UBC REPORTS

VOLUME 16, NUMBER TWELVE

APRIL 30, 1970, VANCOUVER 8, B.C.

RETURN REQUESTED

UBC Reports,
Information Services,
University of British Columbia,
Vancouver 168, B.C.

BULK

CANADA
POSTAGE - POSTES
4c CTS.
PERMIT No. 2027
VANCOUVER, B.C.

THE 1970 MASTER TEACHER AWARDS HAVE BEEN MADE TO PROFESSOR OF ART EDUCATION SAM BLACK, SHOWN IN THE FOREGROUND OF THIS PHOTO, AND DR. JOHN HULCOOP, ASSOCIATE PROFESSOR OF ENGLISH, WHO IS CURRENTLY RECOVERING FROM SURGERY IN A VANCOUVER HOSPITAL AND COULD NOT BE PRESENT WHEN THIS PICTURE WAS TAKEN. THE TWO MASTER TEACHERS WILL SHARE THE $5,000 CASH AWARD THAT GOES WITH THE HONOR. AWARDED CERTIFICATES OF MERIT IN THE 1970 COMPETITION ARE THE FOUR UBC TEACHERS IN THE BACKGROUND. THEY ARE, LEFT TO RIGHT, DR. C. RONALD HAZELL, ASSOCIATE PROFESSOR OF MECHANICAL ENGINEERING; PROF. GEOFFREY DURRANT, FORMER HEAD OF THE ENGLISH DEPARTMENT; MR. CORTLAND HULTBERG, ASSISTANT PROFESSOR OF MUSIC, AND DR. KARL I. KOBBERVIG, ASSOCIATE PROFESSOR OF SPANISH. DETAILS ON PAGES TWO AND THREE. PHOTO BY EXTENSION GRAPHIC ARTS.

MASTER TEACHERS NAMED

Prof. Sam Black, 56, of the Faculty of Education, and Dr. John Hulcoop, 39, associate professor of English, have been named the second and third recipients of the Master Teacher Award at the University of B.C.

The two master teachers will share the $5,000 cash prize that goes with the honor.

In addition to naming two master teachers, the eight-man selection committee responsible for screening nominees has awarded certificates of merit to four other UBC teachers.

Certificate of merit winners, all of whom will be eligible for the Master Teacher Award in future years, are:

FOUR NAMED

– Prof. Geoffrey Durrant, 56, former head of the Department of English;

– Mr. Cortland Hultberg, 38, assistant professor of music and director of the University Chamber Singers;

– Dr. Karl I. Kobbervig, 41, associate professor of Spanish, and

– Dr. C. Ronald Hazell, 32, associate professor of mechanical engineering.

The Master Teacher Awards, designed to recognize outstanding teachers of undergraduates at UBC, were established by Dr. Walter Koerner, chairman of UBC's Board of Governors, as a tribute to his brother, Dr. Leon Koerner. The first winner of the Master Teacher Award was UBC's president, Dr. Walter Gage.

Dr. W.C. Gibson, chairman of the selection committee, said the committee had decided to select two master teachers this year. Each will receive $2,500.

"It was the feeling of the committee, based on letters received last year and other discussions that the University should move more quickly to recognize a greater number of outstanding UBC teachers."

A total of 30 members of the UBC faculty were this year nominated by alumni, students and faculty.

Prof. Black, who is a noted painter as well as professor of art education in UBC's Faculty of Education, said he would use his $2,500 award to extend his knowledge of art and the teaching of art. He plans to visit a number of European countries in 1971 to study art and art education.

NOTED PAINTER

Born and educated in Scotland, Prof. Black holds a diploma in art from Glasgow School of Arts and an art teacher's diploma from the British Ministry of Education. He was elected a member of the Royal Scottish Society of Watercolor Painters in 1953.

He was a school inspector for the British Ministry of Education from 1946 to 1949 and principal lecturer in art at Jordanhill Training College in Glasgow from 1949 to 1958, when he joined the UBC faculty.

Prof. Black, who also teaches in the fine arts department of UBC's Faculty of Education, paints in both watercolors and oils and his works hang in many private collections and public galleries in North America, Europe and Great Britain.

He has been active in the International Society for Education Through Art and was a recent candidate for the presidency of that organization. He is also the B.C. representative on the Canadian Society for Education Through Art.

Dr. Hulcoop, who is currently recovering from surgery in a Vancouver hospital, plans to use his $2,500 award for research on a novel centered around the life of British novelist Virginia Woolf.

He plans to visit New York, where he will consult material on Miss Woolf's life, and London, to interview persons who knew Miss Woolf.

Dr. Hulcoop is a native of England and a graduate of the University of London, where he obtained his bachelor of arts degree with honors in English language and literature, and his doctor of philosophy degree.

He declined a graduate fellowship to an American university to join the UBC faculty in 1956. Dr. Hulcoop has published numerous poems, short stories and articles in various magazines and was the recipient in 1969 of a $7,000 Canada Council leave fellowship.

Here are brief biographical notes on the four certificate of merit winners:

Prof. Geoffrey Durrant joined the UBC faculty in 1966 as head of the Department of English after having served in a similar capacity at the University of Manitoba. He resigned as head of the UBC department early in 1969 to devote all his time to teaching and research.

Prof. Durrant taught in England, Germany and South Africa before coming to Canada in 1961. He holds the degrees of bachelor and master of arts from Cambridge University and the degree of doctor of literature from the University of South Africa.

Prof. Durrant is a prolific writer and his chief research interests are the works of Shakespeare and the poet William Wordsworth.

Mr. Cortland Hultberg has been a member of the UBC faculty since 1959 and is director of the electronic music studio in the UBC music department.

SECOND AWARD

A native of Chicago, Mr. Hultberg was educated at Northern Illinois State Teachers College, where he received the degree of bachelor of science in music; the University of Illinois, where he received the degree of master of science in music education, and the University of Arizona, where he was awarded the degree of master of music.

Dr. Karl I. Kobbervig came to UBC in 1956 after teaching at the University of Washington and Central Washington College of Education. He holds the degrees of bachelor of arts and doctor of philosophy from the University of Washington. He is currently at work on two books, one dealing with historical linguistics of the Romance languages and the other a Rumanian grammar and a literary anthology of Rumanian prose and poetry.

Dr. Ronald Hazell is a native of Halifax. After receiving his bachelor of education degree at Nova Scotia Technical College, he enrolled at Pennsylvania State University, where he obtained the degrees of master of science and doctor of philosophy.

This is the second time this year that Dr. Hazell has been honored for his teaching ability. In January he received the Society of Automotive Engineers' Ralph R. Teetor Award for outstanding teaching and research.

VIBRATION ANALYSIS

Dr. Hazell's research deals with applying optical principles to the analysis of vibration. Dr. Hazell is a registered professional engineer and is active on the Canadian Council of Professional Engineers as a member of a national sub-committee on foreign engineering curricula. The sub-committee is in the process of developing a list of accredited universities in the field of engineering on an international basis.

To be eligible for the Master Teacher Award candidates must have held a full-time teaching

Please turn to Page Ten
See TEACHERS

UBC REPORTS Volume 16, No. 12—Apr. 30, 1970. Published by the University of British Columbia and distributed free. J.A. Banham, Editor; Barbara Claghorn, Production Supervisor. Letters to the Editor should be addressed to the Information Office, UBC, Vancouver 8, B.C.

UBC NEWS IN REVIEW

A COLUMN FOR UBC GRADUATES ROUNDING UP THE TOP NEWS ITEMS OF RECENT WEEKS. THE MATERIAL BELOW APPEARED IN MORE EXTENDED FORM IN CAMPUS EDITIONS OF 'UBC REPORTS'. READERS WHO WISH COPIES OF CAMPUS EDITIONS CAN OBTAIN THEM BY WRITING TO THE INFORMATION OFFICE, UBC, VANCOUVER 8, B.C.

UBC's Senate has approved recommendations to restrict enrolment on the Point Grey campus to 27,500 students and to maintain the present administrative structure of the University.

These are the main decisions which have resulted from a series of Senate debates on recommendations made by its Committee on Long-Range Objectives, chaired by Prof. Cyril Belshaw, head of the Department of Anthropology and Sociology.

Approval of the enrolment limitation came early in February. By substantial majorities, Senate decided:

– To limit the total undergraduate enrolment on the present campus to a maximum of 22,000 students, and

– To limit the annual rate of increase of total enrolment in graduate studies to 15 per cent and set a ceiling of 5,500 graduate students.

UBC's present enrolment is 20,767, made up of 2,687 graduate students and 18,080 undergraduates, a percentage split of approximately 13 per cent graduate students and 87 per cent undergraduates.

When enrolment reaches the 27,500 ceiling, the percentage mix will be 20 per cent graduate students and 80 per cent undergraduates.

Senate was told that the enrolment ceiling for undergraduates would probably be reached in the next five years and that it might be up to ten years before the ceiling for graduate students was reached.

At a special meeting on March 18 Senate approved a recommendation that "the present type of structure of faculties, departments and schools be retained with modifications to make the system more responsive to changing conditions. . . ."

