THE PRESIDENT'S REPORT

THE UNIVERSITY OF BRITISH COLUMBIA

1959 - 1960

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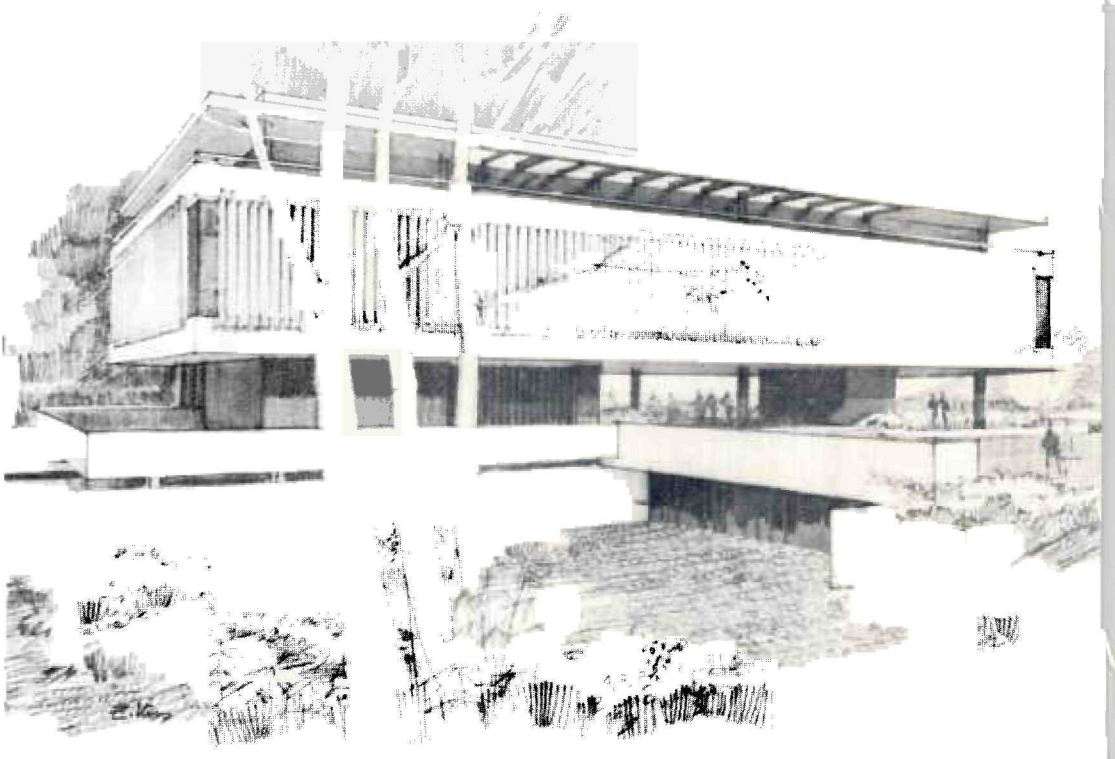
THE REPORT OF DR. NORMAN A. M. MACKENZIE TO THE SENATE AND BOARD OF GOVERNORS OF THE UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, CANADA, FOR THE PERIOD JULY 1, 1959 TO JUNE 30, 1960.



The new centre for graduate students, pictured above, is the generous gift of Dr. Leon Koerner in memory of his wife, Thea. It will be completed in the spring of 1961 and will provide an environment where graduate students can gather for social, cultural and intellectual activities. The building is located at the junction of the west mall and Marine drive between the Faculty Club and International House.

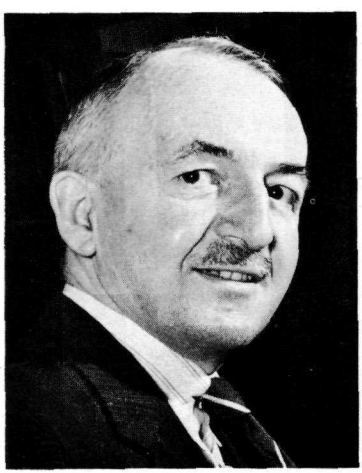
TO THE BOARD OF GOVERNORS AND THE SENATE OF THE UNIVERSITY OF BRITISH COLUMBIA

Ladies and Gentlemen

In my last report I considered some of the challenges facing us in the expansion of higher education within the Province. This year I thought it would be useful and timely to record some of my ideas about the state of graduate studies in the University and the steps we must take in order to ensure that these vital studies grow and develop at an appropriate rate.

Norman MacKenzie

N. A. M. MacKenzie
President



The Faculty of Graduate Studies at the University of British Columbia owes much to the imagination and energies of the scholars shown on this page. Upper left is Dean Emeritus Henry F. Angus, who joined the U.B.C. faculty in 1919. He was named Director of Graduate Studies in 1948, and Dean of the Faculty in 1953. He retired in 1956. Dean Angus is still active as chairman of the Public Utilities Commission and a member of the B.C. Energy Board. He was succeeded by Dr. Gordon M. Shrum, upper right, who in addition is head of the Department of Physics and Director of the B.C. Research Council. Dean Frederic H. Soward, lower left, was appointed Associate Dean of the Faculty of Graduate Studies following the retirement of Dean Angus. He is also head of the Department of History and Director of International Studies.

GRADUATE TRAINING AT THE UNIVERSITY OF BRITISH COLUMBIA

GRADUATE TRAINING on a formal basis, with organized courses of study and requiring the preparation of an original thesis based on independent research and investigation, is of fairly recent origin in Canada. In the past it was possible for a student, once his undergraduate training was finished, to go directly into a chosen field of activity without further study; his professional and personal growth depended upon his desire to follow a programme of self-directed study, upon his energy, his imagination, and his capacity for hard work. If the career he chose involved the application of the theoretical knowledge he had gained at the university to practical problems of a technical or scientific nature, he generally learned such applications through association with others in his profession.

The goals and functions of a university, even in medieval times when universities first began to grow and develop, have always been to produce professional men, not in the narrow sense of the technologist, but the scholar who, while passing on knowledge to others, was actively engaged in pushing back the limits of the known, both for his personal satisfaction and for the benefit of mankind.

At the turn of the present century, the young men who went off to Oxford, Paris, Harvard and Heidelberg to study the humanities were, in a very real sense, preparing themselves for professional careers: in government, in business, in the Church, in the schools and universities. Their training may have been of a general nature, largely involving the study of history, philosophy, literature, and the ancient languages, and there may have been but little attempt on the part of their professors to teach the practical applications of knowledge. Yet the goal was the cultivation of a mind trained to reason, to examine critically, to synthesize and to reach sound conclusions. That basic aim has not changed, but the rapid expansion of knowledge in every field of human inquiry

has made it essential to specialize, to introduce additional disciplines, to discover new techniques and processes which are required by the ever-changing needs of the society and the world in which we live.

Whether we like it or not, and there are many critics of the extraordinary growth in subjects and courses offered by the modern university, it is a fact of life that we must change and evolve to meet new and novel conditions or else decline and decay.

Our oldest centres for graduate study in Canada are Toronto and McGill, but all major universities now offer graduate programmes and there is everywhere an increased concern about the place and status of graduate studies in Canada. This concern can, in large part, be traced directly to the roles played by our universities during the Second World War. During those years of maximum national effort, and despite the fact that staffs were badly depleted as the professors went off to government service or to join the armed services, the universities unhesitatingly accepted the challenges given them by governments. They, too, went on a war footing and began by undertaking investigations into a host of scientific and technical problems directly concerned with the winning of the war. And the men who had guided the studies and directed the research carried their enthusiasm for the promotion of basic research into the post-war classes. The time was ripe for a full-scale development of graduate studies, and although it would take many years of patient planning, imagination, and hard work, it would be possible to build here in Canada major institutions of learning to rival the best anywhere in the world.

The decade which immediately followed the war was particularly difficult for all Canadian universities. The young men and women were returning by their thousands from across the world to take up their studies where they had left them four or five years before; and the universities, as a first and immediate task, had to ensure that these young people would have the opportunity to continue the education they had interrupted for more pressing reasons. It was only by stretching our resources to the breaking point that we were able to accommodate the veterans, and the University of British Columbia grew overnight from a small, essentially undergraduate institution offering courses in Arts and Science, Engineering and Agriculture, into one of the largest English-speaking institutions in Canada.

Those were some of the most difficult years in the history of Canadian education. They were also some of the most challenging and rewarding,

and those of us who were directly associated with the University in the post-war years enjoyed experiences and associations which we shall remember forever. What we accomplished was really miraculous: somehow we found the staff, acquired and converted army huts, expanded our course offerings. Somehow we stretched the budget, improvised, invented, and dealt with thousands of problems, both personal and academic, of the returned men and women. Of necessity, we were obliged to concentrate on undergraduate training, for the great majority of our students had gone from high school directly to the armed forces or, at most, had done one or two years of university work.

Those who wished to continue their work — and there were many since the average veteran was older, more mature, and more anxious to establish himself in a post than the young persons who came directly from the schools — were largely restricted to studies at the M.A. level. It was not until 1950 that we began to offer the Ph.D. and that in one Faculty only. Our graduate programme has since grown rapidly and effectively, but between 1945 and 1950 we were obliged to advise many of the best young men and women to go to the great graduate schools in the United States and Britain and to some of the European universities.

