for the other sports.

In the women's extramural program, some 230 athletes have to compete in eight sports on an estimated budget for 1973-74 of \$29,600.

Curiously, UBC's men's athletic budget has been decreasing despite these inflationary times. Last season it was \$124,057. It was \$135,957 in 1970-71. Ten years ago it was \$90,000 — meaning there's been a paltry increase of \$3,100 annually over the last decade.

Members of the men's athletic committee and UBC athletic director R.J. (Bus) Phillips have often been quoted as saying the comprehensive program requires a minimum operating budget of \$200,000. They said it 10 years ago and they're still saying it today.

"We know we're strangling them (the athletes)," says Phillips. "We're just not in a position to help them. We can only keep operating under the constrictions of the program. If we had \$5,000 to spare for some of the minor sports instead of only \$200 or so, we could provide the athletes with the equipment they require and we could enrich their schedule. Many of our teams which are of national calibre are de-



prived of getting the best competition due to our limitations. They're forced to compete locally instead of inter-collegiately."

UBC is probably the only major university in Canada which doesn't provide such items as ice skates, basketball and football shoes for its athletes. This can be a sizeable expense for athletes who go through a couple of pair a year — good skates, for example, can cost \$100 each.

Operating funds for 1973-74 men's extramurals will come from three main sources: \$71,400 from student Alma Mater Society fees, a \$43,557 university grant and projected gate receipts (students are admitted free) of \$5,700. Alumni gifts and grants provided for specific needs through the UBC Alumni Association generally adds another \$11,000 to athletics resources each year.

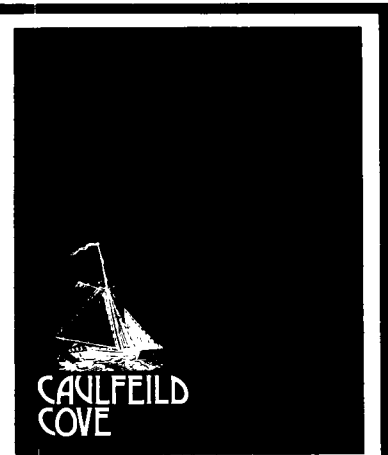
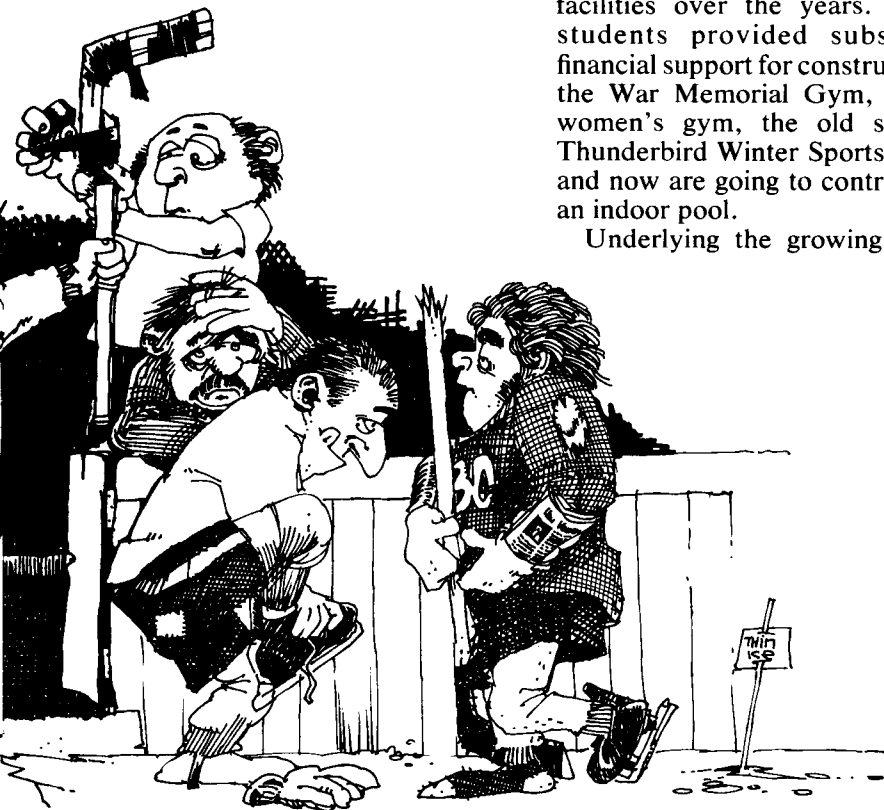
Athletics receive \$5 of every student's \$29 AMS fee. The men's program receives \$4.20 of this allotment and 80 cents goes to the women's program. That works out to \$13,600 to women's athletics. The athletic fee is considerably lower than that of many other universities in Canada: the average is \$16.

Despite this, an AMS fee increase specifically earmarked for athletics is not feasible for the immediate future. The AMS fee has already been hiked \$5 to \$34 this session to help pay for construction of an indoor swimming pool on campus. (UBC is the last major Canadian university to get an indoor pool). The students have pledged \$1 million for the pool and the University has been asked to match the student pledge. A special downtown committee of interested businessmen and alumni are believed to be ready to raise another \$1 million.

The breakdown of the new AMS fee will be \$20 for the building fund (Student Union Building and pool), \$9 for the society's operating expenses and \$5 for athletics. In addition to the allocation for extramurals, the AMS provides \$7,000 for administration of the intramural athletic program — which attracts participation from about 6,500 students, male and female, each year.

While it's true that UBC students do not directly contribute as much to athletics as do those at other Canadian universities, they have shown commendable initiative in generating capital funds for sports facilities over the years. UBC's students provided substantial financial support for construction of the War Memorial Gym, the old women's gym, the old stadium, Thunderbird Winter Sports Centre and now are going to contribute to an indoor pool.

Underlying the growing debate



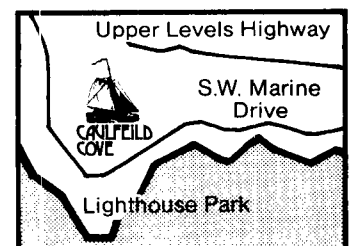
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about athletics is the apparent feeling among students that they have contributed as much as they can. If the overall program is to improve, many students and alumni believe that the University must increase its commitment — financial and otherwise — to athletics.

"It has been 15 years since the senate examined its policy toward athletics," states senator Derek Swain, an education student. "The senate is unrealistic in this area, lacking in moral commitment and encouragement. The senate should realize that a university curriculum includes much more than mere courses."

Although the University doesn't directly match the students' contribution for annual operating expenditures, it will be providing \$180,118 overall to 1973-74 athletics. The most visible elements in this are the \$56,057 granted for men's and women's extramurals and a special \$2,500 rowing grant. The more "hidden" contributions made by the University comprise: \$69,569 for coaching personnel salaries; \$43,380 for administrative and technical personnel; \$15,462 for secretarial and clerical salaries; \$3,900 for expenses and supplies; and \$1,750 for travel (mileage) expenses.

Mickey McDowell, a former varsity hockey player who is now an alumni representative to the men's athletic committee, believes that while the athletic program has been handicapped by shortcomings, it has at least been kept in perspective.

"As a freshman, I was one of the

strongest critics of the way athletics were run at UBC," he said. "Now in retrospect, I'm proud of the program. When you see how many people play at the varsity level on a skimpy budget, you realize what a miraculous job they're doing with it. From a positive standpoint, it's a good athletic philosophy. We're (UBC) not in the athletic business; we're not prostituting our school to get people in buildings to make money. UBC has never had an athletic scandal. The coaches aren't intent on winning at any cost. They're not the Lombardi (Vince) or Imlach (Punch) types who turn off their athletes by driving them to the point of exhaustion and, subsequently, complacency. They're good character builders. They're educating students through athletics."

Still, the program could be greatly improved with more resources. One of the big needs is for more coaches. With more coaches UBC could field more teams in several sports — as it is now many students have to participate with off-campus teams.

UBC does not employ full-time coaches for any of its sports, although many are top men in their fields. Extramural coaching responsibilities are undertaken by members of the faculty (school of physical education) and non-university people, who receive token gratuities for their services.

"The system is entirely unfair to the faculty members who coach," Swain maintains. "They devote much more time to coaching than do other members of the faculty in other campus activities, and they

only have an adjusted teaching load to compensate."

A more specific coaching program — in which the faculty member's first commitment would be to his particular sport — would both strengthen and enhance the overall program.

Which brings us to the nagging question of athletic scholarships. The question of whether to adopt athletic scholarships — traditionally taboo at UBC — will likely receive some consideration by the senate's committee on extracurricular activities. At present one or two bursaries are available for UBC students who excel in a sport and maintain good academic standing.* The provincial and federal governments are now providing considerable financial assistance for bursaries and for travel to national championships — but much more support is needed if athletics are to be helped on a day-to-day basis. Athletic scholarships are likely to remain taboo at UBC.