Adoption of this recommendation meant that Senate had rejected a minority recommendation contained in the report calling for adoption of a federated colleges system, which Senate was told would be more complex in terms of administration and lead to excessive specialization on the part of students.

At the same meeting Senate approved a recommendation to create an ad hoc committee "to consider and recommend possible changes in the groupings of faculties, schools and departments." (A report of the Senate debate on enrolment limitation appeared in the campus edition of Feb. 12).

***

UBC has received a gift of $600,000 from a former student and his wife to enable UBC to bring to the campus distinguished visiting professors and other scholars of special attainment and merit for periods of up to a year.

This is the second major gift made to UBC by Dr. Cecil Green and his wife Ida, of Dallas, Texas. In 1966, Dr. Green and his wife gave $200,000 to the University for the purchase and renovation of the former residence of Senator S.S. McKeen on North West Marine Drive.

The residence, rechristened Cecil Green Park, serves as a "town-gown" activities center and houses the UBC Alumni Association and the University Resources Council.

The $600,000 gift, payable over the next three years, will be invested by the University and the annual income used to establish visiting professorships bearing the name of Cecil H. and Ida Green.

Income from the gift may be used for salary or

Please turn to Page Eleven
See REVIEW

CANADA'S NATIONAL RESEARCH COUNCIL WILL GIVE UBC MORE THAN $500,000 OVER THE NEXT THREE YEARS TO BOOST RESEARCH IN THE FIELD OF ASTRONOMY AND ASTROPHYSICS. UBC WILL USE THE FUNDS TO BUY SPECIALIZED EQUIPMENT AND FOSTER THREE MAJOR PROJECTS DESCRIBED IN THE ARTICLE BELOW BY UBC'S ASSISTANT INFORMATION OFFICER PETER THOMPSON.

The National Research Council has awarded a $538,600 grant spread over three years to the University of B.C. for research into astronomy and astrophysics.

It is a "negotiated development grant," a type of NRC grant made to Canadian universities to stimulate rapid development of research in subject areas where the University already has some competence, particularly if the area doesn't fall within the domain of a department but is shared by a number of departments.

UBC has a nucleus of scientists working within the inter-departmental Institute of Astronomy and Space Science established 18 months ago. The grant will be used primarily to bring more scientists to UBC and to buy specialized equipment.

It is anticipated that at the end of the three-year period, the Institute will have become the center of an integrated program of research in astrophysics and astronomy.

UBC scientists are already working in close contact with scientists at the NRC's Dominion Astrophysical Observatory in Victoria and the NRC's Dominion Radio Astrophysical Observatory in Penticton, two of the major astronomical installations in Canada. Close co-operation between these three groups will be maintained.

DEVELOP RESEARCH

The grant will help develop three closely-linked lines of research.

Atoms and molecules of material making up the universe emit electromagnetic radiation. Information about the universe comes to us from these electromagnetic waves, which vary in length depending on their source.

From the shortest to the longest wavelengths, the electromagnetic spectrum runs from gamma rays, x-rays, ultraviolet rays, light waves — the only range of the spectrum our eyes are sensitive to — infra-red radiation which we feel as heat, microwaves and radio waves.

The earth's atmosphere is transparent to light waves and a wide range of radio waves but absorbs many of the other wavelengths.

Classical astronomy was concerned almost entirely with observations of visible light. Since the Second World War, our knowledge of the universe has been increased enormously by observing radio waves. Experience has shown that when a new region of the spectrum is examined, many unexpected and exciting phenomena are seen.

Dr. W.L.H. Shuter, associate professor in UBC's Department of Physics, will develop a high-precision radio telescope with a 15-foot diameter to study radio emission of about 1/8-inch wavelength from atoms and molecules in interstellar space.

Nothing has so far been detected in this wavelength range but huge clouds of ammonia and water vapor in interstellar space have been detected at slightly longer wavelengths of about 3/8-inch. This suggests that work in this area holds great promise and will probably lead to very interesting results concerning the chemical composition of the material from which stars and planets are formed.

TEST SITES

Some radiation between the radio band and the infra-red band penetrates almost to the earth's surface before being absorbed by water vapor and other material in the troposphere, the lowest layer of the atmosphere.

Dr. M.W. Ovenden, professor of astronomy in the Department of Geophysics, will try to extend observations into this area of the spectrum. Part of his work will be to test sites in western Canada high enough and cold enough to eliminate water vapor absorption.

The astronomy group within the geophysics department will also extend the work that it is already doing to develop new and more efficient techniques of detecting light using television techniques.

The third major project will be in laboratory astrophysics and involves UBC's plasma physicists, the largest group of these specialists in Canada.

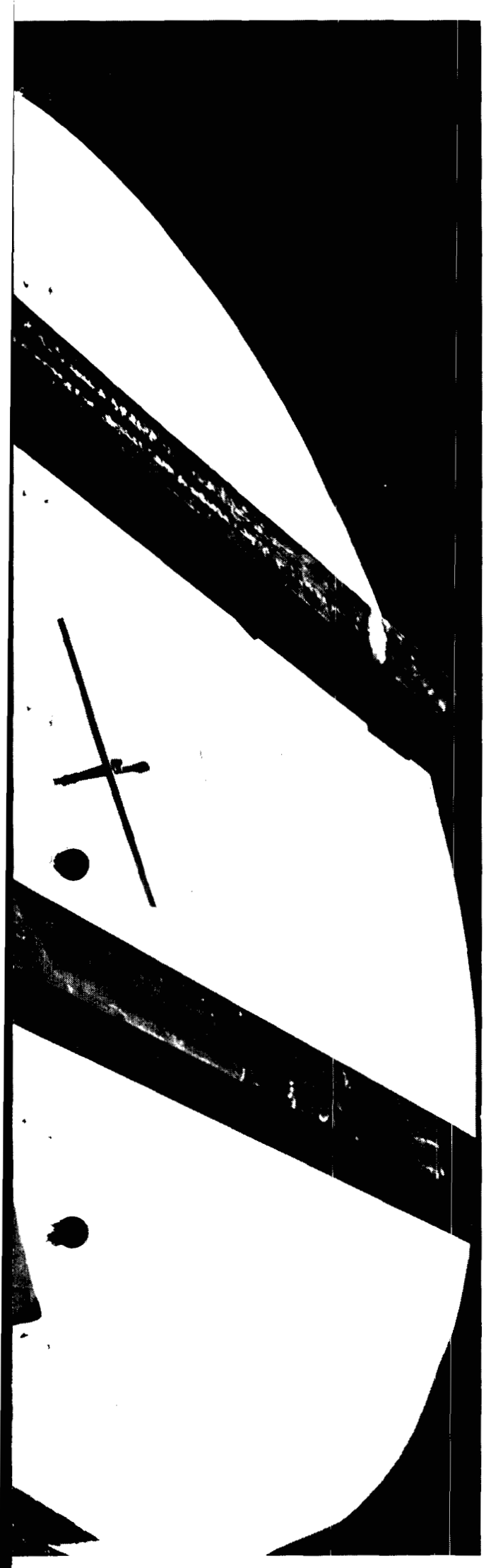
Plasma physics is the study of the fourth stage of matter. Generally, if a material in solid form is heated it will turn to liquid. More heat will convert it to a gas. At still higher temperatures, the gas turns to plasma.

INTERPRET RADIATION

Plasmas don't occur on the Earth's surface in stable form and little is known of their characteristics, though almost all the matter in the universe is in the plasma state.

To interpret radiation from outer space more effectively, science will have to know more about plasma physics. The grant will allow UBC's plasma physicists to apply their methods and techniques to problems directly affecting astrophysics.

Engineer at Corning Glass Works is shown watching the final turning of the fused silica mirror blank -- 157 inches in diameter and 25 inches thick -- which has been turned over to the Westar consortium for inclusion in a telescope to be built eventually on Mount Kobau in B.C.'s interior. Fused silica is one of the purest man-made substances and doesn't change shape much under



temperature variations, a characteristic which is important to astronomers. In addition, the material is transparent and can be inspected for possible internal stress. Westar's next step is to launch a fund drive to enable grinding of the mirror and eventual construction of an observatory. Details in story at top right. Photo courtesy the Corning Glass Works, New York.

THE PLAN

TO BUILD A NEW ASTRONOMICAL OBSERVATORY IN B.C.'S INTERIOR TOOK ANOTHER STEP FORWARD RECENTLY WHEN A 157-INCH MIRROR BLANK, THE MAIN COMPONENT OF THE OBSERVATORY'S TELESCOPE, ARRIVED AT UBC. IN THE ARTICLE BELOW, ASSISTANT INFORMATION OFFICER PETER THOMPSON DESCRIBES THE DIFFICULTIES WHICH SURROUNDED THE TRANSPORTING OF THE BLANK FROM THE CORNING GLASS WORKS IN NEW YORK TO VANCOUVER.

The 157-inch mirror blank for the Queen Elizabeth II telescope to be built near Osoyoos in the Okanagan has been delivered to the University of B.C. from the eastern United States.

A special railway flatcar and a special route was used because of the blank's huge size.

