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Researchers achieve four breakthroughs

A number of significant breakthroughs — to use that often exaggerated cliché — have recently occurred in UBC's Faculty of Medicine.

Researchers in that faculty have received widespread publicity for:

- Developing a test to diagnose a common form of mental retardation;
- Coaxing blood cells that are the precursors to leukemia to grow in a test tube for the first time;
- Successfully implanting an artificial inner ear in a deaf patient, the first operation of its kind in Canada; and
- Overcoming most of the hurdles involved in removing an egg from a woman, fertilizing it with sperm from her husband, and transferring the embryo into the women's womb for normal development.

British Columbians are the first in the world to be offered a new test that determines if a fetus is afflicted with a disease called x-linked mental retardation (XLMR), thanks to pioneering work carried out in UBC's Department of Medical Genetics.

XLMR affects boys only. Although mothers may be carriers of the disease, they have normal intelligence. Each of

their boy babies, however, runs a 50 per cent chance of being born with mental retardation so severe that many spend their lives in an institution.

Dr. Patricia Baird, head of the department, said that mental retardation is the most common handicap in Canada, and the incidence of XLMR is about the same as for Down's syndrome, until now the most significant form of mental retardation that can be diagnosed before birth.

Dr. Diana Herbst, research associate in the department, estimates that one baby boy in 500 in B.C. is born with XLMR.

The test was worked out by Dr. Frederick J. Dill, associate professor in the department, and graduate student Peter Jacky. The work was carried out with money from the Scottish Rights Foundation and the B.C. Health Care Research Foundation, which distributes some of the proceeds from B.C. Lotteries for medical research.

Dr. Jozek Skala, associate professor in UBC's Department of Pediatrics and Centre for Developmental Medicine, carried out fundamental work to improve understanding of the mechanism behind

leukemia and perhaps other forms of cancer.

Leukemia involves the abnormal multiplication of white cells in the blood. Although the cancer cells multiply without limit in the body, researchers have failed in attempts to get them to grow in the test tube, where they can be studied. Failed, that is, until Dr. Skala coaxed them through at least three cell divisions that kept them alive for 15 days.

His work is supported by the Vancouver Foundation and the B.C. Health Care Research Foundation.

Twenty-four-year-old Lucy Philpott can now hear for the first time since she became profoundly deaf two years ago as a result of illness.

Dr. Patrick Doyle, head of the division of otolaryngology in UBC's Department of Surgery, implanted an electrode in Ms. Philpott's inner ear. Sound, picked up by a dime-size microphone near the ear, is passed through a simulator to produce electrical impulses that are fed along the electrode to the inner ear to stimulate the hearing nerve.

Working in their spare time, a research team in UBC's Department of Obstetrics and Gynecology has solved many problems

involved in *in vitro* fertilization and embryo transfer.

Led by Dr. Betty Poland, team members have successfully removed eggs from the ovaries of four women and fertilized the eggs with sperm from their husbands. This is the process that has proved difficult for many other teams working in this area, said Dr. Victor Gomel, team member and head of the department, at a recent news conference.

However, the last step in the process, transferring the embryo into the mother's womb where it should attach itself to the uterus for normal development, has so far eluded the UBC team.

Dr. Poland said the team will only consider itself successful when a healthy baby is in a delivery room bassinets. If the team succeeds, it will be the first such conception in Canada. Last year, twins were born to an Ontario couple after the wife became pregnant in England using the same technique.

The UBC program is limited to married couples living in B.C. The reproductive system of both husband and wife must be

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Holiday closures coming

Some facilities on campus will be closed over the Christmas season and others will be operating on reduced hours. *UBC Reports* did a check to find out where you can go for food, recreation and even to study during the holidays.

The Buchanan, Education and Ponderosa snack bars close Dec. 11, the Auditorium Snack Bar closes Dec. 18, and the Barn Coffee Shop and the IRC Snack Bar close Dec. 23. All units reopen on Jan. 3.

The Bus Stop Coffee Shop closes Dec. 23, reopens Dec. 28 to 30, and will close again until Jan. 3. The SUBway Cafeteria will remain open except for the following days: Dec. 18, 19, 24-31, Jan. 1, 2. The Faculty Club will be closed Dec. 24 to 27, will reopen Dec. 28 to 30 and in the evening on Friday, Dec. 31 for the annual New Year's eve party, and will close again until Jan. 3.