In any case, an improved overall program — in the areas of coaching, equipment, training and competitive opportunities and general support — would be inducement enough for the better athletes. But where is the money to come from to change UBC's "Cinderella" image in athletics? That is as much the key question today as it was yesterday.

* These include: the John Owen Memorial Bursaries, for outstanding student athletes; the George Pringle Bursary for a third-year student and the Grahame Budge Rugby Bursary. □

Arv Olson is a sports writer for the Vancouver Sun.



Dry up

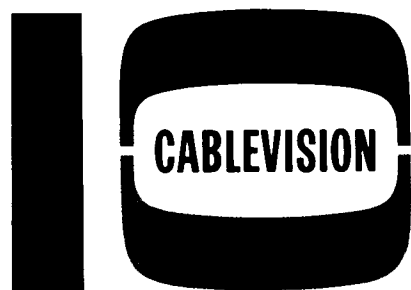
Will the oceans of the world dry up? It's not likely! The oceans of the world total 139¼ million square miles of water, so don't worry, they'll be wet for some time to come.

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The Mighty Dirty Fraser

Coal Filtration Process Raises Hope Of A Clean-up

Peter Ladner

The mighty Fraser River. High in the Rockies near the Yellowhead Pass it has its beginning in the sparkling clear, cold streams that tumble down out of the mountain snows and glaciers. Together with other tributaries they merge to form one of British Columbia's great rivers, an 850-mile-long river of many moods. It rushes through canyons, boils over rocky rapids, swells and flows gracefully through broad valleys. To British Columbia, it is a river of history, a river of vital economic importance, a river of unceasing beauty.

And it is a river in danger of being destroyed.

With the sewage of communities along its extent, and particularly from Greater Vancouver's one million people, pouring into it daily, it's surprising that the Fraser isn't already a dead river. It isn't — yet. The threat posed by continued dumping of oxygen-consuming organic wastes has been recognized and a scramble is underway to establish primary and secondary sewage treatment plants before it is too late. But there are even more dangerous pollutants getting into the river: copper, zinc, mercury, cadmium, lead and chromium. Heavy metals that, in sufficient quantities, can have toxic effects.

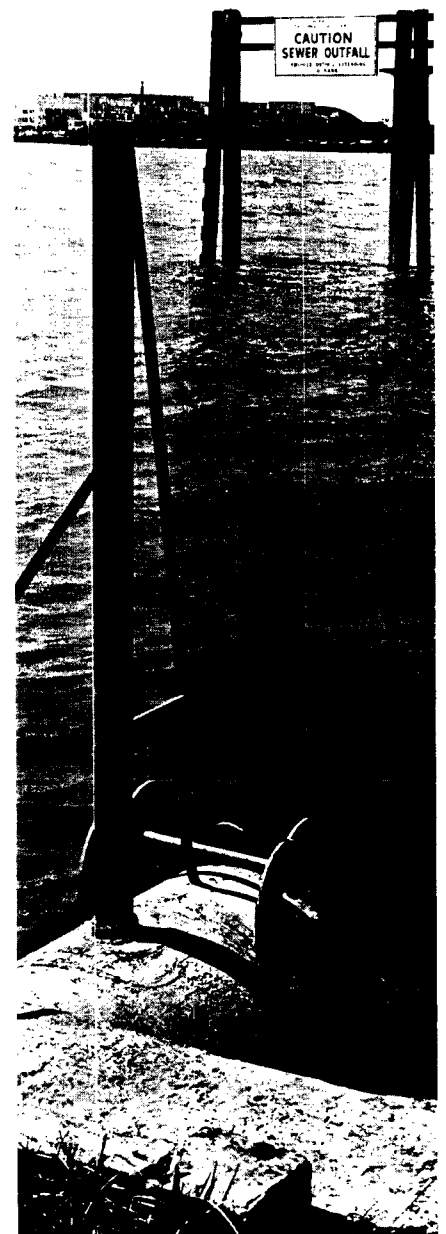
From film-developing labs, chromeplating shops, gasoline puddles on city streets, from wherever these metals are rinsed down a drain, they flow out into the Fraser. No one is really sure of the exact sources.

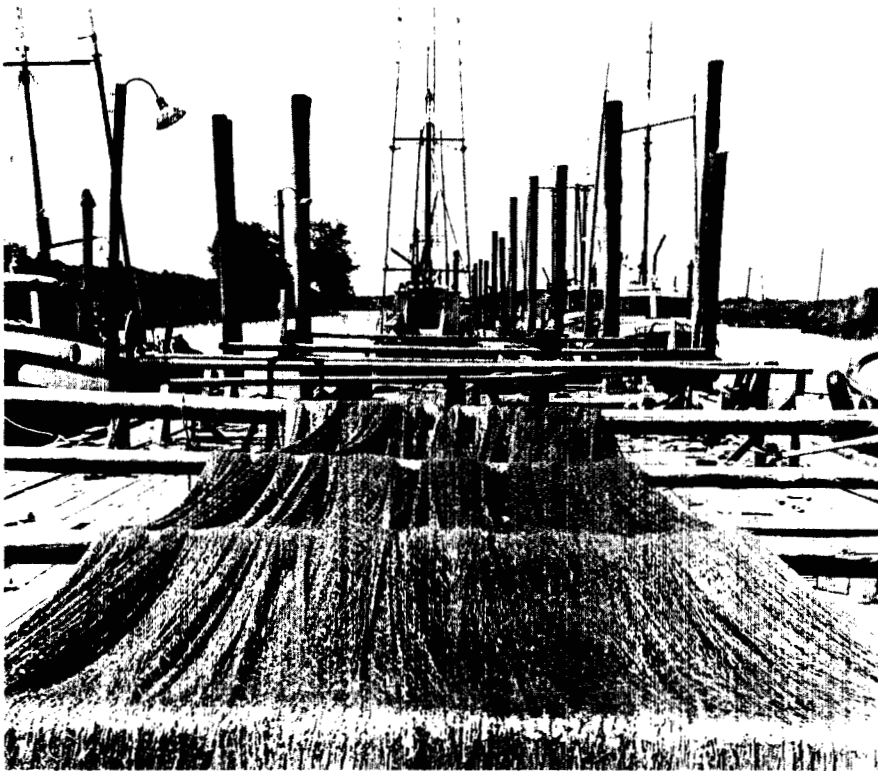
But we're pretty sure they're

mainly coming out of municipal sewers, thanks to the work of Dr. Tim Parsons of UBC's Institute of Oceanography. Working last summer for UBC's Westwater Institute, Dr. Parsons found a high level of heavy metals in the molluscs and crabs at Sturgeon Bank at the mouth of the Fraser — but not at nearby Roberts Bank. Sturgeon Bank levels were about 10 times above normal, although still not lethal. The only major difference between the two locations is that the Iona Island sewage treatment plant flows out onto Sturgeon Bank.

Heavy metals are fairly recent villains on the pollution scene. Until the last few years, all river pollution studies were concerned with organic matter: oxygen-demanding wastes and coliforms. Only very recently, with more sophisticated measuring techniques, have we even become aware that heavy metals are getting into our rivers. Researchers at Westwater confess they are amazed at how little is known about water quality in the Fraser; some of the metals haven't even been monitored before.

We do know something about the effects of heavy metals. People who ate fish contaminated by mercury in Japan's Minamata Bay suffered from partial paralysis, distorted sight, destroyed brain cells, weakness and exhaustion from nervous spasms, and eventually death. The effects are most devastating on organisms with highly developed nervous systems, such as humans, whereas an oyster, with a simple





nervous system isn't as affected. Heavy metals are also suspected of causing cancer, especially in bone tissues where they usually end up.

Dr. Parsons says it's "hard to say" whether heavy metals have reduced the migrant salmon population in the Fraser. But it may be more than coincidence that salmon no longer use the north arm of the Fraser where the Iona Island sewage outfall is. And we know that if heavy metals are present in sufficient quantities they'll kill fish.

Present primary, secondary and tertiary sewage treatment schemes are all designed to take organic matter out of municipal effluent before it is dumped into the sea. The only known way to extract heavy metals is a highly complex and expensive ion-exchange process that is not used at any of B.C.'s municipal treatment centres.

But all this could be changed if the work of two UBC professors — agricultural engineering professor Lionel Coulthard and engineering professor Bill Oldham — in exploring coal filtration for sewage treatment continues to show such promising results.

Hat Creek, about 120 miles northeast of Vancouver, between Ashcroft and Lillooet, is the home of a huge untapped supply of "impure" coal that White Rock inventor, Cy Jones, claims could be the answer to many of our municipal waste problems. He maintains that by filtering sewage through a relatively inexpensive bed of Hat Creek coal 95-97 per cent of the toxic heavy metals in the sewage can be removed.

Jones, a long-time advocate of using coal for everything from cleaning up oil spills to hardening asphalt, thinks this could be "the greatest single contribution in the field of pollution control."

Research conducted by professors Coulthard and Oldham over the past year confirms Cy Jones' beliefs. Their reports, recently completed, provide the first "scientific" data to prove that Hat Creek coal definitely does filter out heavy metals.