No one was happy about this arrangement. While it is true that some of our best graduates should always be encouraged to go abroad to enrich their educational experiences, Canadians conscious of the growing importance of our nation in world affairs and proud of the international reputation we have earned for moderation and common sense, felt that Canada was setting aside and neglecting many of its real responsibilities in the field of higher education. In particular we were concerned that, although it was desirable that some of our young men and women should go to the United States for further training, it was a serious and discouraging drain on our human resources for many of them did not come back. Moreover, it was felt that Canadians, while willing and able to support university work at the undergraduate level, were in reality permitting the tax-payers of another country to provide expensive graduate training. In short, as a nation, we were not accepting our full responsibility for the proper education of our citizens, and if the trend continued, Canada would progressively lose many of its best brains and in the process lose its creativeness and independence.

Many of those who went abroad did not return to make the contribution to Canada they ought to have made and which we could

reasonably expect of them. This was a great loss to us nationally, one we all regret and will continue to regret. One of my colleagues, decrying this tendency, put the matter in its simplest and most direct terms: "We are doing with our human resources what we once did with the products of our forests: sending them off to be finished in the United States."

The most essential need at this University now and for the next few decades will be the creation of graduate and professional schools second to none in Canada or in the United States. No less a goal is worthy of us, nor should we be satisfied with anything less. The scientific revolution which has taken place in the last twenty years, the unprecedented advance in every field of the natural, social, and applied sciences and the application of those studies to the field of technology have created whole new areas of investigation, doubled or tripled the knowledge we once held, and changed the lives of each of us. It is no longer possible for men to master the disciplines they choose and at the same time have adequate knowledge of the ancillary disciplines which explain and support their own area of work without prolonged years of study and specialization. For those who wish to engage on a professional basis in the studies I have mentioned, the doctoral degree is now a basic qualification, and in the last few years it has been necessary to develop an even more advanced system of training — that of the post-doctoral fellow, who comes to this University from other parts of the world for continued study and research on a formal basis.

The opportunities for those who have the ability, the talent and the stamina to complete the studies required, are limitless. As the world of knowledge becomes more complex, as techniques become more complicated, as mechanization and automation change the way we work and live and play, so the demands for the highly trained continue to grow. But it is not enough to foster growth of scientific studies. We must, at the same time, ensure that the humane studies continue to develop in parallel and at the same rate. A Renaissance scholar, himself caught up in a world of explosive changes, said: *Science without Conscience* leads to destruction of the soul. It is imperative that the traditional studies of history, literature, language, philosophy not be neglected. We may well gain the whole world and yet lose that world as well as our own souls, unless those enriching and sustaining studies which explain Man, his actions, his dreams, his yearnings and his aspirations continue to develop harmoniously and coincidentally side by side with the natural and social sciences.

Let me cite a specific field of study and research which has changed markedly in the last twenty years: forestry, certainly one of the most important basic industries here in the Province of British Columbia. Since the Department of Forestry was first established in 1921 with the Faculty of Applied Science, conditions and needs have changed drastically. In the early days of lumbering demands for graduates lay mainly in logging engineering in so far as industry was concerned, and in administration and limited technical work in the B.C. Forest Service. No forestry was practised by industry, and the value of the university-trained man was largely unrecognized by industry.

In the late 'thirties, the Forest Service began to expand its activities in basic research and at the same time to undertake the solution of complex problems. In consequence, the demand for foresters began to expand. But it was not until after the Second World War that industry became involved in "the practice of forestry" and in the scientific processing of forest products. The change was brought about by the steadily growing pressure on accessible forest areas, an increasing demand for forest products, and a change in governmental policies in respect of forest land use and management. Legislation passed in 1947 with subsequent amendments established sustained yields as official policy and, through the device of Forest Management Licences, forced a substantial part of the industry to follow suit.

One other factor should be mentioned, that is, the changing attitude of industry in general towards the recruitment of university graduates to enter the supervisory and management stream. It is now accepted that a good man will be more valuable with university education and, further, that the university does a substantial part of the task of screening and selecting the most able.

Another matter of importance is the phenomenal development taking place in the interior of the Province. Not only has forest production increased some five-fold since 1945, but mechanization and automation are forcing consolidation of the many small companies into fewer large ones as a means of reducing costs and meeting the decrease in prices and the rise in the cost of labour. As a result, professional, supervisory, and managerial personnel are in demand and the need will continue to grow, not only for those graduating with a bachelor's degree but for those possessing the master's and the doctorate.

I have chosen Forestry as an example because it is of particular interest to persons living in British Columbia, but I might well have

drawn illustrations from Agriculture, Engineering, Chemistry, Physics, Mathematics, Biology, Botany, or Zoology. Everywhere there is an increased interest in graduate studies, simply because without them we would be unable, and certainly in the future will be unable, to supply the persons our expanding economy will require.

However, the growth in the number of students seeking graduate training is encouraging and although the demand will long exceed the supply, there is evidence that we are making significant progress. I have read with interest a recent report prepared by Stock and Beaulieu in which they show that across Canada thirteen universities are graduating almost 300 science students at the doctoral level, by contrast with the conditions which pertained just before the Second World War when, although most major universities had begun to establish graduate schools for training in the sciences, McGill and Toronto were together graduating fewer than fifty doctoral candidates each year.

"In the academic year 1959-60 there were more than 2,500 graduates registered in Canadian universities in science and engineering, nearly twice the number who were registered six years ago. Almost half of these students were in the physical sciences, approximately one-quarter in engineering, and the remainder in agricultural and biological sciences (excluding medicine). More than half of the graduate students in physics and chemistry were registered for the Ph.D. degree, the proportion was one-third in mathematics and in the biological sciences, and only one in fourteen in electrical and mechanical engineering."

There is another and equally important reason why graduate and professional studies need to be fostered at our universities. The dual mission of the scholar, that of teaching and research, cannot properly be accomplished unless he is actively and diligently engaged in working with students beyond the undergraduate level. Scholars are not different from other responsible persons in society; they too require challenge and stimulation, and it is precisely in the great graduate schools of this continent where professors and senior students work in close co-operation that new knowledge is discovered and new ideas emerge. Where there are superior institutions of learning, where there is excellence, where there are progressive ideas, where there are energetic, discriminating and imaginative human beings — to such universities will come the best students from home and abroad. And the benefits are widespread, reaching out immediately in the present to every

member of society in his daily life and reaching beyond in the future to enrich and refine the lives of our children.

But great graduate centres, where men and women are concerned with problems on the very frontiers of knowledge, are not built without very substantial sums of money, nor is it possible to attract scholars unless they can be assured that the conditions under which they will work are as good as or better than they can find elsewhere. The distinguished professor is the most mobile of persons, for he can teach and investigate wherever he wishes. And wherever he goes, he will in turn draw students to him from every corner of the world. If it is important to attract distinguished scholars, it is equally important, if we are to build a great graduate school, to draw able students to us, not only from Canada but from other countries too.

In this context I believe Canadian students to be as well endowed intellectually as young people anywhere in the world. The distinguished records of those who complete their undergraduate studies at the University of British Columbia and then go on to further work elsewhere is evidence that, given the opportunity and the environment, our students are second to none. But we must work hard and conscientiously to create the environment which will attract and hold our students. In particular, we must do whatever we can to persuade the public and governments that support is required not only for the teaching functions of the University but also for research.

In the sciences, the costs of providing modern laboratories and fitting them with the necessary machines, instruments and apparatus so that the professor and his students may engage in work at a high level are enormous. Fifty years ago, research in physics could be carried out with comparatively inexpensive equipment. In fact, that period is frequently referred to as the "sealing wax and string" era of experimentation, and much excellent work was done with rather elementary equipment. However, as the scientist intensifies his enquiries into natural law, problems become increasingly more complex and more difficult to investigate, and the scientist meets with growing resistance.

Let me cite as an example the pioneer work in nuclear physics done by say Rutherford, Chadwick and Ellis, and others. In essence, such work required for example a small source of radioactive material, some thin metal foils, a "Spintheroscope" which is a recondite name for a microscope eyepiece to which was affixed a small glass plate covered with a scintillating metallic salt, and perhaps some photographic film.

This equipment, in the hands of ingenious investigators, established the gross features of atomic and nuclear structure. We now know a great deal more about the nature of the nucleus, but to obtain that knowledge this simple apparatus had to be replaced by a whole arsenal of infinitely complex equipment, instruments, and machines.

The small source of radioactive material once used to provide energetic particles for the bombardment of atomic nuclei had to be replaced in turn by Van de Graaf electrostatic generators, by cyclotrons, etc., the largest of which occupy an entire building and whose cost runs into the tens of millions of dollars.

Physicists sometime ago coined the word "Megabuck" as a suitable monetary unit to be used for the planning of research budgets using such machines. These machines in twin spawned a host of auxiliary apparatus for their control and interpretation, and costs soared in relation to the complexity of the investigation. Microwave oscillators, regulated high and low voltage power supplies, stabilized linear amplifiers, multichannel pulse height analyzers, oscilloscopes, ionization chambers, neutron counters, and analyzing magnets, to name only a few, surround the big machines like barnacles on a ship. And the list could be extended to read like a double-page entry in Roget's Thesaurus under the heading of *Devices for Investigation in Physics.*

The cost of this auxiliary equipment can be shockingly high: the unit cost for any of the equipment mentioned above can, depending upon its quality, be anything from $500 to $10,000 per item, or higher.

The example quoted was taken from the field of nuclear physics which is admittedly an expensive branch of modern physics. But without the big machines the research physicist is crippled, for he cannot carry on his investigations unless he has the many pieces of precision electronic equipment which form the basis of physical measurements. The most modest research laboratory in almost any branch of physics requires at least $25,000 for equipment. The atomic spectroscopist, working in one of the oldest precise fields of physics, needs spectrographs which may cost tens of thousands of dollars. The research man in the field of low temperature needs helium liquefiers which can cost upwards of $20,000 when installed. And these are all basic items.