The UBC Aquatic Centre will be open regular hours until Dec. 20. From Dec. 20-23 and Dec. 27-30, public swimming will be from 12 to 5 p.m. and 6 to 10 p.m., on Dec. 24 and 31 the pool will be open for public swimming from 12 to 4 p.m. The centre will be closed on Dec. 25, 26 and Jan. 1 and there will be only minor changes in hours on Jan. 2. Regular hours begin Jan. 3.

The Museum of Anthropology will be open regular hours throughout the Christmas season except for closures on Dec. 25 and 27.

If for some reason you get the urge to
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Study space in UBC libraries is at a premium these days as Christmas exams loom. This student found a quiet retreat between book stacks in the Sedgewick Library. Exams begin Dec. 13 and continue until Dec. 22. Holiday hours for various campus services are outlined in story beginning at left.

Few can equal UBC program

Few universities in North America can equal the University of British Columbia in terms of the range of programs it offers in the field of continuing education and credit enrolment, President Douglas Kenny told a recent meeting of the UBC Senate.

The president was commenting on UBC's annual report on continuing education activities, which is compiled by Jindra Kulich, director of UBC's Centre for Continuing Education.

His report on 1981-82 activities shows that just over 91,000 persons registered for continuing education courses in all parts of the province. Credit programs offered by the University at its Point Grey campus and in other parts of the province push UBC's total academic-year enrolment to more than 110,000.

The UBC Centre for Continuing Education is one of seven UBC units which offer on- and off-campus credit and non-credit courses. These include the Division of Continuing Education in the Health Sciences as well as divisions in the Faculties of Commerce, Agricultural Sciences, Education, Forestry and the Schools of Social Work and Physical Education and Recreation.

Mr. Kulich, in his report to Senate, calls attention to the growth of University continuing education programs in non-metropolitan areas through the Knowledge Network or programs offered in various B.C. centres.

The Division of Continuing Education in the Health Sciences, for example, offered a
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Graduate student solves baffling problem

Andre Van Schyndel, a doctoral student in Physics at UBC, has invented a device which has been cited as a "major breakthrough in the field of talking books for the visually impaired."

The device, called a voice indexer, allows page numbers and other pieces of information to be recorded on talking books so that they can only be heard in the fast-forward or rewind modes. When the tape is played at normal speed, only the

original text of the book can be heard.

"This may sound simple," says Paul Thiele of UBC's Crane Library for visually impaired students, where the device was tested, "but researchers around the world have been trying to develop a voice indexer for some time now, and Andre is the first to be successful."

"I happened to mention to Andre one day some of the problems involved in locating specific pages in talking books, and five weeks later he came back to me with a home-made device that solved the problem."

The voice indexer makes possible the creation of talking dictionaries, encyclopedias and even cookbooks. "The talking book has previously been limited to material that is read from beginning to end," says Mr. Thiele. "But with this new device, people using the talking books will be able to find a specific spot on the tape by listening to key words being recited on the fast-forward and rewind modes."

According to Andre Van Schyndel, the principle on which the voice indexer is based is quite simple. "A basic description of how it works is that the voice reading the page numbers or key words has to be recorded at an extremely slow speed in order to be understood in fast-forward or rewind. At a normal speed, the frequency of these sound waves is too low for the voice to be heard."

"When readers are recording talking books, all they have to do is push a button on a small box and speak into the same microphone they are using to add page numbers or additional information. The information is then coded onto the master tape and any additional copies made off the master tape will include the coded material."

Mr. Van Schyndel is modest about his invention, but when questioned, he admits that inside the small box there is "quite a complex computer program" guiding the coding system.

The "Van Schyndel Voice Indexing System" is now being commercially manufactured by Ambrex International

Incorporated Ltd. in Port Coquitlam and more than 200 requests for information about the system and orders have poured in from different parts of the world, including South Africa, Australia, Great Britain, the Netherlands, West Germany and the U.S. One order came from an institution in the States that recently spent

\$800,000 on research contracts with various electronics firms on what turned out to be unsuccessful attempts to develop such a device.