The crated mirror blank is about 15 feet high, 16 feet long and 10 feet wide. It travelled in a well-car — a flatcar with a sunken deck — to reduce its over-all height.

But even with this height reduction the well-car had to travel along a carefully planned route with tunnels and bridges high enough to allow the mirror blank through.

After the crate was placed on the well-car at the Corning Glass Works' McKean plant at Bradford, Pa., it travelled across the northern U.S. to Duluth, Minn., north into Canada and along the Canadian National Railway route to the coast.

WORLD'S LARGEST

The easily identified crate was painted white and blue and a sign on both sides advertised it as the world's largest fused silica telescope mirror blank.

Silica was used because it expands very little, and has the necessary thermal stability, hardness, mechanical strength and finishing properties.

The crate was made of armored plate. This precaution is being taken because of destructive incidents involving mirror blanks in the past. The blank weights 17.5 tons and the crate 12.5 tons.

Arrow Transport trucked the crate from CN's Vancouver terminal to the B.C. Research building at the south end of the UBC campus where the special grinding machine for the blank is stored.

The mirror blank and grinding machine are the major assets of the Queen Elizabeth II telescope project being turned over by Ottawa to Westar, a consortium of Queen's University, the University of Lethbridge, University of Alberta, University of Calgary, University of Victoria and UBC.

BEST IN CANADA

Chairman of the consortium is Dr. B.G. Wilson, dean of arts and science at the University of Calgary.

Westar was formed after the federal cabinet stopped the project in an economy move in August, 1968. The consortium will also receive engineering designs for the project and permission to use the site on 6,200-foot Mount Kobau near Osoyoos. Total value of the assets is $4.5 million.

UBC's Dean of Science, Dr. Vladimir Okulitch, a UBC representative to the consortium, said the Mount Kobau site is the best in Canada and one of the best in the world for an observatory.

PUBLIC APPEAL

He said Westar will launch a $10-million public subscription to complete the project. "This is all we will need to put the telescope into operation," Dr. Okulitch said, "and it will be spent over 10 years so we will need about $1 million per year."

The first step will be to build a grinding shop and begin the laborious job of grinding the mirror blank.

Institute Head Named

Prof. Maurice H.L. Pryce of the University of B.C.'s Department of Physics has been appointed acting director of the University's Institute of Astronomy and Space Science, effective May 1.

He succeeds Prof. R.D. Russell, head of the Department of Geophysics, who has won a Killam Fellowship and will take a sabbatical year beginning July 1 to do research at the University of Tokyo.

Dr. Pryce is an internationally-known theoretical physicist who came to UBC two years ago from the University of Southern California where he was Distinguished Professor of Physics.

He was born in England and took his bachelor and master of arts degrees at Cambridge University. He received his doctor of philosophy degree from Princeton University in 1937.

Dr. Pryce taught at Cambridge and the University of Liverpool until 1941 when he entered war research in radar and atomic energy. His atomic research was done in the National Research Council's Montreal laboratory.

He returned to Cambridge as a fellow of Trinity College after the war and became Wykeham Professor of Physics at Oxford in 1946. Eight years later he was named Wills Professor of Physics and head of the department at Bristol University.

He is a fellow of the Royal Astronomical Society and is one of the three UBC faculty members who are fellows of the prestigious Royal Society of Great Britain.

PROF. MAURICE PRYCE

AMSTERDAM, MAY 12 -

PICTURE BY EXTENSION GRAPHIC ARTS

TAKE ten years of hard work by about 600 people, stir in some $350,000 and add tens of thousands of miles of travel to 65 different countries. Let the mixture simmer slowly and bring to a boil in Amsterdam on May 12, 1970.

The resulting dish will be carefully savoured by 75 gourmets called the International Olympic Committee and if they like what they see and taste Vancouver will be awarded the 1976 Winter Olympics.

The upshot of all this, according to a UBC faculty member who has been deeply involved in the drive to get the Games for Vancouver, will be one of the biggest single events ever staged in Canada and will have ramifications for Canadian athletics stretching far into the future.

Dr. Robert Hindmarch, associate professor of physical education and recreation at UBC, is one of 15 persons who make up the executive committee of the Vancouver/Garibaldi Olympic Committee which was conceived in 1960 by a group of Canadian winter sports enthusiasts who attended the Winter Olympics in Squaw Valley in the United States.

In the ensuing ten years the Vancouver committee, aided by a total of some $350,000 contributed by the federal, provincial and civic governments as well as industry, has established a permanent local office, commissioned economic and feasibility studies, persuaded governments at all levels to make funds available for the project and travelled untold miles by air to influence the votes of the 75-member International Olympic Committee.

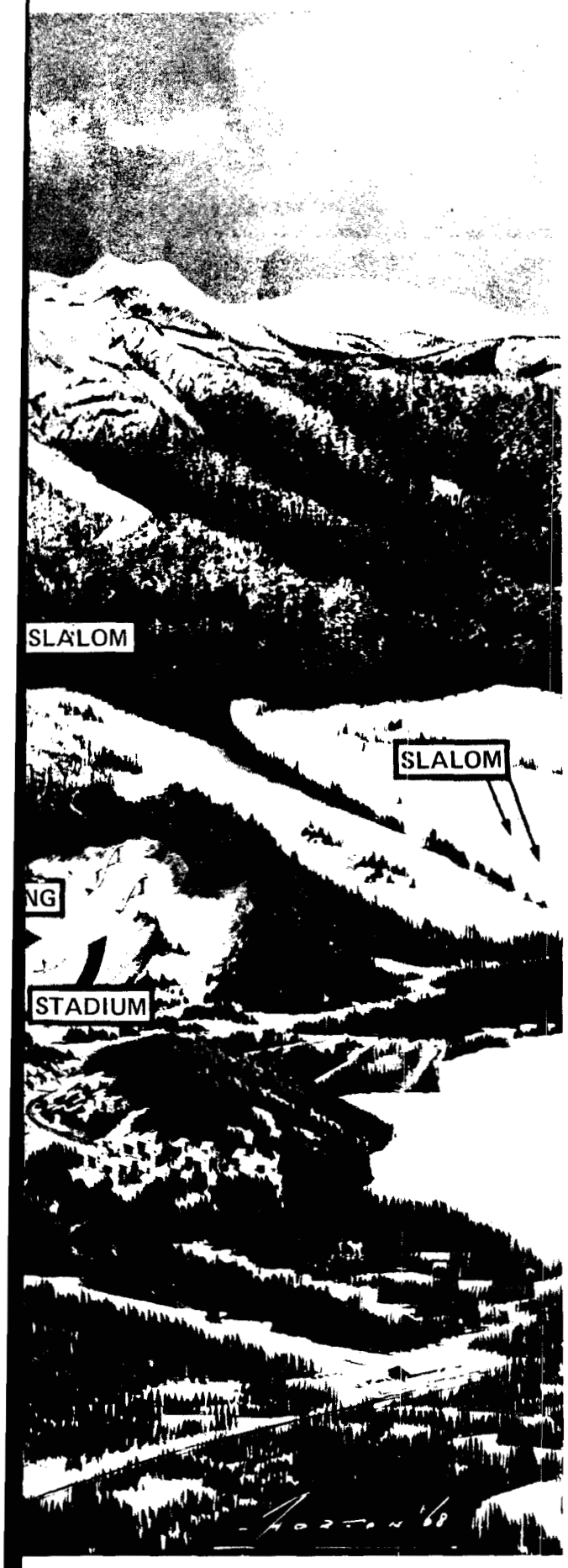
The decade of effort will culminate in Amsterdam May 12 when the IOC meets to consider the bids of four cities, including Vancouver.

If the site of the games was the only consideration, Vancouver would win hands down, according to Dr. Hindmarch. The proposed venue for the games will be Whistler Mountain on the edge of (but not part of) Garibaldi Provincial Park, 54 air miles north of Vancouver.

"The Whistler site," Dr. Hindmarch said, "offers one advantage over all other previous sites – it can house *all* athletes and other personnel necessary for the Games and stage the start and finish of every event within an area of two and a half miles.

"This has never been possible before in the history of the winter games. At some previous sites spectators had to travel up to 35 miles in various directions if they wished to see certain events."

DAY OF DECISION ON THE OLYMPICS



MAP COURTESY VANCOUVER/GARIBALDI OLYMPIC COMMITTEE

THE 75 PEOPLE WHO MAKE UP THE INTERNATIONAL OLYMPIC COMMITTEE WILL MEET IN AMSTERDAM MAY 12 TO DECIDE WHERE THE 1976 WINTER OLYMPICS ARE TO BE HELD. A COMMITTEE OF VANCOUVER WINTER SPORTS ENTHUSIASTS, INCLUDING ASSOCIATE PROFESSOR OF PHYSICAL EDUCATION DR. ROBERT HINDMARCH, INSET AT FAR LEFT, HAS BEEN WORKING UNCEASINGLY FOR THE PAST TEN YEARS TO CONVINCE THE IOC THAT WHISTLER MOUNTAIN (SEE MAP AT LEFT), ON THE EDGE OF GARIBALDI PARK NORTH OF VANCOUVER, IS AN IDEAL SITE FOR THE INTERNATIONAL EVENT. UBC REPORTS EDITOR JIM BANHAM TALKED TO DR. HINDMARCH RECENTLY ABOUT THE WINTER GAMES AND WHAT THEY WILL MEAN FOR THE VANCOUVER AREA IN 1976 AND THE FUTURE. THE STORY BEGINS OPPOSITE.