Chemistry and physics together are now using many common tools, including mass spectrometers which, with their associated equipment, can cost $10,000 — $20,000. X-ray and electron diffraction apparatus for analysis of molecular structure is a very expensive item. Spin

resonance apparatus is costly, and the list can be expanded in many directions. In short, the days when a research worker could expect to make significant contributions to his field of knowledge with simple, inexpensive equipment are unhappily past. Yet, somehow, these men who contribute so much to the advancement of science and to our understanding of the physical universe must be given access to the machines and equipment without which their best efforts and hardest work will be but of little avail.

At the moment we cannot provide working space for all the graduate students who must carry on laboratory research as part of their training. At a time when the need is to attract more doctoral candidates in physics and chemistry we are actually turning them away. This is a long-range problem and, frankly, I cannot see any immediate solution to it. By 1966 we know that the undergraduate enrolment will have soared in a spectacular manner and our graduate enrolment is likely to reach 1,300.

The University of California has recently established standards of space requirements showing that, whereas full-time undergraduate students following courses of study which do not require laboratory work need 12 square feet, a student in the sciences doing laboratory work requires between 80 and 90 square feet. The same standard requires that in the case of graduate students carrying out research work in laboratories, between 150 and 200 square feet are necessary. The current cost of space for general purposes is $20 — $25, and for laboratory space $30 — $35. These figures give some idea of the amounts of money required for the accommodation of both undergraduate and graduate students.

The needs I have mentioned are not restricted to the sciences, pure or applied. While research and training in these fields is being carried on in Canada at an increasing tempo by agencies other than the universities — the National Research Council, the Defence Research Board, and commercial companies — studies in the social sciences remain almost exclusively the responsibility of our universities.

In the realm of sociology, anthropology, social work and political science, we are, nowhere in Canada, providing a continuing analysis and description of Canadian society. In point of fact, we have but little information about such important social factors as variations in family structure, the formation of Canadian "values", religious differences, social and economic mobility, power structure, or the prairie society.

Yet these data are readily available for countries such as France, Sweden, Britain and the United States. There have been some moves to correct this situation. In Saskatchewan, for example, the Centre for Community Studies, attached to the University, operates a major research and training programme, employing as many sociologists and anthropologists as we have both teaching and researching at the University of British Columbia. However, in addition to the fact that we are gradually adding to our own staff in the social sciences, the Institute of Social and Economic Research established in 1956 is working towards a definition of a programme of Canadian studies and, as a measure of the magnitude of the problem, it recently defined six projects, particularly applicable to British Columbia, each of which would justify research costing $160,000 over a four-year period.

As a third example, may I now turn to the field of the humanities. In this broad area the academic status, the background of training and experience of our faculty members is fully adequate for graduate work at the most advanced levels, and in recent years the output of research and scholarly papers has increased enormously. While the chemist, the physicist, and the engineer require as basic tools laboratories, instruments and machines, the historian, the philosopher and the writer need at their disposal the enormous collection of books and periodicals upon which all their research is based.

There is no secret formula at the University of British Columbia — or anywhere else — by which a great university can be created without an outstanding library. The needs of departments vary from one subject field to another, but scholarly and scientific work cannot be carried on where appropriate collections do not exist, and normal academic development is impossible under such conditions.

In some of the physical sciences current journals are of chief importance; in other fields, long back-files of periodicals are also required; while in many areas in the humanities and social sciences serious study cannot be undertaken unless there are the specialized books at hand to which the user has immediate access. Printed materials today are extremely numerous, non-current publications are often difficult to obtain, and both the old and new are expensive. A great library is a vital factor in determining the rate of development and level of academic excellence of a university, yet so far it has been possible to assign only a relatively small part of the total University budget for this purpose: 4.19% in 1959-60.

The needs of a university library can be reckoned both by comparative and direct means. In the perspective of more than a hundred other institutions of university rank on the continent, the U.B.C. Library is sixtieth in size of collection, thirty-sixth in total library expenditures, and thirty-third in funds paid for books, periodicals, and binding. No first class library on the continent (for example, California, Illinois, Columbia, Cornell, Michigan) spends an amount for books and periodicals which is not at least $150,000 to $350,000 a year larger than ours; and there are a dozen libraries more nearly our peers which we continually trail by from $50,000 to $250,000 (for example, Kansas, Pennsylvania, Washington, Northwestern). While we receive a total of 5,237 scholarly journals in all subject fields, some twenty-five libraries which are ahead of us on the list acquire regularly some 8,500 to 30,000 such titles.

Yet a notable development is taking place in some sections of the Library. In the sciences the greatest growth has occurred in medicine and in the biological sciences, physics, and chemistry. In Slavonic and Asian Studies (particularly in Chinese) and in Canadian Studies substantial expansion has occurred, and good but less rapid growth in English and French literature, Classics, and in a number of historical fields.

Even in areas in which the Library is best equipped for research, we still lack many of the important older works or are unable to provide a sufficiently representative share of current publications. In Slavonic Studies alone, a recently prepared list of older materials for which a search is being made will cost in excess of $90,000. In order to obtain microfilm copies of rare Chinese works to bridge some of the gaps in the famous P'u-pan library, at least $10,000 will be required. No base yet has been laid for scholarly work in Japanese Studies, for it has been necessary to spend the available funds on current publications.

Most fields have inadequate appropriations for current publications and, because of this, new works are not obtained, the backlog is enlarged, or materials are permanently lost. Every year we attempt to keep abreast of new publication, fill in gaps with out-of-print books, and acquire a few back files of periodicals, but we are unable to embark upon a full programme of development, including the acquisition of fundamental and expensive sets. Seldom do we look for major collections in the book market, as do the libraries of many other major

universities from year to year. No one is more conscious than I of the need to assign a greater proportion of our total income to the Library, for it is at the very core of all teaching and research. And yet, at the moment, the needs of the Library must be set against the demands upon our resources of every Department and Faculty within the University.

To this point I have written at considerable length about some of the major problems and difficulties in developing graduate studies from the point of view of the faculty and the administration. I would like now to consider the graduate student, because in the final analysis it is his educational welfare and progress with which we are all so vitally and directly concerned.

The best of our students who obtain the bachelor's degree are now persuaded, and rightly so, that additional training is necessary if they are to have successful and productive careers in their chosen professions. To a greater extent than ever before, the doctoral degree is required for entry into many fields. For example, those who wish to teach at colleges and universities are usually advised to proceed immediately to graduate work, and in the sciences persons are rarely appointed who do not hold the Ph.D. or its equivalent. In government, in industry, in commerce, in international organizations, persons holding advanced degrees are more likely to be appointed to senior posts and so reap the personal rewards and benefits which go with increased responsibility and more demanding duties.

Having completed twelve years of schooling, followed by four of undergraduate work, the student is now faced with from two to seven years of concentrated study and research before the requirements of the Faculty of Graduate Studies are satisfied. These studies involve not only course work at an advanced level but also the preparation of a thesis of substantial proportions, which must represent an original contribution to the field of learning. In certain cases, notably in the humanities, the writing of the thesis may be spread over four, five or even more years and may involve travel to other universities and libraries, or fairly lengthy visits, sometimes to remote parts of the world.

It is a rare student who can expect to start his graduate work before the age of twenty-one or twenty-two. And this is at a time when most young people are beginning to establish themselves in their chosen careers, when they contemplate marriage and the establishment of a home, when professional and domestic commitments require earnings at a fairly high level. The years of graduate study represent a very

substantial personal sacrifice on the part of students, and whereas immediately before the war it was unusual to find a married student attending university, now more and more graduates are marrying and so have the double responsibility of maintaining a family and at the same time paying their way through university. Unlike the undergraduate, the graduate student cannot seek employment during the summer because his research work goes on over the full period of twelve months, and he is ill-advised to take lengthy breaks away from the work he is pursuing.

As a result, the graduate student must rely largely on what he can obtain by way of financial aid from fellowships, teaching assistantships, prizes, scholarships and bursaries. Over the last few years, funds available for graduate students have increased markedly, but they are by no means adequate to enable the student to live at an appropriate level. Although it is true that he will find future compensation in personal satisfaction and sometimes in increased earning power when he has completed his studies, other citizens, who will, both directly and indirectly, benefit from the additional years students spend at their studies, should be prepared to help these young people finance their education at these graduate levels.

In the final analysis it remains the responsibility of society to ensure that those who provide the skills and the specialized knowledge necessary to develop our country be assured of that measure of assistance which will enable them to live decently while they are completing their studies. As Canadians, we spend large sums of money annually on the training of young men and women for the armed forces, as officers, as specialists, as technicians. We not only pay willingly for that training, but at the same time we accept the idea that persons undergoing such training should be paid for the time they spend preparing themselves for future service. If we are wise, we will take a somewhat similar attitude to graduate students at the universities, who, in essence, are doing precisely the same thing. I personally would like to see the establishment of a system of fellowships, scholarships, loans and bursaries, which would permit them to complete their studies without undue hardship or financial worry.

This University is already attracting substantial numbers of graduate students from other parts of the world, but almost all of them in the pure sciences. As our reputation grows and as we add the buildings and facilities and staff we need, we can look forward to students in

other disciplines coming from other countries of the world. Indeed, we must do everything we can to promote this flow, because if we are to become a great university, our influence and our reputation must extend beyond the Province, beyond Canada, to all parts of the world. While our primary role and responsibility will be to train the students of British Columbia and Canada for appropriate posts in society, no university worthy of the name can be content with a parochial attitude towards education and research.