The first commercially manufactured voice indexer was donated to UBC's Crane Library in appreciation for their help in evaluating the system.

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total of 314 courses, 140 on campus and 174 off campus for doctors, dentists, nurses, pharmacists, rehabilitation specialists and specialists in diet and nutrition.

UBC's Faculty of Commerce and Business Administration staged 71 executive seminars for 1,245 businessmen and women last year in Abbotsford, Kelowna, Courtenay, Kamloops, Vernon and Prince George, as well as Vancouver.

The Faculty of Agricultural Sciences offered three credit courses in Prince George, Kamloops and Williams Lake in 1981-82 and sponsored a wide range of non-credit conferences, short courses, workshops and seminars in more than 40 B.C. locations for a total registration of 1,720.

Nearly 5,200 school teachers and administrators in all parts of B.C. registered for credit and non-credit programs offered through the Faculty of Education. The faculty's offerings include a number of special projects such as a program to train Native Indian teacher aids, which enrolled 119 participants in 1981-82 and 280 students in the Yukon who are enrolled for courses leading to a Bachelor of Education degree.

Other important continuing education programs listed in the annual report are:

- A total of 45,581 who visited the UBC Museum of Anthropology for single lectures and lecture series, seminars, demonstrations and other public events (in addition, nearly 129,000 people visited the museum to see permanent and travelling displays);

- The Department of Music staged 16 faculty concerts, 110 student recitals and 47 ensemble concerts on campus and the UBC Chamber Singers conducted choral workshops and gave concerts for 4,800 persons in the Okanagan and the Kootenays in April and May;

- Some 22,000 persons attended nine stage productions at the Frederic Wood Theatre and the Dorothy Somerset Studio on campus; and

- An estimated 10,000 people attended free public lectures, courses and seminars sponsored by the Cecil H. and Ida Green visiting professor series and the Faculty of Arts distinguished visitor program (accurate attendance figures are not available because most lectures are free).

The Centre for Continuing Education continues to be the sponsor of the largest UBC extension program, which enrolled 76,353 persons in 1981-82, or 83.8 per cent of the total registration for such programs.

UBC retrenchment and the deteriorating economic situation in B.C. had an adverse effect on programs offered by the centre in 1981-82, Mr. Kulich reports.

The most dramatic decrease in participation was in the area of professional education, where enrolments declined by almost 38 per cent from 19,752 in 1980-81 to 12,247 in 1981-82.

This decline, Mr. Kulich says, is a direct result of budget cutting by employers who reduced allocations for employee training and development.

This decline was offset to some extent by increases in enrolment for correspondence courses and the use of services provided by the Women's Resources Centre, but total participation figures for all centre activities in 1981-82 decreased by 10.64 per cent or 5,643 registrations, the report says.

Birds end football year with victory over SFU

UBC's football Thunderbirds ended their 1982 season Saturday (Nov. 27) with a rain-soaked victory over Simon Fraser University in the Shrum Bowl at Empire Stadium.

The Birds' 19-8 victory over their crosstown rivals from Burnaby meant the UBC team had completed a perfect 12-0 Canadian season, which included a 39-14 victory over the University of Western Ontario Mustangs in Toronto on Nov. 20 to win the Vanier Cup, emblematic of the Canadian Intercollegiate Athletic Union football championship.

UBC running back Glenn Steele was voted the most valuable player and the outstanding offensive player in the Toronto game. Linebacker Mike Emery, leader of the defence which allowed the Mustangs only 173 yards, was named the outstanding defensive player.

The underdog Clansmen and the Birds

played in an almost steady downpour on Nov. 27. With just over 10 minutes of the first half completed, the Birds led 14-0 on touchdowns by Brant Bengen, who scored on a pass from quarterback Jay Gard, and Steele, who rambled 32 yards through the SFU defence. UBC led 16-7 at the half.

AMS revives phone directory

After a gap of almost a decade, the Alma Mater Society has revived the student telephone directory, which used to be called "Bird Calls" but is now simply known as the "AMS Student Directory 1982-83."