Graduate student Murray Hendren, working under Dr. Oldham's guidance, got 95 per cent removal of toxic heavy metals from his column of coal. Working with a \$5,000 grant from the provincial government, Dr. Coulthard found the coal would

remove 100 per cent of dissolved cadmium and lead, and just slightly less for copper and zinc. He's now looking at chromium and mercury before submitting his final report to the government.

After this series of tests is over, Prof. Coulthard wants to go one step further and see if this coal might even filter out phosphates, nitrates and organic wastes. Dr. Coulthard bases his hopes on the chemicals in Hat Creek coal which make it a poor burning coal but which might make it better for picking up organic materials than the coal used in an extensive study by the Rand Development Corporation in Cleveland, Ohio.

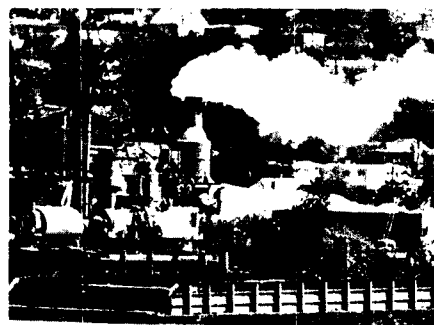
The Rand report, a \$2 million study commissioned by the U.S. Department of the Interior, using coal from the eastern U.S., said coal had definite potential for removing heavy metals, but was not recommended for routine treatment of raw sewage.

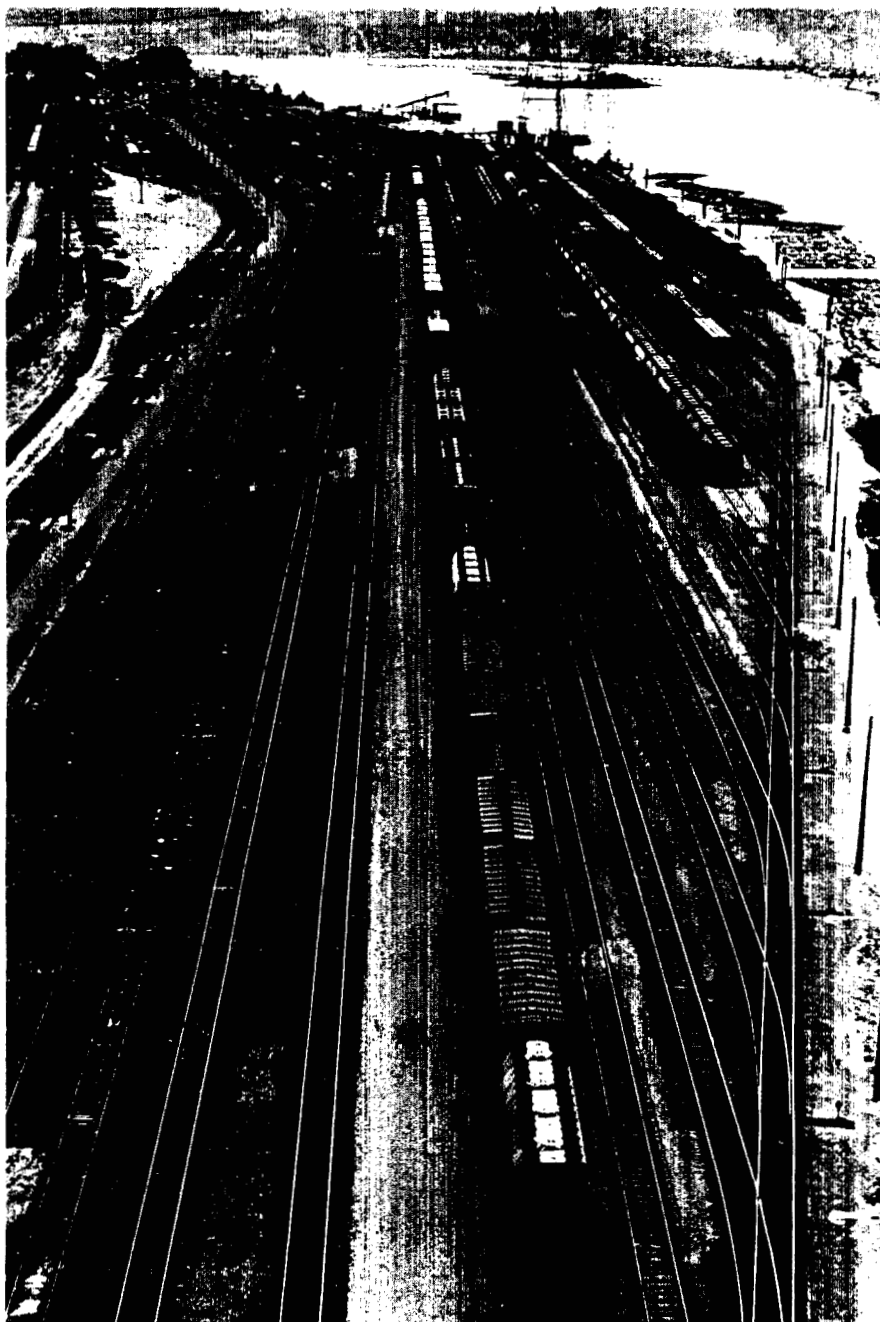
Murray Hendren's findings support the Rand report. "What we have found indicates that coal treats the organic matter in raw sewage more by direct filtering than by chemical action," Hendren explains. "You could expect to get almost the same results filtering raw sewage through a load of sand. I'm just as leery of it for treating raw sewage as I am optimistic about it for taking heavy metals out of treated sewage. Still, it's not completely out of the question that coal would work on organic matter. We've only looked at lab studies, and on a larger scale, these processes could work better."

This recent upsurge of interest in coal treatment at UBC and in the provincial government puzzles ("embitters" might be a more appropriate word) Cy Jones. He's been onto this for years, only he hasn't had the backing of university credentials and research grants. "I've never at any time in my life received a penny from government grants, and looking into this process has cost me several hundred thousands of dollars, not including salary. I spent all the money and I've done all the work on it. All Coulthard and Oldham are doing is verifying my facts."

The UBC researchers sympathize with Jones. "In some ways, Cy has had a bad deal," admits Bill Oldham. "He was trying to flog this

Photographs/Vlad Keremidschieff





idea six years ago when I was a consulting engineer, but I told him I'll never recommend coal for sewage treatment to my clients until something's proven. Finally now the government has put up some money, and I think it's only logical that it goes to UBC or the B.C. Research Council, where the expertise is."

"They've got the expertise, but I've got the ideas," retorts Jones.

Ideas he definitely has. Jones holds 20 patents on coal use, including mixing coal dust with concrete to make Pozzolan cement, which was first used in the Port Mann bridge and later in the Peace River dam.

As far as Jones is concerned, his coal treatment method is not only proven but is "more effective, more practical, and simpler than present treatment methods and it's within the reach of all countries and all peoples."

From what professors Oldham and Coulthard have found, he's not far wrong. Dr. Coulthard's preliminary estimates peg the cost of installing a coal bed at about one-eighth the cost of equivalent treatment by conventional methods, with a fraction of the maintenance costs. Hendren says the coal regains about 30 per cent of its treatment capacity if left under water after being used for a while, although eventually its treatment ability will diminish until it has to be replaced.

Dr. Oldham's results so far have stimulated the Pollution Control Board to come through with a \$12,000 contract so he can study five or six different B.C. coals to see which one works best.

"There's certainly nothing wrong with Hat Creek coal, but there could be something better. Cominco is going to send us three types from the Crow's Nest area, and we might try some Sukunka coal. Now that we have found that coal works for treating heavy metals, we have to look at what volumes are necessary, how we get the coal into the treatment centres, what we do with it afterwards."

After his year-long contract is over, Dr. Oldham thinks the next step would be a pilot project at a sewage treatment plant. Prof. Coulthard is already monitoring sewage passed through coal after primary treatment at Iona Island, but that equipment was set up by Cy Jones

before the recent studies.

For the moment, Prof. Oldham says the Pollution Control Branch, which issues permits allowing effluent discharge, simply wants to know if it should issue permits for coal beds.

One place they're probably wondering about is the Bursato meat-packing plant in Langley, where Cy Jones has set up the only functioning coal bed in B.C. using Hat Creek coal. It has been operating for five years with the same coal bed, and according to Jones' tests, which some say are not very rigorous but which haven't been disproved, all the wastes are being filtered out or broken down enough to meet current pollution control standards.

A coal bed is also being incorporated into the new waste disposal plant being designed by Dr. Coulthard for the UBC barns. If the B.C. government comes through with the \$85,000 necessary to build the plant, the highly-concentrated farm wastes will get secondary-level treatment in a large vat, and an aeration ditch, and finally pass through a coal bed for finishing.

The municipality of Delta also has its eye on coal as a cheap solution to its sewage treatment problem. They're now considering Cy Jones' latest scheme of dropping coal into the sewage lines at various points throughout the system, so treatment will start while the sewage is still in the lines, which is sometimes up to half a day.