Dr. Hindmarch admits there are other considerations – mainly political – which enter into the decision about who gets the winter games.

One is the question of which city will get the summer games to be held in the same year – 1976. Three cities are bidding for the summer games – Los Angeles, Montreal and Moscow – and the choice of this site has in the past influenced the choice of the winter games site.

The cities other than Vancouver bidding for the winter games are Denver, Colorado; Sion, in Switzerland, and Tampere, in Finland.

"Right now," said Dr. Hindmarch, "people are talking in terms of Moscow-Vancouver for the summer-winter games. But if Moscow didn't win . . ." Here Dr. Hindmarch's voice trailed off into a shrug of the shoulders and he refused to speculate further.

ASSUMING Vancouver does get the games, just over $46.8 million will have to be invested in the site alone to make it useable for the Games. Facilities will include an Olympic village to house the Olympic "family" of some 10,000 persons – athletes, the IOC, the personnel needed to run the games and representatives of the news media – arenas seating 10,000 and 5,000 persons respectively, practice rinks, a speed skating oval and a curling rink, plus the facilities necessary to stage the skiing, jumping and cross-country events.

JUST over $25.2 million of this investment will be recoverable, Dr. Hindmarch said, which leaves the committee with a deficit of $21.6 million. The committee already has commitments from the federal and provincial governments for contributions of $10 million each and Dr. Hindmarch says the balance will come from a source yet to be announced.

There are other benefits as well, Dr. Hindmarch said. "The committee has done a study which shows that the benefits-to-cost ratio of the games runs to four-to-one, which means that for every dollar invested, four come back.

"This four-to-one ratio is direct benefits and includes such things as the spectator who comes to Vancouver, rents a hotel room and car, buys food and takes advantage of shopping facilities."

(If you're planning to be a spectator at the Games, incidentally, you'll have to make Vancouver your base. Only the Olympic "family" will be housed at the games site).

There are also indirect and hidden benefits resulting from the games, Dr. Hindmarch said. The international publicity which Vancouver and vicinity will get will advance tourism to this area by an estimated 20 years.

And when the Games are over Vancouver will have an outstanding athletic complex at its disposal, Dr. Hindmarch hastens to add. Half the Olympic village will be sold for private housing and the balance will provide training facilities for Canadian national teams and serve as a conference and short course center for universities and other organizations.

The 10,000-seat stadium would become a gymnasium complex and the 5,000-seat stadium a 50-metre diving and swimming pool. "I would hope the complex could be used by UBC as a physical education training center where young people could go for six-week periods to train in an outdoor environment," Dr. Hindmarch said.

He also points out that because the site is adjacent to Garibaldi Provincial Park the facilities could be used as a jumping-off point for ecological and wildlife studies and a conference center on these topics.

For Dr. Hindmarch, involvement in the Garibaldi/Olympic Committee has meant hundreds of hours of committee meetings and some 150,000 miles of travel in the past year, including a round-the-world trip at Christmas, 1969, and visits to almost every country in Europe.

In each country he has explained the advantages of the Whistler Mountain site to a member of the IOC, some of whom are members of royal families. If the reception which he has received in each of the interviews is an indicator, he feels Vancouver has the best chance of obtaining the games.

On May 12 in Amsterdam, each of the cities bidding for the Winter Games will have a half-hour to make its case before the IOC. "The day prior to the winter games presentations, the IOC will have made a decision about the summer games," Dr. Hindmarch said, "but it's thought that this time, unlike previous years, the site of the summer games may not be announced until a decision has been made about the winter site." This, he said, could be of some advantage to the Vancouver committee's bid.

"The presentations are made to the committee alphabetically by cities," Dr. Hindmarch says, "and that means we'll be last. This, too, could be to our advantage."

THE Vancouver group will show the IOC a 15-minute slide show – "It's a superb presentation," Dr. Hindmarch said – take ten minutes to make some technical observations on the site and allow five minutes for questions "We won't go into too much detail," Dr. Hindmarch said. "Each of them will already have had the message as the result of a personal visit from someone on our committee."

Then the IOC will vote by secret ballot. If no city has a majority, the city with the least votes will be dropped and a second vote taken.

About 5 p.m. Amsterdam time (8 a.m. Vancouver time) the result of the vote will be announced.

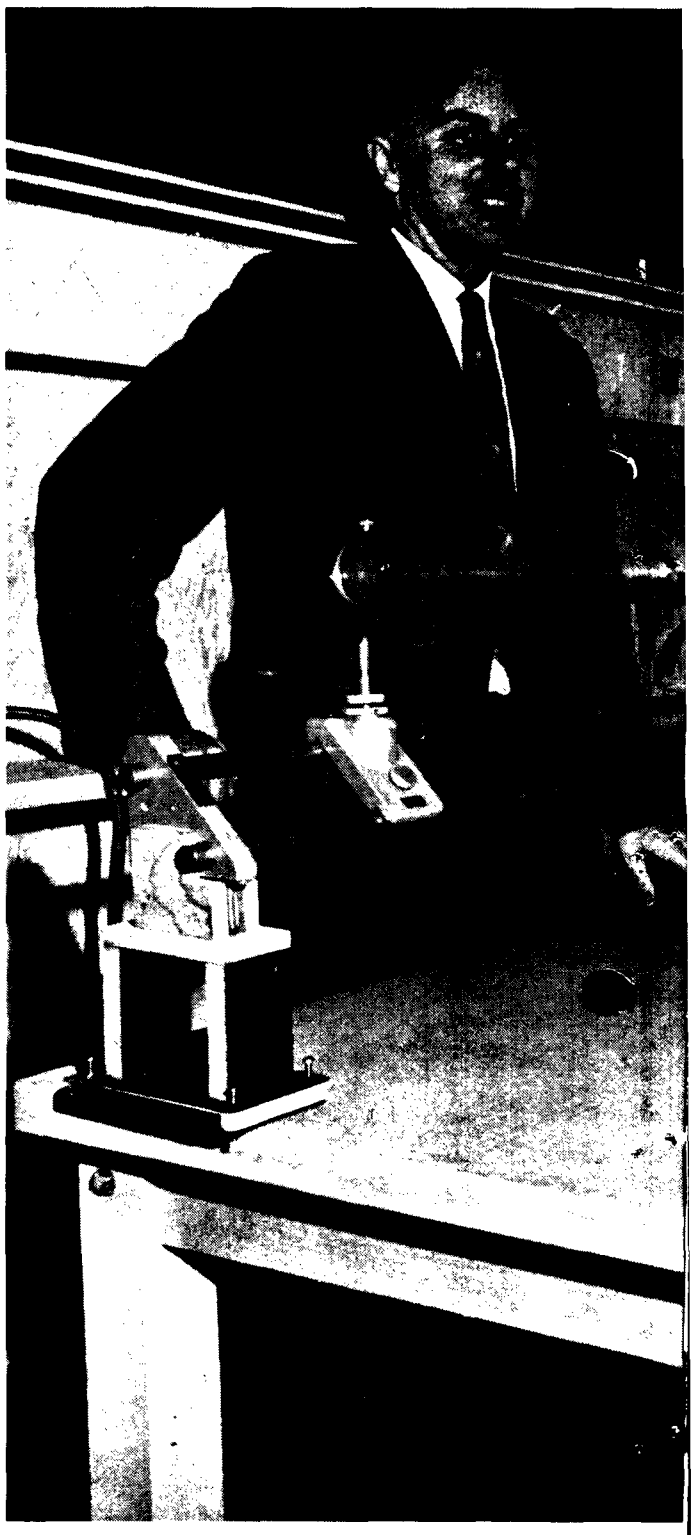
And if Vancouver does win?

"Well, after the party," Dr. Hindmarch said smiling, "the real work will begin."

LASERS

ARE BEING WIDELY USED ON THE UBC CAMPUS FOR A VARIETY OF BASIC AND APPLIED RESEARCH PROJECTS. IN A BASEMENT LABORATORY OF THE ELECTRICAL ENGINEERING BUILDING (SEE PICTURE AT RIGHT), DR. MICHAEL BEDDOES AND GRADUATE STUDENT CHU KE HAVE COMBINED A LASER WITH SIMPLE OPTICAL METHODS TO BUILD A MODEL OF A TELEVISION SYSTEM TO DETERMINE IF EXISTING TELEVISION CHANNELS CAN BE NARROWED WITHOUT AFFECTING THE QUALITY OF THE TRANSMITTED PICTURE. THE UPSHOT OF THEIR RESEARCH COULD MEAN THAT A GREATER NUMBER OF STATIONS COULD BE ACCOMMODATED ON YOUR TELEVISION SET. TO TAKE THE PICTURE AT RIGHT, EXTENSION GRAPHIC ARTS PHOTOGRAPHER MEREDITH SMITH TOOK A DOUBLE EXPOSURE. HE FIRST EXPOSED HIS FILM IN THE DARKENED LABORATORY TO CATCH THE LASER BEAM AND THEN TOOK A SECOND EXPOSURE IN NORMAL LIGHT WITH THE TWO RESEARCHERS. FREE–LANCE SCIENCE WRITER JOHN BARBER DESCRIBES DR. BEDDOES' WORK AND SOME OTHER UBC RESEARCH PROJECTS INVOLVING LASERS IN THE ARTICLE BEGINNING ON THIS PAGE.