Moreover, our own students need the quickening and broadening influence which comes from association with other young people of varying backgrounds and experience. I am convinced that the salvation of the world we live in lies not in force of arms but in the free and untrammelled exchange of peoples and of ideas. A vital part of all education in a world of international tension and turmoil is the promotion of mutual understanding and respect between peoples of every political and religious belief. The old order is changing so rapidly that it confronts us with new and dangerous situations. Everywhere nations are emerging, seeking independence, groping towards self-government, striving to ensure for their peoples at least a minimum of physical and spiritual security. The way we now live, and the level of life we now enjoy in Canada, will change in a drastic and dramatic fashion within the next decade or two, certainly within the life-span of the children of students now attending the University. The leaders of the merging nations will not stop in their plans and ambitions until they win or try to win for their people a more just and equitable distribution of the goods of this world. Our own existence in Canada, by comparison with that of other countries so less richly endowed than our own, is almost Utopian. We enjoy a level of life and a freedom from want and fear rarely known in the history of Man. Whether we like it or not, one of our fundamental responsibilities, and one based on self interest, is to assist, principally through education, less fortunate lands to solve some of their problems. In all of this, the University of British Columbia has a role to play, and we are wanting in our sense of duty if we do not do whatever we can to assist the legitimate and proper efforts of nations who are struggling to improve their lot.

For the session 1959-60 we had 526 students who declared their place of permanent residence to be outside Canada. It is a source of pleasure and pride to us all that these young people should choose to come to this University. In this connection, International House, the gift of the

Vancouver Rotary Club and other friends, is playing an important role by providing a meeting place for foreign and Canadian students, and the imaginative programme of social, cultural and academic events being offered there on a continuing basis is attracting wide and favourable attention. The new Centre for Graduate Students, the generous gift of Dr. Leon Koerner in memory of his wife, Thea, is under construction and will be completed late in the spring of 1961. It too will provide an environment where graduate students can gather for social, cultural and intellectual activities.

As the number of graduate students grows and as we increase our course offerings to accommodate their wide and varied interests, so we will have to recruit more teachers and researchers. At the University of British Columbia we have a staff of imaginative and energetic men and women who are providing intellectual leadership of the highest order. But we are falling behind in the number of new appointments required to ensure our continued level of excellence, and in the future we may experience difficulty in acquiring staff members who are able to provide the kind of inspiration and guidance required in an expanding graduate school. For here we are in direct competition with a number of other agencies in the community which are seeking out these persons for industry, commerce and government, and unless we are able to offer reasonable salaries and at the same time provide them with the facilities and equipment they need to carry on their work, I am afraid that we will not be able to attract and hold them.

Those scholars who direct graduate studies must be particularly well endowed intellectually, and not every university teacher, capable and efficient though he may be, is suited for this kind of work. It may well be that Canadian universities will have to specialize in particular fields of graduate work, and that it will not be possible for this University to provide fully developed programmes of studies in every field of knowledge. Because of our geographical location, and because of the industries which are of particular importance to our Province, perhaps we should concentrate on those studies for which we are best fitted, for which we have the staff, the facilities, the equipment and the books, leaving to universities elsewhere in Canada other disciplines and research activities. At the moment, for example, we are well known for our graduate work in Chemistry, Physics, Mathematics, and Zoology. We are actively planning developments in other fields, but this will require time.

In this connection I note that recently the *American Scientist* carried an article advocating "a library of instruments" in highly specialized fields such as electron microscopy, tracer chemistry, gas chromatography and mass spectrometry. These costly instruments are used for interdisciplinary research laboratories, and it will certainly be true that as the cost of research continues to grow, so it will be necessary to provide selected centres throughout Canada to which students and professors alike will have to go if they wish to pursue research in highly specialized fields.

This does not mean that we should stop trying to build up and perfect what we already possess. Nor does it mean that we should not do our best to expand into other fields of graduate and professional training where there is an immediate need for trained persons. For example, there is growing pressure on us to establish a Faculty of Dentistry. The University is fully aware of the need and, as soon as funds are made available, we will be glad to establish this new Faculty.

Yet I think we must be realistic about the future of graduate training in Canada. Our universities will have to select particular areas of study and research which they are able to nourish and develop and bring to perfection. It is possible for each university to do an "adequate job" in almost every area of study, but "the adequate" is not enough. Our graduates will, when they go out to find posts in their chosen disciplines, be in competition with the best products of those universities of the world which are supported at the highest level by governments, foundations, and private individuals. Specialization, on a planned and coordinated pattern throughout Canada with each university accepting its proper and appropriate responsibility for the development of particular areas of graduate work seems to make sense.

Here in British Columbia our citizens have not yet found it possible to give to their University the financial support it must have to meet the needs of our young people and of our country. At the same time, many persons and organizations in the larger centres throughout the Province are advocating a system of junior colleges to provide equal educational opportunities for all young British Columbians. But I can see no way of making adequate financial provision without increasing the shortage of operating revenue at U.B.C. and Victoria College. Our sister institution has begun to offer courses at the third and fourth year level and promises to become a first-rate liberal arts college.

However, it will be some years before Victoria College will be in a position to offer graduate studies, and in the interval U.B.C. will continue to be responsible for the total programme of costly professional and graduate work. Moreover, it would be less than prudent to begin the duplication elsewhere of Faculties such as Medicine, Engineering, Law, Forestry, or Pharmacy, until the campus at West Point Grey has been developed into a comprehensive university with the staff, buildings and facilities we need.

In saying this, I am fully aware that there are many proper and legitimate demands on provincial income: we need roads, we need social services, we need development of our natural resources. Education is only one among many, yet basically it is the most important for it alone will guarantee our progress and our social, economic and spiritual development.

Now that the machine has largely replaced manual labour, citizens who lack specialized training and skills will find it increasingly difficult to obtain satisfying and rewarding employment. Education to the matriculation level, either academic or vocational, should be the goal of every young person in British Columbia. Those who have the ability and the incentive should aim at university training, and for the few who are especially endowed graduate training at the highest level should be the goal. As a society we should strive to ensure that each citizen reaches the highest level of training of which he is capable. The processes of our democracy tend to eliminate the very real differences which exist between human beings: we are not all endowed in the same way by nature, nor do we all possess the same energy, curiosity and initiative. Relatively few of our young men and women are capable of the highest achievements in creative activity, and while it remains true that every citizen should be educated, we are ignoring our duties and responsibilities if we do not give special care to those few who, through their excellence, contribute great, energizing ideas.

To read human history is to read the account of a few men and women of superior intelligence whose ideas have brought great profit to us all. Every age brings forth its handful of human beings whose vision and creative abilities guarantee human progress. Our debt to those few throughout history is enormous. To repay that debt and to save ourselves we must ensure that their kind now and in future generations will find themselves in the intellectual climate and atmosphere in which their rare qualities can be cultivated and brought to perfection.

PUBLIC OCCASIONS

ON SEPTEMBER 3, 1959, honorary degrees were conferred upon:

Maître Albert Brunois, member of the Council of the Order of Advocates of Paris, LL.D.

The Honourable A. C. Desbrisay, Chief Justice of the Province of British Columbia, LL.D.

The Honourable Ross L. Malone, President of the American Bar Association, LL.D.

Walter S. Owen, President of the Canadian Bar Association, LL.D.

The Right Honourable Lord Parker of Waddington, Privy Counsellor, Lord Chief Justice of England, LL.D.

ON OCTOBER 13, 1959, honorary degrees were conferred upon:

John Everett Robbins, Secretary-Treasurer, Social Science Research Council of Canada, LL.D.

Sir Hugh Stott Taylor, Chairman of the Woodrow Wilson National Fellowship Foundation, D.Sc.

ON MAY 9, 1960, an honorary degree was conferred upon:

Field Marshal The Viscount Montgomery of Alamein, LL.D.

ON MAY 19, 1960, honorary degrees were conferred upon:

His Excellency Sir Joseph John Saville Garner, United Kingdom High Commissioner to Canada, LL.D.

General the Honourable Andrew G. L. McNaughton, Chairman, Canadian Section of the International Joint Commission in negotiating the settlement of the Canadian rights in the Columbia River Controversy, D.Sc.

Henry G. Thode, Vice-President of McMaster University, D.Sc.

ON MAY 20, 1960, honorary degrees were conferred upon:

Kenneth Wiffin Taylor, Deputy Minister of Finance in Ottawa, LL.D.

His Excellency Major-General the Right Honourable George P. Vanier, Governor General of Canada, LL.D.

OBITUARIES

WITH REGRET I REPORT the deaths of the following members of the Board of Governors, the Senate, the Faculty and the employed staff:

Mr. Donald Bell, Associate Professor, Commerce and Business Administration, July 10, 1960.

Mr. Alfred Haines, Mailman, April 8, 1960.

Chancellor Emeritus, The Honourable E. W. Hamber, January 10, 1960.

Dr. F. J. Hebb, Physician and Deputy Director of the University Health Service, December 2, 1959.

Dr. H. A. Henderson, Clinical Instructor, Obstetrics and Gynaecology, December 18, 1959.

Mr. Thorleif Larsen, Professor Emeritus of English, March 22, 1960.

Mr. W. H. Malkin, former member of the Board of Governors, October 11, 1959.

Miss Margaret Maynard, Assistant Professor, Education, November 9, 1959.

Dr. P. A. Spohn, Clinical Assistant Professor, Paediatrics, May 7, 1960.

Dr. C. A. H. Wright, member of Senate, January 8, 1960.

On behalf of their colleagues, students and friends, I acknowledge the University's debt for devoted services.