No one is quite sure how coal could best be used to keep heavy metals out of the Fraser. If they can't be kept out of municipal sewage systems altogether, treating metals where they come in might be the answer. Of course, a lot will depend on where the metals are coming from, something the Westwater Institute plans to find out soon. If they're coming from a few polluters, coal beds could be put at each place of pollution. The metals are easier to isolate and treat here because they are in high concentrations. If, as is suspected, small amounts are coming from many places, then centralized treatment would be cheaper and more efficient.

But one problem with adding coal to existing secondary level treat-

ment centres is that heavy metals coming into the centres in sufficient concentrations can kill the bacteria used in the secondary treatment process. This has been happening in Richmond's new Gilbert Road plant.

Discovering that coal works in filtering heavy metals out of effluent is obviously just a first step, even if a crucial one. The next step, clearly, is to find some means of integrating this system with present treatment plans so as to ensure that the quality of the Fraser River water does not further decline, but rather improves.

It is important that the situation be corrected before the Fraser becomes an open sewer like so many of the world's great rivers have become. It is important not only because the Fraser is a great salmon-producing river, but because its flow empties into southwestern British Columbia's marine playground—the Gulf of Georgia. There's a great deal at stake for all of us. □

Peter Ladner, a former Ubyyssey reporter, is studying park planning at UBC.



CANADA LIFE

When you graduate, you may become... a doctor, a manager, a secretary, a wife, a husband, ...you hope.

"It's a funny thing, you work all your life toward a certain goal and then somebody moves the posts on you."
Herb Caen.

Too Many Writers With Too Little To Say

Conversations with Canadian Novelists

by Donald Cameron
Macmillan, Toronto
cloth \$11.95; paper in two
volumes, \$3.95 each

CLIVE COCKING

Among the flotsam and jetsam I carry around in my cerebrum there's the image of a particularly memorable *New Yorker* cartoon. Two snooty rich kids are sitting at a table in a classy restaurant and, while the maître d' hovers, one of them savours the soup like a connoisseur of fine wine. Then he says: "It's an *interesting* soup, but not a great soup."

Well, that's how I feel about Donald Cameron's *Conversations with Canadian Novelists*. It's an interesting book, but not a great book... No, on second thought,

make that a *moderately* interesting book. It's the sort of thing that should be sold in one paperback for a dollar — not two at \$3.95 each. And I can't imagine any normal person — other than Cameron's mother — actually forking over \$11.95 for the hardbound issue.

Now, it's true that the lack of spark to this book may have something to do with the personalities of the 20 novelists interviewed. As the earthy Ernest Buckler tells Cameron: "Writers, by and large, are the dreariest people you can possibly know, because they are just stuffed with words, like dry-bread dressing up a Christmas Eve goose's ass." But I don't really think that's the explanation, because it's evident many of these writers are far from being dreary people.

The basic problem is that the idea behind the book was not well thought out — let alone carried out. Cameron has obviously (you have to deduce this since he gives no hint of his aim in the introduction) set out to do for Canadian literature what the *Paris Review* did for American and European literature with its excellent *Writers at Work* series. But there is an evenness, a fullness, a richness to the *Writers at Work* interviews that is lacking in Cameron's book. This is undoubtedly because, in *Writers at Work*, the writers interviewed are all very distinguished people, they were interviewed by a variety of qualified people rather than one would-be omniscient interviewer and sufficient time and space was devoted to allow these writers to really develop their ideas.

Cameron does not seem to have any solid criterion as to who should be included and who should not. It would appear, from this book, that a Canadian novelist is someone Donald Cameron has talked to. Brian Moore, for example, is not a Canadian novelist and never has been. George Bowering will surely admit that he's not — despite *Mirror on the Floor* — a novelist; he's a poet. It's still an open question whether David Lewis Stein is a novelist or a journalist. And why include ad-man Martin Myers, author of one novel? He's boring and so are the fatuous comments of Timothy Findley (wouldn't you know it: he did the "Jalna" scripts for CBC).

There are some curious omissions too. Where are the conversations with Hugh Hood and Hugh Garner, neither of whom are lightweights? The comments of Roch Carrier about the literary, political and cultural scene in Quebec were very revealing, but personally I would also have liked to have heard from Hubert Aquin. With only Carrier and Gabrielle Roy interviewed, French Canadian literature is much under-represented here.

The point is that there is a frustrating quality to this book. You learn too much about minor writers who (so far, at least) have little to say, and you learn too little about the major figures who have a good deal to say that is worth listening to. Cameron would have produced a much more valuable book had he concentrated on fewer novelists — just the major figures — and devoted more space to each.

As it is, there seems to be a truncated quality to the good interviews contained in this book. This is certainly true in the case of Morley Callaghan, a writer whose ideas are invariably interesting. You sense that he has so much more to contribute in comments about his style, his moral vision, about Canada and about literature in general — but there's not enough time, not enough space for a longer interview. Some of the space devoted to the minor writers could more profitably have been devoted to a longer discussion with Callaghan, one of our great writers. It's another reflection, it seems, of the accuracy of Callaghan's comments on Canadian attitudes toward excellence: "This country has some kind of an ingrown hatred of excellence. The way to being ignored in this country is to seek and crave and love excellence."

But the book is in large measure saved by Cameron's interview with Robertson Davies, who is not only one of the greatest novelists Canada has produced, but who also emerges as a most engaging personality. It's a wide-ranging discussion which explores Davies' interest in the Canadian cultural tradition, his fascination with Freudian and Jungian psychology, his humour and the religious (in the broad sense) quality in his work. It was a deep and fascinating conversation and had they all been like this the book

would have been an unqualified success.

A writer and critic, Dr. Donald Cameron, BA'60, MA(Berkeley), PhD (Univ. of London), teaches English at the University of New Brunswick.

Lost In A Billowing Cloud of Words

Canadian Defence Priorities: A Question of Relevance

by Colin S. Gray
Clarke, Irwin, Toronto, \$9.50

N.E. OMELUSIK

If one were to ask Canadians which public issues were of greatest concern to them, it is unlikely that many would express a great deal of interest in defence policy. The reason is obvious. Runaway inflation, chronic unemployment and inadequate housing are immediate problems affecting the lives of many citizens. On the other hand, there is no threat of war to stimulate a preoccupation with matters military. There is also the obstacle that the question of national defence in the nuclear age is rife with complexities and abstruse to the point of requiring a far greater effort at understanding than most individuals are prepared to make. The author of this book, who is a visiting associate professor of political science at UBC, has perceived the need to perform an "education and information" function which would show "how defence policy may be of service to Canadians."

At the outset of this study, the author poses two questions that serve as the loom upon which he weaves the threads of his narrative. The questions are: "Why a Canadian defence policy?" and, "How should one think about Canadian defence policy in the 1970s?" This book is, in the author's view, the first attempt since 1940 to examine the contemporary problems of Canadian defence policy without polemic and partisanship. However, very early on he questions the conventional wisdom, which he calls the Great Verity, that defence policy is the slavishly obeisant servant of foreign policy. To the extent



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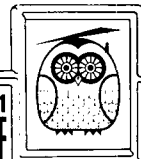
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that there is a certain amount of revisionism in this stance, it follows that some degree of polemicism is inescapable. But this is a minor issue and need not concern us unduly.

In discussing the "why" of Canadian defence policy, Gray naturally begins with the geographical and historical setting which governs where Canadians have been and where they are now. Against this context is weighed the *White Paper on Defence: Defence in the 70's*, which is the latest comprehensive enunciation of official thinking. The main thrust of this document is to alter the situation whereby Canada's defence funds are heavily committed to the support of Cold War alliances. The most important priorities remain the need to protect the nation from external attack and to maintain its independence. Plaguing the execution of these quintessential priorities is the paradoxical fact that Canada's forces are powerless to perform successfully their most crucial assignment. More emphasis is to be placed on domestic roles, and Gray identifies four principal

areas where national development can be promoted by Canada's armed forces: cultural and linguistic harmony; northern development; assistance to civil authorities; national identity.

This is a perplexing book for, while it contains a wealth of information on military matters, one cannot escape feeling that it is necessary to work far too hard to derive any sense from it, and even at that, the labour is not always productive. For example, with regard to the national development function mentioned above, the author applauds the "sensible redirection of attention to those domestic missions" and the movement of policy "in the correct domestic direction." At another point, the following statement is made: "If it were ever to seem that the major services provided by the Canadian Armed Forces for Canada were in the somewhat amorphous region of national development, then the time would be long overdue for a serious questioning of the utility of maintaining armed forces at all." These positions would not necessarily be inconsistent were it not for the fact

that Gray has expressed the opinion that Canada's forces could not protect the nation in the event of attack by the likeliest external source. This being the case, the national development role becomes the major service by default.