BY JOHN BARBER



THE light is most beautiful....Dazzling....Take a look at its exquisitely colored beam and its twinkling, starlike reflections, and you'll know what "dazzling" means. Don't look directly into the beam, for it is pure light, at least as pure as you can get, and the lens in your eye will focus it down to a hot pinpoint that can hurt.

It has been called "the light that never was," "the light that man made." Scientists called it "Light Amplification by Stimulated Emission of Radiation," or laser light. In private, they are much more human about it.

"We get it by tickling atoms," said Dr. Michael Beddoes, associate professor of electrical engineering.

And that is probably the best way to describe what happens. Atoms get excited by the energy in rays of ordinary light; the electrons spinning around the atom jump up and down into different orbits ("energy levels" is the correct description), and when they revert back to their stable orbits or energy levels, they give off a lot of energy which, under the right conditions, will appear as a thin, shaped pencil of light having one color.

Not that you'll hear any atomic chuckles bubbling up from Dr. Beddoes' spartan, basement lab where, amongst the odds and ends of electrical apparatus, he and graduate students Chu Ke and Otto Meier use the laser light to simulate a complete television system. "To do our research, we would need a very large computer and that is expensive. Using a laser, which is much cheaper, we can use relatively simple optical methods to build a model of a TV system, and still be able to relate our results to the real television problem we are working on."

The purity, orderliness, and coherence of the laser light rays enables the electrical engineers to process visual information rapidly and precisely. Their objective is to determine what details they can eliminate from a transmitted picture and still be able to view a good picture on a TV receiver screen. Dr. Beddoes believes that the band of frequencies which carry the picture details to TV screens may be wider than it needs to be.

"If we can narrow the existing channels, that is, make the frequency bandwidth narrower, without affecting the quality of the picture, we would make room for other stations, particularly for educational broadcasting," said Chu Ke. Crowding of the radio and television airways has long been a problem that has worried the people concerned with the information you hear and see.

Dr. Beddoes and his students use the sparkling red beam of an argon-neon gas laser to simulate their television system. They shine the beam through a black-and-white transparency of a trio of students, then through three simple but precise lenses. The first two lenses allow the beam to be analysed and the third lens reconstructs the image of the student trio so that Chu Ke can check the quality of the picture after he has chopped out bits of information from the beam.

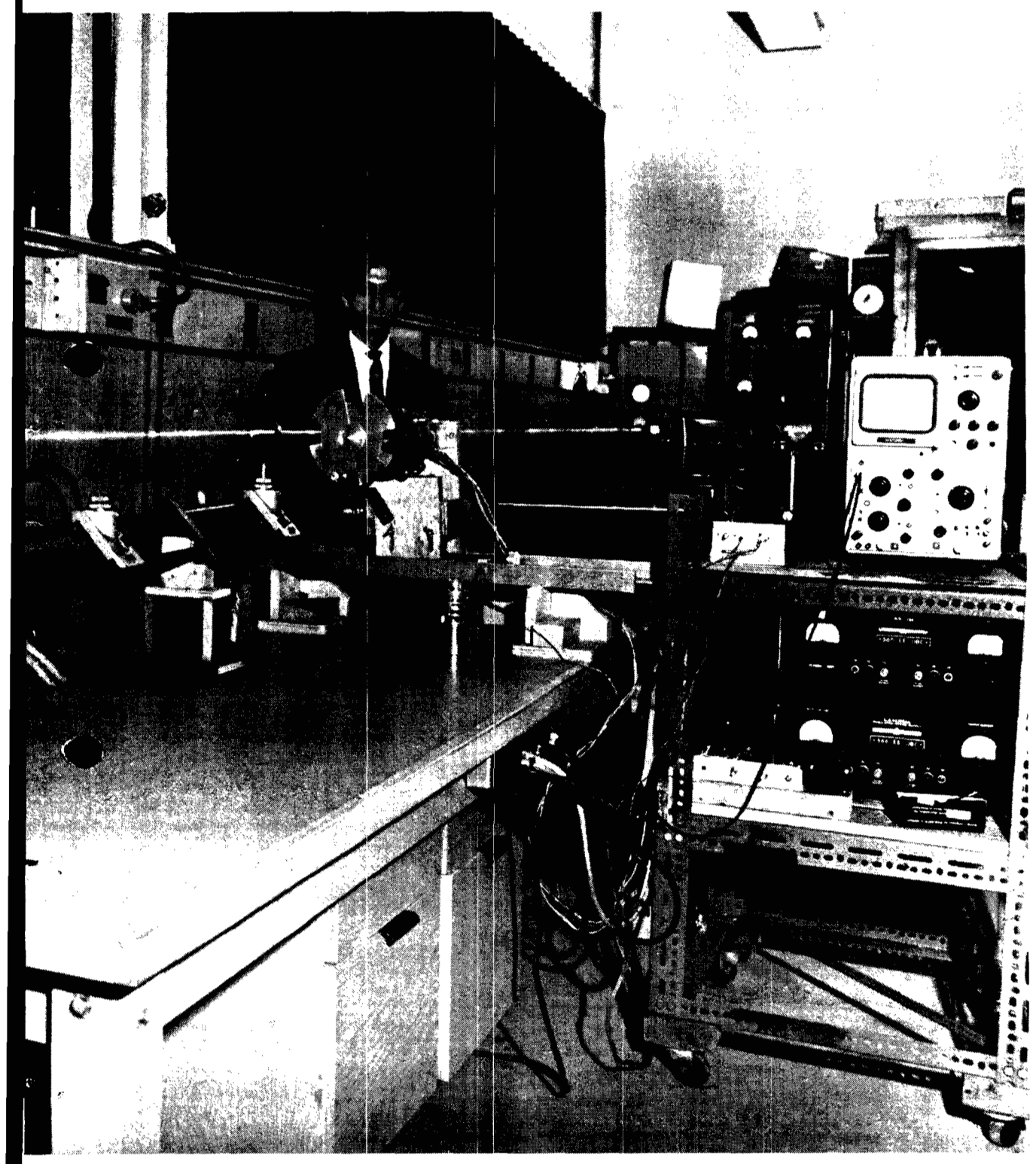
The laser beam is composed of light rays all travelling in one direction, at one frequency, in a very narrow, well-defined beam. Ordinary light, which we call "white light," is composed of light rays of many frequencies and fans out in all directions. With ordinary light, the grass is green only because it absorbs all the rays except those that have the frequency of green light. The grass reflects the green back to us. The frequency, color, and wavelength are all interdependent and, in one sense, synonymous.

Shining the argon-neon laser beam through the transparency "modulates" the emerging beam with all the "information" defined by the dark and light shades of the transparency. The images on photographic transparencies are made up of many small dots of different shades depending on how much light passed through the shutter of the camera when the original picture was taken. The dark hair of one student is a mass of dark dots which will not allow as much light through as the lighter dots defining the blond hair of the second student. Each ray in the beam has its intensity or brightness modified by each dot on the transparency very much

in the same way that a pair of sunglasses cuts the intensity of the sunlight reaching your eyes. The beam thus carries with it all the information in the transparency and it is said to be modulated.

THE uniqueness of the single frequency, pure laser light beam allows Chu Ke and Otto Meier to use the first two lenses to split the beam up so that light rays representing the coarse and fine detail in the transparency go through a "Fourier transformation." Because of this transformation, the image that appears in what is known as the "Fourier transform plane" of the second lens is made up of a series of bright spots regularly spaced on either side of the center line of the lens. The farther away each spot is from the center line, the finer the picture detail it represents. With ordinary light, those spots would meld into each other and show up as one big blur.

The theory on which all these optical manipulations is based was developed decades ago by those giant intellects who had to picture in their



mind's eye the wavelike properties of light rays in order to explain the behaviour of light. The development of the laser with its single wavelength makes the viewable proof of their theory a relatively simple experiment, and the key to some imaginative research work.

Those first two lenses have analysed the modulated light beam to the point where Dr. Beddoes and his students can now start chopping what they like out of the beam, know what they are chopping out, and, using some mathematical relationships, show their results are applicable to the narrowing of TV channel, frequency bandwidths.

THE way they eliminate information from the beam is by revolving a small windmill-type shutter through the beam and periodically blank the spots representing the finer detail of the picture. The windmill lets through all the information between its blades. Thus the third lens, which reconstructs the image, produces an image that is at one moment complete and the next minus the finer details.

The human eye will not notice the deficiencies in that final reconstructed image and will see what it believes to be a complete picture. The completeness of that picture is an optical illusion.