RETIREMENTS

IN REPORTING THE RETIREMENT of the following members of the staff, I would like to express the gratitude of all those associated with the University to these our friends, teachers, and colleagues:

Miss Maude Allen, Senior Instructor, Biology and Botany.

Mr. Donald Bell, Associate Professor, Commerce and Business Administration.

Miss Hermione Bottger, Stenographic staff.

Mr. William Bradshaw, Buildings and Grounds.

Mr. Douglas Fisher, Poultry Science.

VISITING LECTURERS

WE AT U.B.C. PRIDE OURSELVES on bringing to the campus each year a large number of visiting lecturers who give addresses on a wide range of subjects. Some of our speakers come to us under the auspices of national and international organizations; others are brought here with funds provided by individuals who establish lectureships in specific fields, and still others come at the invitation of the students who find that they can enjoy intellectual stimulation while eating their noon-hour sandwiches.

There are, of course, too many lectures to list here, but I thought it would interest you if I named some of our more prominent visitors and their sponsors.

Lister Sinclair, Canadian playwright and author. Summer School of the Arts.

Dr. George Seaver, Albert Schweitzer Lecture Foundation. University Lectures Committee.

Ambassador Guillaume Georges-Picot, Permanent French Delegate to the United Nations.

Prof. J. H. Kellgren, Professor of Rheumatology and Director of the Rheumatism Research Centre, Manchester University. Canadian Arthritis and Rheumatism Society Lecture.

Sir Hugh Casson, Vice-president of the Royal Institute of British Architects. School of Architecture and the Fine Arts and Special Events Committee.

Sir Ronald Syme, Camden Professor of Ancient History at Oxford University. Leon and Thea Koerner Lecture.

Dr. Andrew Stewart, Chairman of the Board of Broadcast Governors. Vancouver Institute.

Dr. Maxwell Wintrobe, head of the Department of Medicine, University of Utah. York Lecture.

Padraic Colum, poet and novelist. Fine Arts and Special Events Committee.

Dr. T. C. Wyller, head of the Institute of Political Science, Oslo University. Visiting North Atlantic Treaty Organization Scholar.

Dr. R. B. Heilman, head of the Department of English, University of Washington. Sedgewick Memorial Lecture to the Vancouver Institute.

Dr. J. F. Elliot, Professor of Metallurgy at Massachusetts Institute of Technology. Visiting Lecturer sponsored by the American Society of Metals.

Dr. Axel T. Hugo Theorell, Director of Biochemistry at the Nobel Institute of Medicine, Stockholm, Sweden.

Prof. Richard R. Baxter of Harvard Law School. Northwest Pacific Regional Conference on International Law.

Sir John Wolfenden, Vice-chancellor of Reading University, England. Vancouver Institute.

OTHER EVENTS

ON MAY 3, 1960, we officially opened a most attractive three-acre Japanese Garden named for Dr. Inazo Nitobe, a distinguished Japanese internationalist, who died in Victoria in 1933 while on a Canadian speaking tour. A memorial to Dr. Nitobe, which was presented to the University during the thirties by a group of friends, has been incorporated into the Garden.

The landscaping of the Garden was carried out by the late Dr. Kannosuke Mori, a noted Japanese landscape architect, whose untimely death shortly after his return to Japan was a great shock. Dr. Mori lived at the University for more than a year, supervising construction of the Garden which includes an attractive entrance gateway, a tea house, a garden shelter, and a waterfall which descends into a series of small lakes covering almost an acre.

The garden, which is intended as a symbol of Japanese-Canadian goodwill, will also be of use as a teaching aid for students interested in plant science. We are grateful to the many Japanese business firms and other friends who sent material to us for inclusion in the Garden.

An innovation of the past year was "University Day" which we have decided to make an annual event in view of its success. On October 17, 1959, we had as guests of the University about 1,000 parents of students registered at the University for the first time. The day began with an assembly in the Auditorium where University officials spoke to the parents. Following this, there were tours to various parts of the campus conducted by students. At noon luncheon was served in Brock Hall and in the afternoon many parents stayed on to explore the campus further or to attend the football game. Our students, as usual, took a large share in the arrangements for the day and much of the success of the event is due to their efforts.

ACADEMIC DEVELOPMENTS

DURING THE PAST YEAR there have been two noteworthy academic developments which I would like to report.

The first of these is the Institute of Industrial Relations which will be concerned with research in the areas of industrial conflict and human relations in industry. The Institute will accept only graduate students who will have been prepared for advanced work in this field through an increase in the number of courses at the undergraduate level in such departments as Economics, Commerce, Sociology, Social Work, History, Medicine and Engineering.

I want to emphasize here that the Institute will not take part in the settlement of industrial disputes. Its main purpose will be to accumulate knowledge through research while retaining the disinterested attitude which should characterize University activities.

Professor A. W. R. Carrothers, of the Faculty of Law, has been appointed Director of the Institute for one year until a full-time Director is appointed.

The other academic matter on which I wish to report is the establishment of courses in Recreation in the School of Physical Education. This is the first full-time undergraduate programme in this field established at any Canadian university, and its purpose is to train the personnel who are needed to develop community recreation programmes throughout the province and Canada.

The students who enrol will take about 20 per cent of their course work in professional recreation and the balance in the social sciences, and they will all be required to take a fundamental course in either Music, Drama or Art. It is our hope that the students who graduate will understand the cultural as well as the athletic resources of the community and appreciate the significance of all leisure time activities.

I might mention in this connection that there are few other campuses in North America which have such a wide variety of resources for carrying out so comprehensive a programme for we conceive of Recreation as being much broader than just programmes of sports. We think of it as embracing the entire cultural and athletic resources of the community.

GIFTS TO THE UNIVERSITY

THE UNIVERSITY annually receives many generous gifts, grants and bequests from business firms and friends of the University. A detailed list of these benefactions is published each year at the time of Congregation. During the past year, however, there have been two major gifts of property to the University which I would like to report.

The first of these is a gift from Major General and Mrs. Victor Odlum of five and one-half acres of property at Batchelor Bay near Whytecliff in West Vancouver. On the property are an eight-room house, occupied until recently by the donors, and four other cottages. General and Mrs. Odlum have asked that this property be used for work in the fields of the Fine Arts and Public Affairs, and for approved student activities.

In accordance with the wishes of the Board of Governors, I have appointed a committee to recommend plans for the appropriate use of the property. The committee will include representatives from Fine Arts, the Extension Department and other interested citizens from the Vancouver area. General and Mrs. Odlum have had a long and intimate association with U.B.C. and have been generous friends. The General was for five years a member of the Board of Governors and this latest gift is but further evidence of his belief in the importance of the work done by the University and his concern that this should be continued and expanded.

The second gift of property in the past year is a 190-acre tract of land given by Mr. Thomas L. Thacker of Hope, B.C. The land, which is located about one mile east of Hope, will be used for studies in the field of Ecology and will be known as the U.B.C.-Thacker Ecological Research Reserve.

Those departments of the University which are concerned with the study of Ecology are enthusiastic about using the property for this purpose because, up to now, there has not been an area of land in B.C. completely devoted to studies of this kind.

The processes of Ecology, which is the study of the relationships of plants and animals to their environment, are very slow and their study demands an area where there is assurance that restudy will be possible for periods of as long as a century or more.

A third development on which I wish to report briefly is the receipt of a gift of £5000 (approximately $13,450) from the Wolfson Trust

of Great Britain which has enabled us to make an immediate start on a new five-acre playing field on agricultural land at the south end of the campus.

The grant was made through the National Playing Fields Association of Great Britain and the B.C. Playing Fields Association, the latter organization headed by General Sir Ouvry Roberts. We are indebted to the B.C. Playing Fields Association for their efforts in obtaining the grant, details of which were arranged by the Association's secretary, Mr. Percy Gray, on a visit to England.

The area, which will be known as Wolfson Field, will be ready for play in the spring of 1962 and will provide facilities for cricket, soccer, grass hockey, rugby and lacrosse. The field will be a welcome addition to U.B.C.'s sports facilities because we are now forced to restrict our athletic programme because of a lack of outdoor facilities.

Expensive and delicate equipment such as U.B.C.'s electron microscope, left, is used by professors and graduate students performing original research. The microscope, which is capable of magnifying objects 200,000 times, was purchased with a gift of $34,000 to the U.B.C. Development Fund from the B.C. division of the Canadian Cancer Society.

APPENDICES

FINANCIAL

Summary of Revenue and Expenditure.

Research Funds Received by the University — 1950-60.

ACADEMIC

Occupation of Parent.

Religious Denominations.

Country of Citizenship.

Geographical Distribution of Students.

Educational Level of Students Admitted for the First Time in 1959.

Honorary Degrees Conferred 1950-1960.

Ph.D. Degrees Conferred — 1950-1960

Diplomas Awarded 1934-1959.

Degrees Conferred 1916-1960.