The very first sentence in Professor Gray's text is: "There is nothing esoteric about defence." What follows seems to establish the contrary. The author has underestimated the distance between his own understanding and appreciation of the subject and that of his potential readers. He has admitted that "clarity, definition and impact" have not been an overriding concern, and they should be if a presentation which intends to be educational and informative is to be effective. Grappling with this book brings to mind Ludwig Lewisohn's comment on the writing of Henry James, who "hid himself ever more and more in the folds and swathings and integuments of a hieratic manner and a billowing cloud of words." □

Nick Omelusik, BA'64, BLS'66, is head of acquisitions at the UBC library.

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LETTERS

Vital BBC role overlooked in Open University articles

As this is the first time I have written to the *Chronicle* I want, first, to thank you for sending me copies and thus for keeping me in touch with life at UBC. Though I am writing in my personal capacity as a graduate (Arts '47), I have been moved to do so because your last two issues refer to work in which I have shared since the beginning of 1970, when I joined the BBC's Open University Production Unit as the Senior Producer (Radio) for the Faculty of Educational Studies, Open University.

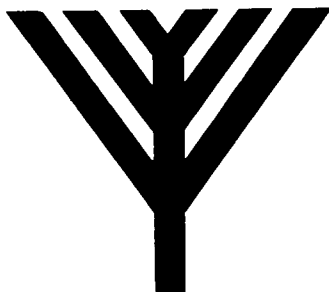
I have read the articles by Peter Wilby and John Ellis in the Spring issue very carefully. I have read the report of Norman MacKenzie's visit in the summer issue equally carefully. I have been astonished to discover that in not one of the pieces is there even a three letter reference to the role of the BBC in the development and continuing operation of the Open University. As it seems that there is a growing interest in British Columbia in the possibility of adapting the OU concept to meet educational needs there which are similar, at least in part, to those met by the OU in Britain, I think that this omission of reference to the BBC is rather a serious matter.

In this venture, which Norman MacKenzie has referred to as "education's armored division of the future", the BBC and the OU have been equal partners. I am sure that my academic associates at Walton Hall would be the first to agree that cooperation with the BBC was vital at the early stages, not only because of the facilities which the corporation could put at their disposal, but also because of the range of experience and expertise which stood behind these facilities. But the OU valued our role in the partnership not just during infancy. Quite recently both partners have expressed the wish to have the partnership continue. This wish was made manifest to the whole nation last month on the occasion of the OU's first graduation ceremony, which was given coverage by BBC television in an outside broadcast lasting nearly three hours.

By the end of this summer I shall have been away from British Columbia for 25 years; but I still have strong interests in my native province of Canada. I should therefore like to feel that, before embarking on an OU type operation, British Columbia educationists are fully aware of the nature and dimensions of the "armored division" which they would be attempting to follow. If UBC and perhaps the other, newer British Columbia universities were to combine to provide the academic components of this type of system, from where would they obtain the components which in Britain have been provided by the BBC? Perhaps an alumnus working with the CBC might care to add to this correspondence?

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Canterbury, Kent
England

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NEWS



Graphic examples of Chronicle Squash (see Reunion Days news below).

Suggestions Invited For Presidential Candidates

Who would you like to see as the next president of the University of B.C.?

The University's advisory committee for the recommendation of presidential candidates to the board of governors has invited all members of the university community — faculty, students, staff and alumni — to suggest names of prospective candidates. The committee intends to advertise the position widely.

President Walter Gage announced early this summer his intention to resign as president as of June 30, 1975.

In a letter inviting suggestions of possible candidates, Mrs. Beverley Lecky, chairman of the advisory committee, said: "In submitting names of persons whom you consider to be suitable candidates for the position of president of UBC, it is important that you provide the committee with as much personal and academic biographical information as possible, and with your reasons for proposing each name. It will assist the committee if you can give an indication that someone you name is available for consideration as a potential candidate.

"Whether or not you propose candidates, the committee would like your views on the attributes you would consider desirable for the next president of this university to possess. In addition, the committee would welcome expressions of opinions concerning the crucial issues likely to affect the scope and nature of the office of president in the years ahead."

All replies will be treated in confidence. Although no deadline has been set, the com-

mittee says it would be helpful if it received suggestions by Oct. 25, 1973. Letters should be addressed to: Mrs. Beverly Lecky, Room 107, Main Mall North Administration Building, University of British Columbia, Vancouver 8, B.C.

UBC Nostalgia Time: Reunion Days '73

The *thlunk* of a well-hit squash ball and the *clink* of ice cubes — the sounds of Reunion Days, 1973 edition.

The Class of '23 got an early start on Reunion Days this year. An active committee headed by J.V. Clyne (with members, Annie Angus, Aubrey Roberts, E.C. Wilkinson, Gordon Landon and Mike Gregg) arranged a golden anniversary reunion weekend early in September. Over 100 classmates and guests from at least three provinces and three states attended the anniversary dinner at the UBC Faculty Club. Other events on their program included a campus tour, a coffee party hosted by Prof. and Mrs. Henry Angus and a buffet dinner at the home of the Hon. and Mrs. J.V. Clyne.

The major activities of Reunion Days are scheduled for October 19-20. The Classes of '28, '33, '38, '43, '48, '53, '58 and '63 are gathering, along with faculty parties (for electrical engineering '48; commerce and engineering '53; commerce, engineering, forestry, law, pharmacy and medicine '58; commerce, engineering, nursing, law and physical education '63) at the Faculty Club, Koerner Graduate Centre and International House for dinner, dancing and conversation.

Athletic notes.... The Second Annual Chronicle Squash Tournament and Bunfeed takes place under the Reunion Days banner,

Saturday, October 13 at the UBC Winter Sports Centre. It's all in fun (for unranked players) and the number of entries is limited. Early registration at the alumni office is advised (there is a nominal fee)... **Reunion Days Golf** — tournaments for men and women, coordinated by Marty Zlotnik and Eleanor Crawford are played on local courses during October. The emphasis is on enjoyment with lots of food and prizes. To join the fun register with the alumni office, 228-3313.

Courses For Women Set For Cecil Green Park

The Centre for Continuing Education is offering two programs in self-development for women at Cecil Green Park this fall.

The first program, **Developing Personal Potential I**, will be held 9:30 - 11:30 a.m. on six Tuesdays from Sept. 25 to Oct. 30. The class is limited and the fee is \$25.

The centre describes the programs as "a workshop for women who are seeking a clearer sense of selfhood and more energy for creative and experiential ventures, whether in human relationships or in work." Through small group work and selected activities participants will be assisted in self-directed change.

Developing Personal Potential II is the title of the second program. It will run from 9:30 a.m. - 2:30 p.m. in Cecil Green Park on Nov. 5, 7, 8, and 13. The class is limited and the fee is \$30.

This is a course for women who have taken **Developing Personal Potential** courses previously and who have given considerable thought to questions of identity, interpersonal skills and new roles. The series is designed to deepen confidence in ability to grow and act upon chosen goals. Participants will deal with relating and confronting in conflict situations; living and learning with men; and developing skills of a helping relationship.

The programs are being offered in cooperation with the UBC Alumni Association. For further information, contact the Centre for Continuing Education, University of B.C., Vancouver 8, B.C. (228-2181).

Fraser Valley Programs Need Active Alumni

Help Wanted: alumni in the Fraser Valley to assist in local alumni projects. That would be one way to let alumni know that the Fraser Valley Committee needs representatives from the valley communities. Chairman, **John Conroy**, hopes to organize a committee representing the many communities of the area. Committee program plans emphasize alumni participation in events with valley-wide significance — such as university speakers sponsored by the committee.

If you'd like to be a part of these new directions for Fraser Valley alumni contact **John Conroy**, 859-7184 in Mission or the alumni office, 228-3313.

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Scholarship To Honour Prof. Frank Forward

A scholarship fund has been established to commemorate the contributions of the late Prof. Frank Arthur Forward to UBC and to the field of metallurgy. It is intended that the Frank A. Forward Memorial Scholarship Fund will provide \$500 scholarships to metallurgical engineering undergraduates, the number awarded annually to be dependent on the ultimate size of the fund.

"As a UBC faculty member and department head for mining and metallurgy, and later the department of metallurgy, Frank Forward was responsible for modernizing the curriculum and for gathering together a competent staff to establish an outstanding school of metallurgy," said memorial fund chairman Harold M. Wright in a letter to graduates and associates of Prof. Forward. "Graduates in metallurgy from UBC, at all degree levels, have earned reputations throughout the world community."

A graduate in applied science from the University of Toronto, Frank Forward participated in important inventions leading to new process technologies in recovering metals from their ores. For his technical prowess, he received a number of the world's important awards associated with engineering and technology and an honorary doctor of science degree from UBC in 1965. Prof.



Frank Forward

Forward was instrumental in the establishment of the Science Secretariat which eventually led to the formation of the Science Council of Canada. He served as research administration consultant to UBC from 1967 until his death on Aug. 6, 1972.

Donations to the Frank A. Forward Memorial Scholarship Fund may be sent to the UBC Alumni Fund office, 6251 N.W. Marine Drive, Vancouver 8, B.C.