Dr. Beddoes explained that when we look at a movie picture as the movie projector slows down, we become conscious of a flicker. To avoid that flicker, the projector must be able to project the individual pictures onto a screen at the rate of 24 per second. In television we avoid the flicker effect by sending 30 pictures every second. The human eye is fooled into believing it is seeing one continuous picture.

Further, Dr. Beddoes went on, the eye is most sensitive to flicker which comes from large uniform bright areas which represent the coarse detail of a picture, and is much less sensitive to flicker from the finer details. Thus, the elimination of some of the finer details, or "higher spatial frequencies" as Dr. Beddoes calls them, would be something we could tolerate without complaining about poor picture quality.

"Our experiments have shown that we cannot perceive the difference between a television picture which contains all the information in each of the 30 'frames' we see every second and one in which every other frame is deficient in the finer detail," said Dr. Beddoes. The amount of detail that can be eliminated from the picture before the eye begins to notice the deficiency is what they are after. These non-essential picture details can then be related to the TV frequencies used to carry them.

Chu Ke said the image produced by the third lens is too small to work with effectively. So he uses a small TV camera to pick up the final image with all its deficiencies, and views the amplified image on an ordinary TV screen.

"Seems as if we are cheating, doesn't it?" said Dr. Beddoes. "We say we use a laser to simulate the conditions of a television station, then go ahead and use a TV camera and receiver.

"But that is not really so. Because we are dealing with practical pictures, we use the kind of TV picture we see on our home TV screens as a standard."

Preliminary results of the investigation indicate they will be able to "compress" the channels to about one-third the present frequency bandwidth. What that means is that the future may see three stations broadcasting where only one exists now. Technically, it will be an exciting achievement. Socially? We will see!

Dr. Beddoes has thought of experimenting with the transmission of three-dimensional pictures using the laser, but has shelved the idea for the moment. One of the problems inherent in such a project is that a TV viewer would have to have a laser coupled in with his receiver in his home to reconstruct the picture into a three-dimensional one. The viewer would be able to view the picture from three sides, and could virtually look "behind the scenes."

A three-dimensional image produced by light rays is called a holograph. Holographs are the results of the fact that light rays have the characteristics of a wave. Just as two waves on the surface of the sea can "interfere" with each other, two light waves can reinforce each other, become brighter, if they are "in step," or they can cancel out, become dimmer, if they are "out of step."

THIS interference is responsible for the many shadow and light patterns around us. Blurred and fuzzy edges to some shadow patterns are caused by the interference of rays of different frequencies. Single frequency light produces sharp, well-defined patterns. Laser light with its single wave-length and highly directional beam make the production of the sharp, mirage-like image of a holograph a practical, simple third year physics experiment to demonstrate the wave characteristics of light rays.

"We use a knight chess-piece as the object of the holograph experiment," said Dr. Boye Ahlborn, associate professor of physics, who lectures in the optics science course.

To produce the holograph, the students put the knight in the path of the laser beam. A second laser beam of exactly the same frequency, directed at the shadow of the knight, creates the ghostlike holograph with the dark and light interference patterns of the rays. It's a temptation to run your finger through that eerie horses's head.

"The students are in no real danger if they put their hands in the beam path," said Dr. Ahlborn. "The lab lasers are of a very low power, about a milliwatt." One milliwatt is one-thousandth of a watt.

The lab lasers, similar to the one Dr. Beddoes and his students use in electrical engineering, are known as continuous lasers. As long as they are switched on, they will shine their beams continuously. They use gases or mixtures of gases as the lasing material.

Another type of laser is called an intermittent or pulsed laser. The beam shines for short periods then cuts off. The lasing material need not be a gas, and may produce a very high powered beam containing millions of watts of heat.

The very first laser, just ten short years ago, used a ruby as the lasing material and shone its beam intermittently. It was expensive to produce that first beam of man-made light and the technological problems seemed formidable.

"Some lasers cost less than $100 today," said Dr. Ahlborn, "and we use both intermittent and continuous lasers in our research work." Dr. Ahlborn does research with the plasma physics group which uses a high-powered, intermittent laser to probe the secrets out of plasmas. Dr. Roy Nodwell, professor of physics, heads that group.

"We use what is known as a Q-spoil laser," said Dr. Nodwell. That is a laser that is allowed to build up a lot of power before the beam is released to shoot into the plasma for a fraction of a second.

DR. Nodwell calls his work "plasma diagnostics" but it has no connection with medicine. The plasmas he diagnoses are very hot gases. They are the stuff of stars, of outer space, and nuclear fusion reactions. "Our plasmas are hot gases of ions, electrons and other charged particles. The gas temperatures are around 15,000 degrees Centigrade ... and that is a cool plasma," said Dr. Nodwell.

He creates his plasma by discharging a high current between an anode and a cathode. This causes a 300

Please turn to Page Ten
See LASERS

LASERS *Continued from Page Nine*

ampere arc to bridge the gap between the electrodes. He then passes a gas through the arc which creates the plasma.

"Our diagnostics, we hope, will tell us what the properties and the constituents of plasmas are. With the pulsed laser we can probe one very small spot at a time and that allows us to obtain much more definitive information than we could with our previous probes.

"We recently reported data pointing to the existence of microturbulences in the plasma. Our find did not fit the existing theory of plasmas but fortunately other plasma physicists, after reading the paper, confirmed our discovery."

The plasma is a restless, boiling mass of particles in constant motion. The stab of the pulsed laser beam can tell the physicists what was happening at a particular spot at any instant of time. Diagnostic data come from the analysis of the ways the light rays are scattered, absorbed, or reflected by the plasma particles. The analysis is made easier and definitive when they can use light rays of known frequency and wavelength because they know how specific light rays react when they hit different particles.

DEFINE PROPERTIES

"What ultimate application have we in mind? Our goal is to get as much information as we can defining the properties of a plasma. That information is important to the control of fusion nuclear reactions for the production of electric power. The Atomic Energy Control Board of Canada sponsors our work and they oversee Canada's nuclear power program. Present power reactors are fission-type reactors and generate heat from the splitting of atoms. In fusion reactions, atoms generate heat when they join together or fuse, and the electric power potential is almost unlimited."

Probably one of the first men at UBC to use the laser as a research tool was Dr. David Walker, who is a radiation chemist and associate professor of chemistry. He used his first laser in 1965 which he borrowed from the physicists.

Most of Dr. Walker's research is concerned with the chemical decomposition of materials when they are bombarded by x-rays and other atomic radiations. It turns out that one of the most important very short-lived chemical species produced in pure water absorbs red light quite strongly. The red lasers are consequently extremely useful sources of light for monitoring the formation and subsequent reactions of these species. "Some of the experiments we have successfully performed by this technique would have been impossible to do prior to the development of the laser," said Dr. Walker.

By "very short-lived" Dr. Walker means something that exists as an identifiable chemical entity for about a nanosecond, one billionth of a second. Some of these same reactions are being studied in experiments using the intense light from a pulsed ruby laser to trigger off the chemical reaction. This light source has the immense power of 30 million watts, but is "on" for only about ten billionths of a second.

One of the most direct applications of studies on the radiation chemistry of water is in the understanding of the effects of high energy radiation, natural or man-made, on living cells. A considerable and diversified industry is also being developed using atomic radiations as an energy source based on fundamental studies of radiation chemistry.

Dr. Walker and colleague Dr. Norman Basco, associate professor of chemistry, work together on aspects of their research. Dr. Basco is mainly interested in the reactions of atoms and free radicals. These are produced by subjecting molecules to a very intense pulse of ultraviolet radiation for about ten millionths of a second.

STUDY REACTIONS

Ultraviolet radiation is another form of light and Dr. Basco uses a source with a power of more than ten million watts. The research technique is known as 'flash photolysis'.

When very dilute solutions of alkalis or salts in water are subjected to ultraviolet radiation, the "hydrated electron" is produced. This is the same species as that formed by the irradiation of pure water with x-rays. Dr. Basco, in collaboration with Dr. Walker, is studying the reactions of the hydrated electron using a laser to follow the change in its concentration over a period of ten to 100 millionths of a second.

Few basic research scientists will put themselves out on the limb by predicting ultimate practical applications for the results of their research. Yet many of today's developments – the laser is a perfect example – are the result of past scientists dedicating themselves to filling a void in the recorded scientific knowledge.

"We chose our work because we feel the knowledge and data we generate and record are necessary to the understanding of our world," said Dr. Basco. "Maybe in 20 years time somebody will use our results in some development."

Drs. Basco and Walker are working with an element without which we could not live on this earth – water. They agreed, cautiously, to one application of their work: pollution control. The more known about what happens to our water under all conditions, the more likely we will be able to control and perhaps reverse the creeping forces of environmental pollution.

The laser's usefulness as a research tool was predicted by the early witnesses to its discovery – the early laser literature was replete with predictions of the great things the laser would do for man. When that ruby laser first pierced the slightly acrid, lab atmosphere with its beam, the news got around fast. Fertile imaginations soared with what they could do with this beam of pure light. They said they could carry all the radio, TV, and other telecommunications signals broadcast in North America on one, single, thin light beam, pipe it underground from point to point, and clear the electromagnetic airways. The U.S. Army engineers did try it in New York, successfully. The costs, however, of changing all our communication systems would have been out-of-this-world, and soon, enthusiasm cooled, just slightly.