The name of every registered student is listed in the directory unless he or she asked that it be omitted on the University's authorization-to-register form. The listings also include the students' Vancouver and home addresses and postal codes as well as the Vancouver telephone number.

The front section of the directory lists campus services and their locations and telephone numbers, the addresses of all AMS clubs and associations, a selection of numbers for UBC faculties and administrative offices, a full listing of student undergraduate societies and members of student council, as well as a phone list for the Student Union Building and campus residences.

AMS vice-president Cliff Stewart said it's planned to make the directory even more comprehensive in the future by including a yellow-pages section and advertising.

The directory is on sale in the UBC Bookstore for \$1 a copy.

Summer program may charge fee

UBC's Summer Program for Retired People, now nine years old, will be offered again in 1983, but those enrolling in it may have to pay a fee.

The program, administered by the Centre for Continuing Education, has been a victim of retrenchment, CCE director Jindra Kulich told UBC's Senate at its November meeting.

Mr. Kulich said the centre is co-operating with an advisory committee of retired people who are attempting to raise \$250,000 as an endowment fund to meet the annual cost of the program.

To date, he said, more than \$16,000 has been raised for the endowment fund. Funds are being sought from business firms, foundations and individuals.

The summer program, which runs for a month in June each year, offers a variety of short courses taught by UBC faculty members. Out-of-town participants in the program live in the Walter Gage Residence.

Individuals who wish to contribute to the endowment fund should send cheques made payable to the University of B.C. to Mr. Kulich at the Centre for Continuing Education with an indication that the gift is for the endowment fund.

Top awards made

UBC recently announced the winners of the top three scholarships awarded each year for a combination of academic achievement and public service.

The \$3,000 Sherwood Lett Scholarship was won by Cynthia Southard, a fourth-year student in the Faculty of Education who is serving this year as the Alma Mater Society's external affairs co-ordinator.

The \$2,750 Amy Sauder Scholarship was awarded to fourth-year Commerce student Elaine Matheson, and the \$2,000 Harry Logan Scholarship was won by Jason Gray, a third-year medical student at UBC.

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study over the holidays, most UBC library branches will be open (on reduced hours after Dec. 21) except for Dec. 24-27 and Dec. 31-Jan. 3. For a complete listing of library hours, call 228-2077.

The War Memorial Gymnasium will be open regular hours until Dec. 12, will be open 8 a.m. to 8 p.m. Dec. 13 to 23, and will close Dec. 24 to 27. The gym reopens Dec. 28-30 from 8 a.m. to 4:30 p.m. and closes Dec. 31 until Jan. 3. The Osborne Centre will close on Dec. 17 until the new year.

The official closure dates for the University over the Christmas season are Friday, Dec. 24, Saturday, Dec. 25, Sunday, Dec. 26, Monday Dec. 27, Friday, Dec. 31 and Saturday, Jan. 1. The last day of classes for most faculties is Friday, Dec. 10, with examinations beginning the following Monday. Classes begin again on Monday, Jan. 3.

The staff of UBC Reports would like to wish readers an enjoyable Christmas season. See you in January.

BREAKTHROUGHS

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normal in every way with one exception — the fallopian tubes of the wife, which would normally carry the fertilized egg to the uterus, must be irreparably damaged.

The program is designed to by-pass the damaged tubes, introducing eggs fertilized outside of the body into the mother's womb.

The UBC team attempts to transfer all fertilized eggs. "By transferring two eggs instead of one, we double our chances of a successful pregnancy," said Dr. Gomel, who has an international reputation for microsurgery.

Liberal education needed in the 1980's

UBC's chancellor, Hon. J.V. Clyne, was the speaker last week at one of five fall forums sponsored by the Alumni Association. Excerpts from his remarks, entitled "A President for the '80's" are reproduced below.

As you all know, we have found a new president and he was appointed several weeks ago. I can, however, tell you something about the details involved in the search and I can talk very briefly about the role that he may be required to play in view of the problems he will face in the coming years.

At the beginning of March of this year, a search committee was appointed by the Board of Governors of the University and, as chancellor, I was asked to be its chairman. The original committee, including myself, consisted of 23 members, four of whom were appointed by the Board of Governors, three members were elected by Senate, and four members of faculty elected by the Joint Faculties.