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Ever concerned that you lead full and enriched lives, your alumni association is offering you two new programs and the continuation of a now-traditional program. First the new programs.

Alumni Concerts. A new series of vocal and instrumental performances by music students and faculty in the UBC music building recital hall. The cost is \$8 for five evening concerts on Oct. 18, 25, Nov. 1, 8, with the date of the faculty concert yet to be announced.

Winter in Hawaii. A bargain travel program for alumni and their families to Maui and the Hawaiian Islands. It features frequent departures of 747 jet flights by regular airlines, good hotels and reductions for children.

Young Alumni Club is the traditional program that is swinging into an active fall schedule. This informal pub, or "non-club", meets every Thursday evening, 8 p.m. - 12:30 a.m. and every Friday evening, 4 p.m. - 1 a.m. (with live band) from Sept. 14 to Dec. 14. Membership to senior students and alumni is \$4.

For information on any of these programs, call or write: UBC Alumni Association, 6251 N.W. Marine Drive, Vancouver 8, B.C. (228-3313).

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PROFILE

Leona Doduk

Leona Pearl Doduk has come about as close as anyone in the alumni association office ever will to becoming a member of the jet set. There was, for example, the memorable week in November last year: one day Leona found herself freezing in wintry Winnipeg, then roasting in balmy Los Angeles and finally getting soaked in the drizzle of Castlegar. Or there was the occasion when she had to get from New York to Penticton in one day. And if you don't think that isn't a neat trick, try it sometime.

Leona, is the alumni branches field secretary — and that means travel. Weeks of hectic travel each fall and spring as she zips around B.C., Canada and parts of the U.S. bringing speakers from UBC (last year President Walter Gage, President Emeritus Norman MacKenzie, Chancellor Nathan Nemetz and sex education expert Dr. George Szasz to name a few) to keep alumni branches in contact with UBC — and helping informal social functions run smoothly.

She admits the "schedule is a bit tight at times" — which seems to be an understatement. On that occasion last spring, for example, when she flew from New York to Penticton in one day, on the following day she joined the Wally Wagon contingent for a three-week drive throughout B.C. But after almost two years on the job — she worked as a personnel consultant with an employment agency after graduating with a BA in psychology in 1971 — the travel has not yet got to Leona. Far from it. She says still has to establish an alumni branch somewhere warm and exotic. Doubtless for winter meetings.

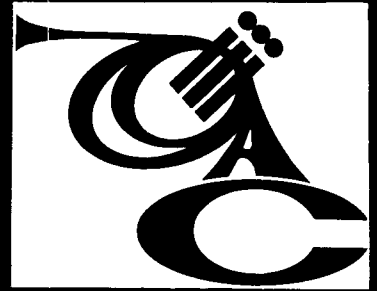
But in any case, branches activities have increased by about 50 per cent in the past two years. Alumni have formed new branches in

Newfoundland, Nova Scotia, Prince Rupert and in Singapore. "I think the growth can be attributed," she says, "to the interest shown by the executive and board of management and also to the fact that we've had a very keen and hard-working branches committee and to some very talented and creative staff members." In addition to those already mentioned, there are branches all over B.C., in major cities elsewhere in Canada, in five U.S. cities and in England and Scotland.

Leona doesn't spend all her time jetting around the country; she also serves as staff liaison with the alumni awards and scholarships committee and the student affairs committee. The awards and scholarships committee annually reviews the terms of reference of alumni scholarships and bursaries and recommends additions as needed. It also nominates candidates for the Alumni Award of Merit and the Honorary Life Membership. Leona reminds alumni that suggestions are always welcome. "I personally am very keen on having more names of prominent women suggested."

In the student affairs committee, Leona's responsibilities involve assisting in the organization of an annual student-alumni-faculty dinner at which views on curriculum are exchanged, and in supervising operation of the student tutorial centre. Last year the student tutorial centre involved 300 students and tutors in a much-needed campus service. She hopes that in the coming year much more will be done in the area of student affairs.

Whether working in her uniquely-decorated Cecil Green Park office or travelling to branch meetings, it's a busy life for Vancouver-born Leona Doduk. But she unwinds by skiing, sailing, or occasionally playing the flute or piano. And just recently she has taken up yoga, practising it for several hours. Why? "I've always wanted to learn how to stand on my head. I've never been able to do that sort of thing."
(This is part of an irregular series of profiles of alumni headquarters staff.) □



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20s

A summer visitor to the alumni office was **D. Hollis Osborne**, BA '21. Since his retirement from law practice he has done a lot of travelling and was on his way to Victoria after a brief visit to Vancouver. . . . The Geological Association of Canada's highest award, the Logan medal, for 1973, was awarded to **Clifford H. Stockwell**, BSc '24, (PhD, Wisconsin). In his almost career-long association with the Geological Survey of Canada he has worked extensively in the Precambrian Shield — leading to his recognition as an international expert on these, the world's oldest rocks. He officially retired in 1967 but continues to work in his survey office preparing maps and reports.

30s

When Brock University in Ontario was founded ten years ago **James A. Gibson**, BA '31, (BA, BLitt, MA, PhD, Oxford) was named as president. In July the university honored him with the title of president emeritus for his contribution to the growth of Brock. He retires from active university life, after 37 years, next June and will be spending the coming year working on university development programs and special projects to commemorate the university's tenth birthday. . . . **Guy Glover**, BA '31, is director of English programming with the National Film Board in Montreal.

UBC's first director of elementary teacher education, **F. Henry Johnson**, BA '32, MA '35, (PhD, Toronto), and professor of the history of education, retired in July. In his 17 years as director he has "seen over 5,000 of my students graduate with a bachelor of education degree in elementary education. Moreover we have succeeded in establishing a degree as the minimum requirement for elementary teaching." Dr. Johnson is the author of three books, the most recent being *John Jessop, Gold Seeker & Educator*, the story of B.C.'s first superintendent of education. . . . An official end came to a 47-year career in education when **Robert F. Sharp**, BA '32, (DPAed, Toronto), retired as superintendent of the Vancouver schools, a post he held for 19 years. An active participant in national and international education work, he plans to continue as a member of the professional advisory committee to the Bremer commission on education in B.C. . . . Travels to Florida and Europe are ahead for **Samuel Maclean**, BA '33, (MBA, Texas) and his wife, Mary. He retired in July from the federal civil service, where for the past six years, he was director of economics and accounting (Air), of the Canadian Transport Commission. Previously, he was for many years chief economist (Air), of the ministry of transport.



Canadian Press

Inger Hansen

If it is true, as Churchill said, that the level of civilization of a country can be determined by an examination of the state of its prisons, then Canada may well be on its way to a higher plane of civilization.

In the past few years there has been a great deal of activity in the area of prison reform — some of it not without opposition. One of the more recent moves in this direction is the appointment of Inger Hansen, LLB '60, as Canada's first correctional investigator — popularly known as the prisoner's ombudsman.

Her role is definitely a pioneering one for this country. And she welcomes "the challenge to do something constructive" for the penal system. She may well be unique, in that, while some provinces and countries have ombudsmen to deal with citizen's complaints and some U.S. states have prison inspectors, she is solely concerned with the inmates of federal correctional institutions, and is there to investigate and report on complaints.

As an investigator she will have to be a part-time diplomat. She expects that in the majority of cases her main function will be to draw attention to problems that come to light, and work between the parties to suggest adjustments where these are warranted. One specific area is the interpretation of sentences. Only in cases where all efforts were blocked would she go to the minister "as a last resort. But I don't think that will happen too often."

Accessibility is important, Miss Hansen said. She will be visiting all federal prisons on a regular basis. All an inmate has to do is request an interview. But "they may ignore me", she said. Families and friends are free to call on her and she is able to investigate inquiries and grievances from any source.

The terms of reference limit investigations to matters under the jurisdiction of the solicitor-general, meaning provincial prisoners are excluded. Also excluded are applications for parole and sentencing. Before going to her, prisoners are ex-

pected to have used all available means of resolving their grievances such as prisoner's committees and legal processes, if applicable.

In most matters she expects negotiation will be the answer but in more serious cases, such as alleged brutality by guards, she might decide to call more formal hearings with both sides represented by counsel. Riots and major disturbances would be handled by full-scale investigation commissions.

Many of these prison problems are caused by tension and Miss Hansen "hopes to be able to diffuse some of the tension" that comes from the closed environment. "You've been in hospital. You know all the complaints you have as you lie there and can't leave."

She'll make an annual report on her work to the solicitor-general, which will be tabled in Parliament. Recommendations made in the report conceivably might make their way to departmental policy that will have a lasting effect on the lives of Canada's prisoners.

Curiosity about Canada brought Miss Hansen here from Denmark in 1950. More curiosity and an interest in people led her into law. There weren't too many women at UBC's law school then — three out of the graduating class of 63. She's pleased to see more women entering the profession today — "it's a fine career for women. I've never been hindered in advancement — as a matter of fact I've been helped by my male colleagues."