SECOND LOOK

Sober scientists and hard-headed businessmen started to take a second look at this "light that never was." The Harvard School of Business studied the possible applications of lasers and prepared, in the early '60s, a definitive report on its potentials. Their conclusion? Any practical work enthusiasts saw the laser doing could be done by existing equipment, cheaper and sometimes better. This conclusion was not the most encouraging for a fledgling industry looking for money, but money did come, mainly from the military, who wanted the light beam developed into a silent, maiming, blinding weapon. Even today, most of the "popular press" articles about the laser are written around its destructive power.

Not too much is written about the very delicate work a laser can do. In the hands of skillful surgeons the thin light beam can apply just enough gentle heat to weld detached retinas to the backs of human eyes. But, as the Harvard investigators found, existing equipment that could do the same job as a laser was available and some eye surgeons preferred not to use the laser. At the UBC Faculty of Medicine, they do not use lasers at all.

"At the moment, I prefer the xenon photocoagulator," said Dr. Gordon Harris, who is an eye surgeon at the Vancouver General Hospital and assistant professor with the medical faculty. The xenon device does the retina repair work just as well as the laser – so why change to something new just because it is new?

"However, I would expect that a future laser will replace the xenon equipment eventually."

Commercial developers met with stiff competition for their laser instruments every step of the way, but the soon found permanent homes for their products. Many scientists could not, today, do without the definitive precision of the light beams. It makes details easier to see, as with Dr. Nodwell's plasma physics discovery. Apart from illustrating to third year physics students the properties of light, holography seems to be one of the most exciting applications of laser light. With the three-dimensional image of the holograph, scientists will actually be able to see what is going on in dynamic processes, where before they could only theorize about what was happening.

LOSSES COSTLY

Dr. Donald Thompson, associate professor of chemical engineering, is pioneering in this use of holographs. He is investigating the eddy currents that swirl about the walls of an ordinary pipe and restrict the flow of water and other fluids through them.

These eddy currents are related to the friction resistance of the pipe walls to fluid flow and cause pressure losses downstream in the pipe. The losses can be very costly in terms of having to add expensive booster, pumping stations at different points on a long pipeline. Part of the cost of our gasoline and other fuels is this cost of moving it efficiently along pipelines.

Dr. Thompson is at present working on the effects of very small amounts of friction-reducing additives in fluids as they flow through pipes. It is believed that these additives react with the turbulent eddies and reduce their resistive effects.

"I will dissolve material into the water so that the refractive index of the water flowing near the pipe wall will be different from that in the center of the pipe. This difference in the refractive properties will cause the light rays to bend at different angles and show up the eddies on a continuous holograph," said Dr. Thompson. The refractive index of a material is a measure of the angle a light ray will bend through when it passes from air through that material. It is a result of the fact that light rays travel at different speeds in different materials. The effect of the friction-reducing additives is to make the water near the pipe walls a "different" material as far as the light rays are concerned to the water in the center of the pipe.

A second laser beam will mix with the refracted beam coming through the pipe and construct a three-dimensional picture of what is happening near the pipe walls. Taking pictures of the holograph and storing the negatives will allow Dr. Thompson to reconstruct, for future analysis, the three-dimensional flow conditions.

Some laser sceptics, when the first beam shone in 1959 and 1960, dubbed it "the solution in search of a problem." But a great many problems, most of them shelved because practical solutions were not feasible, were dusted off and exposed to the searching laser light. The important point is that some of them were solved in these past ten years and they might not have been had the laser not made its appearance.

TEACHERS *Continued from Page Three*

appointment at UBC for at least three years and be presently teaching on campus. Candidates are appraised on the basis of their teaching in recent years.

Those nominating UBC faculty members submit an evaluation of the candidate, bearing in mind such criteria as the following:

– Having a comprehensive knowledge of the subject,

– Being habitually well-prepared for class,

– Having enthusiasm for the subject,

– Having the capacity to arouse interest in it among students,

– Establishing good rapport with students both in and out of classes,

– Encouraging student participation in class,

– Setting a high standard and successfully motivating students to try to attain such a standard,

– Communicating effectively at levels appropriate to the preparedness of the students, and

– Utilizing methods of evaluation of student performance which search for understanding of the subject rather than just ability to memorize.

Members of the selection committee, in addition to Dr. Gibson, are: Dr. Robert M. Clark, UBC's academic planner, secretary; Mr. Allan M. McGavin, Chancellor of the University; Prof. Roy Daniells, Department of English, representing the President; Dean Helen McCrae, Dean of Women, representing the donor; Mr. Nicholas Omelusik, of the UBC Library, representing the Alumni Association, and Miss Ann Jacobs, Arts IV, and graduate student Mr. Arthur Burgess, representing the student body.

New UBC Housing Project Started

The University of B.C. has awarded a construction contract for stage one of a housing development involving a new approach to costing and the living environment for students.

The new development, to be built on the eastern edge of the campus adjacent to the Student Union Building, has been designed over a two-year period by the architectural firm of Reno C. Negrin and Associates in consultation with a UBC client's committee which has included four student members.

The contract for stage one of the development, which will house 788 students in two 16-storey towers, has been awarded to Frank Stanzl Construction Limited.

The two residence towers and a common building will be constructed under a negotiated contract arrangement at a cost of $4,656,452. The total cost of stage one of the project will be $5,516,000.

The bulk of the funds — $5,170,000 — have been allocated by Central Mortgage and Housing Corp. and the balance has been borrowed by the University from the Bank of Montreal. Expected completion date for the project is September, 1971.

The basis of the negotiated contract process is the early establishment of a cost ceiling for the project. Contractors are then asked to submit proposals on the basis of a minimum guaranteed fee.

NEGOTIATED CONTRACT

The negotiated contract also contains provisions for a shared saving agreement between the University and the contractor. If the contractor completes the project for less than the fixed maximum price, the savings are divided between the University and the contractor on an agreed basis.

The design of the stage one residence towers is also unique. Each floor in the two residence towers is divided into four self-contained quadrants, each housing six students, each of whom have a private room for study and sleeping.

The six students occupying each quadrant will share certain common facilities — a lounge containing kitchen and dining facilities and a bathroom.

The common block to be built as part of stage one of the project will include lounge and study facilities as well as administrative areas.

The living environment of the residence towers reflects a new direction in the provision of accommodation for students.

The provision of a small-scale, communal living situation is an attempt to scale down the student's relationship from his individual unit to the total residence complex and to establish a graduated relationship of the individual to the whole.

The architectural solution aims to allow the independence of the student to function within the framework of order.

SECOND STAGE PLANNED

Providing funds are available from Central Mortgage and Housing Corp. next year, UBC will proceed with stage two of the project — construction of a third residence tower, two low-rise structures containing housekeeping units and completion of the interior of the commons building to include dining and other facilities.

When complete, the development will house 1,386 students.

REVIEW *Continued from Page Three*

salary supplementation, library or other expenses connected with the appointments.

Dr. Green attended UBC as an engineering student from 1918 to 1921. He then enrolled at Massachusetts Institute of Technology, where he received the degrees of bachelor and master of science in engineering. (Issue of March 18, 1970).

***

Prof. John H. Young has resigned as dean of UBC's Faculty of Arts but will continue to hold his post as professor of economics.

Prof. Young's resignation is effective June 30. The Board of Governors has also extended Prof. Young's current leave of absence for a year beyond July 1 to enable him to continue his work in Ottawa as chairman of the federal government's Prices and Incomes Commission, established to investigate and report on the causes, processes and consequences of inflation. (Issue of March 18, 1970).

***

UBC will offer a bachelor of fine arts degree for the first time in the 1970–71 session. UBC's Senate approved a proposal from the Faculty of Arts to offer the degree at a meeting on Feb. 25.

The new four-year program is designed to give the student-artist "a university education in which he can take initial steps towards the learning and development of his art in conjunction with entering into other fields of knowledge and experience as offered by university courses and the general university environment." (Issue of March 12, 1970).

***

UBC's Board of Governors has awarded construction and component contracts for the TRIUMF project, the major nuclear facility being constructed on the UBC campus.

In February, the Board awarded a $1.94 million contract to a Quebec Shipbuilding Company for fabrication of the cyclotron's 4,000-ton magnet, the largest and most important component in the project.

A second contract for nearly $200,000 has also been awarded for excavation of the vault to contain the cyclotron, which will be located 30 feet below ground. The building which will eventually house the cyclotron will be 400 feet long, 100 feet wide and 60 feet high. (Issue of Feb. 5, 1970).

Contracts have also been awarded by the Board for two new components of the Health Sciences Center. They are:

— A new Instructional Resources Center which will cost a total of $4,650,967, including $358,785 in audio-visual equipment, and

— An addition to the Faculty of Pharmaceutical Sciences' George Cunningham Building costing almost $800,000.