Three deans were chosen by the Committee of Deans, there were four students and three members of the Alumni Association and one member of the non-academic administration appointed by the chairman of the Board.

The size of the committee was the same as that of a previous search committee and for various reasons the Board did not want to depart from that precedent. I was concerned about the size as it seemed obvious that a 23-member committee would not likely result in a very efficient operation. I must tell you, however, that the committee did a lot of hard work and operated smoothly and well.

Its terms of reference were: (a) To adopt criteria to guide it in the selection of presidential candidates; and (b) To recommend a short list of presidential candidates to the staff committee of the Board of Governors.

It soon fixed its criteria to search for a candidate who would have the following qualifications: 1. Quality of leadership; 2. Academic achievement; 3. Fiscal competence; 4. Administrative ability; and 5. Understanding of public relationship.

Advertisements to this effect were placed in the press and academic journals. The University community was immediately advised of the committee's function and I also wrote to the president of every university in Canada and to their chancellors, asking for suggestions. As a result, 89 names from various parts of the

world were suggested as possible candidates, a number of whom were well qualified for the post. Curricula vitae were furnished and references were also made available.

Some individuals who had been nominated or suggested withdrew their names for various reasons but a large number remained on the list. Careful investigations were instituted, private enquiries were addressed to persons suggested by candidates, and a certain number of candidates appeared personally before the full committee.

Over the months the committee held a number of meetings where very full and frank discussions took place and as a result a short list was submitted to the Board of Governors.

At its meeting on Nov. 2nd, the Board appointed Dr. K. George Pedersen to succeed Dr. Kenny as president of the University.

I now must turn to the other aspect of my given subject and that is the role that a president must be expected to fulfill in the coming decade. The task of the new president will not be easy. We all know the difficulties which must be expected in the time of a devastated economy when governments are unable to supply the required funds to educational institutions.

We have already suffered two substantial reductions in our annual budgets and there may be more to come, especially if the Canadian and American governments cannot reach an agreement in regard to tariffs which may affect the Canadian resource industries with resulting loss to our governments in tax revenues. The University is already suffering from a policy of restraint and highly skilled judgment will be required to prevent further economies from interfering with the quality of education.

Apart from financial difficulties, there are other problems to be faced in the coming years which will affect all universities, and their solution will require skilled guidance from university administration.

One of the objectives of any university is, of course, the accumulation and transmission of information and knowledge through the art of teaching. In order to maintain this objective, universities have found it necessary over the centuries to alter their policies to meet the needs of a changing society.

Today our society is changing rapidly in many respects. What has been termed the

information explosion is bound to affect the policies of all universities. In less than four decades the ability to collect, sift, refine and manipulate informational data has increased a million-fold and promises to grow at this rate for the remainder of the century.

The so-called information explosion is part of the general technological revolution



Chancellor J.V. Clyne

which is taking place in all parts of the civilized world. The changes will be as fundamental, or perhaps more so, than those caused by the Industrial Revolution in the 19th century.

It takes some time for these events to become generally realized but they do represent an irreversible trend in the way industrialized societies will live. One of the results, which will affect the future of the universities, is a decline in employment and the amount of time required for work.

A cause of structural unemployment will be the complete displacement of long-cherished traditions by new ones which will call for the employment of fewer people and possible a different type of person.

Now, what effect will these changes have upon the function of universities in affording service to society? It would appear that there will be a decided decline in the demand for trained people in the manufacturing industries and that a greater number of people will seek employment in the service industries, including the professions.

Even then, it is forecast that on average a much smaller proportion of an individual's life will be spent in working and much more time will be spent in leisure. Emphasis must therefore be laid on training students in appreciation of the arts, including handicrafts, and in the understanding of history and how society works and will work in future.

In other words, the university must lay greater emphasis on teaching a student how to employ his time usefully in later life when he or she is not working in order to obtain personal satisfaction and to avoid the danger of boredom.

It will, of course, be necessary to continue to train young people in highly scientific skills which will be required in an increasingly technological society, but fewer numbers will be needed. On the whole, students must be prepared for a life in which they will have to adapt readily to changing circumstances.