After considerable criminal law experience in Vancouver she moved to Ottawa in 1969 to join the justice department where she did research into juvenile delinquency.

With all the travelling and talking she's going to be doing, there will be little time left over for her favorite hobby — horseback riding. By preference she likes the "wide open spaces of the Cariboo — rather than the East where it is either too hot, too humid, too cold or too wet to ride." Now if we just had a grievance committee at the weather office.

40s

They say there were some tall tales told when three old friends from the Big Block club of 1941-42 met in Sydney, Australia last spring — their first reunion in 30 years. **Harry Horne**, BCom'42, Canadian trade commissioner in Sydney was host to **A.M. (Brod) Matheson**, Arts'41 and **Alan Gardner**, Arts'42.

Andrew J. Carmichael, BCom'44, LLB'48, is one of the newer members of the provincial court bench in Vancouver. . . . B.C.'s new land commission is headed by **William T. Lane**, BA'44, BCom'47, LLB'48, former municipal solicitor for Richmond. Other members of the committee are UBC agrologist, **Vernon C. Brink**, BSA'34, MSA'36, (PhD, Wisconsin), **Mary Rawson**, BA'49, MA'52, (MRP, North Carolina), a Vancouver planner and **Ted Barsby**, a former Nanaimo alderman. General manager for the commission is **Gary Runka**, BSA'61, (MA, Cornell).

The Canadian Studies Centre, the only one of its kind in the States, at Johns Hopkins School of Advanced International Studies, has a new director — **H.E. (Ted)**

English, BA'45, (PhD, California). During his three-year stay as director he will be Professor of Canadian Studies. The centre was funded by the Donner Foundations of Canada and the U.S. to encourage Canadian studies in the States and promote better relations between the two countries.

In the past ten years pulp and paper has become a big industry in New Zealand and **Cyril J. White**, BA'45, BCom'45, has been part of that expansion. As an instructor in the New Zealand department of education program to provide certified personnel for the industry, he is responsible for the preparation of courses leading to trades certification in pulp and paper. . . . **Stuart B. Smith**, BA'49, MA'53, (PhD, Alberta), is chairman of the research secretariat, Alberta department of the environment. The secretariat will be coordinating environmental research and providing an interdisciplinary approach to research problems.

J. Alan Beesley, BA'49, LLB'50, director general, bureau of legal and consular affairs and a legal advisor in the department of external affairs was a guest speaker at a United Nations seminar held late August in Brandon, Man. The theme was, "The Sea, The Skies and The United Nations" — one which he is well equipped to speak on, as the author of several books on the sea and a for-



James Gibson

mer Canadian representative to the legal committee of the UN outer space committee

50s

A. Donald Hoskins, BA'50, BASc'51, MASc'56, is Shell Canada's new coordinator of environmental control. . . . **Alexa Cameron**, BSA'51, assistant professor of



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Ted English

Bible and Christian education and dean of women at Union Biblical Seminary in central India, recently completed her doctorate at New York University. . . . County court judge, **Albert Mackoff**, LLB'51, is now a member of the B.C. supreme court. His replacement on the county court is **Henry Hutcheon**, LLB'50, a Vancouver lawyer.

Memory Elvin-Lewis, BA'52, (MSc, Penn., Baylor), (PhD, Leeds), associate professor and chairman of microbiology at Washington University school of dentistry is the first female to be elected president of the microbiology section of the American Association of Dental Schools. She has recently been working on a research project with the university's medical school on the relationship of a virus-like bacteria, *Chlamydia*, to ocular, arthritic, venereal and lymphatic diseases. . . . **Robert Paul**, BASC'52, has been elected president of Canadian Bechtel. **James W. Killeen**, BA'54, MED'62, is now in Ottawa serving a term as president of the Canadian Teachers' Federation. He is a past president of the BCTF. . . . **Walter Young**, BA'55, (MA, Oxford), (PhD, Toronto), head of UBC's political science department has moved to the University of Victoria to be chairman of its political science department.

David Morley, BA'56, is undersecretary to the Treasury Board where he is responsible for expansion of the bilingual division formed by the board last year. . . . A past president of the B.C. Teachers' Federation, **Robert Buzza**, BA'57, MED'60, is the new general secretary of the federation, succeeding **Charles Ovans**, BA'40, who retired August 1.

Ronald Faris, BA'58, MED'67, (PhD, Toronto), will be advising B.C.'s Bremer commission on college affairs and educational communications. He has been a faculty member at the Regina campus of the University of Saskatchewan, where he headed the general studies division. . . . Coronary care in Canada was the topic when **Arthur Macgregor**, MD'58, addressed the conjoint annual meeting of the Canadian and English Colleges of Physicians and Surgeons. He has been in family practice in Victoria since 1961 and is currently chairman of the intern and education committee and director of medical education at Victoria General Hospital. . . . **Edgar Epp**, BSW'59, (MSW, Manitoba), a former warden at the Haney Correctional Centre, has returned to B.C. from Ontario to be deputy minister for corrections in the attorney general's office.



Alexandra Browning

60s

Back in Vancouver after a 12 year absence is **John Goodwin**, BCom'61. He's a member of the rather mysterious sounding MacMillan Bloedel department — strategic planning and development. He is currently president of the North American Society for Corporate Planning. . . . Sister **Jean Mary Michalec**, BSc'61 (MSc, Sophia), a Maryknoll missionary to Japan is teaching in the international division of Sophia University for the next year.

After graduation **Sandra Browning**, BMus'62, made her professional debut with the Vancouver Opera Association then she left for Europe to make her name in the opera world. As Alexandra Browning she is a name — a six-year veteran of the prestigious English Opera Group, Benjamin Britten's company. She makes her Covent Garden debut this October in "Electra". . . . **Joan Halverson** (Ostrom Schick) BLS'62 is information librarian at the Fraser Valley regional library. . . . New federal government funds to encourage development of provincial museums are having some effect in B.C. **Leslie Kopas**, BSF'62, MA'72, is the new director of the Prince Rupert museum, thanks to a \$10,000 federal grant.

All those marching feet in the annual Miles for Millions across the country helped in many places 'round the world. Just one is the Guy's Hill Junior Secondary School in St. Catherine's, Jamaica, where **David**, BA'65 and **Betty**, BHE'63 (Dahl) Giesbrecht are teaching. They are in the midst of three-year assignments from the Mennonite Central Committee and are veterans of previous stint of teaching in Nigeria. At their school an \$800 donation from MFM bought school books, equipment for home economics, photography equipment and a down payment on a Gestetner. . . . **Kenneth Dyba**, BA'64, new director of the Pleiades Theatre at Calgary's planetarium sees great things in the theatre's future. He's hoping to make the theatre into "a living arts centre" getting as much community involvement as possible in many areas of the arts. A new company under his direction will be aimed at developing original works for performance. Kenneth Dyba is the author of *Sister Roxy*, published by November House, which the *Victoria Times* said is just the book for those planning a family visit to Transylvania and who like to watch late-night horror movies. His second book is due to be published next year.

Vancouver Province

Artificial oysters in the Red Sea? Yes, if **William Arye Hughes-Games**, BSc'64, has his way. As a member of a research group at Eilat, Israel, he has managed to grow two oysters in the time he's been working on the project. Now he needs to go to New Guinea for further research on oyster breeding and is looking for a grant of \$25,000 to do it. If the venture becomes commercially feasible he feels it would be of great value to the kibbutzim — seems there's a great demand for oysters in Israel. . . . A \$1,000 prize had **Jerry Mar's**, BSc'64, (PhD, Cal. Tech.), name on it at the recent meeting of the Institute of Electrical and Electronic Engineers in New York. The Browder Thompson memorial prize was given in recognition for Dr. Mar's paper on transistor memory cells — the best paper published in the year by someone under 30.

Alison Clarke-Stewart, BA'65, MA'67, PhD (Yale), has been very busy. Her first book *Day Care in Context*, with Greta Fein, was published by Wiley Interscience in January and she is currently involved with a report for the Carnegie Council on Children on the impact of the family on children's development as well as directing a research project in child development and early education at Yale. Next January she expects to be teaching at the University of Chicago. . . . After two and a half years with the Ontario Research Foundation, **Michael Fairweather**, BASC'65, MASC'67, (PhD, Imperial College), is back in B.C. with Cominco at Trail. . . . **Alex Holm**, BED'65, MED'69 is in Victoria as provincial curriculum consultant with the Department of Education — with particular emphasis on elementary language arts. . . . **Janet Smith**, BCom'65, is in Ottawa as senior program liaison officer in the office of equal opportunities for women in the Public Service Commission. Previously she was teaching economics and commerce at SFU.

Browndale's child care program in B.C. is under the direction of **Paul Beckow**, BPE'66, (MSc, Oregon). . . . Another external affairs appointment takes **James Sotvedt**, BA'66, to Zambia as this country's first consul and commercial secretary. He previously served with Canadian consulates in Detroit and Guatemala.