The Instructional Resources Center will be a six-storey building linked to the existing P.A. Woodward Biomedical Library and, eventually, to the planned University teaching and research hospital, the next major unit in the Health Sciences Center.

The IRC will provide a centralized building for training all students in the health sciences, including doctors, dentists and nurses, and includes 30,000 square feet of space for lecture and audio-visual facilities. The building will also house the Faculty of Medicine's Division of Continuing Education in the Health Sciences.

The 24,000-square-foot addition to the existing pharmacy building will be four storeys high and will be used largely for graduate research work. The extension is an integral part of the Health Sciences Center, which it adjoins. (Issue of March 5, 1970).

***

Prof. W.D. Liam Finn, former head of the Department of Civil Engineering, was named Dean of the Faculty of Applied Science in February. At 35 Prof. Finn is the youngest dean at UBC. He was acting dean of the Faculty from August, 1969, following the death of Prof. Frank Noakes.

Prof. Finn plans to give priority to exapnding teaching and research in water resources and pollution engineering. A graduate program in ocean engineering is also planned if sufficient federal funds are made available. (Issue of Feb. 5, 1970).

***

NEWS BRIEFS — Prof. Robert W. Stewart, professor of physics and oceanography, has been elected to Great Britain's Royal Society, one of the world's most prestigious scientific bodies. He is one of 28 Canadians — three of them at UBC — who have been elected fellows of the society, which was incorporated in 1662 . . . Dr. J.H. Quastel, professor of neurochemistry and honorary professor of biochemistry, will receive the honorary degree of doctor of philosophy from the Hebrew University of Jerusalem at its convocation July 6 . . . Prof. Frank A. Forward, former head of the Department of Metallurgy, was recently installed as a fellow of the Metallurgical Society at a meeting in Denver, Colorado, "in recognition of his standing as one of the leaders of our time in metallurgy." . . . Two UBC chemists are among 76 North American scientists who have been awarded highly-coveted fellowships by the Sloan Foundation of New York. The winners are Dr. Edward Piers, 31, and Dr. Anthony J. Merer, 32 . . . Dr. William L. Dunn, 43, a member of the UBC faculty since 1963, has been named head of the medical faculty's Department of Pathology. He succeeds Dr. Harold Taylor, who resigned as head to devote full-time to a national program designed to solve the problem of rejection of organ transplants . . . Prof. Ian McTaggart-Cowan, dean of the Faculty of Graduate Studies and former head of the Department of Zoology, has received the Aldo Leopold Award, the highest honour which can be bestowed by the Wildlife Society of the United States. The Award is made for service to wildlife conservation . . . Dr. Peter H. Pearse, associate professor of economics, has been elected president of UBC's Faculty Association for 1970–71. Other officers are Dr. Robert Kubicek, associate professor of history, vice-president; Mr. Knute Buttedahl, associate director of extension, secretary; Prof. Andrew R. Thompson, Faculty of Law, treasurer, and Dr. John E. Phillips, associate professor of zoology and Dr. Walter D. Young, head of the political science department, members-at-large . . . The 1969–70 athletic year has been one of the most successful ever for UBC teams. Both the men's and women's Thunderbird basketball teams won Canadian intercollegiate championships as did the women's gymnastic team. In addition, a number of individual athletes won intercollegiate championships and were named to Canadian national teams.

***

Graduates of McGill University — including some who were students at McGill College, the forerunner of the University of B.C. -- will take part in a west coast reunion of the Montreal University at the Hotel Vancouver May 7 and 8.

The two-day meeting will include public addresses by two internationally known medical scientists. Both will speak on May 8.

At 10 a.m. Prof. Paul B. Beeson, Nuffield Professor of Clinical Medicine at Oxford University, will speak on "A Transatlantic View of Medical Education."

The same morning at 11 a.m., Dr. Frank L. Horsfall, president and director of the Sloan-Kettering Institute for Cancer Research, in New York, will speak on "Cancer of Man and Animals."

Many top officials of McGill University, including Principal Rocke Robertson, will take part in the meetings.

***

Mr. Gregory Fyffe, a graduate student in political science at the University of B.C., is one of nine Canadian university students who have been named the first recipients of Parliamentary Internships for 1970–71.

The Parliamentary Internship program is a joint venture of the Canadian House of Commons and the Canadian Political Science Association. It is financed by the Canadian Donner Foundation.

Under the scheme, a group of students from Canadian universities will be selected each year to spend nine to ten months working in the House of Commons.

UBC ALUMNI

Contact

Annual Meeting
May 26, 6:30 p.m.
Cecil Green Park

Dean F.H. Soward (left), Dean Emeritus of the Faculty of Graduate Studies, accepts an honorary life membership in the UBC Alumni Association for his contribution to UBC education. And Dr. Donald Chant (right) of the University of Toronto receives the Alumni Award of Merit for his part in the battle to ban DDT in Ontario. Photos by Vlad.

DEAN SOWARD, DR. CHANT

Alumni Honor Two Men

A man who played an important part in the fight to have DDT banned in Ontario has been given the UBC Alumni Association's highest award.

Dr. Donald Chant, BA'50, MA'52, chairman of the University of Toronto zoology department and the son of former UBC Arts Dean Dr. S.N.F. Chant, was given the Alumni Award of Merit at the annual alumni dinner on April 9. The honor is conferred annually on a graduate who has made a distinguished contribution to his, or her, field of endeavor.

Close to 300 persons attended the dinner in the UBC Faculty Club, which also featured an address by the former Prime Minister of Canada, the Hon. Lester B. Pearson.

Dr. Chant is a director of the Ontario anti-pollution organization called Pollution Probe and in this capacity was a leader in the struggle to have DDT banned in that province. In receiving the award, Dr. Chant said he felt it should rather have been "given to the many young people who have so strongly pushed the work of Pollution Probe in Toronto and across Canada in the campaign to prevent the degradation of our environment."

At the same dinner meeting, Dean F.H. Soward, Dean Emeritus of the Faculty of Graduate Studies, was granted an honorary life membership in the UBC Alumni Association in recognition of his long and outstanding contribution to UBC education.

Dean Soward joined UBC in 1922 as an instructor in history, rising to become head of the department in 1953. An acknowledged expert on international affairs, he took time out from teaching to serve in Canada's External Affairs department as a special assistant to the Under-Secretary of State from 1943–46. He became dean of graduate studies in 1961, a post he held until his retirement in 1964.

In his address, Mr. Pearson discussed problems in international development and in Canada's domestic development. Rapid population growth – with world population growing by one billion every five years – is still the major problem in international aid, he said. To improve conditions in the developing countries, he said population growth must be curbed and the developed countries must contribute more aid.

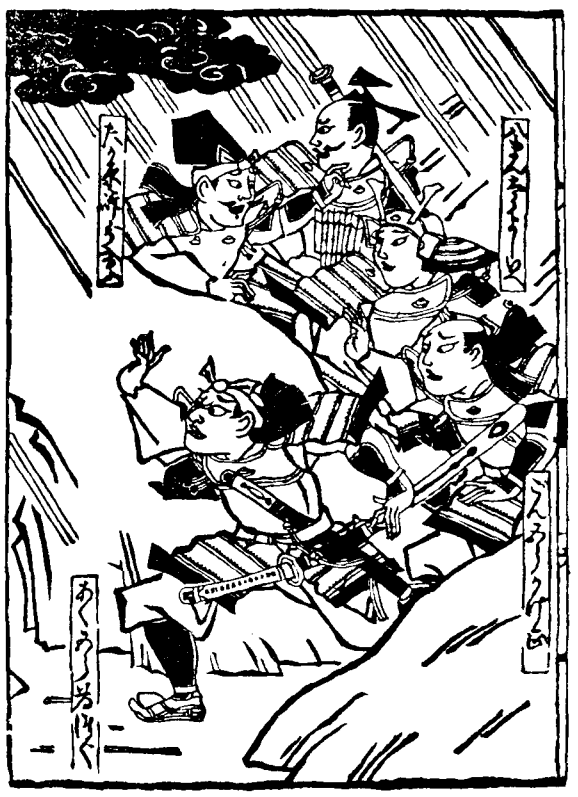
On the latter score, Mr. Pearson warned that there is now an unfortunate tendency for wealthier nations to cut their foreign aid contributions. He stressed that it is essential for world peace and progress that they increase their foreign aid and, equally important, find more effective ways of making it improve conditions in developing countries.

For example, Mr. Pearson said that "even if a nation's gross national product increases four or five times, it does not help if the proceeds are not distributed equitably among all the people."

Canada, Mr. Pearson said, is also a developing country in many ways. And in the process of developing, he suggested that Canada should not develop too close ties with the U.S., but neither should the nation become isolationist.

Mr. Pearson said Canada's major problem remains that of developing national unity. He suggested the nation should not panic over this issue since all federal states historically have had unity problems.

But Mr. Pearson emphasized that there is one prerequisite for unity: "We will not solve the problems of Canadian unity, indeed we may fall apart, unless we accept the fact that has been with us since the beginning, that our country was established in 1871 on the basis of two original language groups, French and English-speaking groups. There is no other basis on which we can become a united Canada than by accepting that fact."



Asian Studies Collection/UBC Library