SUMMARY OF REVENUE AND EXPENDITURE

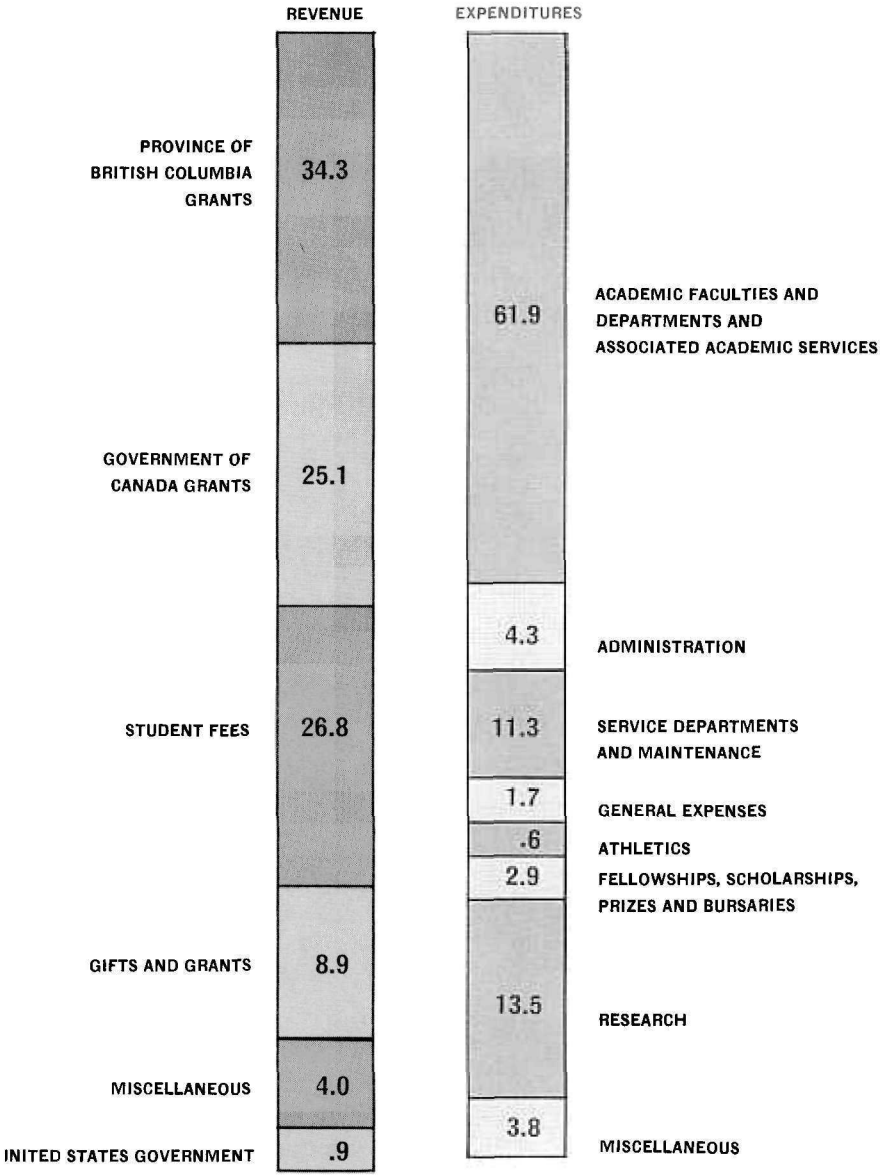
(EXCLUDING CAPITAL ADDITIONS TO ENDOWMENT, STUDENT LOAN AND CAPITAL DEVELOPMENT FUNDS)

APRIL 1, 1959 TO MARCH 31, 1960

	GENERAL FUNDS		TRUST FUNDS								TOTAL	
			NON-ENDOWMENT						ENDOWMENT			
REVENUE		%	Teaching And General Purposes	%	Fellowships Scholarships Prizes and Bursaries	%	Research	%		%		%
PROVINCE OF BRITISH COLUMBIA GRANTS	$ 4,984,000.00	43.1	$ 26,175.18	4.0	$ 100.00	.1	$ 20,372.41	1.0	—	—	$ 5,030,647.59	34.3
GOVERNMENT OF CANADA GRANTS	2,124,703.56	18.4	59,158.88	9.2	5,650.00	1.6	1,488,662.68	72.1	—	—	3,678,175.12	25.1
UNITED STATES GOVERNMENT	—	—	—	—	—	—	126,011.69	6.1	—	—	126,011.69	.9
STUDENT FEES	3,923,999.52	34.0	—	—	—	—	—	—	—	—	3,923,999.52	26.8
GIFTS AND GRANTS (COMMERCE, INDUSTRY, ASSOCIATIONS, FOUNDATIONS AND INDIVIDUALS)	—	—	541,953.64	83.7	326,800.85	98.2	428,460.30	20.7	—	—	1,297,214.79	8.9
MISCELLANEOUS	517,144.82	4.5	19,980.66	3.1	212.76	.1	2,036.48	.1	44,920.01	100.0	584,294.73	4.0
	$11,549,847.90	100.0	$647,268.36	100.0	$332,763.61	100.0	$2,065,543.56	100.0	$44,920.01	100.0	$14,640,343.44	100.0
EXPENDITURE												
ACADEMIC FACULTIES AND DEPARTMENTS AND ASSOCIATED ACADEMIC SERVICES	$ 8,508,232.04	73.7	$549,358.42	84.9	$ —	—	$ —	—	$ 4,766.08	10.6	$ 9,062,356.54	61.9
ADMINISTRATION	630,455.46	5.5	—	—	—	—	—	—	—	—	630,455.46	4.3
SERVICE DEPARTMENTS AND MAINTENANCE	1,658,168.64	14.3	3,701.25	.6	—	—	—	—	—	—	1,661,869.89	11.3
GENERAL EXPENSE	237,936.63	2.0	4,858.72	.8	—	—	—	—	—	—	242,795.35	1.7
ATHLETICS	31,618.24	.3	63,030.15	9.6	—	—	—	—	—	—	94,648.39	.6
FELLOWSHIPS, SCHOLARSHIPS, PRIZES AND BURSARIES	101,092.00	.9	—	—	293,982.34	88.3	—	—	24,625.87	54.8	419,700.21	2.9
RESEARCH	23,841.01	.2	—	—	—	—	1,946,456.33	94.2	—	—	1,970,297.34	13.5
	$11,191,344.02	96.9	$620,948.54	95.9	$293,982.34	88.3	$1,946,456.33	94.2	$29,391.95	65.4	$14,082,123.18	96.2
RENOVATIONS AND EXTENSIONS TO EXISTING BUILDINGS INCLUDING FURNISHINGS, EQUIPMENT AND CAMPUS DEVELOPMENT	358,503.88	3.1	—	—	—	—	—	—	—	—	358,503.88	2.5
NON-ENDOWMENT FUNDS CARRIED FORWARD TO MEET EXPENDITURES IN 1960-61	—	—	26,319.82	4.1	38,781.27	11.7	119,087.23	5.8	—	—	184,188.32	1.2
ENDOWMENT FUND INCOME CARRIED FORWARD TO 1960-61	—	—	—	—	—	—	—	—	15,528.06	34.6	15,528.06	.1
	$11,549,847.90	100.0	$647,268.36	100.0	$332,763.61	100.0	$2,065,543.56	100.0	$44,920.01	100.0	$14,640,343.44	100.0

SUMMARY OF REVENUE AND EXPENDITURE

APRIL 1, 1959 TO MARCH 31, 1960



RESEARCH FUNDS

RECEIVED BY THE UNIVERSITY

1950-1960

	Amount	Percentage of Current Expenditure Including Gifts and Grants
1950-1951	391,372.00	9.68
1951-1952	491,167.48	10.67
1952-1953	542,714.59	10.87
1953-1954	564,610.30	10.26
1954-1955	601,467.69	9.92
1955-1956	741,641.45	10.91
1956-1957	892,231.45	10.4
1957-1958	1,103,336.56	11.2
1958-1959	1,500,409.15	12.6
1959-1960	1,970,297.34	13.5

OCCUPATION OF PARENT

1959-60 SESSION

Agricultural	657
Clerical	407
Commercial	722
Communication	108
Construction	570
Electric Light, Power Production, and Stationary Engineers	91
Finance	240
Fishing, Hunting and Trapping	96
Labourers (not agricultural, fishing, logging, mining)	95
Logging	187
Manufacturing and Mechanical	977
Mining and Quarrying	146
Professional	1920
Owners, Managers — General	1949
Service (exclusive of professional service)	479
Transportation	505
Unspecified, Retired, Disabled or Deceased	1493

RELIGIOUS DENOMINATIONS 1959-60

Adventist — Seventh Day	9
Baptist	281
Buddhist	34
Christian and Missionary Alliance	29
Christian Science; Church of Christ-Scientist	54
Church of Christ, Disciples	7
Church of England in Canada; Anglican	2541
Confucian	6
Congregationalist	8
Doukhobor	19
Episcopalian	16
Evangelical Church	15
Greek Catholic	20
Greek Orthodox	83
Hindu	43
Jehovah's Witness	9
Jewish	207
Lutheran	386
Mennonite	132
Methodist	35
Mormon	12
Moslem; Islam; Mohammedan	36
Pentecostal	54
Plymouth Brethren	21
Presbyterian	344
Protestant	1244
Quaker	9
Roman Catholic	1183
Salvation Army	10
Shintoist	1
Sikh	39
Ukrainian Catholic	2
Unitarian	23
United Church of Canada	2637
Other religions	144
No religion; Agnostic; Atheist	272
Religion not given	677

COUNTRY OF CITIZENSHIP

1959-60 SESSION

NORTH AMERICA	
Canada	9217
Mexico	5
United States	117
CENTRAL AMERICA AND WEST INDIES	
Honduras, British	1
Barbados	1
Jamaica	20
Trinidad	169
Other West Indies	13
SOUTH AMERICA	
Argentina	4
Bolivia	2
Chile	1
Guiana, British	2
Peru	2
Venezuela	3
EUROPE	
Austria	7
Belgium	2
Czechoslovakia	5
Denmark	15
Eire (Ireland)	7
Finland	2
France	7
Germany — Western Zone	120
Germany — Eastern Zone	4
Great Britain & Northern Ireland	349
Greece	12
Hungary	81
Italy	8
Latvia	2
Lithuania	2
Netherlands	73
Norway	21
EUROPE—CONT'D	
Poland	3
Portugal	6
Romania	3
Soviet Union	16
Sweden	4
Switzerland	7
Yugoslavia	10
AFRICA	
Egypt	3
Ghana	2
Kenya	2
Morocco	1
Nigeria	1
Rhodesia	1
Union of South Africa	5
ASIA	
Burma	1
Ceylon	1
China	42
Hong Kong	68
India	57
Indochina	16
Japan	12
Korea	4
Lebanon	1
Malaya	7
Pakistan	10
Israel	8
Philippines	8
Siam	1
Syria	1
Turkey	1
OCEANIA	
Australia	19
Fiji Islands	1
New Zealand	5
STATELESS	41

Note: of those students coming from abroad, 526 held student visas. The rest were immigrants.