A 12,000-mile sea voyage from Plymouth, England ended when **Paul Clark**, BA'67, landed at Victoria's Inner Harbour in July. The last leg of the journey from Panama lasted 116 days — a result of sailing out into the Pacific in hopes of catching enough wind to move the 30-foot ketch. His only company on the trip was the ship's cat, Shiva and her two kittens. There was tight rationing on the voyage — six glasses of water "for everything" and "endless meals of rice and beans" with the occasional tin of vegetables or meat. . . . The highest marks in his graduating class won **Kenneth Ward Morris**, BArch'67, MArch(Penn.) the Faculty medal at the University of Pennsylvania. He also won the certificate of merit from the American Society of Landscape Architects. . . . Foreign lands beckon — and **Hugh L. Stephens**, BA'67, (BEd, Toronto), (MA, Duke), has deserted his history classroom in Merritt to join the external affairs department as a foreign service officer. He's initially stationed in exotic Ottawa. . . . **Alice Dong Wong**, BHE'67, (MD, Toronto), heads Toronto's Wellesley Hospital Employee Health Services. As chief of the service that



Kenneth Dyba

provides medical care for the employees and students at Wellesley and Princess Margaret Hospitals, she and her staff coped with over 12,000 visits last year. They treat acute problems as well as referring patients to outside doctors.... Talonbooks, one of Canada's new generation of book publishers, is headed by **David Robinson**, BA '68. A recent offering of the company is *British Columbia, One Hundred Years of Geographical Change*, written by Dr. **J. Lewis Robinson**, former head of UBC's geography department (and David's father) and **Walter Hardwick**, BA '54, MA '58, (PhD, Minnesota) geography professor and Vancouver city alderman.

Jean-Pierre Daem, BSc '68, (MSc, SFU), has been elected by the students of Simon Fraser as a member of the university's sen-



Merle Smith

ate. He is a past president of the Canadian Union of Graduate Students. . . . "Gingerly settled in" is the term **James Macbeth**, BCom '68, (MA, Leeds) uses to describe himself at the University of Western Australia. Since December '71, he's been a lecturer "with a cynical eye" on business in the commerce faculty.

70s

Wayne Bembridge, MA '70, is principal of the Douglass School for the physically handicapped in Winnipeg. . . . A former contributor to the *Chronicle*, **Valerie Hennell**, BA '70, MA '72, is making history on the island of Ibiza. She's the island's first-ever female yachting instructor — and well quali-

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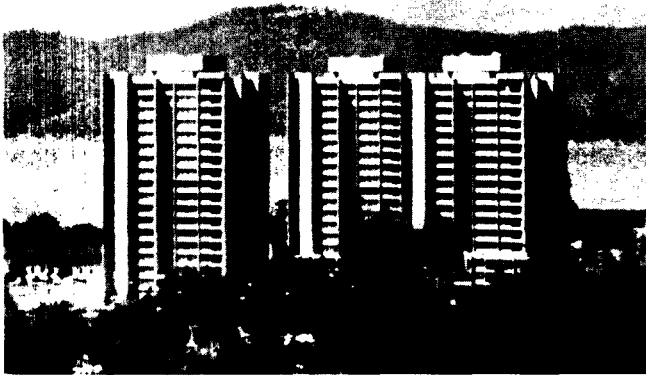
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fied with three years teaching experience at the Royal Vancouver Yacht Club behind her. . . . Life afloat has another convert. **Paul Roy Stewart**, BEd'70, is building a 45' boat on his property in Richmond — two years to project completion. He then plans to sail the B.C. coast for two years before retiring afloat — from his 12 year teaching career.

Henry Armstrong, (BEd, MEd, Alta.) PhD'72, is new executive director of the B.C. School Trustees Association. . . . **Marian Ruth Jackson**, MSN'73 is in Saskatoon as nursing administrator at City Hospital. She was previously director of medical nursing at Saskatoon's University Hospital. . . . The problems of the handicapped are all too familiar to **Merle Smith**, MSW'73, a paraplegic, confined to a wheel chair since a hiking accident 10 years ago. The B.C. provincial government has just appointed her its first consultant on the problems of the handicapped. Already she's planning a conference to discuss housing, pensions, transportation and rehabilitation, and produce suggestions and recommendations for provincial policy on the handicapped.

BIRTHS

Mr. and Mrs. Kenneth W. Doduk, BAsc'70, a daughter, Barbara Jo-Anne, March 4, 1973 in Vancouver. . . . **Dr. and Mrs. Michael J. Fairweather**, BAsc'65, MAsc'67, a son, James Duncan, June 26, 1973 in Trail. . . . **Mr. and Mrs. Paul E. Forseth**, BEd'72, a daughter, Richelle Rivée, No-

vember 19, 1972 in New Westminster. . . . **Mr. and Mrs. Michael Gee**, BEd'72, (Frances, BEd'72), a son, Christopher Michael, July 1, 1973 in Prince George. . . . **Mr. and Mrs. Lawrence G. Humphrey**, BA'57, a daughter, Isabella Celina, February , 1973 in Barcelona, Spain. . . . **Dr. and Mrs. Richard C. Mansey**, (Elizabeth Haig-Smillie, BSc'66) a daughter, Michelle Anne, May 18, 1973 in Hamilton, Ont. . . . **Mr. and Mrs. John Parks**, BCom'70, LLB'71, (Joy Young, BEd'70), a daughter, Shalan Michelle, May 12, 1973 in Vancouver. . . . **Mr. and Mrs. H. Graham Reid**, BSc'65, LLB'68, (Donalda Nunn, BEd'66), a daughter, Suzanne Elizabeth, July 13, 1973 in Vancouver. . . . **Mr. and Mrs. John Tyrrell**, BA'64, a daughter, Anne Katherine, March 24, 1973 in Surrey. . . . **Dr. and Mrs. Barrie Webster**, BSc'63, MSc'65, (Phyllis Sagert, BA'64), a daughter, Glenys Muriel, May 26, 1973 in Winnipeg.

WEDDINGS

Lesage — Valentine. Jean-Pierre Lesage MBA'69 to Francoise Valentine, June 25, 1973 in Templens, France. . . . **Salkus — McMillan**. Neil J. Salkus, BAsc'68, to Donna Leanne McMillan, BA'72, May 25, 1973 in Vancouver.

DEATHS

Melville W. Bolger, BSc'68, February 1973 in Vancouver. Survived by his parents, grandmother and two brothers.

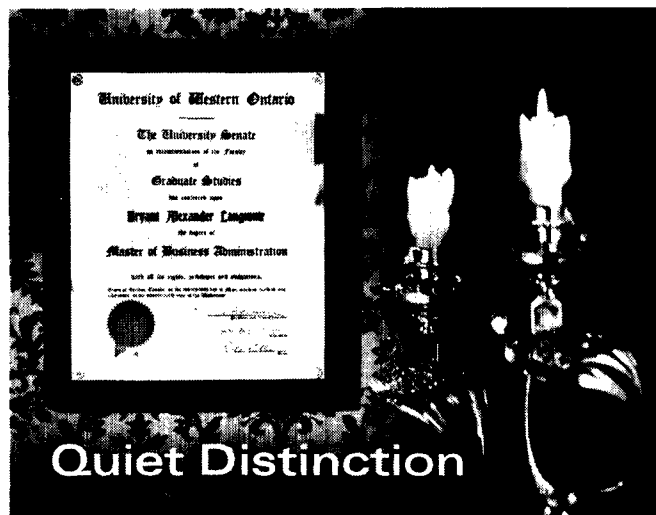
Mrs. Ernest S. Earle (Isobel Douglass), BA '28, May 1973 in Vancouver. She was a charter member of the UBC chapter of Kappa Kappa Gamma and is survived by her husband, brother and son, William, BCom'65.

Denis Alan Godson, BA'54, (BLS, Toronto), May 1973 in Victoria. A librarian at the Provincial Archives in Victoria, he was active in church work as Sacristan of St. Barnabas' Anglican Church and archivist of the Diocese of B.C. Survived by his mother and sister.

Walter H. Goodwin, BA'42, BASc'43, May 1973 in California. A senior scientist-engineer at McDonnell-Douglas Aircraft, he is survived by his wife, son, two daughters, father and two brothers, Martin, BSA'43 and Norman, BA'50, LLB'51.

Evelyn C. McKay, BA'19, May 1973 in New York. A pioneer on social work for the blind, she was at one time director of social research for the American Foundation for the Blind where she was active in advocating legislative changes to aid the blind in both the U.S. Congress and state legislatures. After retiring in 1959 she undertook consulting work before founding the Louis Braille Foundation for Blind Musicians — a non-profit organization to aid blind musicians achieve professional status as performers and educators. She was executive director of the foundation at her death. A member of UBC's first freshman class, she served as editor of the *Ubyssy* in 1917-18.

Orville F. Scheelar, BSF'51, July 1972 in Nakusp. A forester with Celgar Ltd., he is survived by his wife, two sons, parents and two sisters. □



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