The concept of a lifelong skill or craft will no longer be valid and therefore training at the university must be a preparation for adaptability in later life. This argues against early specialization and calls for more concern in teaching the fundamentals of subjects rather than specific techniques.

An ever increasing proportion of the working population will need to be taught new skills and additional knowledge to enable them to move into different jobs. In place of early specialization, universities will place much greater emphasis on post-graduate and adult education.

Professional experts on future employment have estimated that as many as half of all the occupations now practised in Canada will become obsolete or will be altered beyond recognition in the next 25 years. Retraining to keep up with changing techniques and equipment will become a way of life in some occupations and second careers for middle-aged people are already becoming increasingly common.

Leadership will be required from our new president to give effect to the liberal education which will be needed to enable students to take their place as useful members of society in the coming years.

It is obvious that a balanced education is going to be required to enable our young people to take their places in a society which is likely to be very different from the present. The new president will be faced with many problems and, as alumni of this University, we should start giving thought to any help which we may be able to give him and his administration in these times of vital change.

Wisenthal replies to minister's remarks

B.C.'s minister of education Bill Vander Zalm said last week that university teachers may be asked to work longer hours to accommodate an estimated 20-per-cent enrolment increase next year resulting from a lack of jobs for young people. He said faculty members could be asked to work more than the seven or eight months they work annually and more than the average 15- or 20-hour week they now work. The day following the minister's remarks, UBC Faculty Association president Prof. Jonathan Wisenthal was interviewed on the CBC program *Early Edition*. What follows is an edited version of his remarks.

Prof. Wisenthal: I think Mr. Vander Zalm misunderstands the nature of the work that goes on at UBC and the other provincial universities. . . . He misunderstands the amount of work that's done and the dedication that faculty members apply to the work they do.

I'd like to invite Mr. Vander Zalm to spend a day with us. I think he might find this place is full of workaholics like himself and that people work at an extreme pitch. He's been quoted as saying, "I like to work myself and I somehow expect other people to like it as well." That very nicely

describes the atmosphere in a university. It's a place where people enjoy their work . . . and they extend themselves in doing it.

CBC: But don't people think that you only work eight months a year from September to the end of April when exams are finished?

Prof. Wisenthal: I hope not, because it would be totally untrue. Most faculty members work long days, most find themselves working in the evenings, working on weekends in the classroom, in their offices, in the library and the laboratory.

And they work at least an 11-month year. I know many people who don't even take the four weeks they are entitled to.

CBC: Where did Mr. Vander Zalm get this 15- to 20-hour work week idea from?

Prof. Wisenthal: I can only assume he invented it. One has to consider the variety of work that's involved in being a university professor. One would start a list with classroom teaching . . . but that's only the visible surface. Lying behind that . . . is preparation and at a university one is

teaching at an advanced level so a good deal of preparation is required. University teaching is based on the latest development in one's field.

CBC: The other aspect is the time teachers put in on research and publishing in scholarly journals.

Prof. Wisenthal: But apart from that, there are many other aspects of teaching itself . . . we spend a good deal of time talking to students in our offices, interviewing students, giving them academic advice, going over essays with them . . . Then we have marking which, in the English department, is a major part of our activities. One goes home at the end of the day or week with 30 essays, each of which might take an hour to mark and requires careful judgment and concentration.

The supervision of graduate students can be a major part of a university professor's work. We supervise laboratories at the graduate and undergraduate levels. There is service to the university itself, on committees, for example, that deal with curriculum or teaching evaluation and improvement.

Then there is service to the community through lectures and other activities, and there is work with national and international bodies in our professional field. All of that is in addition to our academic research, which is a crucial part of what we do. Everything else we do is based on that original academic research.

CBC: If the deans of the faculties told professors they would have to work harder because of increased enrolment . . . would the response be a flat "no"?

Prof. Wisenthal: No, I don't think they would respond that way, because we have a sense of responsibility and would want to do the best job we could for the students admitted to UBC.

What has to be remembered is that if you increase classroom time you are modifying the nature of the university. You are reducing the academic effectiveness of the university because activity is based on academic research based on intellectual enquiry. And if the number of teaching hours is increased to the point where you reduce the time devoted to research and intellectual enquiry, you undermine the very function of the university.