GEOGRAPHICAL DISTRIBUTION OF STUDENTS

(B.C. – BASED ON CENSUS DIVISIONS)

SESSION 1959-60

East Kootenay and Upper Columbia River	140
West Kootenay, Columbia River and Slocan Lake	391
Okanagan, Similkameen, Kettle, and Upper Shuswap Rivers	539
Lower Fraser Valley and Howe Sound	6636
Vancouver Island	931
North Thompson, Shuswap, Nicola, Chilcotin South, Lillooet East, Bridge — Lillooet	221
Bella Coola, Knight Inlet, Powell River	107
Nechako — Fraser, Chilcotin — North, Cariboo, Skeena, Takla Lakes	122
Atlin Lake, Skeena Coast, Queen Charlotte Islands	104
North East B.C. — Laird, Finlay — Parsnip, Beaton River	64
Alberta	315
Saskatchewan	105
Manitoba	64
Ontario	187
Quebec	52
New Brunswick	5
Nova Scotia	11
Prince Edward Island	4
Newfoundland	5
Yukon	17
Northwest Territories	5
Africa	8
Asia	175
British Isles	67
British West Indies	173
Central America	17
Europe	52
Oceania	23
South America	19
United States	83

EDUCATIONAL LEVEL OF STUDENTS ADMITTED FOR THE FIRST TIME IN 1959

UNIVERSITY ENTRANCE STANDING

British Columbia	1991
Alberta	28
Saskatchewan	10
Manitoba	9
Ontario	35
Quebec	10
Prince Edward Island	1
Non-Canadian	96

SENIOR MATRICULATION (GRADE XIII, B.C.)

British Columbia — full	319
British Columbia — partial	308
Alberta	46
Saskatchewan	44
Manitoba	15
Ontario	38
Quebec	10
New Brunswick	3
Newfoundland	1
Nova Scotia	3
Prince Edward Island	2
Yukon and Northwest Territories	1
Non-Canadian	53
One Year Victoria College	48
Two Years Victoria College	42
Undergraduate above Senior Matriculation	151
Graduate	211
Non-Matriculation	16

SUMMARY

University Entrance Level	2377
Senior Matriculation Level	694
Above Senior Matriculation Level	404
Non-Matriculation	16
	37

HONORARY DEGREES CONFERRED

YEAR	LL.D. (HONORIS CAUSA)	D.SC. (HONORIS CAUSA)
1930	1	—
1931	—	—
1932	2	—
1933	8	—
1934	1	—
1935	2	—
1936	6	—
1937	1	—
1938	5	—
1939	3	—
1940	1	—
1941	—	—
1942	4	—
1943	—	—
1944—May	—	1
—October	4	—
1945—May	1	—
—October	9	2
1946—May	1	2
—October	1	1
1947—May	2	4
—October	1	—
1948—May	3	1
—June	1	3
—October	8	—
1949—May	1	3
—October	6	1
1950—May	2	7
—August	1	—
—September	—	2
—October	—	2

YEAR	LL.D. (HONORIS CAUSA)	D.LITT.	D.SC. (HONORIS CAUSA)
1951—May	3		—
—October	3		—
1952—May	5		—
—September	8		—
—October	3		2
1953—May	3		1
—October	3		1
1954—May	3		3
—September	1		—
—October	2		—
1955—May	3	1	1
—October	5	—	—
1956—May	3	—	3
—October	6	—	—
1957—May	3	—	2
—October	6	—	—
1958—May	9	—	1
—July	1	—	—
—September	13	—	—
—October	2	—	1
1959—May	5	—	—
—September	5	—	—
—October	1	—	1
1960—May	4	—	2
—October	2	2	2
Total	177	3	49
Previous years	8		
	185		
GRAND TOTAL			237

PH.D. DEGREES CONFERRED

MAY, 1950 TO MAY, 1960

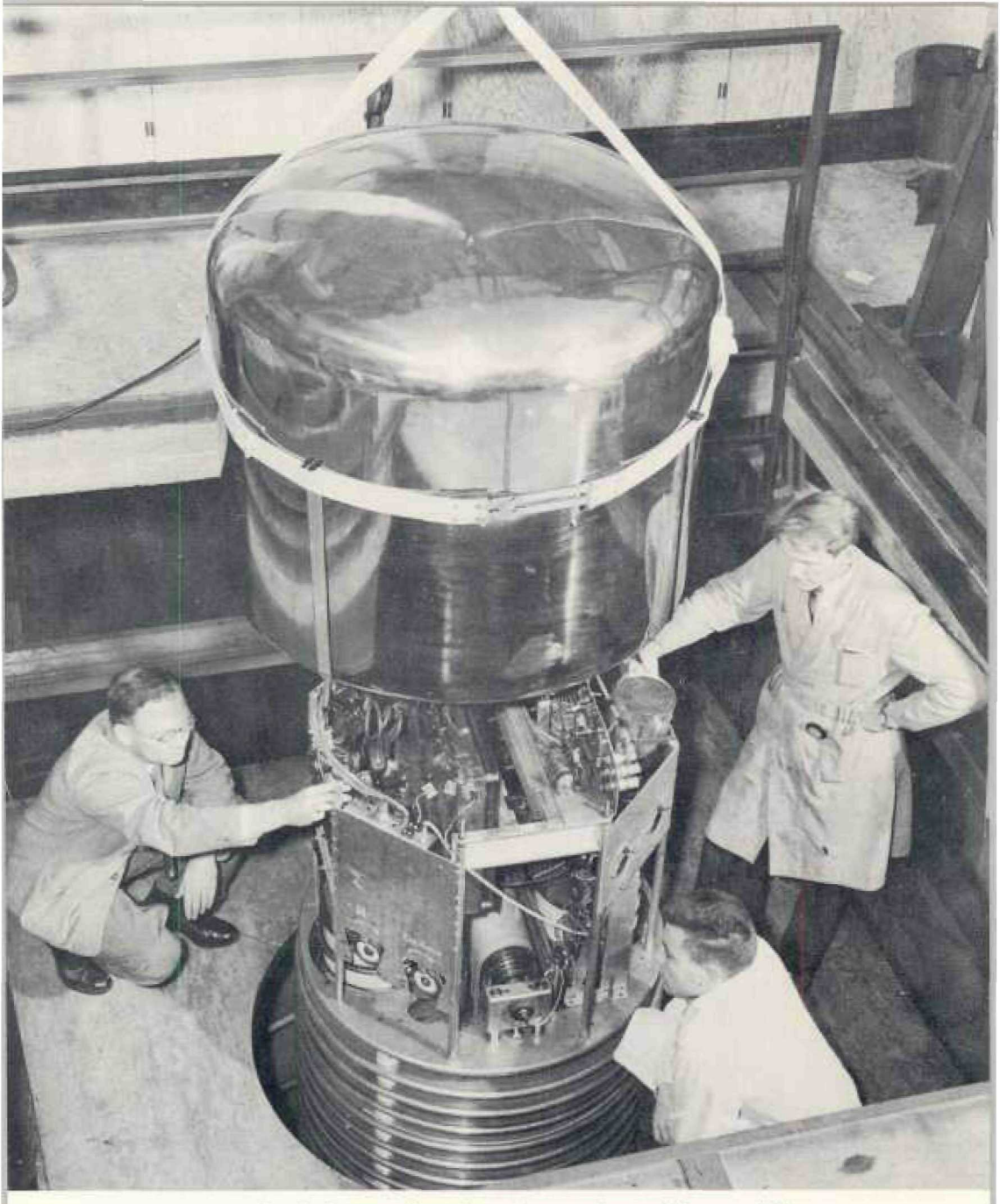
YEAR	AGRIC MICROBIOL	BIOCHEMISTRY	BIOLOGY & BOTANY	CHEMISTRY	CLASSICS	FORESTRY	GEOLOGY	MATHEMATICS	METALLURGY	PHYSICS	ZOOLOGY	GRAND TOTAL
1950	—	—	—	—	—	—	—	—	—	3	1	
1951	—	—	—	—	—	—	—	—	—	1	1	
1952	—	—	—	—	—	—	—	—	—	5	—	
1953	—	—	1	—	—	—	—	—	—	10	—	
1954	—	—	—	—	—	—	—	1	—	1	2	
1955	1	—	1	—	—	—	—	1	1	8	3	
1956	—	1	—	4	—	3	—	—	2	8	1	
1957	—	—	1	1	—	—	—	—	1	6	2	
1958	—	—	1	—	—	1	—	1	1	3	4	
1959	—	—	1	4	—	—	—	1	—	4	7	
1960	—	—	—	2	—	2	1	4	—	5	4	
Total By Dept.	1	1	5	11	—	6	1	8	5	54	25	117

DIPLOMAS AWARDED 1934-1959

YEAR	TEACHER TRAINING	SOCIAL WORK	CRIMINOLOGY	CLINICAL SUPERVISION	HOSPITAL ADMINISTRATION	PUBLIC HEALTH NURSING, TEACHING AND SUPERVISION	OCCUPATIONAL AGRICULTURE	PUBLIC ADMINISTRATION	TOTALS
1934	64	3	—	—	—	10	—	—	77
1935	66	10	—	—	—	15	3	—	94
1936	60	12	—	—	—	15	—	—	87
1937	40	19	—	—	—	21	4	—	84
1938	65	16	—	—	—	20	3	—	104
1939	55	26	—	—	—	15	4	—	100
1940	68	26	—	—	—	12	5	—	111
1941	68	23	—	—	—	9	2	—	102
1942	59	21	—	—	—	11	4	—	95
1943	28	14	—	—	—	27	—	—	69
1944	25	32	—	—	—	30	—	—	87
1945	21	19	—	—	—	34	3	—	77
1946	45	—	—	—	—	44	18	—	107
1947	45	—	—	—	—	54	38	—	137
1948	63	—	—	—	—	32	8	—	103
1949	133	—	—	—	—	21	7	—	161
1950	177	—	—	—	—	25	6	—	208
1951	163	—	—	—	—	25	6	—	194
1952	124	—	—	—	—	27	2	—	153
1953	98	—	—	8	1	24	6	—	137
1954	91	—	1	12	4	19	3	—	130
1955	91	—	—	13	2	27	5	—	138
1956	104	—	—	7	2	22	7	—	142
1957	—	—	—	13	2	40	—	—	55
1958	—	—	—	17	—	43	2	—	62
1959	—	—	—	11	—	42	1	21	75
Totals	1753	221	1	81	11	664	137	21	2889

DEGREES CONFERRED 1916-1960

Year	Ph.D.	M.A.	M.Sc.	M.A.Sc.	M.S.A.	M.F.	M.P.E.	M.Ed.	M.S.P.	M.B.A.	M.S.W.	M.D.	LL.B.	B.A.	B.Sc.	B.A.Sc.	B.S.A.	B.S.F.	B.P.E.	B.Ed.	B.S.P.	B.Com.	B.S.W.	B.Arch.	B.H.E.	B.A.Sc. (Nurs.)	TOTAL	GRAND TOTAL
1916	—	—	—	—	—	—	—	—	—	—	—	—	—	40	—	—	—	—	—	—	—	—	—	—	—	—	40	40
1917	—	—	—	—	—	—	—	—	—	—	—	—	—	34	—	1	—	—	—	—	—	—	—	—	—	—	35	75
1918	—	—	—	—	—	—	—	—	—	—	—	—	—	34	—	—	—	—	—	—	—	—	—	—	—	—	34	109
1919	—	2	—	—	—	—	—	—	—	—	—	—	—	47	—	1	—	—	—	—	—	—	—	—	—	—	50	159
1920	—	9	—	1	—	—	—	—	—	—	—	—	—	50	—	9	—	—	—	—	—	—	—	—	—	—	69	228
1921	—	3	—	—	—	—	—	—	—	—	—	—	—	84	—	18	8	—	—	—	—	—	—	—	—	—	113	341
1922	—	9	—	1	—	—	—	—	—	—	—	—	—	77	—	27	10	—	—	—	—	—	—	—	—	—	124	465
1923	—	14	—	6	1	—	—	—	—	—	—	—	—	106	—	34	12	—	—	—	—	—	—	—	—	3	176	641
1924	—	9	—	1	2	—	—	—	—	—	—	—	—	99	—	39	11	—	—	—	—	—	—	—	—	5	166	807
1925	—	11	—	7	1	—	—	—	—	—	—	—	—	133	—	27	17	—	—	—	—	—	—	—	—	4	200	1,007
1926	—	16	—	4	—	—	—	—	—	—	—	—	—	145	—	26	9	—	—	—	—	—	—	—	—	3	203	1,210
1927	—	10	—	1	2	—	—	—	—	—	—	—	—	156	—	37	6	—	—	—	—	—	—	—	—	5	217	1,427
1928	—	17	—	1	1	—	—	—	—	—	—	—	—	188	—	22	7	—	—	—	—	—	—	—	—	5	241	1,668
1929	—	16	—	1	2	—	—	—	—	—	—	—	—	194	—	36	10	—	—	—	—	—	—	—	—	6	265	1,933
1930	—	12	—	1	2	—	—	—	—	—	—	—	—	199	—	30	8	—	—	—	—	1	—	—	—	6	259	2,192
1931	—	24	—	2	2	—	—	—	—	—	—	—	—	242	—	44	13	—	—	—	—	15	—	—	—	7	349	2,541
1932	—	23	—	2	9	—	—	—	—	—	—	—	—	237	—	43	6	—	—	—	—	16	—	—	—	4	340	2,881
1933	—	23	—	11	4	—	—	—	—	—	—	—	—	261	—	49	13	—	—	—	—	27	—	—	—	7	395	3,276
1934	—	17	—	4	5	—	—	—	—	—	—	—	—	241	—	42	15	—	—	—	—	36	—	—	—	5	364	3,640
1935	—	26	—	8	2	—	—	—	—	—	—	—	—	240	—	62	20	—	—	—	—	28	—	—	—	13	400	4,040
1936	—	25	—	8	8	—	—	—	—	—	—	—	—	213	—	53	18	—	—	—	—	22	—	—	—	7	355	4,395
1937	—	30	—	4	8	—	—	—	—	—	—	—	—	244	—	54	15	—	—	—	—	36	—	—	—	3	394	4,789
1938	—	30	—	8	3	—	—	—	—	—	—	—	—	257	—	60	24	—	—	—	—	34	—	—	—	7	423	5,212
1939	—	24	—	7	5	—	—	—	—	—	—	—	—	280	—	80	24	—	—	—	—	28	—	—	—	8	456	5,668
1940	—	36	—	4	4	—	—	—	—	—	—	—	—	274	—	72	21	—	—	—	—	38	—	—	—	13	462	6,130
1941	—	29	—	8	5	—	—	—	—	—	—	—	—	262	—	81	19	1	—	—	—	35	—	—	—	8	448	6,578
1942	—	26	—	9	4	—	—	—	—	—	—	—	—	221	—	84	31	3	—	3	—	53	—	—	—	6	440	7,018
1943	—	21	—	3	4	—	—	—	—	—	—	—	—	218	—	93	29	2	—	5	—	32	—	—	—	12	419	7,437
1944	—	7	—	7	1	—	—	—	—	—	—	—	—	208	—	88	27	4	—	8	—	41	—	—	—	10	401	7,838
1945	—	15	—	4	3	—	—	—	—	—	—	—	—	230	—	100	24	3	—	12	—	47	—	—	—	8	446	8,284
1946	—	24	—	12	5	—	—	—	—	—	—	—	—	316	—	117	36	13	—	28	—	110	38	—	15	21	734	9,018
1947	—	36	—	21	13	—	—	—	—	—	8	—	—	536	—	135	56	10	—	47	—	229	57	—	34	16	1,198	10,216
1948	—	53	—	12	10	—	—	—	—	—	4	—	63	791	—	176	100	16	—	62	—	272	60	—	45	18	1,682	11,898
1949	—	61	—	22	9	—	—	—	—	—	17	—	127	895	—	337	147	41	38	60	48	241	88	—	54	17	2,202	14,100
1950	4	67	—	12	14	—	—	—	—	—	19	—	146	783	—	497	133	78	28	43	67	149	87	5	50	16	2,198	16,298
1951	2	76	—	26	13	—	—	—	—	—	25	—	110	620	—	347	69	69	37	28	65	75	79	17	50	B.S.N. 11	1,719	18,017
1952	5	43	2	13	14	1	—	—	—	—	24	—	121	526	—	217	67	29	19	35	40	70	54	19	33	18	1,350	19,367
1953	11	34	23	6	9	1	—	—	—	M.Com. 1	13	—	62	453	—	146	62	23	18	51	47	78	49	13	33	8	1,141	20,508
1954	4	30	17	5	10	4	—	—	—	—	31	56	68	407	—	130	40	14	23	48	38	83	48	8	31	11	1,106	21,614
1955	15	24	19	9	11	3	—	—	—	M.B.A. 1	25	58	74	398	—	132	34	20	16	91	37	92	50	14	31	29	1,183	22,797
1956	19	39	21	15	6	1	—	—	—	1	20	60	58	415	—	151	32	23	26	120	40	105	39	8	39	21	1,259	24,056
1957	11	24	22	12	8	3	—	3	—	1	19	50	52	437	—	162	22	25	22	242	39	112	37	16	20	32	1,371	25,427
1958	11	46	28	22	5	4	—	8	—	—	11	47	72	299	89	196	31	19	21	329	41	116	38	8	34	45	1,548	26,975
1959	17	26	35	24	7	4	2	12	—	—	20	47	73	407	106	213	33	28* 27	25	205	31	101	37	9	35	41	1,605	28,580
1960	27	45	44	27	9	8	2	19	—	7	16	55	63	414	178	193	37	68* 33	17	222	32	136	37	13	40	49	1,743	30,323
																		20*										



An example of the complicated and expensive machinery which must be amassed in order that advanced work in the field of physics may be carried out is the Van de Graaf electrostatic generator, which is located in U.B.C.'s physics building. Experts are shown above dismantling the machine for maintenance purposes.